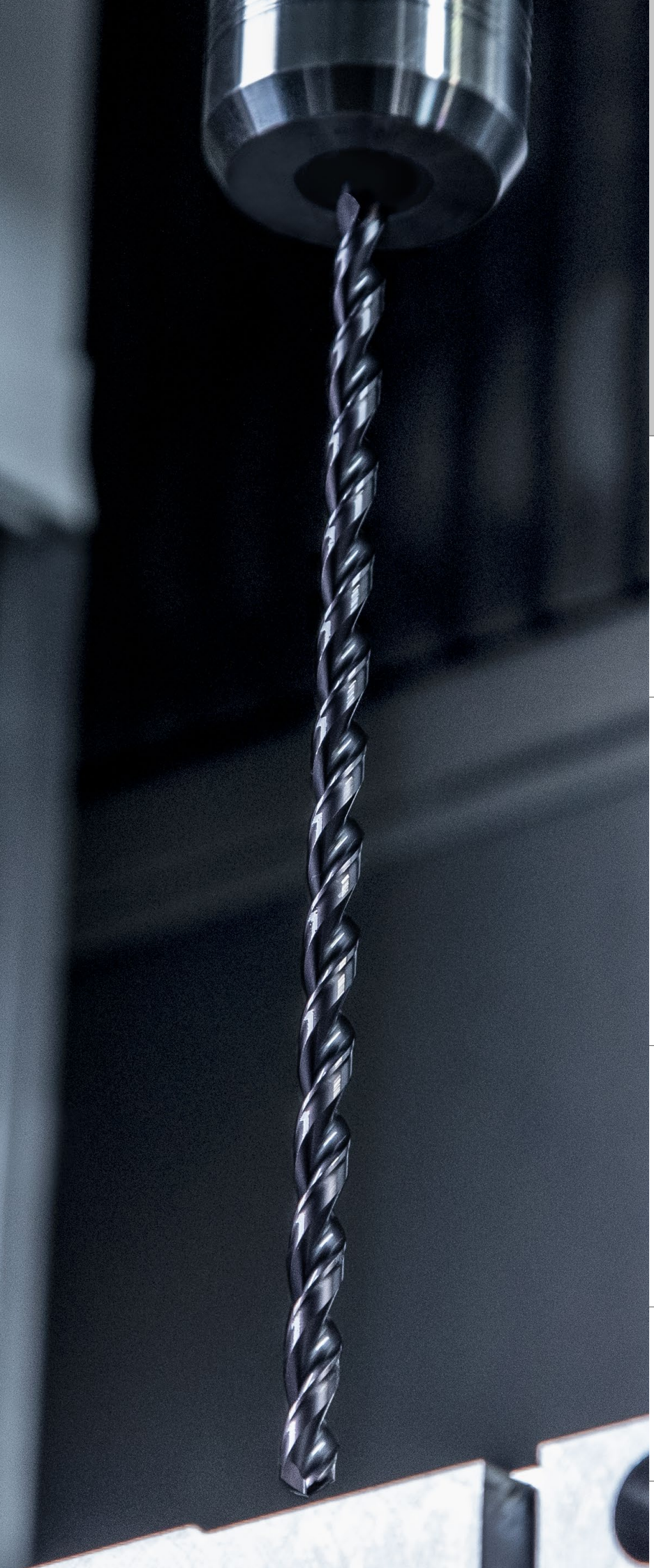
# Novi izdelki za strojne tehnike

## NEW WTL – spiralni sveder, zelo dolg, TiAlN

Novi WTL – spiralni sveder s preverjeno večslojno prevleko TiAlN poveča vašo produktivnost in procesno varnost.

→ Stran 29+30






Obdelava izvrtin

1 Svedri HSS

2 Svedri VHM

3 Svedri z obračalnimi ploščicami

4 Povrtala in grezila

5 Izstruževalna orodja

Obdelava navojev

6 Navojni svedri in oblikovalci navojev

7 Kolutni in navojni rezkarji

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Obdelava s struženjem

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10 Večnamenska orodja EcoCut in FreeTurn

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12 Miniaturna orodja za struženje

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15 Rezkalne glave z obračalnimi ploščicami

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## WNT \ Performance

Orodja premium kakovosti za največjo zmogljivost.

Orodja premium kakovosti iz linije izdelkov **WNT Performance** so bila zasnovana za posebna področja uporabe in jih odlikuje izjemna zmogljivost. Če imate pri proizvodnji visoke zahteve glede zmogljivosti in želite doseči kar najboljše rezultate, vam priporočamo premium izdelke iz te linije.

# Razlaga simbolov

## Držalo

## Izvedba

Notranje hlajenje

Samodejno centriranje

● = **Glavni način uporabe**

○ = Pomožna uporaba

# Toolfinder

| | Tip orodja | Material/ prevleka | Opis | DIN 1897 | DIN 338 | DIN 340 | 1. dolžina | 2. dolžina | 3. dolžina |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 3xD | 5xD | 10xD | > 10xD | | |
| Jeklo – univerzalna izvedba | VX | HSS-E TiN | ▲ Univerzalni visokozmogljiv sveder<br>▲ Enotno držalo DIN 1835 A<br>▲ Samodejno centriranje | 8 | 16 | | | | |
| | UNI | HSS-E-PM TiN | ▲ Odpornost proti obrabi zahvaljujoč HSS-E-PM in TiN prevleki<br>▲ Univerzalni visokozmogljiv sveder | 9–14 | 17–22 | | | | |
| | UNI | HSS-E TiN | ▲ Kot tip VX<br>▲ Brez enotnega držala DIN 1835 A<br>▲ Na voljo v kompletu | 9–14 | 17–22 | 26–28 | | | |
| | N | HSS vap. | ▲ Stabilen spiralni sveder<br>▲ Primeren tudi za ročne vrtalnike<br>▲ Na voljo v kompletu | 9–14 | 17–22 | | | | |
| | WT | HSS-E vap. | ▲ Za visoko legirana jekla in posebna jekla (Hastelloy, Inconel, Nimonic) | 9–14 | | | | | |
| | WT | HSS-E TiN | ▲ Kot tip WT HSS-E vap.<br>▲ Večja odpornost proti obrabi zaradi prevleke | 9–14 | | | | | |
| | WTL-L | HSS F.-nit | ▲ Levorezni<br>▲ Nitriranje rezalnih robov omogoča večjo zaščito pred obrabo na rezalnih vogalih in vodilnih fazah | 15 | 23 | | | | |
| | WNXi | HSS-E | ▲ Zelo dobro odvajanje odrezkov s pomočjo notranjega hlajenja<br>▲ Za materiale z dolgimi odrezki do 1000 N/mm² | | 25 | | | | |
| | WNXi | HSS-E TiN | ▲ Kot tip WNXi HSS-E<br>▲ Večja odpornost proti obrabi zaradi prevleke | | 25 | | | | |
| | WTL | HSS-E F.-nit | ▲ Poseben profil utora z veliko prostora za odrezke<br>▲ Nitriranje rezalnih robov omogoča večjo zaščito pred obrabo na rezalnih vogalih in vodilnih fazah | | 17–22 | 26–28 | | | |
| | WTL | HSS-E TiN | ▲ Kot WTL HSS-E, vendar višja $v_c$ in odpornost proti obrabi zaradi prevleke<br>▲ Primerno za jeklo in litino | | 17–22 | | | | |
| | WTL | HSS-E TiCN | ▲ Kot WTL TiN, vendar višja $v_c$ in odpornost proti obrabi pri visoko legiranih jeklih | | 23 | | | | |
| | WTL | HSS-E TiAlN | ▲ Poseben profil utora z veliko prostora za odrezke<br>▲ Večja odpornost proti obrabi zaradi prevleke TiAlN | | | | 29 | 30 | 30 |
| | WTL | HSS F.-nit | ▲ Poseben profil utora z velikimi vpenjalnimi prostori<br>▲ Nitriranje rezalnih robov omogoča večjo zaščito pred obrabo na rezalnih vogalih in vodilnih fazah | | | 26–28 | 29 | 30 | 30 |
| | WTL | HSS TiN | ▲ Kot WTL HSS-E, vendar višja $v_c$ in odpornost proti obrabi zaradi prevleke | | | 26–28 | | | |
| | WNX | HSS-E | ▲ Široki utori za odrezke za material z dolgimi odrezki | 9–14 | | | | | |
| | NC | HSS | ▲ Primerno za uporabo z vrtalnimi pušami<br>▲ Zelo dobro odvajanje odrezkov s pomočjo notranjega hlajenja | | | 25 | | | |
| | NC | HSS TiAlN | ▲ Kot NC, vendar višja $v_c$ in odpornost proti obrabi zaradi prevleke | | | 25 | | | |
| Nerjavno jeklo | VA | HSS-E | ▲ Odličen za nerjavne in proti kislinam odporne materiale<br>▲ Posebna geometrija | 9–14 | 17–22 | | | | |
| Neželezne kovine | W | HSS | ▲ Odličen za neželezne kovine | | 17–22 | | | | |
| | WTW | HSS | ▲ Za neželezne kovine do 500 N/mm²<br>▲ Za globoke izvrtine | | | 26–28 | | | |

# Pregled svedrov HSS

| | Tip orodja | Material \| Prevleka | Kot konice | Premer v mm DC | P Jeklo · M Nerjavno jeklo · K Lito železo · N Neželezne kovine · S Visoko toplotno odporne zlitine · H Kaljeno jeklo · O Nekovinski materiali | | Prevlečen ■ · Brez prevleke □ | WNT \ Performance |
|---|---|---|---|---|---|---|---|---|
| **3xD brez notranjega hlajenja** | | | | | | | | |
| | VX | HSS-E TiN | 118° | 2–20 | ● ● ● ○ ○ ○ O<br>A | | ■ | 8 |
| | UNI | HSS-E-PM TiN | 130° | 1–14 | ● ● ○ ○ ○ ○ O<br>A | | ■ | 9–14 |
| | UNI | HSS-E TiN | 118° | 1–14 | ● ● ● ○ ○ ○ O<br>A | | ■ | 9–14 |
| | N | HSS vap. | 118° | 0,4–20 | ○ ● ○ ○ O<br>A | | ■ | 9–14 |
| | VA | HSS-E | 130° | 1–12 | ○ ● ● ○ ○<br>A | | □ | 9–14 |
| | WNX | HSS-E | 130° | 1–20 | ● ● ○ ○ ○ O<br>A | | □ | 9–14 |
| | WT | HSS-E vap. | 130° | 0,4–25 | ● ● ● ○ ○ ○<br>A | | ■ | 9–14 |
| | WT | HSS-E TiN | 130° | 1–20 | ● ● ● ○ ● ○<br>A | | ■ | 9–14 |
| | WTL-L | HSS F.-nit | 130° | 1–19 | ○ ● ● ○ O<br>A | Levorezni | ■ | 15 |
| **5xD brez notranjega hlajenja** | | | | | | | | |
| | VX | HSS-E TiN | 118° | 2–20 | ● ● ● ○ ○ ○ O<br>A | | ■ | 16 |
| | UNI | HSS-E-PM TiN | 130° | 1–14 | ● ● ○ ○ ○ ○ O<br>A | | ■ | 17–22 |
| | UNI | HSS-E TiN | 118° | 0,9–14 | ● ● ● ○ ○ ○ O<br>A | | ■ | 17–22 |
| | N | HSS vap. | 118° | 0,2–20 | ○ ● ○ ○ O<br>A | | ■ | 17–22 |
| | VA | HSS-E | 130° | 1–12 | ○ ● ● ○ ○<br>A | | □ | 17–22 |
| | W | HSS | 130° | 0,20–20 | ● ○ ○ ○ ○<br>A | | □ | 17–22 |
| | WTL | HSS-E F-nit. | 130° | 1–16 | ● ○ ● ● ○ ○ O<br>A | | ■ | 17–22 |
| | WTL | HSS-E TiN | 130° | 1–16 | ● ○ ● ○ ○ ○ O<br>A | | ■ | 17–22 |
| | WTL | HSS-E TiCN | 130° | 3–12 | ● ○ ● ○ ○ ○ O<br>A | | ■ | 23 |
| | WTL-L | HSS F-nit. | 130° | 1–16 | ○ ● ● ○ O<br>A | Levorezni | ■ | 23 |

# Pregled svedrov HSS

| | Tip orodja | Material \| Prevleka | Kot konice ◁ | Premer v mm DC | P Jeklo · M Nerjavno jeklo · K Lito železo · N Neželezne kovine · S Visoko toplotno odporne zlitine · H Kaljeno jeklo · O Nekovinski materiali | Prevlečen ■ / Brez prevleke □ | WNT \ Performance |
|---|---|---|---|---|---|---|---|
| **5xD z notranjim hlajenjem** | | | | | | | |
| | WNXi | HSS-E | 130° | 5–20 | ● ○ ○ ○ E | □ | 25 |
| | WNXi | HSS-E TiN | 130° | 5–20 | ● ○ ○ ○ E | ■ | 25 |
| **10xD brez notranjega hlajenja** | | | | | | | |
|  | UNI | HSS-E TiN | 118° | 1–14 | ● ● ● ○ ○ ○ A | ■ | 26–28 |
|  | WTL | HSS-E F-nit. | 130° | 1–12 | ● ○ ● ● ○ ○ ○ A | ■ | 26–28 |
|  | WTL | HSS F-nit. | 130° | 1–14 | ○ ● ● ○ A | ■ | 26–28 |
|  | WTL | HSS TiN | 130° | 1–14 | ○ ● ○ ○ A | ■ | 26–28 |
|  | WTW | HSS | 130° | 1–14 | ● A | □ | 26–28 |
| **10xD z notranjim hlajenjem** | | | | | | | |
|  | NC | HSS | 130° | 3–13 | ○ ● ○ ○ A | □ | 25 |
| | NC | HSS TiAlN | 130° | 3–13 | ○ ○ ● ○ ○ A | ■ | 25 |
| **Nad 10xD brez notranjega hlajenja** | | | | | | | |
|  | WTL | HSS F-nit. 1. dolžina | 130° | 2–13 | ● ● ● ○ A | ■ | 29 |
|  | WTL | HSS F-nit. 2. dolžina | 130° | 2–13 | ● ● ● ○ A | ■ | 30 |
|  | WTL | HSS F-nit. 3. dolžina | 130° | 2,5–13 | ● ● ● ○ A | ■ | 30 |
|  | WTL | HSS-E TiAlN 1. dolžina | 130° | 3–10,2 | ● ● ● ○ A | ■ | 29 |
|  | WTL | HSS-E TiAlN 2. dolžina | 130° | 3–12 | ● ● ● ○ A | ■ | 30 |
|  | WTL | HSS-E TiAlN 3. dolžina | 130° | 4–10 | ● ● ● ○ A | ■ | 30 |
| **Miniaturni svedri** | | | | | | | |
|  | N | HSS-E-PM | 118° | 0,15–1,45 | ● ○ ● ● ○ ○ A | □ | 31 |

# Pregled svedrov HSS

| | Tip orodja | Material \| Prevleka | Kot konice ◁ | Premer v mm DC | P Jeklo · M Nerjavno jeklo · K Lito železo · N Neželezne kovine · S Visoko toplotno odporne zlitine · H Kaljeno jeklo · O Nekovinski materiali | | Prevlečen ■ · Brez prevleke □ | WNT \ Performance |
|---|---|---|---|---|---|---|---|---|
| **Kompleti spiralnih svedrov** | | | | | | | | |
| | N | HSS vap. | 118° | 1–10 | ○ ● ○ ○ | | ■ | 24 |
| | UNI | HSS-E TiN | 118° | 1–10 | ● ● ● ○ ○ ○ | | ■ | 24 |
| **Svedri za navrtanje NC** | | | | | | | | |
| | NC-A | HSS | 90° | 3–20 | ● ○ ● ○ | | □ | 35–37 |
| | NC-A | HSS TiN | 90° | 3–20 | ● ○ ● ○ | | ■ | 35+36 |
| | NC-A | HSS | 120° | 3–20 | ● ○ ● ○ | | □ | 35+36 |
| | NC-A | HSS TiN | 120° | 3–20 | ● ○ ● ○ | | ■ | 35+36 |
| **Centrirni svedri** | | | | | | | | |
| | ZB | HSS | 118° | 0,5–6,3 | ● ○ ● ○ | DIN 333 – oblika A/B/R | □ | 37–39 |
| | ZB | HSS TiN | 118° | 0,5–6,3 | ● ○ ● ○ | DIN 333 – oblika A | ■ | 38 |
| | ZB | HSS-E | 118° | 0,5–6,3 | ● ○ ● ○ | DIN 333 – oblika A | □ | 38 |
| **Predpovrtala** | | | | | | | | |
| | N | HSS vap. | 120° | 3,8–12 | ● ○ ● ○ ○ | 3 rezila | ■ | 40 |
| **Stopenjski svedri** | | | | | | | | |
| | SB | HSS vap. | 118° | 2,5–10,2 | ● ○ ● ○ | Kot grezila 90° | ■ | 41 |
| | SB | HSS | 118° | 2,5–10,2 | ● ○ ● ○ | Kot grezila 90° | □ | 41 |
| | SB | HSS vap. | 118° | 3,2–10,5 | ● ○ ● ○ | Kot grezila 90° | ■ | 41 |
| | SB | HSS | 118° | 3,2–10,5 | ● ○ ● ○ | Kot grezila 90° | □ | 41 |
| | SB | HSS vap. | 118° | 3,4–11 | ● ○ ● ○ | Kot grezila 180° | ■ | 42 |
| | SB | HSS | 118° | 3,4–11 | ● ○ ● ○ | Kot grezila 180° | □ | 42 |
| | SB | HSS vap. | 118° | 3,3–21 | ● ○ ● ○ | Kot grezila 60° | ■ | 44 |

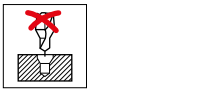
# Pregled svedrov HSS

| | Tip orodja | Material \| Prevleka | Kot konice | Premer v mm DC | P Jeklo · M Nerjavno jeklo · K Lito železo · N Neželezne kovine · S Visoko toplotno odporne zlitine · H Kaljeno jeklo · O Nekovinski materiali | | Prevlečen / Brez prevleke | WNT \ Performance |
|---|---|---|---|---|---|---|---|---|
| **Spiralni svedri z Morse konusom** | | | | | | | | |
| **3xD** | | | | | | | | |
| | WT | HSS-E vap. | **130°** | 10–30 | ● ● ● ○ ○ ○ MK | | ■ | 31 |
| **5xD** | | | | | | | | |
| | N | HSS vap. | **118°** | 10–60 | ○ ● ○ MK | | ■ | 32 |
| | WTL | HSS-E F.-nit/vap. | **130°** | 10–27 | ● ○ ● ● ○ ○ ○ MK | | ■ | 32 |
| **10xD** | | | | | | | | |
| | N | HSS vap. | **118°** | 10–50 | ○ ● ○ MK | | ■ | 33 |
| | WTL | HSS-E F.-nit/vap. | **130°** | 10–26 | ● ○ ● ● ○ ○ ○ MK | | ■ | 33 |
| **Nad 10xD** | | | | | | | | |
|  | WTL | HSS F.-nit/vap. 1. dolžina | **130°** | 10–30 | ● ● ● MK | | ■ | 34 |
|  | WTL | HSS F.-nit/vap. 2. dolžina | **130°** | 10–30 | ● ● ● MK | | ■ | 34 |
| **Predpovrtala** | | | | | | | | |
| | N | HSS vap. | **120°** | 10–30 | ● ○ ● ○ ○ MK | 3 rezila | ■ | 40 |
| **Stopenjski svedri** | | | | | | | | |
| | SB | HSS vap. | **118°** | 5,5–22 | ● ○ ● ○ MK | Kot grezila 180° | ■ | 43 |

# Visokozmogljiv spiralni sveder, podoben DIN 1897, zelo kratek

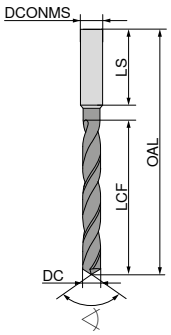
- Enotno držalo DIN 1835 A
- Posebno koničenje
- Zelo dobre lastnosti centriranja
- 4-stransko brušenje
- Najvišja raven zmogljivosti

≤ 3xD



VX

TiN



HSS-E

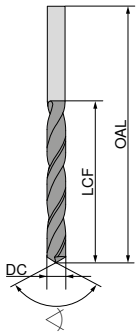
| DC h8 mm | OAL mm | LCF mm | DCONMS h6 mm | LS mm | 10 122 ... EUR T2 | |
|---|---|---|---|---|---|---|
| 2,00 | 44 | 12 | 3 | 28 | 9,28 | 020 |
| 2,10 | 44 | 12 | 3 | 28 | 10,21 | 021 |
| 2,20 | 45 | 13 | 3 | 28 | 11,13 | 022 |
| 2,30 | 45 | 13 | 3 | 28 | 11,13 | 023 |
| 2,40 | 46 | 14 | 3 | 28 | 11,68 | 024 |
| 2,50 | 46 | 14 | 3 | 28 | 10,05 | 025 |
| 2,60 | 46 | 14 | 3 | 28 | 11,68 | 026 |
| 2,70 | 48 | 16 | 3 | 28 | 12,23 | 027 |
| 2,80 | 48 | 16 | 3 | 28 | 12,23 | 028 |
| 2,90 | 48 | 16 | 3 | 28 | 12,23 | 029 |
| 3,00 | 48 | 16 | 3 | 28 | 11,13 | 030 |
| 3,10 | 50 | 18 | 4 | 28 | 11,13 | 031 |
| 3,20 | 50 | 18 | 4 | 28 | 11,13 | 032 |
| 3,30 | 50 | 18 | 4 | 28 | 11,25 | 033 |
| 3,40 | 52 | 20 | 4 | 28 | 11,25 | 034 |
| 3,50 | 52 | 20 | 4 | 28 | 10,71 | 035 |
| 3,60 | 52 | 20 | 4 | 28 | 11,57 | 036 |
| 3,70 | 52 | 20 | 4 | 28 | 12,11 | 037 |
| 3,80 | 54 | 22 | 4 | 28 | 11,79 | 038 |
| 3,90 | 54 | 22 | 4 | 28 | 12,11 | 039 |
| 4,00 | 54 | 22 | 4 | 28 | 9,88 | 040 |
| 4,10 | 66 | 22 | 6 | 36 | 9,88 | 041 |
| 4,20 | 66 | 22 | 6 | 36 | 10,32 | 042 |
| 4,30 | 68 | 24 | 6 | 36 | 10,91 | 043 |
| 4,40 | 68 | 24 | 6 | 36 | 12,23 | 044 |
| 4,50 | 68 | 24 | 6 | 36 | 9,98 | 045 |
| 4,60 | 68 | 24 | 6 | 36 | 13,10 | 046 |
| 4,70 | 68 | 24 | 6 | 36 | 13,20 | 047 |
| 4,80 | 70 | 26 | 6 | 36 | 13,20 | 048 |
| 4,90 | 70 | 26 | 6 | 36 | 13,20 | 049 |
| 5,00 | 70 | 26 | 6 | 36 | 11,13 | 050 |
| 5,10 | 70 | 26 | 6 | 36 | 13,20 | 051 |
| 5,20 | 70 | 26 | 6 | 36 | 13,42 | 052 |
| 5,30 | 70 | 26 | 6 | 36 | 13,75 | 053 |
| 5,40 | 72 | 28 | 6 | 36 | 14,96 | 054 |
| 5,50 | 72 | 28 | 6 | 36 | 11,79 | 055 |
| 5,55 | 72 | 28 | 6 | 36 | 14,96 | 555 |
| 5,60 | 72 | 28 | 6 | 36 | 14,96 | 056 |
| 5,70 | 72 | 28 | 6 | 36 | 14,96 | 057 |
| 5,80 | 72 | 28 | 6 | 36 | 14,96 | 058 |
| 5,90 | 72 | 28 | 6 | 36 | 14,96 | 059 |
| 6,00 | 72 | 28 | 6 | 36 | 12,33 | 060 |
| 6,10 | 75 | 31 | 8 | 36 | 19,21 | 061 |
| 6,20 | 75 | 31 | 8 | 36 | 19,21 | 062 |
| 6,30 | 75 | 31 | 8 | 36 | 23,36 | 063 |
| 6,40 | 75 | 31 | 8 | 36 | 19,76 | 064 |
| 6,50 | 75 | 31 | 8 | 36 | 14,63 | 065 |
| 6,60 | 75 | 31 | 8 | 36 | 23,68 | 066 |
| 6,70 | 75 | 31 | 8 | 36 | 23,68 | 067 |
| 6,80 | 78 | 34 | 8 | 36 | 25,43 | 068 |
| 6,90 | 78 | 34 | 8 | 36 | 25,76 | 069 |
| 7,00 | 78 | 34 | 8 | 36 | 19,44 | 070 |
| 7,10 | 78 | 34 | 8 | 36 | 28,60 | 071 |
| 7,20 | 78 | 34 | 8 | 36 | 28,49 | 072 |
| 7,30 | 78 | 34 | 8 | 36 | 28,49 | 073 |
| 7,40 | 78 | 34 | 8 | 36 | 28,60 | 074 |
| 7,45 | 78 | 34 | 8 | 36 | 28,60 | 745 |
| 7,50 | 78 | 34 | 8 | 36 | 20,53 | 075 |
| 7,60 | 81 | 37 | 8 | 36 | 28,71 | 076 |
| 7,70 | 81 | 37 | 8 | 36 | 31,98 | 077 |
| 7,80 | 81 | 37 | 8 | 36 | 31,98 | 078 |
| 7,90 | 81 | 37 | 8 | 36 | 31,98 | 079 |
| 8,00 | 81 | 37 | 8 | 36 | 21,07 | 080 |
| 8,10 | 87 | 37 | 10 | 40 | 35,14 | 081 |
| 8,20 | 87 | 37 | 10 | 40 | 35,14 | 082 |
| 8,30 | 87 | 37 | 10 | 40 | 35,14 | 083 |
| 8,40 | 87 | 37 | 10 | 40 | 35,14 | 084 |
| 8,50 | 87 | 37 | 10 | 40 | 23,79 | 085 |
| 8,60 | 91 | 40 | 10 | 40 | 36,68 | 086 |
| 8,70 | 91 | 40 | 10 | 40 | 36,68 | 087 |
| 8,80 | 91 | 40 | 10 | 40 | 36,68 | 088 |
| 8,90 | 91 | 40 | 10 | 40 | 36,68 | 089 |
| 9,00 | 91 | 40 | 10 | 40 | 26,20 | 090 |
| 9,10 | 91 | 40 | 10 | 40 | 45,07 | 091 |
| 9,20 | 91 | 40 | 10 | 40 | 45,07 | 092 |
| 9,30 | 91 | 40 | 10 | 40 | 45,07 | 093 |
| 9,35 | 91 | 40 | 10 | 40 | 45,07 | 935 |
| 9,40 | 91 | 40 | 10 | 40 | 45,07 | 094 |
| 9,50 | 91 | 40 | 10 | 40 | 31,44 | 095 |
| 9,60 | 93 | 43 | 10 | 40 | 33,95 | 096 |
| 9,70 | 93 | 43 | 10 | 40 | 33,95 | 097 |
| 9,80 | 93 | 43 | 10 | 40 | 33,95 | 098 |
| 9,90 | 93 | 43 | 10 | 40 | 33,95 | 099 |
| 10,00 | 93 | 43 | 10 | 40 | 30,12 | 100 |
| 10,10 | 100 | 43 | 12 | 45 | 47,37 | 101 |
| 10,20 | 100 | 43 | 12 | 45 | 44,42 | 102 |
| 10,30 | 100 | 43 | 12 | 45 | 46,06 | 103 |
| 10,40 | 100 | 43 | 12 | 45 | 49,01 | 104 |
| 10,50 | 100 | 43 | 12 | 45 | 43,33 | 105 |
| 10,60 | 100 | 43 | 12 | 45 | 52,61 | 106 |
| 10,70 | 104 | 47 | 12 | 45 | 48,03 | 107 |
| 10,80 | 104 | 47 | 12 | 45 | 46,16 | 108 |
| 10,90 | 104 | 47 | 12 | 45 | 67,78 | 109 |
| 11,00 | 104 | 47 | 12 | 45 | 43,33 | 110 |
| 11,10 | 104 | 47 | 12 | 45 | 43,01 | 111 |
| 11,50 | 104 | 47 | 12 | 45 | 45,07 | 115 |
| 11,70 | 104 | 47 | 12 | 45 | 51,52 | 117 |
| 11,80 | 104 | 47 | 12 | 45 | 54,03 | 118 |
| 11,90 | 108 | 51 | 12 | 45 | 67,90 | 119 |
| 12,00 | 108 | 51 | 12 | 45 | 51,95 | 120 |
| 12,10 | 111 | 51 | 16 | 48 | 38,32 | 121 |
| 12,20 | 111 | 51 | 16 | 48 | 57,08 | 122 |
| 12,30 | 111 | 51 | 16 | 48 | 70,18 | 123 |
| 12,40 | 111 | 51 | 16 | 48 | 83,62 | 124 |
| 12,50 | 111 | 51 | 16 | 48 | 54,36 | 125 |
| 12,60 | 111 | 51 | 16 | 48 | 110,20 | 126 |
| 12,70 | 111 | 51 | 16 | 48 | 120,10 | 127 |
| 12,80 | 111 | 51 | 16 | 48 | 56,98 | 128 |
| 12,90 | 111 | 51 | 16 | 48 | 84,05 | 129 |
| 13,00 | 111 | 51 | 16 | 48 | 58,40 | 130 |
| 13,50 | 114 | 54 | 16 | 48 | 86,23 | 135 |
| 14,00 | 114 | 54 | 16 | 48 | 86,23 | 140 |
| 14,50 | 116 | 56 | 16 | 48 | 110,20 | 145 |
| 15,00 | 116 | 56 | 16 | 48 | 103,90 | 150 |
| 15,50 | 118 | 58 | 16 | 48 | 113,50 | 155 |
| 16,00 | 118 | 58 | 16 | 48 | 108,80 | 160 |
| 16,50 | 126 | 60 | 20 | 50 | 169,20 | 165 |
| 17,00 | 126 | 60 | 20 | 50 | 169,20 | 170 |
| 17,50 | 128 | 62 | 20 | 50 | 169,20 | 175 |
| 18,00 | 128 | 62 | 20 | 50 | 169,20 | 180 |
| 18,50 | 130 | 64 | 20 | 50 | 169,20 | 185 |
| 19,00 | 130 | 64 | 20 | 50 | 169,20 | 190 |
| 19,50 | 132 | 66 | 20 | 50 | 169,20 | 195 |
| 20,00 | 132 | 66 | 20 | 50 | 149,60 | 200 |

| | |
|---|---|
| P | ● |
| M | ● |
| K | ● |
| N | ○ |
| S | ○ |
| H | |
| O | ○ |

→ $v_c$ Stran 46

# Spiralni sveder DIN 1897, zelo kratek

≤ 3xD




| UNI | UNI | N | VA | WNX | WT | WT |
|---|---|---|---|---|---|---|
| TiN | TiN | vap. | | | vap. | TiN |

| | 130° | 118° | 118° | 130° | 130° | 130° | 130° |
|---|---|---|---|---|---|---|---|
| | HSS-E-PM | HSS-E | HSS | HSS-E | HSS-E | HSS-E | HSS-E |
| | **10 113 ...** | **10 107 ...** | **10 105 ...** | **10 130 ...** | **10 106 ...** | **10 109 ...** | **10 110 ...** |

| DC $_{h8}$ mm | DC Palec | OAL mm | LCF mm | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0,40** | | 19 | 2,5 | | | | | 4,14 | 004 [1] | | | | 6,94 | 00400 [1] | |
| **0,50** | | 20 | 3,0 | | | | | 3,10 | 005 [1] | | | | 5,13 | 00500 [1] | |
| **0,55** | | 21 | 3,5 | | | | | | | | | | 12,01 | 00550 [1] | |
| **0,60** | | 21 | 3,5 | | | | | 3,81 | 006 [1] | | | | 6,11 | 00600 [1] | |
| **0,65** | | 22 | 4,0 | | | | | | | | | | 6,65 | 00650 [1] | |
| **0,70** | | 23 | 4,5 | | | | | 3,54 | 007 [1] | | | | 5,60 | 00700 [1] | |
| **0,75** | | 23 | 4,5 | | | | | | | | | | 5,83 | 00750 [1] | |
| **0,80** | | 24 | 5,0 | | | | | 2,72 | 008 [1] | | | | 4,87 | 00800 [1] | |
| **0,85** | | 24 | 5,0 | | | | | | | | | | 5,50 | 00850 [1] | |
| **0,90** | | 25 | 5,5 | | | | | 2,72 | 009 [1] | | | | 4,87 | 00900 [1] | |
| **0,95** | | 25 | 5,5 | | | | | | | | | | 5,50 | 00950 [1] | |
| **1,00** | | 26 | 6,0 | 8,14 | 010 [2] | 4,89 | 010 [2] | 1,50 | 010 [1] | 2,07 | 010 | 3,15 | 010 | 3,46 | 01000 [1] | 4,80 | 010 |
| **1,05** | | 26 | 6,0 | | | | | | | | | | | 4,66 | 01050 [1] | | |
| **1,10** | | 28 | 7,0 | 8,14 | 011 [2] | 4,89 | 011 [2] | 1,59 | 011 [1] | 2,07 | 011 | 3,45 | 011 | 3,31 | 01100 [1] | 5,01 | 011 |
| **1,15** | | 28 | 7,0 | | | | | | | | | | | 3,71 | 01150 [1] | | |
| **1,20** | | 30 | 8,0 | 8,34 | 012 [2] | 5,02 | 012 [2] | 1,59 | 012 [1] | 1,88 | 012 | 3,42 | 012 | 3,22 | 01200 [1] | 4,68 | 012 |
| **1,25** | | 30 | 8,0 | | | | | | | | | | | 3,71 | 01250 [1] | | |
| **1,30** | | 30 | 8,0 | 8,79 | 013 [2] | 5,27 | 013 [2] | 1,59 | 013 [1] | 1,88 | 013 | 3,32 | 013 | 3,31 | 01300 [1] | 5,01 | 013 |
| **1,35** | | 32 | 9,0 | | | | | | | | | | | 3,71 | 01350 [1] | | |
| **1,40** | | 32 | 9,0 | 8,04 | 014 [2] | 4,82 | 014 [2] | 1,59 | 014 [1] | 1,88 | 014 | 3,32 | 014 | 3,31 | 01400 [1] | 5,01 | 014 |
| **1,45** | | 32 | 9,0 | | | | | | | | | | | 3,71 | 01450 [1] | | |
| **1,50** | | 32 | 9,0 | 7,59 | 015 [2] | 4,55 | 015 [2] | 1,25 | 015 [1] | 1,88 | 015 | 3,04 | 015 | 3,07 | 01500 [1] | 4,68 | 015 |
| **1,55** | | 34 | 10,0 | | | | | | | | | | | 4,82 | 01550 [1] | | |
| **1,60** | | 34 | 10,0 | 7,95 | 016 [2] | 4,76 | 016 [2] | 1,46 | 016 [1] | 2,30 | 016 | 3,29 | 016 | 2,99 | 01600 [1] | 4,53 | 016 |
| **1,65** | | 34 | 10,0 | | | | | | | | | | | 3,97 | 01650 [1] | | |
| **1,70** | | 34 | 10,0 | 8,04 | 017 [2] | 4,82 | 017 [2] | 1,46 | 017 [1] | 2,30 | 017 | 3,25 | 017 | 2,96 | 01700 [1] | 4,46 | 017 |
| **1,75** | | 36 | 11,0 | | | | | | | | | | | 3,66 | 01750 [1] | | |
| **1,80** | | 36 | 11,0 | 7,95 | 018 [2] | 4,76 | 018 [2] | 1,55 | 018 [1] | 2,30 | 018 | 3,25 | 018 | 3,01 | 01800 [1] | 4,59 | 018 |
| **1,83** | | 36 | 11,0 | | | | | | | | | | | 5,41 | 01830 [1] | | |
| **1,85** | | 36 | 11,0 | | | | | | | | | | | 3,43 | 01850 [1] | | |
| **1,90** | | 36 | 11,0 | 7,95 | 019 [2] | 4,76 | 019 [2] | 1,46 | 019 [1] | 2,30 | 019 | 3,22 | 019 | 3,01 | 01900 [1] | 4,59 | 019 |
| **1,95** | | 38 | 12,0 | | | | | | | | | | | 5,35 | 01950 [1] | | |
| **2,00** | | 38 | 12,0 | 6,65 | 020 [2] | 3,99 | 020 [2] | 0,96 | 020 [1] | 2,30 | 020 | 2,74 | 020 | 2,65 | 02000 [1] | 3,89 | 020 |
| **2,05** | | 38 | 12,0 | | | | | | | | | | | 4,82 | 02050 [1] | | |
| **2,10** | | 38 | 12,0 | 8,14 | 021 [2] | 4,89 | 021 [2] | 1,39 | 021 [1] | 2,30 | 021 | 3,04 | 021 | 2,93 | 02100 [1] | 4,39 | 021 |
| **2,15** | | 40 | 13,0 | | | | | | | | | | | 4,53 | 02150 [1] | | |
| **2,20** | | 40 | 13,0 | 8,14 | 022 [2] | 4,89 | 022 [2] | 1,39 | 022 [1] | 2,30 | 022 | 3,07 | 022 | 3,41 | 02200 [1] | 4,80 | 022 |
| **2,25** | | 40 | 13,0 | | | | | | | | | | | 3,66 | 02250 [1] | | |
| **2,30** | | 40 | 13,0 | 6,85 | 023 [2] | 4,14 | 023 [2] | 1,46 | 023 [1] | 2,30 | 023 | 3,20 | 023 | 3,15 | 02300 [1] | 4,80 | 023 |
| **2,35** | | 40 | 13,0 | | | | | | | | | | | 5,13 | 02350 [1] | | |
| **2,38** | 3/32 | 43 | 14,0 | 7,54 | 238 [2] | 4,50 | 238 [2] | | | | | | | | | | |
| **2,40** | | 43 | 14,0 | 8,19 | 024 [2] | 4,94 | 024 [2] | 1,46 | 024 | 2,30 | 024 | 3,25 | 024 | 3,28 | 02400 | 4,96 | 024 |
| **2,45** | | 43 | 14,0 | | | | | | | | | | | 3,89 | 02450 | | |
| **2,50** | | 43 | 14,0 | 7,15 | 025 [2] | 4,34 | 025 [2] | 1,09 | 025 | 2,30 | 025 | 3,04 | 025 | 2,80 | 02500 | 4,25 | 025 |
| **2,55** | | 43 | 14,0 | | | | | | | | | | | 5,13 | 02550 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| P | ● | ● | ○ | ○ | ● | ● | ● |
| M | | ● | | ● | | ● | ● |
| K | ● | ● | ● | | ● | ● | ● |
| N | ○ | ○ | ○ | ● | ○ | ○ | ○ |
| S | ○ | ○ | | ○ | ○ | ○ | ● |
| H | ○ | | | | ○ | ○ | ○ |
| O | ○ | ○ | ○ | | ○ | | |

**1)** neobdelano
**2)** samodejno centriranje

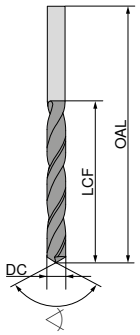
→ $v_c$ Stran 46+47



Nadaljevanje na naslednji strani

# Spiralni sveder DIN 1897, zelo kratek

≤ 3xD




| UNI | UNI | N | VA | WNX | WT | WT |
|---|---|---|---|---|---|---|
| TiN | TiN | vap. | | | vap. | TiN |

| ◁ 130° | ◁ 118° | ◁ 118° | ◁ 130° | ◁ 130° | ◁ 130° | ◁ 130° |
|---|---|---|---|---|---|---|
| HSS-E-PM | HSS-E | HSS | HSS-E | HSS-E | HSS-E | HSS-E |

| | | | | 10 113 ... | | 10 107 ... | | 10 105 ... | | 10 130 ... | | 10 106 ... | | 10 109 ... | | 10 110 ... | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DC h8 mm | DC Palec | OAL mm | LCF mm | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | |
| 2,60 | | 43 | 14,0 | 8,45 | 026 2) | 5,10 | 026 2) | 1,50 | 026 | 2,30 | 026 | 3,25 | 026 | 3,28 | 02600 | 4,96 | 026 |
| 2,65 | | 43 | 14,0 | | | | | | | | | | | 5,13 | 02650 | | |
| 2,70 | | 46 | 16,0 | 8,99 | 027 2) | 5,42 | 027 2) | 1,50 | 027 | 2,30 | 027 | 3,29 | 027 | 3,43 | 02700 | 5,26 | 027 |
| 2,75 | | 46 | 16,0 | | | | | | | | | | | 5,13 | 02750 | | |
| 2,78 | 7/64 | 46 | 16,0 | 8,73 | 278 2) | 5,24 | 278 2) | | | | | | | | | | |
| 2,80 | | 46 | 16,0 | 8,34 | 028 2) | 5,02 | 028 2) | 1,50 | 028 | 2,30 | 028 | 3,45 | 028 | 3,43 | 02800 | 5,26 | 028 |
| 2,85 | | 46 | 16,0 | | | | | | | | | | | 5,10 | 02850 | | |
| 2,90 | | 46 | 16,0 | 8,88 | 029 2) | 5,35 | 029 2) | 1,50 | 029 | 2,30 | 029 | 3,58 | 029 | 3,43 | 02900 | 5,26 | 029 |
| 2,95 | | 46 | 16,0 | | | | | | | | | | | 3,66 | 02950 | | |
| 3,00 | | 46 | 16,0 | 7,54 | 030 2) | 4,50 | 030 2) | 1,09 | 030 | 2,30 | 030 | 3,25 | 030 | 3,01 | 03000 | 4,48 | 030 |
| 3,05 | | 49 | 18,0 | | | | | | | | | | | 3,78 | 03050 | | |
| 3,10 | | 49 | 18,0 | 8,04 | 031 2) | 4,82 | 031 2) | 1,50 | 031 | 2,30 | 031 | 3,73 | 031 | 3,43 | 03100 | 5,16 | 031 |
| 3,15 | | 49 | 18,0 | | | | | | | | | | | 5,50 | 03150 | | |
| 3,17 | 1/8 | 49 | 18,0 | 7,95 | 317 2) | 4,76 | 317 2) | | | | | | | | | | |
| 3,20 | | 49 | 18,0 | 7,59 | 032 2) | 4,55 | 032 2) | 1,39 | 032 | 2,30 | 032 | 3,20 | 032 | 3,28 | 03200 | 4,87 | 032 |
| 3,25 | | 49 | 18,0 | | | | | | | | | | | 3,81 | 03250 | | |
| 3,30 | | 49 | 18,0 | 7,59 | 033 2) | 4,55 | 033 2) | 1,46 | 033 | 2,30 | 033 | 3,45 | 033 | 3,54 | 03300 | 5,26 | 033 |
| 3,35 | | 49 | 18,0 | | | | | | | | | | | 5,10 | 03350 | | |
| 3,40 | | 52 | 20,0 | 8,79 | 034 2) | 5,27 | 034 2) | 1,85 | 034 | 2,30 | 034 | 3,93 | 034 | 3,51 | 03400 | 5,26 | 034 |
| 3,45 | | 52 | 20,0 | | | | | | | | | | | 3,81 | 03450 | | |
| 3,50 | | 52 | 20,0 | 7,59 | 035 2) | 4,55 | 035 2) | 1,25 | 035 | 2,30 | 035 | 3,84 | 035 | 3,46 | 03500 | 4,77 | 035 |
| 3,55 | | 52 | 20,0 | | | | | | | | | | | 3,89 | 03550 | | |
| 3,57 | 9/64 | 52 | 20,0 | 8,59 | 357 2) | 5,17 | 357 2) | | | | | | | | | | |
| 3,60 | | 52 | 20,0 | 10,08 | 036 2) | 6,06 | 036 2) | 1,85 | 036 | 2,65 | 036 | 3,93 | 036 | 3,54 | 03600 | 5,26 | 036 |
| 3,70 | | 52 | 20,0 | 8,73 | 037 2) | 5,24 | 037 2) | 1,85 | 037 | 2,65 | 037 | 3,93 | 037 | 3,78 | 03700 | 5,67 | 037 |
| 3,75 | | 52 | 20,0 | | | | | | | | | | | 3,97 | 03750 | | |
| 3,80 | | 55 | 22,0 | 9,28 | 038 2) | 5,58 | 038 2) | 1,85 | 038 | 2,65 | 038 | 4,17 | 038 | 3,66 | 03800 | 5,39 | 038 |
| 3,85 | | 55 | 22,0 | | | | | | | | | | | 6,11 | 03850 | | |
| 3,90 | | 55 | 22,0 | 10,52 | 039 2) | 6,33 | 039 2) | 1,85 | 039 | | | 4,17 | 039 | 3,75 | 03900 | 5,67 | 039 |
| 3,95 | | 55 | 22,0 | | | | | | | | | | | 6,18 | 03950 | | |
| 3,97 | 5/32 | 55 | 22,0 | 9,47 | 397 2) | 5,67 | 397 2) | | | | | | | | | | |
| 4,00 | | 55 | 22,0 | 8,59 | 040 2) | 5,17 | 040 2) | 1,31 | 040 | 3,92 | 040 | 4,14 | 040 | 3,71 | 04000 | 4,87 | 040 |
| 4,05 | | 55 | 22,0 | | | | | | | | | | | 4,36 | 04050 | | |
| 4,10 | | 55 | 22,0 | 9,83 | 041 2) | 5,92 | 041 2) | 1,59 | 041 | 3,92 | 041 | 4,20 | 041 | 3,85 | 04100 | 5,39 | 041 |
| 4,15 | | 55 | 22,0 | | | | | | | | | | | 6,14 | 04150 | | |
| 4,20 | | 55 | 22,0 | 8,59 | 042 2) | 5,17 | 042 2) | 1,55 | 042 | 3,92 | 042 | 3,84 | 042 | 3,78 | 04200 | 5,39 | 042 |
| 4,25 | | 55 | 22,0 | | | | | | | | | | | 6,68 | 04250 | | |
| 4,30 | | 58 | 24,0 | 9,79 | 043 2) | 5,88 | 043 2) | 2,48 | 043 | 3,92 | 043 | 4,33 | 043 | 4,00 | 04300 | 5,98 | 043 |
| 4,35 | | 58 | 24,0 | | | | | | | | | | | 6,71 | 04350 | | |
| 4,37 | 11/64 | 58 | 24,0 | 13,20 | 437 2) | 7,91 | 437 2) | | | | | | | | | | |
| 4,40 | | 58 | 24,0 | 10,52 | 044 2) | 6,33 | 044 2) | 2,48 | 044 | | | 4,33 | 044 | 4,16 | 04400 | 6,14 | 044 |
| 4,45 | | 58 | 24,0 | | | | | | | | | | | 6,90 | 04450 | | |
| 4,50 | | 58 | 24,0 | 9,79 | 045 2) | 5,88 | 045 2) | 1,59 | 045 | 4,13 | 045 | 4,33 | 045 | 3,97 | 04500 | 5,08 | 045 |
| 4,55 | | 58 | 24,0 | | | | | | | | | | | 6,71 | 04550 | | |
| 4,60 | | 58 | 24,0 | 9,83 | 046 2) | 5,92 | 046 2) | 2,51 | 046 | 4,13 | 046 | 4,49 | 046 | 4,41 | 04600 | 6,68 | 046 |

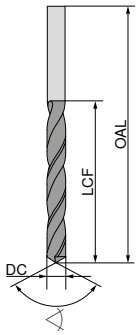
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| P | ● | ● | ○ | ○ | ● | ● | ● |
| M | | ● | | ● | | ● | ● |
| K | ● | ● | ● | | ● | ● | ● |
| N | ○ | ○ | ○ | ● | ○ | ○ | ○ |
| S | ○ | ○ | | ○ | ○ | ○ | ● |
| H | ○ | | | | ○ | ○ | ○ |
| O | ○ | ○ | ○ | | ○ | | |

1) neobdelano
2) samodejno centriranje

→ $v_c$ Stran 46+47

# Spiralni sveder DIN 1897, zelo kratek

≤ 3xD




| UNI | UNI | N | VA | WNX | WT | WT |
|---|---|---|---|---|---|---|
| TiN | TiN | vap. | | | vap. | TiN |

| | 130° HSS-E-PM | 118° HSS-E | 118° HSS | 130° HSS-E | 130° HSS-E | 130° HSS-E | 130° HSS-E |
|---|---|---|---|---|---|---|---|
| | 10 113 ... | 10 107 ... | 10 105 ... | 10 130 ... | 10 106 ... | 10 109 ... | 10 110 ... |
| DC h8 mm | EUR T2 | EUR T2 | EUR T2 | EUR T2 | EUR T2 | EUR T2 | EUR T2 |
| 4,65 | | | | | | 6,00 04650 | 6,79 465 |
| 4,70 | 11,02 047 2) | 6,59 047 2) | 2,51 047 | 4,13 047 | 4,80 047 | 4,55 04700 | 6,79 047 |
| 4,75 | | | | | | 6,00 04750 | |
| 4,76 | 11,02 476 2) | 6,59 476 2) | | | | | |
| 4,80 | 11,13 048 2) | 6,71 048 2) | 2,51 048 | 4,26 048 | 5,02 048 | 4,77 04800 | 6,76 048 |
| 4,85 | | | | | | 5,50 04850 | |
| 4,90 | 11,25 049 2) | 6,77 049 2) | 2,51 049 | 4,26 049 | 5,24 049 | 5,23 04900 | 6,76 049 |
| 4,95 | | | | | | 7,84 04950 | |
| 5,00 | 9,47 050 2) | 5,67 050 2) | 1,69 050 | 4,26 050 | 4,64 050 | 4,25 05000 | 5,50 050 |
| 5,05 | | | | | | 9,26 05050 | |
| 5,10 | 10,42 051 2) | 6,27 051 2) | 2,56 051 | 4,26 051 | 5,37 051 | 5,67 05100 | 6,96 051 |
| 5,15 | | | | | | 9,83 05150 | |
| 5,16 | 12,44 516 2) | 7,46 516 2) | | | | | |
| 5,20 | 11,25 052 2) | 6,77 052 2) | 2,56 052 | 4,84 052 | 5,44 052 | 6,79 05200 | 7,08 052 |
| 5,25 | | | | | | 8,03 05250 | |
| 5,30 | 12,77 053 2) | 7,69 053 2) | 2,56 053 | 4,84 053 | 5,60 053 | 7,47 05300 | 7,20 053 |
| 5,35 | | | | | | 13,32 05350 | |
| 5,40 | 12,44 054 2) | 7,50 054 2) | 2,93 054 | | 5,88 054 | 8,03 05400 | 7,95 054 |
| 5,45 | | | | | | 12,88 05450 | |
| 5,50 | 10,68 055 2) | 6,41 055 2) | 2,22 055 | 4,84 055 | 5,80 055 | 5,41 05500 | 5,92 055 |
| 5,55 | | | | | | 14,63 05550 | 7,70 555 |
| 5,56 | 11,68 556 2) | 7,00 556 2) | | | | | |
| 5,60 | 12,77 056 2) | 7,69 056 2) | 2,93 056 | 4,87 056 | 6,17 056 | 8,95 05600 | 7,70 056 |
| 5,70 | 13,65 057 2) | 8,18 057 2) | 2,93 057 | 4,87 057 | 6,22 057 | 9,11 05700 | 7,70 057 |
| 5,75 | | | | | | 10,74 05750 | |
| 5,80 | 13,10 058 2) | 7,88 058 2) | 2,93 058 | 4,87 058 | 6,32 058 | 9,26 05800 | 7,70 058 |
| 5,85 | | | | | | 15,60 05850 | |
| 5,90 | 14,41 059 2) | 8,64 059 2) | 2,93 059 | 4,87 059 | 6,39 059 | 9,69 05900 | 7,93 059 |
| 5,95 | 21,84 595 2) | 13,20 595 2) | | | | 9,83 05950 | |
| 6,00 | 11,57 060 2) | 6,89 060 2) | 2,22 060 | 5,25 060 | 5,64 060 | 5,41 06000 | 6,21 060 |
| 6,05 | | | | | | 15,60 06050 | |
| 6,10 | 13,54 061 2) | 8,12 061 2) | 3,15 061 | 5,25 061 | 6,65 061 | 10,22 06100 | 9,95 061 |
| 6,15 | | | | | | 11,35 06150 | |
| 6,20 | 13,54 062 2) | 8,12 062 2) | 3,15 062 | 5,25 062 | 6,74 062 | 10,74 06200 | 10,25 062 |
| 6,25 | | | | | | 13,42 06250 | |
| 6,30 | 15,50 063 2) | 9,27 063 2) | 3,15 063 | 5,25 063 | 6,79 063 | 11,46 06300 | 10,44 063 |
| 6,35 | 14,19 635 2) | 8,54 635 2) | | | | 8,03 06350 | |
| 6,40 | 14,30 064 2) | 8,61 064 2) | 3,27 064 | 5,99 064 | 7,14 064 | 11,68 06400 | 10,50 064 |
| 6,45 | | | | | | 15,17 06450 | |
| 6,50 | 13,54 065 2) | 8,12 065 2) | 2,64 065 | 5,99 065 | 6,76 065 | 6,32 06500 | 7,78 065 |
| 6,55 | | | | | | 16,05 06550 | |
| 6,60 | 14,84 066 2) | 8,96 066 2) | 3,27 066 | 5,99 066 | 7,35 066 | 12,23 06600 | 10,48 066 |
| 6,65 | | | | | | 16,91 06650 | |
| 6,70 | 16,38 067 2) | 9,82 067 2) | 3,58 067 | 5,99 067 | 7,60 067 | 12,44 06700 | 10,65 067 |
| 6,75 | 20,19 675 2) | 12,01 675 2) | | | | 12,56 06750 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| P | ● | ● | ○ | ○ | ● | ● | ● |
| M | | ● | | ● | | ● | ● |
| K | ● | ● | ● | | ● | ● | ● |
| N | ○ | ○ | ○ | ● | ○ | ○ | ○ |
| S | ○ | ○ | | ○ | ○ | ○ | ● |
| H | ○ | | | | ○ | ○ | ○ |
| O | ○ | ○ | ○ | | ○ | | |

1) neobdelano
2) samodejno centriranje

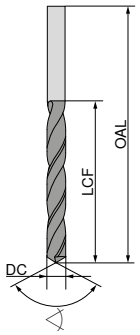
→ $v_c$ Stran 46+47



Nadaljevanje na naslednji strani

# Spiralni sveder DIN 1897, zelo kratek

≤ 3xD




| UNI | UNI | N | VA | WNX | WT | WT |
|---|---|---|---|---|---|---|
| TiN | TiN | vap. | | | vap. | TiN |

| ∢ 130° | ∢ 118° | ∢ 118° | ∢ 130° | ∢ 130° | ∢ 130° | ∢ 130° |
|---|---|---|---|---|---|---|
| HSS-E-PM | HSS-E | HSS | HSS-E | HSS-E | HSS-E | HSS-E |

| | | | | 10 113 ... | | 10 107 ... | | 10 105 ... | | 10 130 ... | | 10 106 ... | | 10 109 ... | | 10 110 ... | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DC h8 mm | DC Palec | OAL mm | LCF mm | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | |
| 6,80 | | 74 | 34,0 | 16,49 | 068 2) | 9,87 | 068 2) | 4,14 | 068 | 6,20 | 068 | 8,48 | 068 | 12,88 | 06800 | 11,35 | 068 |
| 6,85 | | 74 | 34,0 | | | | | | | | | | | 18,13 | 06850 | | |
| 6,90 | | 74 | 34,0 | 16,26 | 069 2) | 9,72 | 069 2) | 4,45 | 069 | 6,20 | 069 | 8,69 | 069 | 13,10 | 06900 | 11,35 | 069 |
| 7,00 | | 74 | 34,0 | 15,06 | 070 2) | 9,06 | 070 2) | 3,23 | 070 | 6,20 | 070 | 7,35 | 070 | 7,20 | 07000 | 9,31 | 070 |
| 7,05 | | 74 | 34,0 | | | | | | | | | | | 20,30 | 07050 | | |
| 7,10 | | 74 | 34,0 | 18,23 | 071 2) | 11,02 | 071 2) | 4,60 | 071 | 6,20 | 071 | 10,25 | 071 | 13,32 | 07100 | 12,56 | 071 |
| 7,14 | 9/32 | 74 | 34,0 | 24,23 | 714 2) | 14,51 | 714 2) | | | | | | | | | | |
| 7,20 | | 74 | 34,0 | 18,78 | 072 2) | 11,35 | 072 2) | 4,68 | 072 | 6,60 | 072 | 10,74 | 072 | 13,86 | 07200 | 12,56 | 072 |
| 7,25 | | 74 | 34,0 | | | | | | | | | | | 16,49 | 07250 | | |
| 7,30 | | 74 | 34,0 | 20,19 | 073 2) | 12,11 | 073 2) | 4,81 | 073 | | | 11,35 | 073 | 13,97 | 07300 | 12,66 | 073 |
| 7,35 | | 74 | 34,0 | | | | | | | | | | | 18,33 | 07350 | | |
| 7,40 | | 74 | 34,0 | 18,89 | 074 2) | 11,46 | 074 2) | 5,16 | 074 | | | 12,44 | 074 | 14,19 | 07400 | 12,66 | 074 |
| 7,50 | | 74 | 34,0 | 15,72 | 075 2) | 9,45 | 075 2) | 3,58 | 075 | 6,60 | 075 | 8,06 | 075 | 8,37 | 07500 | 9,74 | 075 |
| 7,60 | | 79 | 37,0 | 24,57 | 076 2) | 14,74 | 076 2) | 5,72 | 076 | | | 11,68 | 076 | 14,84 | 07600 | 14,09 | 076 |
| 7,70 | | 79 | 37,0 | 26,52 | 077 2) | 15,94 | 077 2) | 5,72 | 077 | 6,95 | 077 | 12,01 | 077 | 15,50 | 07700 | 14,09 | 077 |
| 7,75 | | 79 | 37,0 | | | | | | | | | | | 19,21 | 07750 | | |
| 7,80 | | 79 | 37,0 | 20,30 | 078 2) | 12,23 | 078 2) | 5,72 | 078 | | | 12,01 | 078 | 15,83 | 07800 | 14,19 | 078 |
| 7,90 | | 79 | 37,0 | 28,38 | 079 2) | 17,04 | 079 2) | 5,80 | 079 | 6,95 | 079 | 11,46 | 079 | 16,15 | 07900 | 14,19 | 079 |
| 7,94 | 5/16 | 79 | 37,0 | 19,44 | 794 2) | 11,68 | 794 2) | | | | | | | | | | |
| 8,00 | | 79 | 37,0 | 18,78 | 080 2) | 11,35 | 080 2) | 3,67 | 080 | 7,50 | 080 | 8,24 | 080 | 7,84 | 08000 | 10,12 | 080 |
| 8,05 | | 79 | 37,0 | | | | | | | | | | | 25,87 | 08050 | | |
| 8,10 | | 79 | 37,0 | 24,02 | 081 2) | 14,41 | 081 2) | 6,23 | 081 | 7,50 | 081 | 12,66 | 081 | 16,91 | 08100 | 14,30 | 081 |
| 8,15 | | 79 | 37,0 | | | | | | | | | | | 25,87 | 08150 | | |
| 8,20 | | 79 | 37,0 | 25,00 | 082 2) | 14,96 | 082 2) | 6,67 | 082 | 7,50 | 082 | 13,00 | 082 | 17,69 | 08200 | 14,30 | 082 |
| 8,25 | | 79 | 37,0 | | | | | | | | | | | 20,09 | 08250 | | |
| 8,30 | | 79 | 37,0 | 26,20 | 083 2) | 15,72 | 083 2) | 6,77 | 083 | 7,50 | 083 | 13,32 | 083 | 18,66 | 08300 | 14,51 | 083 |
| 8,40 | | 79 | 37,0 | 25,11 | 084 2) | 15,17 | 084 2) | 6,94 | 084 | 8,30 | 084 | 13,86 | 084 | 19,54 | 08400 | 14,51 | 084 |
| 8,50 | | 79 | 37,0 | 21,84 | 085 2) | 13,20 | 085 2) | 5,27 | 085 | 8,30 | 085 | 10,02 | 085 | 9,43 | 08500 | 12,11 | 085 |
| 8,55 | | 84 | 40,0 | | | | | | | | | | | 29,57 | 08550 | | |
| 8,60 | | 84 | 40,0 | | | 14,74 | 086 2) | 6,94 | 086 | 8,30 | 086 | 14,19 | 086 | 20,09 | 08600 | 14,84 | 086 |
| 8,70 | | 84 | 40,0 | | | 16,91 | 087 2) | 7,09 | 087 | 8,30 | 087 | 14,63 | 087 | 21,07 | 08700 | 14,84 | 087 |
| 8,73 | 11/32 | 84 | 40,0 | 34,49 | 873 2) | 20,73 | 873 2) | | | | | | | | | | |
| 8,75 | | 84 | 40,0 | | | | | | | | | | | 25,87 | 08750 | | |
| 8,80 | | 84 | 40,0 | 27,40 | 088 2) | 16,38 | 088 2) | 7,16 | 088 | | | 16,38 | 088 | 21,94 | 08800 | 14,96 | 088 |
| 8,90 | | 84 | 40,0 | | | 20,95 | 089 2) | 7,45 | 089 | | | 10,74 | 089 | 22,38 | 08900 | 15,72 | 089 |
| 8,95 | | 84 | 40,0 | | | | | | | | | | | 28,71 | 08950 | | |
| 9,00 | | 84 | 40,0 | 22,17 | 090 2) | 13,42 | 090 2) | 4,81 | 090 | 9,52 | 090 | 9,80 | 090 | 10,03 | 09000 | 12,23 | 090 |
| 9,05 | | 84 | 40,0 | | | | | | | | | | | 23,68 | 09050 | | |
| 9,10 | | 84 | 40,0 | | | 17,69 | 091 2) | 8,35 | 091 | | | 17,04 | 091 | 22,93 | 09100 | 19,44 | 091 |
| 9,20 | | 84 | 40,0 | | | 17,79 | 092 2) | 9,02 | 092 | 10,03 | 092 | 18,33 | 092 | 23,68 | 09200 | 19,44 | 092 |
| 9,25 | | 84 | 40,0 | | | | | | | | | | | 26,63 | 09250 | | |
| 9,30 | | 84 | 40,0 | 25,11 | 093 2) | 15,17 | 093 2) | 9,41 | 093 | 10,03 | 093 | 12,66 | 093 | 24,88 | 09300 | 19,44 | 093 |
| 9,40 | | 84 | 40,0 | | | 20,63 | 094 2) | 9,57 | 094 | | | 12,66 | 094 | 25,21 | 09400 | 19,44 | 094 |
| 9,50 | | 84 | 40,0 | 24,57 | 095 2) | 14,74 | 095 2) | 8,03 | 095 | 10,16 | 095 | 12,01 | 095 | 10,92 | 09500 | 16,05 | 095 |
| 9,60 | | 89 | 43,0 | | | 21,62 | 096 2) | 10,10 | 096 | | | 19,10 | 096 | 25,21 | 09600 | 20,19 | 096 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| P | ● | ● | ○ | ○ | ● | ● | ● |
| M | | ● | | ● | | ● | ● |
| K | ● | ● | ● | | ● | ● | ● |
| N | ○ | ○ | ○ | ● | ○ | ○ | ○ |
| S | ○ | ○ | | ○ | ○ | ○ | ● |
| H | ○ | | | | ○ | ○ | ○ |
| O | ○ | ○ | ○ | | ○ | | |

1) neobdelano
2) samodejno centriranje

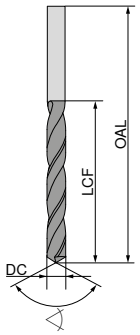
→ $v_c$ Stran 46+47



Nadaljevanje na naslednji strani 

# Spiralni sveder DIN 1897, zelo kratek

≤ 3xD




| UNI | UNI | N | VA | WNX | WT | WT |
|---|---|---|---|---|---|---|
| TiN | TiN | vap. | | | vap. | TiN |

| ◁ 130° HSS-E-PM | ◁ 118° HSS-E | ◁ 118° HSS | ◁ 130° HSS-E | ◁ 130° HSS-E | ◁ 130° HSS-E | ◁ 130° HSS-E |
|---|---|---|---|---|---|---|
| **10 113 ...** | **10 107 ...** | **10 105 ...** | **10 130 ...** | **10 106 ...** | **10 109 ...** | **10 110 ...** |

| DC $_{h8}$ mm | DC Palec | OAL mm | LCF mm | 10 113 ... EUR T2 | | 10 107 ... EUR T2 | | 10 105 ... EUR T2 | | 10 130 ... EUR T2 | | 10 106 ... EUR T2 | | 10 109 ... EUR T2 | | 10 110 ... EUR T2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9,65 | | 89 | 43,0 | | | | | | | | | | | 28,71 | 09650 | | |
| 9,70 | | 89 | 43,0 | | | 20,95 | 097 [2] | 10,25 | 097 | | | 19,10 | 097 | 25,53 | 09700 | 20,19 | 097 |
| 9,75 | | 89 | 43,0 | | | | | | | | | | | 28,71 | 09750 | | |
| 9,80 | | 89 | 43,0 | 29,25 | 098 [2] | 17,69 | 098 [2] | 10,80 | 098 | 11,13 | 098 | 19,44 | 098 | 25,87 | 09800 | 21,62 | 098 |
| 9,90 | | 89 | 43,0 | | | 22,38 | 099 [2] | 10,80 | 099 | | | 20,09 | 099 | 26,20 | 09900 | 21,62 | 099 |
| 10,00 | | 89 | 43,0 | 24,12 | 100 [2] | 14,51 | 100 [2] | 5,80 | 100 | 11,57 | 100 | 10,74 | 100 | 12,88 | 10000 | 14,96 | 100 |
| 10,05 | | 89 | 43,0 | | | | | | | | | | | 34,05 | 10050 | | |
| 10,10 | | 89 | 43,0 | | | 21,62 | 101 [2] | 11,79 | 101 | | | | | 34,93 | 10100 | | |
| 10,20 | | 89 | 43,0 | 30,56 | 102 [2] | 18,45 | 102 [2] | 10,25 | 102 | 11,57 | 102 | 19,10 | 102 | 20,09 | 10200 | 20,95 | 102 |
| 10,25 | | 89 | 43,0 | | | | | | | | | | | 30,67 | 10250 | | |
| 10,30 | | 89 | 43,0 | | | 20,09 | 103 [2] | 12,56 | 103 | | | | | 32,41 | 10300 | | |
| 10,40 | | 89 | 43,0 | | | 23,47 | 104 [2] | 13,32 | 104 | | | | | 38,32 | 10400 | | |
| 10,50 | | 89 | 43,0 | 29,04 | 105 [2] | 17,58 | 105 [2] | 10,80 | 105 | 12,44 | 105 | 15,94 | 105 | 22,38 | 10500 | 19,98 | 105 |
| 10,60 | | 95 | 47,0 | | | | | 16,05 | 106 | | | | | 38,53 | 10600 | | |
| 10,70 | | 95 | 47,0 | | | | | 16,49 | 107 | | | | | 38,53 | 10700 | | |
| 10,75 | | 95 | 47,0 | | | | | | | | | | | 33,51 | 10750 | | |
| 10,80 | | 95 | 47,0 | | | | | 16,91 | 108 | | | 21,18 | 108 | 37,44 | 10800 | 44,87 | 108 |
| 10,90 | | 95 | 47,0 | | | | | 16,91 | 109 | | | | | 38,32 | 10900 | | |
| 11,00 | | 95 | 47,0 | 32,20 | 110 [2] | 19,21 | 110 [2] | 10,80 | 110 | 12,88 | 110 | 18,89 | 110 | 23,68 | 11000 | 19,98 | 110 |
| 11,10 | | 95 | 47,0 | | | | | 16,91 | 111 | | | | | 43,45 | 11100 | | |
| 11,11 | 7/16 | 95 | 47,0 | 37,87 | 111 [2] | 22,81 | 111 [2] | | | | | | | | | | |
| 11,20 | | 95 | 47,0 | | | | | 17,79 | 112 | | | | | 45,52 | 11200 | | |
| 11,30 | | 95 | 47,0 | | | | | 18,13 | 113 | | | | | 48,14 | 11300 | | |
| 11,40 | | 95 | 47,0 | | | | | 18,13 | 114 | | | | | 48,46 | 11400 | | |
| 11,50 | | 95 | 47,0 | 37,12 | 115 [2] | 22,48 | 115 [2] | 11,35 | 115 | 14,74 | 115 | 24,57 | 115 | 26,63 | 11500 | 21,18 | 115 |
| 11,60 | | 95 | 47,0 | | | | | 18,13 | 116 | | | | | | | | |
| 11,70 | | 95 | 47,0 | | | | | 18,13 | 117 | 15,94 | 117 | | | 48,46 | 11700 | | |
| 11,75 | | 95 | 47,0 | | | | | | | | | | | 52,73 | 11750 | | |
| 11,80 | | 95 | 47,0 | | | | | 18,66 | 118 | | | 30,56 | 118 | 48,46 | 11800 | 25,21 | 118 |
| 11,90 | | 102 | 51,0 | | | | | 18,89 | 119 | | | | | | | | |
| 12,00 | | 102 | 51,0 | 36,35 | 120 [2] | 21,94 | 120 [2] | 13,86 | 120 | 16,05 | 120 | 24,57 | 120 | 31,44 | 12000 | 24,57 | 120 |
| 12,10 | | 102 | 51,0 | | | | | 19,32 | 121 | | | | | 48,14 | 12100 | | |
| 12,20 | | 102 | 51,0 | | | | | 19,32 | 122 | | | | | 48,46 | 12200 | | |
| 12,25 | | 102 | 51,0 | | | | | | | | | | | 53,49 | 12250 | | |
| 12,30 | | 102 | 51,0 | 61,56 | 123 [2] | 36,58 | 123 [2] | 19,54 | 123 | | | 30,56 | 123 | 37,22 | 12300 | 37,54 | 123 |
| 12,40 | | 102 | 51,0 | | | | | 19,54 | 124 | | | | | 48,46 | 12400 | | |
| 12,50 | | 102 | 51,0 | 39,84 | 125 [2] | 23,91 | 125 [2] | 14,41 | 125 | | | 25,00 | 125 | 32,09 | 12500 | 25,21 | 125 |
| 12,60 | | 102 | 51,0 | | | | | 19,98 | 126 | | | | | 32,96 | 12600 | | |
| 12,70 | | 102 | 51,0 | 50,87 | 127 [2] | 30,34 | 127 [2] | 19,10 | 127 | | | | | 32,96 | 12700 | | |
| 12,80 | | 102 | 51,0 | | | | | 20,73 | 128 | | | 37,44 | 128 | 48,90 | 12800 | 47,60 | 128 |
| 12,90 | | 102 | 51,0 | | | | | 21,62 | 129 | | | | | 48,90 | 12900 | | |
| 13,00 | | 102 | 51,0 | 39,84 | 130 [2] | 23,91 | 130 [2] | 14,63 | 130 | | | 27,61 | 130 | 34,05 | 13000 | 25,87 | 130 |
| 13,20 | | 102 | 51,0 | | | | | 22,38 | 132 | | | | | 48,90 | 13200 | | |
| 13,30 | | 107 | 54,0 | | | | | 22,71 | 133 | | | | | | | | |
| 13,50 | | 107 | 54,0 | 42,35 | 135 [2] | 25,53 | 135 [2] | 16,91 | 135 | | | 34,49 | 135 | 36,78 | 13500 | 28,16 | 135 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| P | ● | ● | ○ | ○ | ● | ● | ● |
| M | | ● | | ● | | ● | ● |
| K | ● | ● | ● | | ● | ● | ● |
| N | ○ | ○ | ○ | ● | ○ | ○ | ○ |
| S | ○ | ○ | | ○ | ○ | ○ | ● |
| H | ○ | | | | ○ | ○ | ○ |
| O | ○ | ○ | ○ | | ○ | | |

1) neobdelano
2) samodejno centriranje

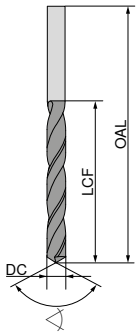
→ $v_c$ Stran 46+47



Nadaljevanje na naslednji strani

# Spiralni sveder DIN 1897, zelo kratek

≤ 3xD




| | UNI | UNI | N | VA | WNX | WT | WT |
|---|---|---|---|---|---|---|---|
| | TiN | TiN | vap. | | | vap. | TiN |
| | | | | | | | |
| | ◁ 130° | ◁ 118° | ◁ 118° | ◁ 130° | ◁ 130° | ◁ 130° | ◁ 130° |
| | HSS-E-PM | HSS-E | HSS | HSS-E | HSS-E | HSS-E | HSS-E |
| | **10 113 ...** | **10 107 ...** | **10 105 ...** | **10 130 ...** | **10 106 ...** | **10 109 ...** | **10 110 ...** |

| DC h8 mm | DC Palec | OAL mm | LCF mm | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **13,80** | | 107 | 54,0 | | | | | 23,36 | **138** | | | 44,54 | **138** | | | 29,91 | **138** |
| **14,00** | | 107 | 54,0 | 52,83 | **140** [2] | 31,87 | **140** [2] | 17,24 | **140** | | | 32,09 | **140** | 36,78 | **14000** | 29,25 | **140** |
| **14,50** | | 111 | 56,0 | | | | | 19,10 | **145** | | | 40,61 | **145** | 46,16 | **14500** | 29,80 | **145** |
| **14,75** | | 111 | 56,0 | | | | | 29,47 | **147** | | | | | | | | |
| **14,80** | | 111 | 56,0 | | | | | | | | | 56,54 | **148** | | | | |
| **15,00** | | 111 | 56,0 | | | | | 18,89 | **150** | | | 37,67 | **150** | 44,10 | **15000** | 30,79 | **150** |
| **15,25** | | 115 | 58,0 | | | | | 32,64 | **152** | | | | | 97,58 | **15250** | | |
| **15,50** | | 115 | 58,0 | | | | | 20,53 | **155** | | | 57,41 | **155** | 56,22 | **15500** | 40,27 | **155** |
| **15,75** | | 115 | 58,0 | | | | | | | | | | | | | 42,13 | **157** |
| **16,00** | | 115 | 58,0 | | | | | 20,73 | **160** | | | 45,41 | **160** | 45,96 | **16000** | 39,73 | **160** |
| **16,50** | | 119 | 60,0 | | | | | 24,78 | **165** | | | 46,61 | **165** | 74,34 | **16500** | 59,61 | **165** |
| **17,00** | | 119 | 60,0 | | | | | 25,21 | **170** | | | 47,05 | **170** | 64,19 | **17000** | 57,53 | **170** |
| **17,50** | | 123 | 62,0 | | | | | 26,20 | **175** | | | 48,25 | **175** | 74,99 | **17500** | 55,01 | **175** |
| **17,75** | | 123 | 62,0 | | | | | | | | | | | | | 66,80 | **177** |
| **18,00** | | 123 | 62,0 | | | | | 26,42 | **180** | | | 48,57 | **180** | 70,41 | **18000** | 62,87 | **180** |
| **18,50** | | 127 | 64,0 | | | | | 29,15 | **185** | | | | | 89,62 | **18500** | 71,06 | **185** |
| **19,00** | | 127 | 64,0 | | | | | 30,67 | **190** | | | 50,33 | **190** | 74,99 | **19000** | 69,32 | **190** |
| **19,50** | | 131 | 66,0 | | | | | 32,64 | **195** | | | | | 87,54 | **19500** | 77,83 | **195** |
| **19,75** | | 131 | 66,0 | | | | | | | | | | | | | 79,25 | **197** |
| **20,00** | | 131 | 66,0 | | | | | 32,64 | **200** | | | 52,94 | **200** | 76,62 | **20000** | 74,22 | **200** |
| **20,50** | | 136 | 68,0 | | | | | | | | | | | 122,30 | **20500** | | |
| **21,00** | | 136 | 68,0 | | | | | | | | | | | 117,90 | **21000** | | |
| **21,50** | | 141 | 70,0 | | | | | | | | | | | 125,60 | **21500** | | |
| **22,00** | | 141 | 70,0 | | | | | | | | | | | 126,60 | **22000** | | |
| **22,20** | | 141 | 70,0 | | | | | | | | | | | 133,20 | **22200** | | |
| **23,00** | | 146 | 72,0 | | | | | | | | | | | 140,90 | **23000** | | |
| **24,00** | | 151 | 75,0 | | | | | | | | | | | 149,60 | **24000** | | |
| **25,00** | | 151 | 75,0 | | | | | | | | | | | 171,40 | **25000** | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| P | ● | ● | ○ | ○ | ● | ● | ● |
| M | | ● | | ● | | ● | ● |
| K | ● | ● | ● | | ● | ● | ● |
| N | ○ | ○ | ○ | ● | ○ | ○ | ○ |
| S | ○ | ○ | | ○ | ○ | ○ | ● |
| H | ○ | | | | ○ | ○ | ○ |
| O | ○ | ○ | ○ | | ○ | | |

**1)** neobdelano
**2)** samodejno centriranje

→ $v_c$ Stran 46+47

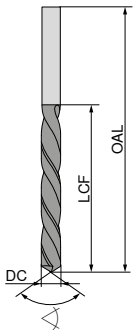
# Spiralni sveder DIN 1897, zelo kratek

▲ Levorezni

≤ 3xD

WTL-L

F.-nit



130°
HSS

| DC h8 mm | OAL mm | LCF mm | 10 112 ... EUR T2 | |
|---|---|---|---|---|
| 1,0 | 26 | 6 | 3,78 | 010 1) |
| 1,1 | 28 | 7 | 4,19 | 011 1) |
| 1,2 | 30 | 8 | 3,89 | 012 1) |
| 1,3 | 30 | 8 | 3,89 | 013 1) |
| 1,4 | 32 | 9 | 3,68 | 014 1) |
| 1,5 | 32 | 9 | 3,25 | 015 1) |
| 1,6 | 34 | 10 | 3,63 | 016 1) |
| 1,7 | 34 | 10 | 3,48 | 017 1) |
| 1,8 | 36 | 11 | 3,46 | 018 1) |
| 1,9 | 36 | 11 | 3,31 | 019 1) |
| 2,0 | 38 | 12 | 2,87 | 020 1) |
| 2,1 | 38 | 12 | 3,11 | 021 1) |
| 2,2 | 40 | 13 | 3,48 | 022 1) |
| 2,3 | 40 | 13 | 3,63 | 023 1) |
| 2,4 | 43 | 14 | 3,71 | 024 |
| 2,5 | 43 | 14 | 3,15 | 025 |
| 2,6 | 43 | 14 | 3,78 | 026 |
| 2,7 | 46 | 16 | 3,81 | 027 |
| 2,8 | 46 | 16 | 4,02 | 028 |
| 2,9 | 46 | 16 | 4,19 | 029 |
| 3,0 | 46 | 16 | 3,51 | 030 |
| 3,1 | 49 | 18 | 4,41 | 031 |
| 3,2 | 49 | 18 | 3,81 | 032 |
| 3,3 | 49 | 18 | 4,41 | 033 |
| 3,4 | 52 | 20 | 4,48 | 034 |
| 3,5 | 52 | 20 | 4,34 | 035 |
| 3,6 | 52 | 20 | 4,48 | 036 |
| 3,7 | 52 | 20 | 4,61 | 037 |
| 3,8 | 55 | 22 | 4,87 | 038 |
| 3,9 | 55 | 22 | 4,87 | 039 |
| 4,0 | 55 | 22 | 4,87 | 040 |
| 4,1 | 55 | 22 | 5,60 | 041 |
| 4,2 | 55 | 22 | 4,92 | 042 |
| 4,3 | 58 | 24 | 6,79 | 043 |
| 4,4 | 58 | 24 | 6,79 | 044 |
| 4,5 | 58 | 24 | 5,53 | 045 |
| 4,6 | 58 | 24 | 7,03 | 046 |
| 4,7 | 58 | 24 | 7,03 | 047 |
| 4,8 | 62 | 26 | 7,20 | 048 |
| 4,9 | 62 | 26 | 7,20 | 049 |
| 5,0 | 62 | 26 | 6,18 | 050 |
| 5,1 | 62 | 26 | 7,27 | 051 |
| 5,2 | 62 | 26 | 7,42 | 052 |
| 5,3 | 62 | 26 | 7,57 | 053 |
| 5,4 | 66 | 28 | 7,57 | 054 |
| 5,5 | 66 | 28 | 7,00 | 055 |
| 5,6 | 66 | 28 | 7,81 | 056 |
| 5,7 | 66 | 28 | 7,95 | 057 |
| 5,8 | 66 | 28 | 8,14 | 058 |
| 5,9 | 66 | 28 | 8,30 | 059 |
| 6,0 | 66 | 28 | 7,42 | 060 |
| 6,1 | 70 | 31 | 8,87 | 061 |
| 6,2 | 70 | 31 | 8,87 | 062 |
| 6,3 | 70 | 31 | 8,87 | 063 |
| 6,4 | 70 | 31 | 9,22 | 064 |
| 6,5 | 70 | 31 | 7,81 | 065 |
| 6,6 | 70 | 31 | 9,36 | 066 |
| 6,7 | 70 | 31 | 10,01 | 067 |
| 6,8 | 74 | 34 | 10,55 | 068 |
| 6,9 | 74 | 34 | 12,88 | 069 |
| 7,0 | 74 | 34 | 8,52 | 070 |
| 7,2 | 74 | 34 | 16,91 | 072 |
| 7,3 | 74 | 34 | 16,91 | 073 |
| 7,4 | 74 | 34 | 17,58 | 074 |
| 7,5 | 74 | 34 | 9,22 | 075 |
| 7,7 | 79 | 37 | 18,13 | 077 |
| 8,0 | 79 | 37 | 9,36 | 080 |
| 8,1 | 79 | 37 | 18,89 | 081 |
| 8,2 | 79 | 37 | 19,44 | 082 |
| 8,3 | 79 | 37 | 19,44 | 083 |
| 8,5 | 79 | 37 | 10,55 | 085 |
| 8,6 | 84 | 40 | 20,30 | 086 |
| 8,7 | 84 | 40 | 20,30 | 087 |
| 8,8 | 84 | 40 | 21,28 | 088 |
| 9,0 | 84 | 40 | 11,68 | 090 |
| 9,5 | 84 | 40 | 13,32 | 095 |
| 9,7 | 89 | 43 | 23,68 | 097 |
| 10,0 | 89 | 43 | 13,42 | 100 |
| 10,1 | 89 | 43 | 30,46 | 101 |
| 10,2 | 89 | 43 | 21,94 | 102 |
| 10,5 | 89 | 43 | 21,28 | 105 |
| 11,0 | 95 | 47 | 21,94 | 110 |
| 11,5 | 95 | 47 | 24,57 | 115 |
| 11,8 | 95 | 47 | 31,98 | 118 |
| 12,0 | 102 | 51 | 24,88 | 120 |
| 12,5 | 102 | 51 | 26,63 | 125 |
| 12,8 | 102 | 51 | 34,49 | 128 |
| 13,0 | 102 | 51 | 29,69 | 130 |
| 14,0 | 107 | 54 | 36,35 | 140 |
| 14,5 | 111 | 56 | 45,52 | 145 |
| 15,0 | 111 | 56 | 39,95 | 150 |
| 16,0 | 115 | 58 | 48,14 | 160 2) |
| 18,0 | 123 | 62 | 119,00 | 180 2) |
| 19,0 | 127 | 64 | 155,00 | 190 2) |

| | 10 112 ... |
|---|---|
| P | ○ |
| M | |
| K | ● |
| N | ● |
| S | |
| H | |
| O | ○ |

1) neobdelano
2) vaporiziran

→ $v_c$ Stran 47

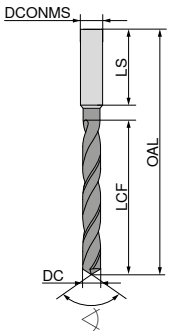
# Visokozmogljivi spiralni sveder, podoben standardu DIN 338, kratek

- Z enotnim držalom DIN 1835 A
- Posebno koničenje
- 4-stransko brušenje
- Najvišja raven zmogljivosti
- Zelo dobre lastnosti centriranja

≤ 5xD

VX

TiN



HSS-E

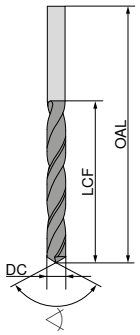
| DC h8 mm | OAL mm | LCF mm | DCONMS h6 mm | LS mm | 10 124 ... EUR T2 | |
|---|---|---|---|---|---|---|
| 2,00 | 56 | 24 | 3 | 28 | 11,35 | 020 |
| 2,10 | 56 | 24 | 3 | 28 | 13,32 | 021 |
| 2,20 | 59 | 27 | 3 | 28 | 13,32 | 022 |
| 2,30 | 59 | 27 | 3 | 28 | 13,32 | 023 |
| 2,40 | 62 | 30 | 3 | 28 | 13,32 | 024 |
| 2,50 | 62 | 30 | 3 | 28 | 13,32 | 025 |
| 2,60 | 62 | 30 | 3 | 28 | 13,32 | 026 |
| 2,70 | 65 | 33 | 3 | 28 | 13,32 | 027 |
| 2,80 | 65 | 33 | 3 | 28 | 13,32 | 028 |
| 2,90 | 65 | 33 | 3 | 28 | 13,32 | 029 |
| 3,00 | 65 | 33 | 3 | 28 | 12,66 | 030 |
| 3,10 | 68 | 36 | 4 | 28 | 14,41 | 031 |
| 3,20 | 68 | 36 | 4 | 28 | 14,41 | 032 |
| 3,30 | 68 | 36 | 4 | 28 | 14,41 | 033 |
| 3,40 | 71 | 39 | 4 | 28 | 14,41 | 034 |
| 3,50 | 71 | 39 | 4 | 28 | 14,41 | 035 |
| 3,60 | 71 | 39 | 4 | 28 | 15,72 | 036 |
| 3,70 | 71 | 39 | 4 | 28 | 15,72 | 037 |
| 3,80 | 75 | 43 | 4 | 28 | 15,72 | 038 |
| 3,90 | 75 | 43 | 4 | 28 | 15,72 | 039 |
| 4,00 | 75 | 43 | 4 | 28 | 15,72 | 040 |
| 4,10 | 87 | 43 | 6 | 36 | 18,78 | 041 |
| 4,20 | 87 | 43 | 6 | 36 | 19,54 | 042 |
| 4,30 | 91 | 47 | 6 | 36 | 18,78 | 043 |
| 4,40 | 91 | 47 | 6 | 36 | 18,78 | 044 |
| 4,50 | 91 | 47 | 6 | 36 | 18,78 | 045 |
| 4,60 | 91 | 47 | 6 | 36 | 21,07 | 046 |
| 4,65 | 91 | 47 | 6 | 36 | 21,07 | 465 |
| 4,70 | 91 | 47 | 6 | 36 | 21,07 | 047 |
| 4,80 | 96 | 52 | 6 | 36 | 21,07 | 048 |
| 4,90 | 96 | 52 | 6 | 36 | 21,07 | 049 |
| 5,00 | 96 | 52 | 6 | 36 | 23,25 | 050 |
| 5,10 | 96 | 52 | 6 | 36 | 23,25 | 051 |
| 5,20 | 96 | 52 | 6 | 36 | 23,25 | 052 |
| 5,30 | 96 | 52 | 6 | 36 | 24,57 | 053 |
| 5,40 | 101 | 57 | 6 | 36 | 24,57 | 054 |
| 5,50 | 101 | 57 | 6 | 36 | 23,25 | 055 |
| 5,55 | 101 | 57 | 6 | 36 | 26,42 | 555 |
| 5,60 | 101 | 57 | 6 | 36 | 26,42 | 056 |
| 5,70 | 101 | 57 | 6 | 36 | 26,42 | 057 |
| 5,80 | 101 | 57 | 6 | 36 | 26,42 | 058 |
| 5,90 | 101 | 57 | 6 | 36 | 26,42 | 059 |
| 6,00 | 101 | 57 | 6 | 36 | 25,21 | 060 |
| 6,10 | 107 | 63 | 8 | 36 | 30,34 | 061 |
| 6,20 | 107 | 63 | 8 | 36 | 30,34 | 062 |
| 6,30 | 107 | 63 | 8 | 36 | 30,34 | 063 |
| 6,40 | 107 | 63 | 8 | 36 | 30,34 | 064 |
| 6,50 | 107 | 63 | 8 | 36 | 30,34 | 065 |
| 6,60 | 107 | 63 | 8 | 36 | 31,98 | 066 |
| 6,70 | 107 | 63 | 8 | 36 | 31,98 | 067 |
| 6,80 | 113 | 69 | 8 | 36 | 31,98 | 068 |
| 6,90 | 113 | 69 | 8 | 36 | 31,98 | 069 |
| 7,00 | 113 | 69 | 8 | 36 | 31,98 | 070 |
| 7,10 | 113 | 69 | 8 | 36 | 33,19 | 071 |
| 7,20 | 113 | 69 | 8 | 36 | 33,19 | 072 |
| 7,30 | 113 | 69 | 8 | 36 | 33,19 | 073 |
| 7,40 | 113 | 69 | 8 | 36 | 33,19 | 074 |
| 7,50 | 113 | 69 | 8 | 36 | 33,19 | 075 |
| 7,55 | 119 | 75 | 8 | 36 | 34,71 | 755 |
| 7,60 | 119 | 75 | 8 | 36 | 34,71 | 076 |
| 7,70 | 119 | 75 | 8 | 36 | 34,71 | 077 |
| 7,80 | 119 | 75 | 8 | 36 | 34,71 | 078 |
| 7,90 | 119 | 75 | 8 | 36 | 34,71 | 079 |
| 8,00 | 119 | 75 | 8 | 36 | 34,71 | 080 |
| 8,10 | 125 | 75 | 10 | 40 | 37,87 | 081 |
| 8,20 | 125 | 75 | 10 | 40 | 37,87 | 082 |
| 8,30 | 125 | 75 | 10 | 40 | 37,87 | 083 |
| 8,40 | 125 | 75 | 10 | 40 | 37,87 | 084 |
| 8,50 | 125 | 75 | 10 | 40 | 39,41 | 085 |
| 8,60 | 131 | 81 | 10 | 40 | 35,14 | 086 |
| 8,70 | 131 | 81 | 10 | 40 | 35,14 | 087 |
| 8,80 | 131 | 81 | 10 | 40 | 35,14 | 088 |
| 8,90 | 131 | 81 | 10 | 40 | 35,14 | 089 |
| 9,00 | 131 | 81 | 10 | 40 | 35,14 | 090 |
| 9,10 | 131 | 81 | 10 | 40 | 37,99 | 091 |
| 9,20 | 131 | 81 | 10 | 40 | 37,99 | 092 |
| 9,30 | 131 | 81 | 10 | 40 | 37,99 | 093 |
| 9,40 | 131 | 81 | 10 | 40 | 37,99 | 094 |
| 9,50 | 131 | 81 | 10 | 40 | 37,99 | 095 |
| 9,55 | 137 | 87 | 10 | 40 | 41,70 | 955 |
| 9,60 | 137 | 87 | 10 | 40 | 41,70 | 096 |
| 9,70 | 137 | 87 | 10 | 40 | 41,70 | 097 |
| 9,80 | 137 | 87 | 10 | 40 | 41,70 | 098 |
| 9,90 | 137 | 87 | 10 | 40 | 41,70 | 099 |
| 10,00 | 137 | 87 | 10 | 40 | 41,70 | 100 |
| 10,10 | 144 | 87 | 12 | 45 | 51,63 | 101 |
| 10,20 | 144 | 87 | 12 | 45 | 51,63 | 102 |
| 10,30 | 144 | 87 | 12 | 45 | 51,63 | 103 |
| 10,40 | 144 | 87 | 12 | 45 | 51,63 | 104 |
| 10,50 | 144 | 87 | 12 | 45 | 51,63 | 105 |
| 10,60 | 144 | 87 | 12 | 45 | 56,66 | 106 |
| 10,70 | 151 | 94 | 12 | 45 | 56,66 | 107 |
| 10,80 | 151 | 94 | 12 | 45 | 56,66 | 108 |
| 10,90 | 151 | 94 | 12 | 45 | 56,66 | 109 |
| 11,00 | 151 | 94 | 12 | 45 | 48,57 | 110 |
| 11,10 | 151 | 94 | 12 | 45 | 52,28 | 111 |
| 11,20 | 151 | 94 | 12 | 45 | 52,28 | 112 |
| 11,30 | 151 | 94 | 12 | 45 | 52,28 | 113 |
| 11,40 | 151 | 94 | 12 | 45 | 52,28 | 114 |
| 11,50 | 151 | 94 | 12 | 45 | 52,28 | 115 |
| 11,60 | 151 | 94 | 12 | 45 | 56,43 | 116 |
| 11,70 | 151 | 94 | 12 | 45 | 56,43 | 117 |
| 11,80 | 151 | 94 | 12 | 45 | 56,43 | 118 |
| 11,90 | 158 | 101 | 12 | 45 | 56,43 | 119 |
| 12,00 | 158 | 101 | 12 | 45 | 56,43 | 120 |
| 12,10 | 161 | 101 | 16 | 48 | 64,29 | 121 |
| 12,20 | 161 | 101 | 16 | 48 | 64,29 | 122 |
| 12,30 | 161 | 101 | 16 | 48 | 64,29 | 123 |
| 12,40 | 161 | 101 | 16 | 48 | 64,29 | 124 |
| 12,50 | 161 | 101 | 16 | 48 | 64,29 | 125 |
| 12,60 | 161 | 101 | 16 | 48 | 68,00 | 126 |
| 12,70 | 161 | 101 | 16 | 48 | 68,00 | 127 |
| 12,80 | 161 | 101 | 16 | 48 | 68,00 | 128 |
| 12,90 | 161 | 101 | 16 | 48 | 68,00 | 129 |
| 13,00 | 161 | 101 | 16 | 48 | 75,53 | 130 |
| 13,50 | 166 | 106 | 16 | 48 | 97,58 | 135 |
| 14,00 | 166 | 106 | 16 | 48 | 97,58 | 140 |
| 14,50 | 169 | 109 | 16 | 48 | 125,60 | 145 |
| 15,00 | 169 | 109 | 16 | 48 | 117,90 | 150 |
| 15,50 | 172 | 112 | 16 | 48 | 127,70 | 155 |
| 16,00 | 172 | 112 | 16 | 48 | 123,40 | 160 |
| 16,50 | 181 | 115 | 20 | 50 | 189,90 | 165 |
| 17,00 | 181 | 115 | 20 | 50 | 189,90 | 170 |
| 17,50 | 184 | 118 | 20 | 50 | 189,90 | 175 |
| 18,00 | 184 | 118 | 20 | 50 | 189,90 | 180 |
| 18,50 | 188 | 122 | 20 | 50 | 189,90 | 185 |
| 19,00 | 188 | 122 | 20 | 50 | 189,90 | 190 |
| 19,50 | 191 | 125 | 20 | 50 | 189,90 | 195 |
| 20,00 | 191 | 125 | 20 | 50 | 170,40 | 200 |

| | |
|---|---|
| P | ● |
| M | ● |
| K | ● |
| N | ○ |
| S | ○ |
| H | |
| O | ○ |

→ $v_c$ Stran 48

# Spiralni sveder DIN 338, kratek

≤ 5xD




| | UNI | UNI | N | VA | W | WTL | WTL |
|---|---|---|---|---|---|---|---|
| | TiN | TiN | vap. | | | F.-nit | TiN |
| | | | | | | | |
| | ◁ 130° | ◁ 118° | ◁ 118° | ◁ 130° | ◁ 130° | ◁ 130° | ◁ 130° |
| | HSS-E-PM | HSS-E | HSS | HSS-E | HSS | HSS-E | HSS-E |
| | **10 173 ...** | **10 171 ...** | **10 152 ...** | **10 175 ...** | **10 161 ...** | **10 168 ...** | **10 170 ...** |

| DC h8 mm | DC Palec | OAL mm | LCF mm | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0,20** | | 19 | 2,5 | | | | | 4,66 | **00200** [1] | | | 8,03 | **00200** | | | | |
| **0,25** | | 19 | 3,0 | | | | | 4,46 | **00250** [1] | | | 12,01 | **00250** | | | | |
| **0,30** | | 19 | 3,0 | | | | | 3,31 | **00300** [1] | | | 6,21 | **00300** | | | | |
| **0,35** | | 19 | 4,0 | | | | | 3,19 | **00350** [1] | | | 5,77 | **00350** | | | | |
| **0,40** | | 20 | 5,0 | | | | | 2,69 | **00400** [1] | | | 4,79 | **00400** | | | | |
| **0,45** | | 20 | 5,0 | | | | | 2,73 | **00450** [1] | | | 5,02 | **00450** | | | | |
| **0,50** | | 22 | 6,0 | | | | | 2,29 | **00500** [1] | | | 3,51 | **00500** | | | | |
| **0,55** | | 24 | 7,0 | | | | | 3,44 | **00550** [1] | | | 6,13 | **00550** | | | | |
| **0,60** | | 24 | 7,0 | | | | | 2,19 | **00600** [1] | | | 3,78 | **00600** | | | | |
| **0,65** | | 26 | 8,0 | | | | | 3,19 | **00650** [1] | | | 6,13 | **00650** | | | | |
| **0,70** | | 28 | 9,0 | | | | | 1,97 | **00700** [1] | | | 3,45 | **00700** | | | | |
| **0,75** | | 28 | 9,0 | | | | | 2,38 | **00750** [1] | | | 3,56 | **00750** | | | | |
| **0,80** | | 30 | 10,0 | | | | | 1,88 | **00800** [1] | | | 3,00 | **00800** | | | | |
| **0,85** | | 30 | 10,0 | | | | | 2,19 | **00850** [1] | | | 3,47 | **00850** | | | | |
| **0,90** | | 32 | 11,0 | | | 3,07 | **009** [2] | 1,79 | **00900** [1] | | | 2,87 | **00900** | | | | |
| **0,95** | | 32 | 11,0 | | | | | 2,19 | **00950** [1] | | | 3,47 | **00950** | | | | |
| **1,00** | | 34 | 12,0 | 6,45 | **010** [2] | 3,07 | **010** [2] | 1,75 | **01000** [1] | 3,68 | **010** | 2,98 | **01000** | 3,11 | **010** [1] | 6,85 | **010** |
| **1,05** | | 34 | 12,0 | | | | | 1,92 | **01050** [1] | | | 3,40 | **01050** | | | | |
| **1,10** | | 36 | 14,0 | 6,99 | **011** [2] | 3,37 | **011** [2] | 1,69 | **01100** [1] | 3,77 | **011** | 2,79 | **01100** | 3,45 | **011** [1] | 7,66 | **011** |
| **1,15** | | 36 | 14,0 | | | | | 1,97 | **01150** [1] | | | 3,15 | **01150** | | | | |
| **1,20** | | 38 | 16,0 | 6,85 | **012** [2] | 3,29 | **012** [2] | 1,75 | **01200** [1] | 4,17 | **012** | 2,79 | **01200** | 3,45 | **012** [1] | 7,66 | **012** |
| **1,25** | | 38 | 16,0 | | | 3,37 | **125** [2] | 1,92 | **01250** [1] | | | 3,07 | **01250** | | | | |
| **1,30** | | 38 | 16,0 | 6,99 | **013** [2] | 3,37 | **013** [2] | 1,63 | **01300** [1] | 3,97 | **013** | 2,79 | **01300** | 3,40 | **013** [1] | 7,46 | **013** |
| **1,35** | | 40 | 18,0 | | | | | 1,84 | **01350** [1] | | | 3,15 | **01350** | | | | |
| **1,40** | | 40 | 18,0 | 7,05 | **014** [2] | 3,39 | **014** [2] | 1,60 | **01400** [1] | 3,75 | **014** | 2,79 | **01400** | 3,45 | **014** [1] | 7,66 | **014** |
| **1,45** | | 40 | 18,0 | | | 3,19 | **145** [2] | 1,69 | **01450** [1] | | | 3,11 | **01450** | | | 6,63 | **901** |
| **1,50** | | 40 | 18,0 | 6,65 | **015** [2] | 3,19 | **015** [2] | 1,44 | **01500** [1] | 3,45 | **015** | 2,79 | **01500** | 3,09 | **015** [1] | 6,78 | **015** |
| **1,55** | | 43 | 20,0 | | | 3,19 | **155** [2] | 1,60 | **01550** [1] | | | 3,11 | **01550** | | | 6,68 | **902** |
| **1,60** | | 43 | 20,0 | 6,65 | **016** [2] | 3,19 | **016** [2] | 1,40 | **01600** [1] | 3,75 | **016** | 2,48 | **01600** | 3,11 | **016** [1] | 6,85 | **016** |
| **1,65** | | 43 | 20,0 | | | 3,43 | **165** [2] | 1,60 | **01650** [1] | | | 3,11 | **01650** | | | 11,79 | **903** |
| **1,70** | | 43 | 20,0 | 7,15 | **017** [2] | 3,43 | **017** [2] | 1,40 | **01700** [1] | 3,86 | **017** | 2,60 | **01700** | 3,11 | **017** [1] | 6,85 | **017** |
| **1,75** | | 46 | 22,0 | | | | | 1,60 | **01750** [1] | | | 3,00 | **01750** | | | | |
| **1,80** | | 46 | 22,0 | 7,05 | **018** [2] | 3,39 | **018** [2] | 1,24 | **01800** [1] | 3,75 | **018** | 2,56 | **01800** | 3,11 | **018** [1] | 6,85 | **018** |
| **1,85** | | 46 | 22,0 | | | | | 1,49 | **01850** [1] | | | 3,00 | **01850** | | | 8,13 | **904** |
| **1,90** | | 46 | 22,0 | 7,05 | **019** [2] | 3,39 | **019** [2] | 1,28 | **01900** [1] | 3,86 | **019** | 2,56 | **01900** | 3,11 | **019** [1] | 6,85 | **019** |
| **1,95** | | 49 | 24,0 | | | | | 1,49 | **01950** [1] | | | 2,87 | **01950** | | | | |
| **2,00** | | 49 | 24,0 | 6,85 | **020** [2] | 3,29 | **020** [2] | 1,05 | **02000** [1] | 3,14 | **020** | 2,07 | **02000** | 2,80 | **020** [1] | 6,13 | **020** |
| **2,05** | | 49 | 24,0 | | | | | 1,44 | **02050** [1] | | | 2,71 | **02050** | | | 8,80 | **905** |
| **2,10** | | 49 | 24,0 | 7,15 | **021** [2] | 3,43 | **021** [2] | 1,24 | **02100** [1] | 4,12 | **021** | 2,38 | **02100** | 3,06 | **021** [1] | 6,68 | **021** |
| **2,15** | | 53 | 27,0 | | | | | 1,49 | **02150** [1] | | | 2,71 | **02150** | | | | |
| **2,20** | | 53 | 27,0 | 7,54 | **022** [2] | 3,58 | **022** [2] | 1,28 | **02200** [1] | 4,12 | **022** | 2,38 | **02200** | 3,06 | **022** [1] | 6,68 | **022** |
| **2,25** | | 53 | 27,0 | | | | | 1,49 | **02250** [1] | | | 2,65 | **02250** | | | | |
| **2,30** | | 53 | 27,0 | 7,29 | **023** [2] | 3,50 | **023** [2] | 1,28 | **02300** [1] | 4,12 | **023** | 2,38 | **02300** | 3,06 | **023** [1] | 6,68 | **023** |
| **2,35** | | 53 | 27,0 | | | | | 2,09 | **02350** [1] | | | 3,23 | **02350** | | | | |
| **2,38** | 3/32 | 57 | 30,0 | 7,29 | **238** [2] | 3,50 | **238** [2] | | | | | | | | | | |
| **2,40** | | 57 | 30,0 | 6,85 | **024** [2] | 3,29 | **024** [2] | 1,35 | **02400** | 4,14 | **024** | 2,48 | **02400** | 3,06 | **024** | 6,68 | **024** |

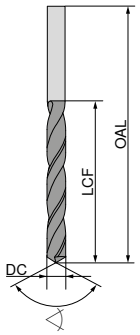
| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | ● | | ● | | ○ | | ○ | | | | ● | ● |
| M | | | | | | ● | | | | ● | | | | ○ | ○ |
| K | | | | ● | | ● | | ● | | | | | | ● | ● |
| N | | | | ○ | | ○ | | ○ | | ● | | ● | | ● | ○ |
| S | | | | ○ | | ○ | | | | ○ | | | | ○ | ○ |
| H | | | | ○ | | | | | | | | | | ○ | ○ |
| O | | | | ○ | | ○ | | ○ | | | | | | ○ | ○ |

**1)** neobdelano
**2)** samodejno centriranje

→ $v_c$ Stran 48+49

# Spiralni sveder DIN 338, kratek

≤ 5xD




| | UNI | UNI | N | VA | W | WTL | WTL |
|---|---|---|---|---|---|---|---|
| | TiN | TiN | vap. | | | F.-nit | TiN |
| | | | | | | | |
| | ◁ 130° | ◁ 118° | ◁ 118° | ◁ 130° | ◁ 130° | ◁ 130° | ◁ 130° |
| | HSS-E-PM | HSS-E | HSS | HSS-E | HSS | HSS-E | HSS-E |
| | **10 173 ...** | **10 171 ...** | **10 152 ...** | **10 175 ...** | **10 161 ...** | **10 168 ...** | **10 170 ...** |

| DC h8 mm | DC Palec | OAL mm | LCF mm | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2,45** | | 57 | 30,0 | | | | | 2,09 | **02450** | | | 3,29 | **02450** | | | | |
| **2,50** | | 57 | 30,0 | 6,99 | **025** [2] | 3,37 | **025** [2] | 1,35 | **02500** | 3,31 | **025** | 2,10 | **02500** | 2,83 | **025** | 6,27 | **025** |
| **2,55** | | 57 | 30,0 | | | 3,50 | **255** [2] | 2,12 | **02550** | | | 3,81 | **02550** | | | | |
| **2,60** | | 57 | 30,0 | 7,29 | **026** [2] | 3,50 | **026** [2] | 1,40 | **02600** | 4,22 | **026** | 2,56 | **02600** | 3,06 | **026** | 6,68 | **026** |
| **2,65** | | 57 | 30,0 | | | | | 2,29 | **02650** | | | 3,81 | **02650** | | | | |
| **2,70** | | 61 | 33,0 | 7,74 | **027** [2] | 3,70 | **027** [2] | 1,40 | **02700** | 4,22 | **027** | 2,63 | **02700** | 3,25 | **027** | 7,30 | **027** |
| **2,75** | | 61 | 33,0 | | | | | 1,79 | **02750** | | | 3,69 | **02750** | | | | |
| **2,78** | 7/64 | 61 | 33,0 | 9,42 | **278** [2] | 4,50 | **278** [2] | | | | | | | | | | |
| **2,80** | | 61 | 33,0 | 7,59 | **028** [2] | 3,61 | **028** [2] | 1,40 | **02800** | 4,34 | **028** | 2,87 | **02800** | 3,40 | **028** | 7,46 | **028** |
| **2,85** | | 61 | 33,0 | | | | | 2,12 | **02850** | | | 4,46 | **02850** | | | | |
| **2,90** | | 61 | 33,0 | 7,74 | **029** [2] | 3,70 | **029** [2] | 1,40 | **02900** | 4,34 | **029** | 2,87 | **02900** | 3,40 | **029** | 7,46 | **029** |
| **2,95** | | 61 | 33,0 | | | | | 1,79 | **02950** | | | 3,81 | **02950** | | | | |
| **3,00** | | 61 | 33,0 | 7,40 | **030** [2] | 3,54 | **030** [2] | 1,17 | **03000** | 3,31 | **030** | 2,31 | **03000** | 3,00 | **030** | 6,63 | **030** |
| **3,05** | | 65 | 36,0 | | | | | 1,63 | **03050** | | | 3,23 | **03050** | | | | |
| **3,10** | | 65 | 36,0 | 8,19 | **031** [2] | 3,92 | **031** [2] | 1,49 | **03100** | 4,38 | **031** | 2,87 | **03100** | 3,25 | **031** | 7,30 | **031** |
| **3,15** | | 65 | 36,0 | | | | | 1,63 | **03150** | | | 3,23 | **03150** | | | | |
| **3,17** | 1/8 | 65 | 36,0 | 8,14 | **317** [2] | 3,90 | **317** [2] | | | | | | | | | | |
| **3,20** | | 65 | 36,0 | 8,04 | **032** [2] | 3,75 | **032** [2] | 1,49 | **03200** | 3,75 | **032** | 2,60 | **03200** | 3,45 | **032** | 7,66 | **032** |
| **3,25** | | 65 | 36,0 | | | 3,92 | **325** [2] | 1,69 | **03250** | | | 3,23 | **03250** | | | | |
| **3,30** | | 65 | 36,0 | 8,19 | **033** [2] | 3,81 | **033** [2] | 1,49 | **03300** | 3,77 | **033** | 2,63 | **03300** | 3,53 | **033** | 7,79 | **033** |
| **3,35** | | 65 | 36,0 | | | | | 1,79 | **03350** | | | 3,29 | **03350** | | | | |
| **3,40** | | 70 | 39,0 | 8,79 | **034** [2] | 4,21 | **034** [2] | 1,49 | **03400** | 4,61 | **034** | 2,91 | **03400** | 3,94 | **034** | 8,66 | **034** |
| **3,45** | | 70 | 39,0 | | | | | 1,84 | **03450** | | | 3,47 | **03450** | | | | |
| **3,50** | | 70 | 39,0 | 8,88 | **035** [2] | 4,26 | **035** [2] | 1,35 | **03500** | 3,68 | **035** | 2,69 | **03500** | 3,25 | **035** | 7,30 | **035** |
| **3,55** | | 70 | 39,0 | | | | | 1,92 | **03550** | | | 3,47 | **03550** | | | | |
| **3,57** | 9/64 | 70 | 39,0 | 8,88 | **357** [2] | 4,26 | **357** [2] | | | | | | | | | | |
| **3,60** | | 70 | 39,0 | 8,99 | **036** [2] | 4,32 | **036** [2] | 1,60 | **03600** | 4,79 | **036** | 2,91 | **03600** | 3,78 | **036** | 8,53 | **036** |
| **3,65** | | 70 | 39,0 | | | | | 1,92 | **03650** | | | 3,31 | **03650** | | | | |
| **3,70** | | 70 | 39,0 | 8,99 | **037** [2] | 4,32 | **037** [2] | 1,69 | **03700** | 4,81 | **037** | 2,98 | **03700** | 3,97 | **037** | 8,66 | **037** |
| **3,75** | | 70 | 39,0 | | | | | 1,97 | **03750** | | | 3,63 | **03750** | | | | |
| **3,80** | | 75 | 43,0 | 9,47 | **038** [2] | 4,52 | **038** [2] | 1,75 | **03800** | 4,89 | **038** | 3,23 | **03800** | 4,20 | **038** | 9,36 | **038** |
| **3,85** | | 75 | 43,0 | | | | | 2,09 | **03850** | | | 3,65 | **03850** | | | | |
| **3,90** | | 75 | 43,0 | 9,68 | **039** [2] | 4,61 | **039** [2] | 1,84 | **03900** | 5,10 | **039** | 3,23 | **03900** | 4,46 | **039** | 9,72 | **039** |
| **3,95** | | 75 | 43,0 | | | | | 2,19 | **03950** | | | 3,69 | **03950** | | | | |
| **3,97** | 5/32 | 75 | 43,0 | 9,83 | **397** [2] | 4,72 | **397** [2] | | | | | | | | | | |
| **4,00** | | 75 | 43,0 | 9,28 | **040** [2] | 4,44 | **040** [2] | 1,40 | **04000** | 4,02 | **040** | 2,73 | **04000** | 3,56 | **040** | 7,95 | **040** |
| **4,05** | | 75 | 43,0 | | | | | 2,29 | **04050** | | | 4,79 | **04050** | | | | |
| **4,10** | | 75 | 43,0 | 9,47 | **041** [2] | 4,52 | **041** [2] | 1,92 | **04100** | 5,10 | **041** | 3,23 | **04100** | 4,44 | **041** | 9,72 | **041** |
| **4,15** | | 75 | 43,0 | | | | | 2,29 | **04150** | | | 4,79 | **04150** | | | | |
| **4,20** | | 75 | 43,0 | 9,47 | **042** [2] | 4,52 | **042** [2] | 1,69 | **04200** | 5,15 | **042** | 2,87 | **04200** | 4,16 | **042** | 9,22 | **042** |
| **4,25** | | 75 | 43,0 | | | 4,84 | **425** [2] | 2,38 | **04250** | | | 4,66 | **04250** | | | | |
| **4,30** | | 80 | 47,0 | 10,14 | **043** [2] | 4,84 | **043** [2] | 1,97 | **04300** | 5,15 | **043** | 3,98 | **04300** | 4,61 | **043** | 10,24 | **043** |
| **4,35** | | 80 | 47,0 | | | | | 3,03 | **04350** | | | 5,74 | **04350** | | | | |
| **4,37** | 11/64 | 80 | 47,0 | 10,23 | **437** [2] | 4,90 | **437** [2] | | | | | | | | | | |
| **4,40** | | 80 | 47,0 | 10,14 | **044** [2] | 4,84 | **044** [2] | 1,97 | **04400** | 5,24 | **044** | 3,98 | **04400** | 4,61 | **044** | 10,24 | **044** |
| **4,45** | | 80 | 47,0 | | | | | 3,03 | **04450** | | | | | | | | |

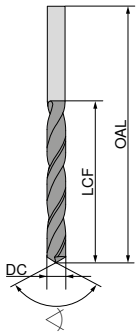
| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | ● | | ● | | ○ | | ○ | | | | | ● | | ● |
| M | | | | | | ● | | | | ● | | | | | ○ | | ○ |
| K | | | | ● | | ● | | ● | | | | | | | ● | | ● |
| N | | | | ○ | | ○ | | ○ | | ● | | ● | | | ● | | ○ |
| S | | | | ○ | | ○ | | | | ○ | | | | | ○ | | ○ |
| H | | | | ○ | | | | | | | | | | | ○ | | ○ |
| O | | | | ○ | | ○ | | ○ | | | | | | | ○ | | ○ |

**1)** neobdelano
**2)** samodejno centriranje

→ $v_c$ Stran 48+49

# Spiralni sveder DIN 338, kratek

≤ 5xD




| | UNI | UNI | N | VA | W | WTL | WTL |
|---|---|---|---|---|---|---|---|
| | TiN | TiN | vap. | | | F.-nit | TiN |
| | | | | | | | |
| | ◁ 130° | ◁ 118° | ◁ 118° | ◁ 130° | ◁ 130° | ◁ 130° | ◁ 130° |
| | HSS-E-PM | HSS-E | HSS | HSS-E | HSS | HSS-E | HSS-E |
| | **10 173 ...** | **10 171 ...** | **10 152 ...** | **10 175 ...** | **10 161 ...** | **10 168 ...** | **10 170 ...** |

| DC h8 mm | DC Palec | OAL mm | LCF mm | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4,50** | | 80 | 47,0 | 9,83 | **045** [2] | 4,72 | **045** [2] | 1,79 | **04500** | 5,12 | **045** | 3,47 | **04500** | 4,26 | **045** | 9,22 | **045** |
| **4,55** | | 80 | 47,0 | | | | | 3,03 | **04550** | | | 6,98 | **04550** | | | | |
| **4,60** | | 80 | 47,0 | 10,42 | **046** [2] | 5,00 | **046** [2] | 1,97 | **04600** | 5,44 | **046** | 3,98 | **04600** | 4,84 | **046** | 10,91 | **046** |
| **4,65** | | 80 | 47,0 | | | 5,00 | **465** [2] | 3,03 | **04650** | | | 6,98 | **04650** | | | | |
| **4,70** | | 80 | 47,0 | 12,66 | **047** [2] | 6,06 | **047** [2] | 2,09 | **04700** | 5,51 | **047** | 3,98 | **04700** | 4,84 | **047** | 10,91 | **047** |
| **4,75** | | 80 | 47,0 | | | | | 3,03 | **04750** | | | 5,58 | **04750** | | | | |
| **4,76** | 3/16 | 86 | 52,0 | 10,68 | **476** [2] | 5,10 | **476** [2] | | | | | | | | | | |
| **4,80** | | 86 | 52,0 | 10,68 | **048** [2] | 5,10 | **048** [2] | 2,09 | **04800** | 5,57 | **048** | 3,98 | **04800** | 4,84 | **048** | 10,91 | **048** |
| **4,85** | | 86 | 52,0 | | | | | 2,76 | **04850** | | | 6,98 | **04850** | | | | |
| **4,90** | | 86 | 52,0 | 10,82 | **049** [2] | 5,18 | **049** [2] | 2,19 | **04900** | 5,77 | **049** | 3,98 | **04900** | 5,05 | **049** | 11,13 | **049** |
| **4,95** | | 86 | 52,0 | | | 5,04 | **495** [2] | 3,40 | **04950** | | | 6,98 | **04950** | | | | |
| **5,00** | | 86 | 52,0 | 10,92 | **050** [2] | 5,23 | **050** [2] | 1,75 | **05000** | 4,89 | **050** | 3,78 | **05000** | 4,49 | **050** | 9,88 | **050** |
| **5,05** | | 86 | 52,0 | | | 5,23 | **505** [2] | 3,51 | **05050** | | | 8,40 | **05050** | | | | |
| **5,10** | | 86 | 52,0 | 10,92 | **051** [2] | 5,23 | **051** [2] | 2,29 | **05100** | 5,77 | **051** | 4,19 | **05100** | 5,05 | **051** | 11,13 | **051** |
| **5,15** | | 86 | 52,0 | | | | | 3,67 | **05150** | | | | | | | | |
| **5,16** | 13/64 | 86 | 52,0 | 11,90 | **516** [2] | 5,71 | **516** [2] | | | | | | | | | | |
| **5,20** | | 86 | 52,0 | 11,25 | **052** [2] | 5,38 | **052** [2] | 2,29 | **05200** | 5,82 | **052** | 4,33 | **05200** | 5,23 | **052** | 11,79 | **052** |
| **5,25** | | 86 | 52,0 | | | | | 3,51 | **05250** | | | 6,68 | **05250** | | | | |
| **5,30** | | 86 | 52,0 | 11,90 | **053** [2] | 5,71 | **053** [2] | 2,29 | **05300** | 5,94 | **053** | 4,33 | **05300** | 5,23 | **053** | 11,79 | **053** |
| **5,35** | | 93 | 57,0 | | | | | 4,17 | **05350** | | | | | | | | |
| **5,40** | | 93 | 57,0 | 14,63 | **054** [2] | 6,97 | **054** [2] | 2,52 | **05400** | 6,43 | **054** | 4,62 | **05400** | 5,69 | **054** | 12,56 | **054** |
| **5,45** | | 93 | 57,0 | | | | | 4,33 | **05450** | | | 5,74 | **05450** | | | | |
| **5,50** | | 93 | 57,0 | 12,66 | **055** [2] | 6,00 | **055** [2] | 2,43 | **05500** | 6,96 | **055** | 4,23 | **05500** | 5,23 | **055** | 11,68 | **055** |
| **5,55** | | 93 | 57,0 | | | 7,06 | **555** [2] | 4,33 | **05550** | | | 5,74 | **05550** | | | | |
| **5,56** | 7/32 | 93 | 57,0 | 14,84 | **556** [2] | 7,06 | **556** [2] | | | | | | | | | | |
| **5,60** | | 93 | 57,0 | 13,42 | **056** [2] | 6,41 | **056** [2] | 2,60 | **05600** | 6,65 | **056** | 5,10 | **05600** | 5,75 | **056** | 13,00 | **056** |
| **5,65** | | 93 | 57,0 | | | | | 4,46 | **05650** | | | 7,91 | **05650** | | | | |
| **5,70** | | 93 | 57,0 | 13,20 | **057** [2] | 6,34 | **057** [2] | 2,63 | **05700** | 6,65 | **057** | 5,10 | **05700** | 5,75 | **057** | 13,00 | **057** |
| **5,75** | | 93 | 57,0 | | | 6,34 | **575** [2] | 4,46 | **05750** | | | 7,78 | **05750** | | | | |
| **5,80** | | 93 | 57,0 | 13,20 | **058** [2] | 6,34 | **058** [2] | 2,69 | **05800** | 6,65 | **058** | 5,10 | **05800** | 5,81 | **058** | 13,10 | **058** |
| **5,85** | | 93 | 57,0 | | | | | 4,46 | **05850** | | | 9,34 | **05850** | | | | |
| **5,90** | | 93 | 57,0 | 14,09 | **059** [2] | 6,74 | **059** [2] | 2,73 | **05900** | 6,65 | **059** | 5,10 | **05900** | 6,25 | **059** | 14,09 | **059** |
| **5,95** | 15/64 | 93 | 57,0 | 17,24 | **595** [2] | 8,25 | **595** [2] | 2,76 | **05950** | | | 5,10 | **05950** | | | | |
| **6,00** | | 93 | 57,0 | 12,77 | **060** [2] | 6,10 | **060** [2] | 2,43 | **06000** | 6,38 | **060** | 5,02 | **06000** | 5,79 | **060** | 13,86 | **060** |
| **6,05** | | 101 | 63,0 | | | | | 4,85 | **06050** | | | 10,92 | **06050** | | | | |
| **6,10** | | 101 | 63,0 | 14,41 | **061** [2] | 6,88 | **061** [2] | 2,98 | **06100** | 7,44 | **061** | 5,10 | **06100** | 6,30 | **061** | 14,19 | **061** |
| **6,15** | | 101 | 63,0 | | | | | 4,85 | **06150** | | | 8,40 | **06150** | | | | |
| **6,20** | | 101 | 63,0 | 14,19 | **062** [2] | 6,78 | **062** [2] | 2,98 | **06200** | 7,44 | **062** | 5,10 | **06200** | 6,65 | **062** | 14,63 | **062** |
| **6,25** | | 101 | 63,0 | | | | | 4,85 | **06250** | | | 8,73 | **06250** | | | | |
| **6,30** | | 101 | 63,0 | 15,72 | **063** [2] | 7,51 | **063** [2] | 3,03 | **06300** | 7,44 | **063** | 5,40 | **06300** | 7,30 | **063** | 15,72 | **063** |
| **6,35** | 1/4 | 101 | 63,0 | 16,59 | **635** [2] | 7,93 | **635** [2] | 3,23 | **06350** | | | 5,18 | **06350** | | | | |
| **6,40** | | 101 | 63,0 | 16,59 | **064** [2] | 7,95 | **064** [2] | 3,19 | **06400** | 8,13 | **064** | 5,40 | **06400** | 7,30 | **064** | 15,83 | **064** |
| **6,45** | | 101 | 63,0 | | | | | 5,51 | **06450** | | | | | | | | |
| **6,50** | | 101 | 63,0 | 15,39 | **065** [2] | 7,33 | **065** [2] | 3,03 | **06500** | 7,30 | **065** | 5,16 | **06500** | 6,33 | **065** | 14,19 | **065** |
| **6,55** | | 101 | 63,0 | | | | | 5,77 | **06550** | | | 11,79 | **06550** | | | | |
| **6,60** | | 101 | 63,0 | 16,81 | **066** [2] | 8,04 | **066** [2] | 3,31 | **06600** | 8,13 | **066** | 6,19 | **06600** | 7,46 | **066** | 16,38 | **066** |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | ● | | ● | | ○ | | ○ | | | | | | ● | ● |
| M | | | | | | ● | | | | ● | | | | | | ○ | ○ |
| K | | | | ● | | ● | | ● | | | | | | | | ● | ● |
| N | | | | ○ | | ○ | | ○ | | ● | | ● | | | | ● | ○ |
| S | | | | ○ | | ○ | | | | ○ | | | | | | ○ | ○ |
| H | | | | ○ | | | | | | | | | | | | ○ | ○ |
| O | | | | ○ | | ○ | | ○ | | | | | | | | ○ | ○ |

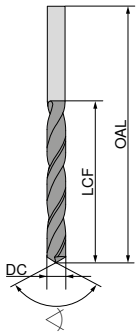
1) neobdelano
2) samodejno centriranje

→ $v_c$ Stran 48+49


Nadaljevanje na naslednji strani

# Spiralni sveder DIN 338, kratek

≤ 5xD




| UNI | UNI | N | VA | W | WTL | WTL |
|---|---|---|---|---|---|---|
| TiN | TiN | vap. | | | F.-nit | TiN |

| ◁ 130° | ◁ 118° | ◁ 118° | ◁ 130° | ◁ 130° | ◁ 130° | ◁ 130° |
|---|---|---|---|---|---|---|
| HSS-E-PM | HSS-E | HSS | HSS-E | HSS | HSS-E | HSS-E |
| **10 173 ...** | **10 171 ...** | **10 152 ...** | **10 175 ...** | **10 161 ...** | **10 168 ...** | **10 170 ...** |

| DC h8 mm | DC Palec | OAL mm | LCF mm | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6,65 | | 101 | 63,0 | | | | | 5,85 | 06650 | | | 11,35 | 06650 | | |
| 6,70 | | 101 | 63,0 | 16,81 | 067 2) | 8,02 | 067 2) | 3,44 | 06700 | 8,13 | 067 | 6,23 | 06700 | 7,46 | 067 | 16,38 | 067 |
| 6,75 | | 109 | 69,0 | 22,71 | 675 2) | 10,84 | 675 2) | 4,02 | 06750 | | | 6,68 | 06750 | | | | |
| 6,80 | | 109 | 69,0 | 17,24 | 068 2) | 8,25 | 068 2) | 3,98 | 06800 | 8,80 | 068 | 6,68 | 06800 | 7,79 | 068 | 16,70 | 068 |
| 6,85 | | 109 | 69,0 | | | | | 6,57 | 06850 | | | 11,79 | 06850 | | | | |
| 6,90 | | 109 | 69,0 | 17,58 | 069 2) | 8,39 | 069 2) | 3,98 | 06900 | 8,80 | 069 | 6,68 | 06900 | 8,13 | 069 | 17,79 | 069 |
| 6,95 | | 109 | 69,0 | | | | | 6,66 | 06950 | | | 11,79 | 06950 | | | | |
| 7,00 | | 109 | 69,0 | 17,24 | 070 2) | 8,25 | 070 2) | 3,67 | 07000 | 7,60 | 070 | 5,92 | 07000 | 6,92 | 070 | 15,29 | 070 |
| 7,05 | | 109 | 69,0 | | | | | 7,11 | 07050 | | | 9,53 | 07050 | | | | |
| 7,10 | | 109 | 69,0 | 19,87 | 071 2) | 9,49 | 071 2) | 4,02 | 07100 | 10,41 | 071 | 8,21 | 07100 | 10,73 | 071 | 23,58 | 071 |
| 7,14 | 9/32 | 109 | 69,0 | 29,69 | 714 2) | 14,19 | 714 2) | | | | | | | | | | |
| 7,15 | | 109 | 69,0 | | | | | 6,78 | 07150 | | | | | | | | |
| 7,20 | | 109 | 69,0 | 19,76 | 072 2) | 9,46 | 072 2) | 4,17 | 07200 | 10,41 | 072 | 8,21 | 07200 | 10,73 | 072 | 23,58 | 072 |
| 7,25 | | 109 | 69,0 | | | | | 6,57 | 07250 | | | 13,97 | 07250 | | | | |
| 7,30 | | 109 | 69,0 | 20,53 | 073 2) | 9,82 | 073 2) | 4,17 | 07300 | 10,41 | 073 | 8,21 | 07300 | 10,73 | 073 | 23,58 | 073 |
| 7,35 | | 109 | 69,0 | | | | | 7,11 | 07350 | | | | | | | | |
| 7,40 | | 109 | 69,0 | 20,09 | 074 2) | 9,60 | 074 2) | 4,37 | 07400 | 10,41 | 074 | 8,21 | 07400 | 10,73 | 074 | 23,58 | 074 |
| 7,45 | | 109 | 69,0 | | | 8,74 | 745 2) | 6,98 | 07450 | | | | | | | | |
| 7,50 | | 109 | 69,0 | 18,23 | 075 2) | 8,74 | 075 2) | 3,98 | 07500 | 8,28 | 075 | 6,80 | 07500 | 7,95 | 075 | 17,79 | 075 |
| 7,55 | | 117 | 75,0 | | | | | 8,13 | 07550 | | | | | | | | |
| 7,60 | | 117 | 75,0 | 22,17 | 076 2) | 10,61 | 076 2) | 4,56 | 07600 | 12,56 | 076 | 9,02 | 07600 | 11,79 | 076 | 25,98 | 076 |
| 7,65 | | 117 | 75,0 | | | | | 8,13 | 07650 | | | | | | | | |
| 7,70 | | 117 | 75,0 | 25,21 | 077 2) | 12,11 | 077 2) | 4,56 | 07700 | 12,56 | 077 | 9,02 | 07700 | 11,79 | 077 | 25,98 | 077 |
| 7,75 | | 117 | 75,0 | | | | | 7,41 | 07750 | | | 15,83 | 07750 | | | | |
| 7,80 | | 117 | 75,0 | 21,62 | 078 2) | 10,35 | 078 2) | 4,66 | 07800 | 12,56 | 078 | 9,02 | 07800 | 11,79 | 078 | 25,98 | 078 |
| 7,85 | | 117 | 75,0 | | | | | 8,13 | 07850 | | | | | | | | |
| 7,90 | | 117 | 75,0 | 25,87 | 079 2) | 12,33 | 079 2) | 4,72 | 07900 | 12,56 | 079 | 10,44 | 07900 | 11,79 | 079 | 25,98 | 079 |
| 7,94 | 5/16 | 117 | 75,0 | 23,25 | 794 2) | 11,13 | 794 2) | | | | | | | | | | |
| 7,95 | | 117 | 75,0 | | | | | 8,50 | 07950 | | | | | | | | |
| 8,00 | | 117 | 75,0 | 20,63 | 080 2) | 9,86 | 080 2) | 3,98 | 08000 | 10,16 | 080 | 7,59 | 08000 | 8,99 | 080 | 20,09 | 080 |
| 8,05 | | 117 | 75,0 | | | | | 8,66 | 08050 | | | 19,98 | 08050 | | | | |
| 8,10 | | 117 | 75,0 | 22,48 | 081 2) | 10,77 | 081 2) | 4,85 | 08100 | 12,56 | 081 | 10,82 | 08100 | 12,56 | 081 | 27,61 | 081 |
| 8,15 | | 117 | 75,0 | | | | | 8,79 | 08150 | | | 19,98 | 08150 | | | | |
| 8,20 | | 117 | 75,0 | 22,17 | 082 2) | 10,61 | 082 2) | 5,02 | 08200 | 13,65 | 082 | 11,35 | 08200 | 13,10 | 082 | 28,38 | 082 |
| 8,25 | | 117 | 75,0 | | | | | 6,12 | 08250 | | | 16,38 | 08250 | | | | |
| 8,30 | | 117 | 75,0 | 24,67 | 083 2) | 11,79 | 083 2) | 5,44 | 08300 | 13,65 | 083 | 11,90 | 08300 | 14,09 | 083 | 30,56 | 083 |
| 8,35 | | 117 | 75,0 | | | | | 9,29 | 08350 | | | | | | | | |
| 8,40 | | 117 | 75,0 | 24,78 | 084 2) | 11,79 | 084 2) | 5,44 | 08400 | 14,09 | 084 | 11,90 | 08400 | 14,09 | 084 | 30,56 | 084 |
| 8,45 | | 117 | 75,0 | | | | | 9,81 | 08450 | | | 18,99 | 08450 | | | | |
| 8,50 | | 117 | 75,0 | 21,18 | 085 2) | 10,15 | 085 2) | 5,16 | 08500 | 9,95 | 085 | 8,73 | 08500 | 10,24 | 085 | 22,59 | 085 |
| 8,55 | | 125 | 81,0 | | | | | 11,46 | 08550 | | | 19,54 | 08550 | | | | |
| 8,60 | | 125 | 81,0 | | | 17,79 | 086 2) | 5,90 | 08600 | 14,74 | 086 | 11,90 | 08600 | 15,50 | 086 | 33,84 | 086 |
| 8,65 | | 125 | 81,0 | | | | | 11,46 | 08650 | | | | | | | | |
| 8,70 | | 125 | 81,0 | | | 17,79 | 087 2) | 5,90 | 08700 | 14,74 | 087 | 13,32 | 08700 | 15,72 | 087 | 34,38 | 087 |
| 8,73 | 11/32 | 125 | 81,0 | 22,93 | 873 2) | 10,92 | 873 2) | | | | | | | | | | |
| 8,75 | | 125 | 81,0 | | | | | 10,22 | 08750 | | | 18,99 | 08750 | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| P | ● | ● | ○ | ○ | | ● | ● |
| M | | ● | | ● | | ○ | ○ |
| K | ● | ● | ● | | | ● | ● |
| N | ○ | ○ | ○ | ● | ● | ● | ○ |
| S | ○ | ○ | | ○ | | ○ | ○ |
| H | ○ | | | | | ○ | ○ |
| O | ○ | ○ | ○ | | | ○ | ○ |

1) neobdelano
2) samodejno centriranje

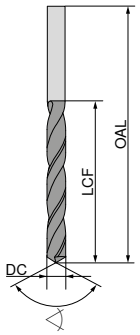
→ $v_c$ Stran 48+49



Nadaljevanje na naslednji strani 

# Spiralni sveder DIN 338, kratek

≤ 5xD




| | UNI | UNI | N | VA | W | WTL | WTL |
|---|---|---|---|---|---|---|---|
| | TiN | TiN | vap. | | | F.-nit | TiN |
| | | | | | | | |
| | ◁ 130° | ◁ 118° | ◁ 118° | ◁ 130° | ◁ 130° | ◁ 130° | ◁ 130° |
| | HSS-E-PM | HSS-E | HSS | HSS-E | HSS | HSS-E | HSS-E |
| | **10 173 ...** | **10 171 ...** | **10 152 ...** | **10 175 ...** | **10 161 ...** | **10 168 ...** | **10 170 ...** |

| DC h8 mm | DC Palec | OAL mm | LCF mm | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **8,80** | | 125 | 81,0 | 24,78 | **088** [2] | 11,79 | **088** [2] | 6,12 | **08800** | 16,05 | **088** | 13,32 | **08800** | 15,72 | **088** | 34,38 | **088** |
| **8,90** | | 125 | 81,0 | | | 16,49 | **089** [2] | 6,39 | **08900** | 16,91 | **089** | 13,42 | **08900** | 15,83 | **089** | 34,93 | **089** |
| **8,95** | | 125 | 81,0 | | | | | 11,90 | **08950** | | | | | | | | |
| **9,00** | | 125 | 81,0 | 23,36 | **090** [2] | 11,13 | **090** [2] | 5,62 | **09000** | 13,00 | **090** | 9,53 | **09000** | 12,01 | **090** | 26,31 | **090** |
| **9,05** | | 125 | 81,0 | | | | | 11,90 | **09050** | | | | | | | | |
| **9,10** | | 125 | 81,0 | | | 18,33 | **091** [2] | 6,39 | **09100** | 18,00 | **091** | 14,74 | **09100** | 16,70 | **091** | 37,12 | **091** |
| **9,15** | | 125 | 81,0 | | | | | 11,90 | **09150** | | | | | | | | |
| **9,20** | | 125 | 81,0 | | | 18,33 | **092** [2] | 6,39 | **09200** | 18,89 | **092** | 14,74 | **09200** | 18,23 | **092** | 39,95 | **092** |
| **9,25** | | 125 | 81,0 | | | | | 8,50 | **09250** | | | 22,81 | **09250** | | | | |
| **9,30** | | 125 | 81,0 | 26,85 | **093** [2] | 12,88 | **093** [2] | 6,49 | **09300** | 19,44 | **093** | 14,74 | **09300** | 18,23 | **093** | 39,41 | **093** |
| **9,35** | | 125 | 81,0 | | | 11,68 | **935** [2] | 12,66 | **09350** | | | | | | | | |
| **9,40** | | 125 | 81,0 | | | 18,78 | **094** [2] | 6,49 | **09400** | 20,85 | **094** | 14,74 | **09400** | 18,23 | **094** | 39,41 | **094** |
| **9,45** | | 125 | 81,0 | | | | | 12,66 | **09450** | | | | | | | | |
| **9,50** | | 125 | 81,0 | 24,57 | **095** [2] | 11,68 | **095** [2] | 6,42 | **09500** | 15,29 | **095** | 11,13 | **09500** | 13,00 | **095** | 28,06 | **095** |
| **9,55** | | 133 | 87,0 | | | | | 14,41 | **09550** | | | | | | | | |
| **9,60** | | 133 | 87,0 | | | 13,97 | **096** [2] | 7,11 | **09600** | 21,94 | **096** | 16,70 | **09600** | 18,99 | **096** | 42,02 | **096** |
| **9,65** | | 133 | 87,0 | | | | | 14,41 | **09650** | | | | | | | | |
| **9,70** | | 133 | 87,0 | | | 20,19 | **097** [2] | 7,11 | **09700** | 21,94 | **097** | 17,14 | **09700** | 20,73 | **097** | 44,87 | **097** |
| **9,75** | | 133 | 87,0 | | | | | 9,29 | **09750** | | | | | | | | |
| **9,80** | | 133 | 87,0 | 29,25 | **098** [2] | 13,97 | **098** [2] | 7,93 | **09800** | 21,94 | **098** | 17,14 | **09800** | 20,73 | **098** | 44,87 | **098** |
| **9,85** | | 133 | 87,0 | | | | | 15,60 | **09850** | | | | | | | | |
| **9,90** | | 133 | 87,0 | | | 16,59 | **099** [2] | 7,93 | **09900** | 21,94 | **099** | 17,58 | **09900** | 20,73 | **099** | 44,87 | **099** |
| **9,95** | | 133 | 87,0 | | | | | 15,60 | **09950** | | | | | | | | |
| **10,00** | | 133 | 87,0 | 27,73 | **100** [2] | 13,20 | **100** [2] | 6,78 | **10000** | 14,63 | **100** | 11,79 | **10000** | 14,63 | **100** | 32,31 | **100** |
| **10,05** | | 133 | 87,0 | | | | | 20,95 | **10050** | | | 29,80 | **10050** | | | | |
| **10,10** | | 133 | 87,0 | | | 18,89 | **101** [2] | 8,50 | **10100** | 24,67 | **101** | 17,79 | **10100** | 32,64 | **101** | 71,39 | **101** |
| **10,15** | | 133 | 87,0 | | | | | 20,95 | **10150** | | | | | | | | |
| **10,20** | | 133 | 87,0 | 31,98 | **102** [2] | 15,29 | **102** [2] | 8,66 | **10200** | 20,85 | **102** | 17,79 | **10200** | 20,09 | **102** | 43,66 | **102** |
| **10,25** | | 133 | 87,0 | | | | | 11,68 | **10250** | | | 19,98 | **10250** | | | | |
| **10,30** | | 133 | 87,0 | | | 16,49 | **103** [2] | 10,45 | **10300** | 32,74 | **103** | 17,79 | **10300** | 26,85 | **103** | 58,29 | **103** |
| **10,35** | | 133 | 87,0 | | | | | 20,95 | **10350** | | | | | | | | |
| **10,40** | | 133 | 87,0 | | | 20,41 | **104** [2] | 10,45 | **10400** | 32,74 | **104** | 17,79 | **10400** | 28,38 | **104** | 62,21 | **104** |
| **10,45** | | 133 | 87,0 | | | | | 20,95 | **10450** | | | | | | | | |
| **10,50** | | 133 | 87,0 | 32,20 | **105** [2] | 15,39 | **105** [2] | 8,79 | **10500** | 21,62 | **105** | 14,51 | **10500** | 18,45 | **105** | 40,61 | **105** |
| **10,55** | | 133 | 87,0 | | | 15,94 | **955** [2] | 14,74 | **10550** | | | | | | | | |
| **10,60** | | 133 | 87,0 | | | | | 11,02 | **10600** | 43,76 | **106** | 17,79 | **10600** | 28,38 | **106** | | |
| **10,70** | | 142 | 94,0 | | | | | 12,66 | **10700** | 43,12 | **107** | 20,19 | **10700** | 28,38 | **107** | 62,21 | **107** |
| **10,75** | | 142 | 94,0 | | | | | 14,09 | **10750** | | | 23,47 | **10750** | | | | |
| **10,80** | | 142 | 94,0 | | | | | 12,33 | **10800** | 43,76 | **108** | 21,07 | **10800** | 27,07 | **108** | 59,61 | **108** |
| **10,90** | | 142 | 94,0 | | | | | 13,32 | **10900** | 43,76 | **109** | 21,07 | **10900** | 34,38 | **109** | | |
| **11,00** | | 142 | 94,0 | 33,29 | **110** [2] | 15,94 | **110** [2] | 10,22 | **11000** | 23,47 | **110** | 17,14 | **11000** | 22,59 | **110** | 48,57 | **110** |
| **11,10** | | 142 | 94,0 | | | | | 13,32 | **11100** | 45,62 | **111** | 21,07 | **11100** | 33,40 | **111** | | |
| **11,11** | 7/16 | 142 | 94,0 | 41,70 | **111** [2] | 19,98 | **111** [2] | | | | | | | | | | |
| **11,20** | | 142 | 94,0 | | | 17,69 | **112** [2] | 12,66 | **11200** | 45,62 | **112** | 26,97 | **11200** | 37,12 | **112** | 82,64 | **112** |
| **11,30** | | 142 | 94,0 | | | 17,69 | **113** [2] | | | 45,96 | **113** | | | 37,12 | **113** | | |
| **11,40** | | 142 | 94,0 | | | 17,69 | **114** [2] | 13,75 | **11400** | 45,96 | **114** | 29,80 | **11400** | 37,12 | **114** | | |

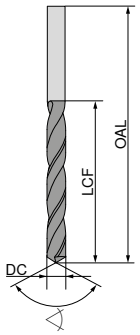
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| P | ● | ● | ○ | ○ | | ● | ● |
| M | | ● | | ● | | ○ | ○ |
| K | ● | ● | ● | | | ● | ● |
| N | ○ | ○ | ○ | ● | ● | ● | ○ |
| S | ○ | ○ | | ○ | | ○ | ○ |
| H | ○ | | | | | ○ | ○ |
| O | ○ | ○ | ○ | | | ○ | ○ |

1) neobdelano
2) samodejno centriranje

→ $v_c$ Stran 48+49

# Spiralni sveder DIN 338, kratek

≤ 5xD




| UNI | UNI | N | VA | W | WTL | WTL |
|---|---|---|---|---|---|---|
| TiN | TiN | vap. | | | F.-nit | TiN |

| ∢ 130° | ∢ 118° | ∢ 118° | ∢ 130° | ∢ 130° | ∢ 130° | ∢ 130° |
|---|---|---|---|---|---|---|
| HSS-E-PM | HSS-E | HSS | HSS-E | HSS | HSS-E | HSS-E |
| **10 173 ...** | **10 171 ...** | **10 152 ...** | **10 175 ...** | **10 161 ...** | **10 168 ...** | **10 170 ...** |

| DC h8 mm | DC Palec | OAL mm | LCF mm | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11,50 | | 142 | 94,0 | 36,89 | 115 2) | 17,69 | 115 2) | 11,02 | 11500 | 30,12 | 115 | 19,21 | 11500 | 26,31 | 115 | 58,07 | 115 |
| 11,60 | | 142 | 94,0 | | | 18,89 | 116 2) | 13,75 | 11600 | 52,61 | 116 | 29,80 | 11600 | 37,12 | 116 | | |
| 11,70 | | 142 | 94,0 | | | | | 14,09 | 11700 | 52,61 | 117 | 29,80 | 11700 | 37,12 | 117 | 82,64 | 117 |
| 11,80 | | 142 | 94,0 | | | | | 14,30 | 11800 | 52,61 | 118 | 29,80 | 11800 | 39,41 | 118 | 86,56 | 118 |
| 11,90 | | 151 | 101,0 | | | | | 15,60 | 11900 | 52,61 | 119 | 29,80 | 11900 | | | | |
| 12,00 | | 151 | 101,0 | 39,52 | 120 2) | 18,89 | 120 2) | 12,33 | 12000 | 33,95 | 120 | 20,85 | 12000 | 28,06 | 120 | 61,35 | 120 |
| 12,15 | | 151 | 101,0 | | | 19,64 | 121 2) | | | | | | | | | | |
| 12,20 | | 151 | 101,0 | | | | | 16,49 | 12200 | | | 35,47 | 12200 | | | | |
| 12,25 | | 151 | 101,0 | | | | | 18,45 | 12250 | | | | | | | | |
| 12,30 | | 151 | 101,0 | 70,84 | 123 2) | 33,84 | 123 2) | | | | | | | | | | |
| 12,50 | | 151 | 101,0 | 41,04 | 125 2) | 19,64 | 925 2) | 13,97 | 12500 | | | 20,85 | 12500 | 34,71 | 125 | 76,52 | 125 |
| 12,70 | | 151 | 101,0 | 53,70 | 127 2) | 25,66 | 127 2) | 15,50 | 12700 | | | 20,19 | 12700 | | | | |
| 12,80 | | 151 | 101,0 | | | | | 18,66 | 12800 | | | 37,33 | 12800 | 58,83 | 128 | 128,80 | 128 |
| 13,00 | | 151 | 101,0 | 43,66 | 130 2) | 20,85 | 130 2) | 15,29 | 13000 | | | 24,78 | 13000 | 34,71 | 130 | 75,76 | 130 |
| 13,10 | | 151 | 101,0 | | | 37,12 | 131 2) | | | | | | | | | | |
| 13,20 | | 151 | 101,0 | | | | | 19,98 | 13200 | | | 45,62 | 13200 | | | | |
| 13,30 | | 160 | 108,0 | | | 37,12 | 133 2) | | | | | | | | | | |
| 13,50 | | 160 | 108,0 | 77,61 | 135 2) | 37,12 | 135 2) | 17,69 | 13500 | | | 30,67 | 13500 | 45,74 | 135 | 99,98 | 135 |
| 13,80 | | 160 | 108,0 | | | | | 25,43 | 13800 | | | 57,41 | 13800 | 52,07 | 138 | 114,60 | 138 |
| 14,00 | | 160 | 108,0 | 52,83 | 140 2) | 25,33 | 140 2) | 19,54 | 14000 | | | 29,57 | 14000 | 41,16 | 140 | 88,73 | 140 |
| 14,50 | | 169 | 114,0 | | | | | 20,95 | 14500 | | | 39,08 | 14500 | 50,00 | 145 | 109,00 | 145 |
| 14,80 | | 169 | 114,0 | | | | | | | | | | | 75,76 | 148 | 163,80 | 148 |
| 15,00 | | 169 | 114,0 | | | | | 22,81 | 15000 | | | 34,82 | 15000 | 51,41 | 150 | 112,50 | 150 |
| 15,25 | | 178 | 120,0 | | | | | 42,35 | 15250 | | | | | | | | |
| 15,50 | | 178 | 120,0 | | | | | 24,78 | 15500 | | | 49,23 | 15500 | 74,99 | 155 | 162,60 | 155 |
| 15,80 | | 178 | 120,0 | | | | | 40,82 | 15800 | | | | | | | | |
| 16,00 | | 178 | 120,0 | | | | | 26,63 | 16000 | | | 46,61 | 16000 | 62,98 | 160 | 139,70 | 160 |
| 16,50 | | 184 | 125,0 | | | | | 30,46 | 16500 | | | 77,94 | 16500 | | | | |
| 17,00 | | 184 | 125,0 | | | | | 32,20 | 17000 | | | 79,03 | 17000 | | | | |
| 17,50 | | 191 | 130,0 | | | | | 35,14 | 17500 | | | 157,20 | 17500 | | | | |
| 18,00 | | 191 | 130,0 | | | | | 37,44 | 18000 | | | 85,58 | 18000 | | | | |
| 18,50 | | 198 | 135,0 | | | | | 40,82 | 18500 | | | | | | | | |
| 19,00 | | 198 | 135,0 | | | | | 44,10 | 19000 | | | 97,48 | 19000 | | | | |
| 19,50 | | 205 | 140,0 | | | | | 46,61 | 19500 | | | | | | | | |
| 20,00 | | 205 | 140,0 | | | | | 51,09 | 20000 | | | 121,10 | 20000 | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| P | ● | ● | ○ | ○ | | ● | ● |
| M | | ● | | ● | | ○ | ○ |
| K | ● | ● | ● | | | ● | ● |
| N | ○ | ○ | ○ | ● | ● | ● | ○ |
| S | ○ | ○ | | ○ | | ○ | ○ |
| H | ○ | | | | | ○ | ○ |
| O | ○ | ○ | ○ | | | ○ | ○ |

**1)** neobdelano
**2)** samodejno centriranje

→ $v_c$ Stran 48+49

# Spiralni sveder DIN 338, kratek

▲ Kataloška št. 10 169 ... WTL-L – levorezni sveder

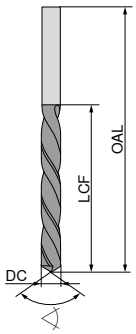
≤ 5xD

WTL

TiCN

WTL-L

F.-nit



130°
HSS-E

130°
HSS

| DC h8 mm | OAL mm | LCF mm | 10 172 ... EUR T2 | | 10 169 ... EUR T2 | |
|---|---|---|---|---|---|---|
| 1,0 | 34 | 12 | | | 5,11 | 010 1) |
| 1,3 | 38 | 16 | | | 5,17 | 013 1) |
| 1,4 | 40 | 18 | | | 5,17 | 014 1) |
| 1,5 | 40 | 18 | | | 4,16 | 015 1) |
| 1,6 | 43 | 20 | | | 4,35 | 016 1) |
| 1,7 | 43 | 20 | | | 4,40 | 017 1) |
| 1,8 | 46 | 22 | | | 4,46 | 018 1) |
| 1,9 | 46 | 22 | | | 4,53 | 019 1) |
| 2,0 | 49 | 24 | | | 3,53 | 020 1) |
| 2,1 | 49 | 24 | | | 4,20 | 021 1) |
| 2,2 | 53 | 27 | | | 4,61 | 022 1) |
| 2,3 | 53 | 27 | | | 4,35 | 023 1) |
| 2,4 | 57 | 30 | | | 4,35 | 024 |
| 2,5 | 57 | 30 | | | 3,94 | 025 |
| 2,6 | 57 | 30 | | | 4,46 | 026 |
| 2,7 | 61 | 33 | | | 4,46 | 027 |
| 2,8 | 61 | 33 | | | 4,61 | 028 |
| 2,9 | 61 | 33 | | | 4,61 | 029 |
| 3,0 | 61 | 33 | 8,80 | 030 | 4,20 | 030 |
| 3,1 | 65 | 36 | 9,36 | 031 | 5,13 | 031 |
| 3,2 | 65 | 36 | 9,88 | 032 | 4,66 | 032 |
| 3,3 | 65 | 36 | 10,62 | 033 | 4,84 | 033 |
| 3,4 | 70 | 39 | 11,68 | 034 | 5,50 | 034 |
| 3,5 | 70 | 39 | 9,36 | 035 | 4,49 | 035 |
| 3,6 | 70 | 39 | 11,13 | 036 | 5,69 | 036 |
| 3,7 | 70 | 39 | 11,68 | 037 | 5,86 | 037 |
| 3,8 | 75 | 43 | 12,33 | 038 | 6,11 | 038 |
| 3,9 | 75 | 43 | 13,00 | 039 | 6,40 | 039 |
| 4,0 | 75 | 43 | 10,62 | 040 | 4,84 | 040 |
| 4,1 | 75 | 43 | 13,00 | 041 | 6,65 | 041 |
| 4,2 | 75 | 43 | 12,01 | 042 | 5,88 | 042 |
| 4,3 | 80 | 47 | 13,42 | 043 | 7,66 | 043 |
| 4,4 | 80 | 47 | 13,42 | 044 | 7,95 | 044 |
| 4,5 | 80 | 47 | 12,33 | 045 | 6,18 | 045 |
| 4,6 | 80 | 47 | 14,30 | 046 | 8,13 | 046 |
| 4,7 | 80 | 47 | 14,30 | 047 | 8,13 | 047 |
| 4,8 | 86 | 52 | 14,30 | 048 | 8,13 | 048 |
| 4,9 | 86 | 52 | 14,51 | 049 | 8,31 | 049 |
| 5,0 | 86 | 52 | 13,10 | 050 | 5,92 | 050 |
| 5,1 | 86 | 52 | 14,51 | 051 | 8,31 | 051 |
| 5,2 | 86 | 52 | 15,29 | 052 | 9,22 | 052 |
| 5,3 | 86 | 52 | 15,29 | 053 | 9,22 | 053 |
| 5,4 | 93 | 57 | 16,26 | 054 | 9,72 | 054 |
| 5,5 | 93 | 57 | 15,17 | 055 | 7,66 | 055 |
| 5,6 | 93 | 57 | 16,38 | 056 | 10,24 | 056 |
| 5,7 | 93 | 57 | 16,38 | 057 | 10,24 | 057 |
| 5,8 | 93 | 57 | 16,70 | 058 | 10,24 | 058 |
| 5,9 | 93 | 57 | 18,23 | 059 | 10,24 | 059 |
| 6,0 | 93 | 57 | 16,70 | 060 | 7,66 | 060 |
| 6,1 | 101 | 63 | 18,45 | 061 | 11,13 | 061 |
| 6,2 | 101 | 63 | 18,99 | 062 | 12,33 | 062 |
| 6,3 | 101 | 63 | 20,73 | 063 | 12,33 | 063 |
| 6,4 | 101 | 63 | 21,07 | 064 | 12,33 | 064 |
| 6,5 | 101 | 63 | 18,45 | 065 | 9,22 | 065 |
| 6,6 | 101 | 63 | 21,94 | 066 | 13,32 | 066 |
| 6,7 | 101 | 63 | 21,94 | 067 | 13,32 | 067 |
| 6,8 | 109 | 69 | 22,38 | 068 | 14,30 | 068 |
| 6,9 | 109 | 69 | 23,58 | 069 | 14,63 | 069 |
| 7,0 | 109 | 69 | 20,09 | 070 | 10,73 | 070 |
| 7,1 | 109 | 69 | 30,56 | 071 | 20,09 | 071 |
| 7,2 | 109 | 69 | 30,56 | 072 | 20,09 | 072 |
| 7,3 | 109 | 69 | | | 20,09 | 073 |
| 7,4 | 109 | 69 | 30,56 | 074 | 20,09 | 074 |
| 7,5 | 109 | 69 | 23,25 | 075 | 12,56 | 075 |
| 7,7 | 117 | 75 | 33,84 | 077 | 21,28 | 077 |
| 7,8 | 117 | 75 | 33,84 | 078 | 21,28 | 078 |
| 7,9 | 117 | 75 | | | 21,28 | 079 |
| 8,0 | 117 | 75 | 25,98 | 080 | 12,01 | 080 |
| 8,1 | 117 | 75 | 35,69 | 081 | 21,94 | 081 |
| 8,2 | 117 | 75 | 37,12 | 082 | 21,94 | 082 |
| 8,3 | 117 | 75 | | | 21,94 | 083 |
| 8,4 | 117 | 75 | 39,95 | 084 | 21,94 | 084 |
| 8,5 | 117 | 75 | 29,25 | 085 | 15,17 | 085 |
| 8,6 | 125 | 81 | 44,10 | 086 | 24,45 | 086 |
| 8,7 | 125 | 81 | 44,65 | 087 | 24,45 | 087 |
| 8,8 | 125 | 81 | 44,65 | 088 | 24,45 | 088 |
| 8,9 | 125 | 81 | 45,74 | 089 | 24,45 | 089 |
| 9,0 | 125 | 81 | 34,17 | 090 | 14,84 | 090 |
| 9,2 | 125 | 81 | | | 25,11 | 092 |
| 9,3 | 125 | 81 | | | 25,11 | 093 |
| 9,5 | 125 | 81 | 36,78 | 095 | 19,32 | 095 |
| 9,8 | 133 | 87 | | | 26,85 | 098 |
| 9,9 | 133 | 87 | | | 28,06 | 099 |
| 10,0 | 133 | 87 | 42,35 | 100 | 16,70 | 100 |
| 10,1 | 133 | 87 | | | 28,06 | 101 |
| 10,2 | 133 | 87 | 56,32 | 102 | 28,71 | 102 |
| 10,3 | 133 | 87 | | | 28,38 | 103 |
| 10,4 | 133 | 87 | | | 29,91 | 104 |
| 10,5 | 133 | 87 | 53,05 | 105 | 29,25 | 105 |
| 11,0 | 142 | 94 | 75,76 | 110 | 29,25 | 110 |
| 11,5 | 142 | 94 | 75,76 | 115 | 32,31 | 115 |
| 12,0 | 151 | 101 | 80,66 | 120 | 33,40 | 120 |
| 12,2 | 151 | 101 | | | 52,73 | 122 |
| 12,5 | 151 | 101 | | | 35,69 | 125 |
| 13,0 | 151 | 101 | | | 36,78 | 130 |
| 14,0 | 160 | 108 | | | 42,67 | 140 |
| 14,5 | 169 | 114 | | | 46,39 | 145 |
| 15,0 | 169 | 114 | | | 51,74 | 150 |
| 16,0 | 178 | 120 | | | 58,07 | 160 |

| | 10 172 ... | 10 169 ... |
|---|---|---|
| P | ● | ○ |
| M | ○ | |
| K | ● | ● |
| N | ○ | ● |
| S | ○ | |
| H | ○ | |
| O | ○ | ○ |

1) neobdelano

→ $v_c$ Stran 49

# Spiralni sveder – kompleti DIN 338, kratek

▲ V kovinski kaseti
▲ V korakih po 0,1 mm

≤ 5xD

| | N | UNI |
|---|---|---|
| | vap. | TiN |
| | | |
| | Komplet svedrov tip N HSS | Komplet svedrov tip UNI TiN HSS-E |
| | 10 158 ... | 10 158 ... |
| DC h8 mm | EUR T2 | EUR T2 |
| 1,0 - 5,9 | 92,45 050 | 275,10 054 |
| 6,0 - 10,0 | 203,00 100 | 433,30 104 |
| P | ○ | ● |
| M | | ● |
| K | ● | ● |
| N | ○ | ○ |
| S | | ○ |
| H | | |
| O | ○ | ○ |

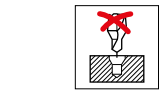
→ $v_c$ Stran 48

Komplet tipa N vap. vsebuje spiralne svedre št. artikla 10 152 ...
Komplet tipa UNI TiN vsebuje spiralne svedre št. artikla 10 171 ...

# Spiralni sveder s hladilnim kanalom, Podobno DIN 338

- Brušenje površine
- Posebno koničenje
- Široki utori za odrezke
- Zaokroženi robovi spirale
- Za material z dolgimi odrezki do 1000 N/mm²

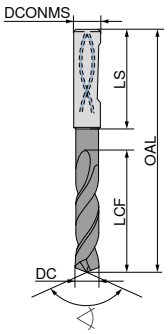
≤ 5xD



WNXi

WNXi

TiN



E
130°
HSS-E

E
130°
HSS-E

| DC h8 mm | OAL mm | LCF mm | DCONMS h6 mm | LS mm | 10 180 ... EUR T2 | | 10 181 ... EUR T2 | |
|---|---|---|---|---|---|---|---|---|
| 5,0 | 82 | 44 | 6 | 38 | 69,64 | 050 | 97,58 | 050 |
| 5,5 | 82 | 44 | 6 | 38 | 70,51 | 055 | 99,33 | 055 |
| 6,0 | 82 | 44 | 6 | 38 | 66,69 | 060 | 93,66 | 060 |
| 6,5 | 91 | 53 | 8 | 38 | 74,12 | 065 | 103,20 | 065 |
| 6,8 | 91 | 53 | 8 | 38 | 75,43 | 068 | 105,60 | 068 |
| 7,0 | 91 | 53 | 8 | 38 | 75,43 | 070 | 104,70 | 070 |
| 7,5 | 91 | 53 | 8 | 38 | 75,64 | 075 | 106,40 | 075 |
| 7,8 | 91 | 53 | 8 | 38 | 77,17 | 078 | 108,80 | 078 |
| 8,0 | 91 | 53 | 8 | 38 | 72,81 | 080 | 102,50 | 080 |
| 8,5 | 103 | 61 | 10 | 42 | 80,44 | 085 | 113,50 | 085 |
| 9,0 | 103 | 61 | 10 | 42 | 81,10 | 090 | 114,60 | 090 |
| 9,5 | 103 | 61 | 10 | 42 | 82,74 | 095 | 115,70 | 095 |
| 10,0 | 103 | 61 | 10 | 42 | 78,70 | 100 | 110,20 | 100 |
| 10,2 | 118 | 71 | 12 | 47 | 88,96 | 102 | 124,50 | 102 |
| 10,5 | 118 | 71 | 12 | 47 | 88,96 | 105 | 125,60 | 105 |
| 11,0 | 118 | 71 | 12 | 47 | 91,36 | 110 | 127,70 | 110 |
| 11,5 | 118 | 71 | 12 | 47 | 94,53 | 115 | 133,20 | 115 |
| 12,0 | 118 | 71 | 12 | 47 | 86,56 | 120 | 120,10 | 120 |
| 12,5 | 124 | 77 | 14 | 47 | 106,40 | 125 | 151,70 | 125 |
| 13,0 | 124 | 77 | 14 | 47 | 108,10 | 130 | 154,00 | 130 |
| 13,5 | 124 | 77 | 14 | 47 | 110,20 | 135 | 157,20 | 135 |
| 14,0 | 124 | 77 | 14 | 47 | 104,00 | 140 | 148,40 | 140 |
| 14,5 | 133 | 83 | 16 | 50 | 128,80 | 145 | 184,50 | 145 |
| 15,0 | 133 | 83 | 16 | 50 | 131,00 | 150 | 186,70 | 150 |
| 15,5 | 133 | 83 | 16 | 50 | 134,20 | 155 | 189,90 | 155 |
| 16,0 | 133 | 83 | 16 | 50 | 125,60 | 160 | 183,40 | 160 |
| 16,5 | 143 | 93 | 18 | 50 | 158,30 | 165 | 222,70 | 165 |
| 17,0 | 143 | 93 | 18 | 50 | 159,40 | 170 | 229,30 | 170 |
| 17,5 | 143 | 93 | 18 | 50 | 163,80 | 175 | 235,80 | 175 |
| 18,0 | 143 | 93 | 18 | 50 | 155,00 | 180 | 218,40 | 180 |
| 18,5 | 153 | 101 | 20 | 52 | 186,70 | 185 | 263,10 | 185 |
| 19,0 | 153 | 101 | 20 | 52 | 188,90 | 190 | 268,50 | 190 |
| 19,5 | 153 | 101 | 20 | 52 | 191,00 | 195 | 271,80 | 195 |
| 20,0 | 153 | 101 | 20 | 52 | 183,40 | 200 | 259,80 | 200 |

| | | |
|---|---|---|
| P | | ● |
| M | | |
| K | ● | ● |
| N | ○ | ○ |
| S | | |
| H | | |
| O | ○ | ○ |

→ $v_c$ Stran 49

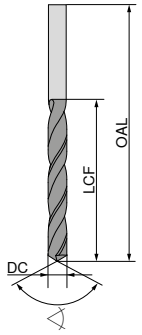
# Spiralni sveder s hladilnim kanalom, tovarniški standard, dolg

≤ 10xD

NC

NC

TiAlN



130°
HSS

130°
HSS

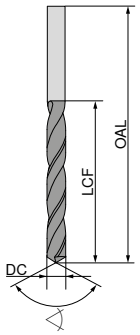
| DC h8 mm | OAL mm | LCF mm | 10 223 ... EUR T2 | | 10 224 ... EUR T2 | |
|---|---|---|---|---|---|---|
| 3,0 | 100 | 66 | 110,20 | 030 | 122,30 | 030 |
| 3,3 | 106 | 69 | 114,60 | 033 | 138,60 | 033 |
| 3,5 | 112 | 73 | 113,50 | 035 | 136,50 | 035 |
| 3,8 | 119 | 78 | | | 167,00 | 038 |
| 4,0 | 119 | 78 | 114,60 | 040 | 138,60 | 040 |
| 4,2 | 119 | 78 | 115,70 | 042 | 140,90 | 042 |
| 4,5 | 126 | 82 | 115,70 | 045 | 139,70 | 045 |
| 4,8 | 132 | 87 | | | 164,90 | 048 |
| 5,0 | 132 | 87 | 115,70 | 050 | 140,90 | 050 |
| 5,5 | 139 | 91 | 119,00 | 055 | 145,10 | 055 |
| 5,8 | 139 | 91 | | | 167,00 | 058 |
| 6,0 | 139 | 91 | 123,40 | 060 | 149,60 | 060 |
| 6,5 | 148 | 97 | 132,10 | 065 | 160,50 | 065 |
| 6,8 | 156 | 102 | 133,20 | 068 | 161,50 | 068 |
| 7,0 | 156 | 102 | 133,20 | 070 | 161,50 | 070 |
| 7,5 | 156 | 102 | 138,60 | 075 | 167,00 | 075 |
| 7,8 | 165 | 109 | | | 179,00 | 078 |
| 8,0 | 165 | 109 | 140,90 | 080 | 170,40 | 080 |
| 8,5 | 165 | 109 | 145,10 | 085 | 179,00 | 085 |
| 8,8 | 175 | 115 | | | 183,40 | 088 |
| 9,0 | 175 | 115 | 145,10 | 090 | 183,40 | 090 |
| 9,5 | 175 | 115 | 149,60 | 095 | 188,90 | 095 |
| 9,8 | 184 | 121 | | | 193,20 | 098 |
| 10,0 | 184 | 121 | 149,60 | 100 | 188,90 | 100 |
| 10,2 | 184 | 121 | 152,90 | 102 | 193,20 | 102 |
| 10,5 | 184 | 121 | 152,90 | 105 | 194,40 | 105 |
| 10,8 | 195 | 128 | | | 199,80 | 108 |
| 11,0 | 195 | 128 | 152,90 | 110 | 194,40 | 110 |
| 11,5 | 195 | 128 | 157,20 | 115 | 198,70 | 115 |
| 11,8 | 205 | 134 | | | 231,30 | 118 |
| 12,0 | 205 | 134 | 158,30 | 120 | 203,00 | 120 |
| 12,8 | 205 | 134 | | | 243,40 | 128 |
| 13,0 | 205 | 134 | 164,90 | 130 | 212,90 | 130 |

| | | |
|---|---|---|
| P | ○ | ○ |
| M | | ○ |
| K | ● | ● |
| N | ○ | ○ |
| S | | |
| H | | |
| O | ○ | ○ |

→ $v_c$ Stran 50

# Spiralni sveder DIN 340, dolg

≤ 10xD




| | UNI | WTL | WTL | WTL | WTW |
|---|---|---|---|---|---|
| | TiN | F.-nit | F.-nit | TiN | |
| | | | | | |
| | ◁ 118° HSS-E | ◁ 130° HSS-E | ◁ 130° HSS | ◁ 130° HSS | ◁ 130° HSS |
| | 10 270 ... | 10 225 ... | 10 215 ... | 10 210 ... | 10 200 ... |

| DC h8 mm | OAL mm | LCF mm | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,0 | 56 | 33 | 5,51 | 010 | 7,95 | 010 1) | 5,98 | 010 1) | 13,42 | 010 | 5,75 | 010 |
| 1,1 | 60 | 37 | 6,21 | 011 | 9,88 | 011 1) | 6,58 | 011 1) | 14,30 | 011 | 6,25 | 011 |
| 1,2 | 65 | 41 | 6,90 | 012 | 9,36 | 012 1) | 6,11 | 012 1) | 13,75 | 012 | 5,86 | 012 |
| 1,3 | 65 | 41 | 6,79 | 013 | 9,22 | 013 1) | 6,24 | 013 1) | 14,09 | 013 | 5,54 | 013 |
| 1,4 | 70 | 45 | 6,71 | 014 | 8,80 | 014 1) | 5,79 | 014 1) | 12,88 | 014 | 5,17 | 014 |
| 1,5 | 70 | 45 | 5,80 | 015 | 7,66 | 015 1) | 4,97 | 015 1) | 11,02 | 015 | 5,19 | 015 |
| 1,6 | 76 | 50 | 6,90 | 016 | 8,53 | 016 1) | 4,78 | 016 1) | 10,73 | 016 | 4,77 | 016 |
| 1,7 | 76 | 50 | 7,50 | 017 | 8,31 | 017 1) | 4,76 | 017 1) | 10,73 | 017 | 4,68 | 017 |
| 1,8 | 80 | 53 | 7,20 | 018 | 8,31 | 018 1) | 4,72 | 018 1) | 10,39 | 018 | 4,68 | 018 |
| 1,9 | 80 | 53 | 7,70 | 019 | 7,79 | 019 1) | 4,64 | 019 1) | 10,25 | 019 | 4,66 | 019 |
| 2,0 | 85 | 56 | 5,72 | 020 | 5,92 | 020 1) | 4,36 | 020 1) | 9,80 | 020 | 3,83 | 020 |
| 2,1 | 85 | 56 | 6,60 | 021 | 7,30 | 021 1) | 5,02 | 021 1) | 11,25 | 021 | 4,59 | 021 |
| 2,2 | 90 | 59 | 6,71 | 022 | 7,46 | 022 1) | 5,12 | 022 1) | 11,46 | 022 | 4,68 | 022 |
| 2,3 | 90 | 59 | 6,60 | 023 | 7,46 | 023 1) | 5,16 | 023 1) | 11,57 | 023 | 4,68 | 023 |
| 2,4 | 95 | 62 | 6,12 | 024 | 7,66 | 024 | 5,26 | 024 | 11,90 | 024 | 4,68 | 024 |
| 2,5 | 95 | 62 | 5,80 | 025 | 6,30 | 025 | 4,53 | 025 | 10,25 | 025 | 4,16 | 025 |
| 2,6 | 95 | 62 | 6,71 | 026 | 7,66 | 026 | 5,30 | 026 | 11,90 | 026 | 4,68 | 026 |
| 2,7 | 100 | 66 | 7,11 | 027 | 7,79 | 027 | 5,33 | 027 | 12,01 | 027 | 4,68 | 027 |
| 2,8 | 100 | 66 | 6,79 | 028 | 7,79 | 028 | 5,35 | 028 | 12,01 | 028 | 4,68 | 028 |
| 2,9 | 100 | 66 | 7,11 | 029 | 7,79 | 029 | 5,40 | 029 | 12,23 | 029 | 4,68 | 029 |
| 3,0 | 100 | 66 | 6,30 | 030 | 6,63 | 030 | 4,64 | 030 | 10,39 | 030 | 4,35 | 030 |
| 3,1 | 106 | 69 | 7,50 | 031 | 7,95 | 031 | 6,20 | 031 | 13,97 | 031 | 5,79 | 031 |
| 3,2 | 106 | 69 | 7,00 | 032 | 7,79 | 032 | 5,24 | 032 | 11,57 | 032 | 4,66 | 032 |
| 3,3 | 106 | 69 | 7,41 | 033 | 8,53 | 033 | 5,88 | 033 | 13,10 | 033 | 5,23 | 033 |
| 3,4 | 112 | 73 | 7,70 | 034 | 8,13 | 034 | 6,24 | 034 | 14,09 | 034 | 5,86 | 034 |
| 3,5 | 112 | 73 | 7,50 | 035 | 7,79 | 035 | 5,33 | 035 | 11,90 | 035 | 4,91 | 035 |
| 3,6 | 112 | 73 | 7,80 | 036 | 8,31 | 036 | 6,89 | 036 | 14,96 | 036 | 6,00 | 036 |
| 3,7 | 112 | 73 | 7,60 | 037 | 8,31 | 037 | 6,40 | 037 | 14,30 | 037 | 6,18 | 037 |
| 3,8 | 119 | 78 | 7,30 | 038 | 8,53 | 038 | 6,58 | 038 | 14,30 | 038 | 6,25 | 038 |
| 3,9 | 119 | 78 | 8,20 | 039 | 8,66 | 039 | 6,74 | 039 | 14,51 | 039 | 6,37 | 039 |
| 4,0 | 119 | 78 | 8,00 | 040 | 8,31 | 040 | 5,81 | 040 | 12,88 | 040 | 5,35 | 040 |
| 4,1 | 119 | 78 | 8,11 | 041 | 8,80 | 041 | 6,89 | 041 | 14,84 | 041 | 6,63 | 041 |
| 4,2 | 119 | 78 | 7,80 | 042 | 9,22 | 042 | 6,58 | 042 | 14,30 | 042 | 5,72 | 042 |
| 4,3 | 126 | 82 | 8,69 | 043 | 9,36 | 043 | 7,35 | 043 | 16,26 | 043 | 7,30 | 043 |
| 4,4 | 126 | 82 | 7,70 | 044 | 9,56 | 044 | 7,69 | 044 | 17,04 | 044 | 7,46 | 044 |
| 4,5 | 126 | 82 | 8,20 | 045 | 9,88 | 045 | 6,74 | 045 | 14,74 | 045 | 6,58 | 045 |
| 4,6 | 126 | 82 | 7,89 | 046 | 9,72 | 046 | 7,69 | 046 | 17,04 | 046 | 7,46 | 046 |
| 4,7 | 126 | 82 | 9,08 | 047 | 10,24 | 047 | 7,69 | 047 | 17,04 | 047 | 7,66 | 047 |
| 4,8 | 132 | 87 | 8,89 | 048 | 10,91 | 048 | 7,69 | 048 | 17,04 | 048 | 7,79 | 048 |
| 4,9 | 132 | 87 | 9,01 | 049 | 11,35 | 049 | 8,01 | 049 | 17,69 | 049 | 7,95 | 049 |
| 5,0 | 132 | 87 | 9,08 | 050 | 9,88 | 050 | 7,06 | 050 | 15,60 | 050 | 6,27 | 050 |
| 5,1 | 132 | 87 | 10,11 | 051 | 11,68 | 051 | 8,13 | 051 | 18,13 | 051 | 8,13 | 051 |

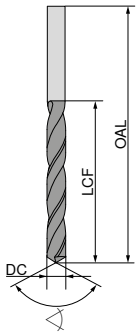
| | | | | | |
|---|---|---|---|---|---|
| P | ● | ● | ○ | ○ | |
| M | ● | ○ | | | |
| K | ● | ● | ● | ● | |
| N | ○ | ● | ● | ○ | ● |
| S | ○ | ○ | | | |
| H | | ○ | | | |
| O | ○ | ○ | ○ | ○ | |

1) neobdelano

→ $v_c$ Stran 50+51

# Spiralni sveder DIN 340, dolg

≤ 10xD




| | UNI | WTL | WTL | WTL | WTW |
|---|---|---|---|---|---|
| | TiN | F.-nit | F.-nit | TiN | |
| | | | | | |
| | ◁ 118° HSS-E | ◁ 130° HSS-E | ◁ 130° HSS | ◁ 130° HSS | ◁ 130° HSS |
| | 10 270 ... | 10 225 ... | 10 215 ... | 10 210 ... | 10 200 ... |

| DC h8 mm | OAL mm | LCF mm | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5,2 | 132 | 87 | 9,90 | 052 | 12,01 | 052 | 8,64 | 052 | 19,21 | 052 | 8,53 | 052 |
| 5,3 | 132 | 87 | 10,91 | 053 | 12,23 | 053 | 8,82 | 053 | 19,44 | 053 | 8,66 | 053 |
| 5,4 | 139 | 91 | 11,90 | 054 | 12,33 | 054 | 8,98 | 054 | 20,19 | 054 | 8,80 | 054 |
| 5,5 | 139 | 91 | 9,50 | 055 | 11,79 | 055 | 8,30 | 055 | 18,66 | 055 | 8,13 | 055 |
| 5,6 | 139 | 91 | 12,44 | 056 | 13,00 | 056 | 10,09 | 056 | 22,27 | 056 | 9,56 | 056 |
| 5,7 | 139 | 91 | 13,86 | 057 | 13,10 | 057 | 10,39 | 057 | 22,81 | 057 | 9,72 | 057 |
| 5,8 | 139 | 91 | 12,01 | 058 | 13,32 | 058 | 10,73 | 058 | 23,03 | 058 | 10,24 | 058 |
| 5,9 | 139 | 91 | 13,42 | 059 | 13,42 | 059 | 11,02 | 059 | 24,57 | 059 | 10,62 | 059 |
| 6,0 | 139 | 91 | 11,46 | 060 | 12,23 | 060 | 8,64 | 060 | 19,21 | 060 | 8,31 | 060 |
| 6,1 | 148 | 97 | 13,65 | 061 | 14,19 | 061 | 11,90 | 061 | 25,98 | 061 | 12,23 | 061 |
| 6,2 | 148 | 97 | 12,11 | 062 | 14,30 | 062 | 12,01 | 062 | 26,20 | 062 | 12,33 | 062 |
| 6,3 | 148 | 97 | 13,65 | 063 | 14,51 | 063 | 12,23 | 063 | 26,42 | 063 | 12,56 | 063 |
| 6,4 | 148 | 97 | 12,33 | 064 | 15,17 | 064 | 13,20 | 064 | 28,71 | 064 | 13,10 | 064 |
| 6,5 | 148 | 97 | 11,79 | 065 | 13,86 | 065 | 9,65 | 065 | 21,07 | 065 | 9,36 | 065 |
| 6,6 | 148 | 97 | 13,75 | 066 | 15,50 | 066 | 13,75 | 066 | 29,80 | 066 | 13,32 | 066 |
| 6,7 | 148 | 97 | 14,09 | 067 | 15,83 | 067 | 14,09 | 067 | 30,46 | 067 | 13,42 | 067 |
| 6,8 | 156 | 102 | 14,96 | 068 | 16,70 | 068 | 14,63 | 068 | 32,31 | 068 | 14,19 | 068 |
| 6,9 | 156 | 102 | 15,60 | 069 | 17,79 | 069 | 14,84 | 069 | 32,64 | 069 | 14,30 | 069 |
| 7,0 | 156 | 102 | 14,19 | 070 | 15,29 | 070 | 11,25 | 070 | 24,78 | 070 | 11,46 | 070 |
| 7,1 | 156 | 102 | 13,75 | 071 | 18,23 | 071 | 14,96 | 071 | | | 14,51 | 071 |
| 7,2 | 156 | 102 | 15,60 | 072 | 18,78 | 072 | 15,60 | 072 | 34,38 | 072 | 14,84 | 072 |
| 7,3 | 156 | 102 | 16,26 | 073 | 18,99 | 073 | 15,83 | 073 | 34,60 | 073 | 15,17 | 073 |
| 7,4 | 156 | 102 | 16,91 | 074 | 20,09 | 074 | 16,05 | 074 | 34,93 | 074 | 15,29 | 074 |
| 7,5 | 156 | 102 | 17,14 | 075 | 18,23 | 075 | 13,97 | 075 | 30,12 | 075 | 13,86 | 075 |
| 7,6 | 165 | 109 | 18,45 | 076 | | | 16,26 | 076 | 35,92 | 076 | 15,83 | 076 |
| 7,7 | 165 | 109 | 17,58 | 077 | 21,94 | 077 | 16,49 | 077 | | | 16,05 | 077 |
| 7,8 | 165 | 109 | 19,21 | 078 | 22,38 | 078 | 17,04 | 078 | 37,12 | 078 | 16,26 | 078 |
| 7,9 | 165 | 109 | 18,55 | 079 | 22,59 | 079 | 17,04 | 079 | 37,44 | 079 | 16,70 | 079 |
| 8,0 | 165 | 109 | 15,72 | 080 | 17,04 | 080 | 13,10 | 080 | 28,49 | 080 | 12,66 | 080 |
| 8,1 | 165 | 109 | 17,24 | 081 | 23,58 | 081 | 17,24 | 081 | 38,42 | 081 | 17,14 | 081 |
| 8,2 | 165 | 109 | 18,89 | 082 | 23,91 | 082 | 17,69 | 082 | 38,64 | 082 | 17,58 | 082 |
| 8,3 | 165 | 109 | 20,09 | 083 | 24,45 | 083 | 17,69 | 083 | 39,29 | 083 | 17,79 | 083 |
| 8,4 | 165 | 109 | 21,50 | 084 | 25,11 | 084 | 18,66 | 084 | 40,27 | 084 | 18,23 | 084 |
| 8,5 | 165 | 109 | 18,45 | 085 | 21,07 | 085 | 17,04 | 085 | 37,44 | 085 | 16,70 | 085 |
| 8,6 | 175 | 115 | 18,45 | 086 | 25,76 | 086 | 18,89 | 086 | 41,16 | 086 | 18,45 | 086 |
| 8,7 | 175 | 115 | 18,55 | 087 | 25,98 | 087 | 18,89 | 087 | 41,48 | 087 | | |
| 8,8 | 175 | 115 | 18,89 | 088 | 26,85 | 088 | 19,44 | 088 | 42,57 | 088 | 18,99 | 088 |
| 8,9 | 175 | 115 | 19,10 | 089 | 27,61 | 089 | 20,53 | 089 | 44,42 | 089 | 20,09 | 089 |
| 9,0 | 175 | 115 | 19,32 | 090 | 20,73 | 090 | 15,72 | 090 | 34,60 | 090 | 15,72 | 090 |
| 9,1 | 175 | 115 | 19,32 | 091 | 28,38 | 091 | 21,28 | 091 | 46,39 | 091 | 21,07 | 091 |
| 9,2 | 175 | 115 | 19,32 | 092 | 30,12 | 092 | 24,57 | 092 | | | 22,59 | 092 |
| 9,3 | 175 | 115 | 19,32 | 093 | 30,79 | 093 | 24,78 | 093 | | | 23,58 | 093 |

| | | | | | |
|---|---|---|---|---|---|
| P | ● | ● | ○ | ○ | |
| M | ● | ○ | | | |
| K | ● | ● | ● | ● | |
| N | ○ | ● | ● | ○ | ● |
| S | ○ | ○ | | | |
| H | | ○ | | | |
| O | ○ | ○ | ○ | ○ | |

1) neobdelano

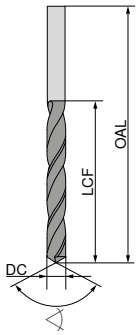
→ $v_c$ Stran 50+51



Nadaljevanje na naslednji strani

# Spiralni sveder DIN 340, dolg

≤ 10xD




| | UNI | WTL | WTL | WTL | WTW |
|---|---|---|---|---|---|
| | TiN | F.-nit | F.-nit | TiN | |
| | | | | | |
| | ◁ 118° HSS-E | ◁ 130° HSS-E | ◁ 130° HSS | ◁ 130° HSS | ◁ 130° HSS |
| | 10 270 ... | 10 225 ... | 10 215 ... | 10 210 ... | 10 200 ... |

| DC h8 mm | OAL mm | LCF mm | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9,4 | 175 | 115 | 19,32 | 094 | 31,11 | 094 | | | | | 24,78 | 094 |
| 9,5 | 175 | 115 | 19,32 | 095 | 27,40 | 095 | 23,91 | 095 | 52,28 | 095 | 23,58 | 095 |
| 9,6 | 184 | 121 | 20,53 | 096 | | | 28,71 | 096 | | | 29,25 | 096 |
| 9,7 | 184 | 121 | 21,50 | 097 | 38,09 | 097 | 30,79 | 097 | 67,78 | 097 | | |
| 9,8 | 184 | 121 | 23,03 | 098 | 38,09 | 098 | 32,31 | 098 | 71,17 | 098 | 30,79 | 098 |
| 9,9 | 184 | 121 | 25,00 | 099 | 38,09 | 099 | 34,38 | 099 | 76,20 | 099 | | |
| 10,0 | 184 | 121 | 27,07 | 100 | 31,11 | 100 | 19,21 | 100 | 41,92 | 100 | 18,23 | 100 |
| 10,1 | 184 | 121 | 29,69 | 101 | | | 42,35 | 101 | 92,90 | 101 | | |
| 10,2 | 184 | 121 | 31,55 | 102 | 40,17 | 102 | 34,05 | 102 | 74,99 | 102 | 33,84 | 102 |
| 10,3 | 184 | 121 | 34,17 | 103 | | | 50,97 | 103 | | | 53,05 | 103 |
| 10,4 | 184 | 121 | 34,17 | 104 | | | 61,24 | 104 | | | 55,34 | 104 |
| 10,5 | 184 | 121 | 34,60 | 105 | 42,67 | 105 | 34,38 | 105 | 76,20 | 105 | 34,93 | 105 |
| 10,6 | 184 | 121 | | | | | | | 127,70 | 106 | | |
| 10,8 | 195 | 128 | | | 48,03 | 108 | 50,33 | 108 | | | 48,25 | 108 |
| 11,0 | 195 | 128 | 41,16 | 110 | 47,15 | 110 | 28,49 | 110 | 62,44 | 110 | 28,38 | 110 |
| 11,5 | 195 | 128 | 41,58 | 115 | 57,63 | 115 | 47,81 | 115 | 104,30 | 115 | 46,39 | 115 |
| 11,6 | 195 | 128 | | | | | | | | | 62,44 | 116 |
| 11,8 | 195 | 128 | | | 63,64 | 118 | 57,63 | 118 | | | 55,89 | 118 |
| 12,0 | 205 | 134 | 42,02 | 120 | 58,07 | 120 | 34,93 | 120 | 77,50 | 120 | 35,69 | 120 |
| 12,2 | 205 | 134 | | | | | | | | | 65,50 | 122 |
| 12,3 | 205 | 134 | | | | | | | | | 55,89 | 123 |
| 12,5 | 205 | 134 | 46,06 | 125 | | | 36,24 | 125 | 79,25 | 125 | 36,78 | 125 |
| 13,0 | 205 | 134 | 50,10 | 130 | | | 37,67 | 130 | 83,29 | 130 | 39,95 | 130 |
| 13,5 | 214 | 140 | 50,97 | 135 | | | 70,51 | 135 | | | | |
| 14,0 | 214 | 140 | 53,05 | 140 | | | 63,20 | 140 | 144,10 | 140 | 66,48 | 140 |

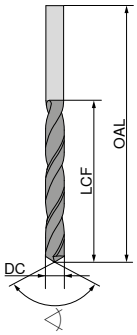
| | | | | | | |
|---|---|---|---|---|---|---|
| P | ● | ● | ○ | ○ | | |
| M | ● | ○ | | | | |
| K | ● | ● | ● | ● | | |
| N | ○ | ● | ● | ○ | ● | |
| S | ○ | ○ | | | | |
| H | | ○ | | | | |
| O | ○ | ○ | ○ | ○ | | |

**1)** neobdelano

→ $v_c$ Stran 50+51

# Spiralni sveder DIN 1869, zelo dolg, 1. dolžina

> 10xD




NEW

WTL
TiAlN

130°
HSS-E

WTL
F.-nit

130°
HSS

| DC h8 mm | OAL mm | LCF mm | 10 236 ... EUR T2 | | 10 235 ... EUR T2 | |
|---|---|---|---|---|---|---|
| 2,0 | 125 | 85 | | | 8,80 | 020 1) |
| 2,1 | 125 | 85 | | | 10,91 | 021 1) |
| 2,2 | 135 | 90 | | | 10,91 | 022 1) |
| 2,3 | 135 | 90 | | | 10,91 | 023 1) |
| 2,4 | 140 | 95 | | | 11,46 | 024 |
| 2,5 | 140 | 95 | | | 8,80 | 025 |
| 2,6 | 140 | 95 | | | 11,46 | 026 |
| 2,7 | 150 | 100 | | | 12,01 | 027 |
| 2,8 | 150 | 100 | | | 12,01 | 028 |
| 2,9 | 150 | 100 | | | 12,01 | 029 |
| 3,0 | 150 | 100 | 19,94 | 03000 | 10,03 | 030 |
| 3,1 | 155 | 105 | | | 12,56 | 031 |
| 3,2 | 155 | 105 | | | 12,56 | 032 |
| 3,3 | 155 | 105 | 31,74 | 03300 | 12,56 | 033 |
| 3,4 | 165 | 115 | | | 12,66 | 034 |
| 3,5 | 165 | 115 | 22,70 | 03500 | 10,03 | 035 |
| 3,6 | 165 | 115 | | | 12,66 | 036 |
| 3,7 | 165 | 115 | | | 14,09 | 037 |
| 3,8 | 175 | 120 | | | 14,09 | 038 |
| 3,9 | 175 | 120 | | | 14,09 | 039 |
| 4,0 | 175 | 120 | 22,23 | 04000 | 10,24 | 040 |
| 4,1 | 175 | 120 | | | 14,09 | 041 |
| 4,2 | 175 | 120 | 32,73 | 04200 | 14,30 | 042 |
| 4,3 | 185 | 125 | | | 15,50 | 043 |
| 4,4 | 185 | 125 | | | 15,50 | 044 |
| 4,5 | 185 | 125 | 24,98 | 04500 | 11,13 | 045 |
| 4,6 | 185 | 125 | | | 15,50 | 046 |
| 4,7 | 185 | 125 | | | 15,94 | 047 |
| 4,8 | 195 | 135 | | | 16,26 | 048 |
| 4,9 | 195 | 135 | | | 17,04 | 049 |
| 5,0 | 195 | 135 | 18,64 | 05000 | 11,79 | 050 |
| 5,1 | 195 | 135 | | | 17,79 | 051 |
| 5,2 | 195 | 135 | | | 18,23 | 052 |
| 5,3 | 195 | 135 | | | 18,23 | 053 |
| 5,4 | 205 | 140 | | | 18,23 | 054 |
| 5,5 | 205 | 140 | 26,40 | 05500 | 13,00 | 055 |
| 5,6 | 205 | 140 | | | 18,23 | 056 |
| 5,7 | 205 | 140 | | | 18,45 | 057 |
| 5,8 | 205 | 140 | | | 18,78 | 058 |
| 5,9 | 205 | 140 | | | 18,78 | 059 |
| 6,0 | 205 | 140 | 27,97 | 06000 | 13,00 | 060 |
| 6,1 | 215 | 150 | | | 20,09 | 061 |
| 6,2 | 215 | 150 | | | 19,76 | 062 |
| 6,3 | 215 | 150 | | | 21,07 | 063 |
| 6,4 | 215 | 150 | | | 21,94 | 064 |
| 6,5 | 215 | 150 | 30,08 | 06500 | 17,79 | 065 |
| 6,6 | 215 | 150 | | | 21,94 | 066 |
| 6,7 | 215 | 150 | | | 23,25 | 067 |
| 6,8 | 225 | 155 | 28,33 | 06800 | 22,93 | 068 |
| 6,9 | 225 | 155 | | | 23,91 | 069 |
| 7,0 | 225 | 155 | 25,88 | 07000 | 18,45 | 070 |
| 7,1 | 225 | 155 | | | 26,85 | 071 |
| 7,3 | 225 | 155 | | | 26,85 | 073 |
| 7,4 | 225 | 155 | | | 26,85 | 074 |
| 7,5 | 225 | 155 | 28,89 | 07500 | 20,73 | 075 |
| 7,7 | 240 | 165 | | | 28,71 | 077 |
| 7,8 | 240 | 165 | | | 30,12 | 078 |
| 7,9 | 240 | 165 | | | 30,79 | 079 |
| 8,0 | 240 | 165 | 28,60 | 08000 | 22,93 | 080 |
| 8,1 | 240 | 165 | | | 35,37 | 081 |
| 8,2 | 240 | 165 | | | 35,37 | 082 |
| 8,3 | 240 | 165 | | | 35,37 | 083 |
| 8,4 | 240 | 165 | | | 37,12 | 084 |
| 8,5 | 240 | 165 | 36,80 | 08500 | 29,57 | 085 |
| 8,6 | 250 | 175 | | | 37,87 | 086 |
| 8,7 | 250 | 175 | | | 39,95 | 087 |
| 8,8 | 250 | 175 | | | 41,36 | 088 |
| 9,0 | 250 | 175 | 41,09 | 09000 | 31,55 | 090 |
| 9,2 | 250 | 175 | | | 46,94 | 092 |
| 9,4 | 250 | 175 | | | 50,33 | 094 |
| 9,5 | 250 | 175 | 41,35 | 09500 | 36,45 | 095 |
| 9,6 | 265 | 185 | | | 51,74 | 096 |
| 9,7 | 265 | 185 | | | 51,74 | 097 |
| 9,8 | 265 | 185 | | | 52,40 | 098 |
| 9,9 | 265 | 185 | | | 52,40 | 099 |
| 10,0 | 265 | 185 | 46,62 | 10000 | 32,64 | 100 |
| 10,2 | 265 | 185 | 68,33 | 10200 | | |
| 10,5 | 265 | 185 | | | 58,07 | 105 |
| 11,0 | 280 | 195 | | | 43,45 | 110 |
| 11,5 | 280 | 195 | | | 53,37 | 115 |
| 12,0 | 295 | 205 | | | 49,55 | 120 |
| 12,5 | 295 | 205 | | | 60,80 | 125 |
| 13,0 | 295 | 205 | | | 60,26 | 130 |

| | 10 236 ... | 10 235 ... |
|---|---|---|
| P | ● | ● |
| M | | |
| K | ● | ● |
| N | ● | ● |
| S | | |
| H | | |
| O | ○ | ○ |

1) neobdelano

→ $v_c$ Stran 52

# Spiralni sveder DIN 1869, zelo dolg, 2. dolžina

> 10xD

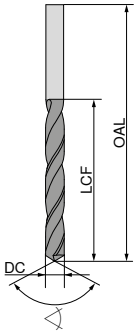
NEW

WTL

TiAlN

WTL

F.-nit



130°
HSS-E

130°
HSS

| DC h8 mm | OAL mm | LCF mm | 10 246 ... EUR T2 | | 10 245 ... EUR T2 | |
|---|---|---|---|---|---|---|
| 2,0 | 160 | 110 | | | 17,79 | 020 [1] |
| 2,5 | 180 | 120 | | | 17,79 | 025 |
| 3,0 | 190 | 130 | 26,87 | 03000 | 13,75 | 030 |
| 3,5 | 210 | 145 | 31,51 | 03500 | 13,86 | 035 |
| 4,0 | 220 | 150 | 28,24 | 04000 | 14,63 | 040 |
| 4,5 | 235 | 160 | 31,24 | 04500 | 15,50 | 045 |
| 5,0 | 245 | 170 | 30,06 | 05000 | 15,50 | 050 |
| 5,5 | 260 | 180 | 37,17 | 05500 | 18,99 | 055 |
| 6,0 | 260 | 180 | 38,59 | 06000 | 18,78 | 060 |
| 6,5 | 275 | 190 | 36,94 | 06500 | 21,28 | 065 |
| 7,0 | 290 | 200 | 38,64 | 07000 | 23,58 | 070 |
| 7,5 | 290 | 200 | 41,57 | 07500 | 27,61 | 075 |
| 8,0 | 305 | 210 | 45,92 | 08000 | 27,40 | 080 |
| 8,5 | 305 | 210 | 45,11 | 08500 | 43,12 | 085 |
| 9,0 | 320 | 220 | 49,99 | 09000 | 42,02 | 090 |
| 9,5 | 320 | 220 | 52,06 | 09500 | 48,90 | 095 |
| 10,0 | 340 | 235 | 59,36 | 10000 | 44,31 | 100 |
| 10,2 | 340 | 235 | 66,92 | 10200 | | |
| 10,5 | 340 | 235 | | | 64,29 | 105 |
| 11,0 | 365 | 250 | | | 62,76 | 110 |
| 11,5 | 365 | 250 | | | 74,22 | 115 |
| 12,0 | 375 | 260 | 86,12 | 12000 | 72,04 | 120 |
| 12,5 | 375 | 260 | | | 72,04 | 125 |
| 13,0 | 375 | 260 | | | 73,68 | 130 |
| P | | | ● | | ● | |
| M | | | | | | |
| K | | | ● | | ● | |
| N | | | ● | | ● | |
| S | | | | | | |
| H | | | | | | |
| O | | | ○ | | ○ | |

1) neobdelano

→ $v_c$ Stran 52

# Spiralni sveder DIN 1869, zelo dolg, 3. dolžina

> 10xD

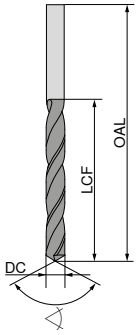
NEW

WTL

TiAlN

WTL

F.-nit



130°
HSS-E

130°
HSS

| DC h8 mm | OAL mm | LCF mm | 10 256 ... EUR T2 | | 10 255 ... EUR T2 | |
|---|---|---|---|---|---|---|
| 2,5 | 225 | 150 | | | 22,93 | 025 |
| 3,0 | 240 | 160 | | | 22,93 | 030 |
| 3,5 | 265 | 180 | | | 18,45 | 035 |
| 4,0 | 280 | 190 | 36,70 | 04000 | 18,45 | 040 |
| 4,5 | 295 | 200 | | | 22,38 | 045 |
| 5,0 | 315 | 210 | 41,53 | 05000 | 22,38 | 050 |
| 5,5 | 330 | 225 | | | 23,91 | 055 |
| 6,0 | 330 | 225 | 47,84 | 06000 | 25,43 | 060 |
| 6,5 | 350 | 235 | | | 27,40 | 065 |
| 7,0 | 370 | 250 | | | 34,93 | 070 |
| 7,5 | 370 | 250 | | | 40,17 | 075 |
| 8,0 | 390 | 265 | 56,78 | 08000 | 41,16 | 080 |
| 8,5 | 390 | 265 | | | 52,07 | 085 |
| 9,0 | 410 | 280 | | | 55,89 | 090 |
| 9,5 | 410 | 280 | | | 66,04 | 095 |
| 10,0 | 430 | 295 | 77,94 | 10000 | 65,50 | 100 |
| 10,5 | 430 | 295 | | | 71,39 | 105 |
| 11,0 | 455 | 310 | | | 75,76 | 110 |
| 11,5 | 455 | 310 | | | 83,93 | 115 |
| 12,0 | 480 | 330 | | | 89,51 | 120 |
| 12,5 | 480 | 330 | | | 83,93 | 125 |
| 13,0 | 480 | 330 | | | 84,82 | 130 |
| P | | | ● | | ● | |
| M | | | | | | |
| K | | | ● | | ● | |
| N | | | ● | | ● | |
| S | | | | | | |
| H | | | | | | |
| O | | | ○ | | ○ | |

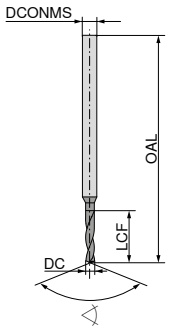
→ $v_c$ Stran 52

# Miniaturni sveder DIN 1899

- 4-stransko brušenje
- Z ojačanim držalom

**Obseg dobave:**

- Pakiranje po 5 kosov
- Cena na kos




N

118°
HSS-E-PM

**10 103 ...**

| DC -0,004 mm | OAL mm | LCF mm | DCONMS h8 mm | EUR T2 | |
|---|---|---|---|---|---|
| 0,15 | 25 | 0,8 | 1,0 | 6,42 | 00150 |
| 0,20 | 25 | 1,5 | 1,0 | 5,15 | 00200 |
| 0,25 | 25 | 1,9 | 1,0 | 3,51 | 00250 |
| 0,30 | 25 | 1,9 | 1,0 | 4,08 | 00300 |
| 0,35 | 25 | 2,4 | 1,0 | 3,63 | 00350 |
| 0,40 | 25 | 3,0 | 1,0 | 3,63 | 00400 |
| 0,45 | 25 | 3,0 | 1,0 | 3,69 | 00450 |
| 0,50 | 25 | 3,4 | 1,0 | 3,63 | 00500 |
| 0,55 | 25 | 3,9 | 1,0 | 3,69 | 00550 |
| 0,60 | 25 | 3,9 | 1,0 | 3,67 | 00600 |
| 0,65 | 25 | 4,2 | 1,0 | 3,63 | 00650 |
| 0,70 | 25 | 4,8 | 1,0 | 3,38 | 00700 |
| 0,75 | 25 | 4,8 | 1,0 | 3,43 | 00750 |
| 0,80 | 25 | 5,3 | 1,5 | 3,77 | 00800 |
| 0,85 | 25 | 5,3 | 1,5 | 3,83 | 00850 |
| 0,90 | 25 | 6,0 | 1,5 | 3,83 | 00900 |
| 0,95 | 25 | 6,0 | 1,5 | 3,85 | 00950 |
| 1,00 | 25 | 6,8 | 1,5 | 3,85 | 01000 |
| 1,05 | 25 | 6,8 | 1,5 | 3,83 | 01050 |
| 1,10 | 25 | 7,6 | 1,5 | 3,94 | 01100 |
| 1,15 | 25 | 7,6 | 1,5 | 3,94 | 01150 |
| 1,20 | 25 | 8,5 | 1,5 | 3,85 | 01200 |
| 1,25 | 25 | 8,5 | 1,5 | 3,83 | 01250 |
| 1,30 | 25 | 8,5 | 1,5 | 3,97 | 01300 |
| 1,35 | 25 | 9,5 | 1,5 | 3,94 | 01350 |
| 1,40 | 25 | 9,5 | 1,5 | 3,85 | 01400 |
| 1,45 | 25 | 9,5 | 1,5 | 3,83 | 01450 |

| | |
|---|---|
| P | ● |
| M | ○ |
| K | ● |
| N | ● |
| S | ○ |
| H | |
| O | ○ |

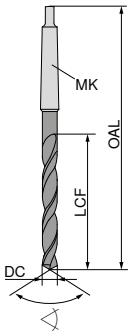
→ $v_c$ Stran 54

# Spiralni sveder, tovarniški standard, kratek

≤ 3xD

WT

vap.



MK

130°
HSS-E

**10 285 ...**

| DC h8 mm | OAL mm | LCF mm | MK | EUR T2 | |
|---|---|---|---|---|---|
| 10,0 | 138 | 57 | 1 | 39,73 | 100 |
| 10,5 | 138 | 57 | 1 | 43,12 | 105 |
| 11,0 | 142 | 61 | 1 | 35,14 | 110 |
| 11,5 | 142 | 61 | 1 | 46,06 | 115 |
| 12,0 | 147 | 66 | 1 | 40,07 | 120 |
| 12,5 | 147 | 66 | 1 | 43,12 | 125 |
| 13,0 | 147 | 66 | 1 | 41,70 | 130 |
| 13,5 | 168 | 70 | 2 | 53,17 | 135 |
| 14,0 | 168 | 70 | 2 | 52,94 | 140 |
| 14,5 | 172 | 74 | 2 | 56,66 | 145 |
| 15,0 | 172 | 74 | 2 | 55,13 | 150 |
| 15,5 | 176 | 78 | 2 | 82,74 | 155 |
| 16,0 | 176 | 78 | 2 | 53,17 | 160 |
| 16,5 | 179 | 81 | 2 | 84,05 | 165 |
| 17,0 | 179 | 81 | 2 | 55,89 | 170 |
| 17,5 | 183 | 85 | 2 | 88,09 | 175 |
| 18,0 | 183 | 85 | 2 | 59,27 | 180 |
| 18,5 | 186 | 88 | 2 | 88,73 | 185 |
| 19,0 | 186 | 88 | 2 | 64,84 | 190 |
| 19,5 | 212 | 91 | 3 | 105,10 | 195 |
| 20,0 | 212 | 91 | 3 | 75,43 | 200 |
| 21,0 | 216 | 95 | 3 | 84,82 | 210 |
| 22,0 | 219 | 98 | 3 | 88,73 | 220 |
| 23,0 | 222 | 101 | 3 | 94,75 | 230 |
| 24,0 | 225 | 104 | 3 | 97,04 | 240 |
| 25,0 | 225 | 104 | 3 | 101,10 | 250 |
| 26,0 | 256 | 107 | 4 | 141,90 | 260 |
| 27,0 | 259 | 110 | 4 | 149,60 | 270 |
| 28,0 | 259 | 110 | 4 | 152,90 | 280 |
| 30,0 | 263 | 114 | 4 | 167,00 | 300 |

| | |
|---|---|
| P | ● |
| M | ● |
| K | ● |
| N | ○ |
| S | ○ |
| H | ○ |
| O | |

→ $v_c$ Stran 47

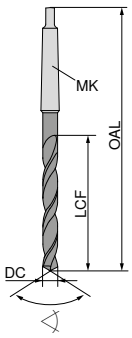
# Spiralni sveder DIN 345

≤ 5xD

N

vap.

WTL



| DC h8 mm | OAL mm | LCF mm | MK | 10 265 ... EUR T2 | | 10 280 ... EUR T2 | |
|---|---|---|---|---|---|---|---|
| 10,00 | 168 | 87 | 1 | 16,26 | 100 | 38,53 | 100 1) |
| 10,20 | 168 | 87 | 1 | 18,89 | 102 | 39,95 | 102 1) |
| 10,50 | 168 | 87 | 1 | 17,04 | 105 | 39,95 | 105 1) |
| 10,80 | 175 | 94 | 1 | 22,38 | 108 | 43,76 | 108 1) |
| 11,00 | 175 | 94 | 1 | 17,79 | 110 | 41,81 | 110 1) |
| 11,20 | 175 | 94 | 1 | 23,79 | 112 | | |
| 11,50 | 175 | 94 | 1 | 20,09 | 115 | 50,76 | 115 1) |
| 11,80 | 175 | 94 | 1 | 25,43 | 118 | | |
| 12,00 | 182 | 101 | 1 | 18,33 | 120 | 43,76 | 120 1) |
| 12,20 | 182 | 101 | 1 | 25,98 | 122 | 47,92 | 122 1) |
| 12,50 | 182 | 101 | 1 | 19,10 | 125 | 45,62 | 125 1) |
| 12,80 | 182 | 101 | 1 | 26,20 | 128 | | |
| 13,00 | 182 | 101 | 1 | 19,76 | 130 | 49,23 | 130 1) |
| 13,20 | 182 | 101 | 1 | 26,97 | 132 | | |
| 13,50 | 189 | 108 | 1 | 22,59 | 135 | 58,29 | 135 1) |
| 13,80 | 189 | 108 | 1 | 28,38 | 138 | | |
| 14,00 | 189 | 108 | 1 | 20,95 | 140 | 52,94 | 140 1) |
| 14,25 | 212 | 114 | 2 | 31,55 | 142 | 78,59 | 142 1) |
| 14,50 | 212 | 114 | 2 | 22,17 | 145 | 61,67 | 145 1) |
| 14,75 | 212 | 114 | 2 | 33,84 | 147 | | |
| 15,00 | 212 | 114 | 2 | 23,25 | 150 | 63,20 | 150 1) |
| 15,25 | 218 | 120 | 2 | 31,11 | 152 | 80,66 | 152 1) |
| 15,50 | 218 | 120 | 2 | 25,11 | 155 | 59,81 | 155 1) |
| 15,75 | 218 | 120 | 2 | 28,38 | 157 | 67,14 | 157 1) |
| 16,00 | 218 | 120 | 2 | 25,11 | 160 | 65,50 | 160 1) |
| 16,25 | 223 | 125 | 2 | 38,32 | 162 | | |
| 16,50 | 223 | 125 | 2 | 27,17 | 165 | 67,14 | 165 2) |
| 16,75 | 223 | 125 | 2 | 31,11 | 167 | | |
| 17,00 | 223 | 125 | 2 | 28,06 | 170 | 63,20 | 170 2) |
| 17,25 | 228 | 130 | 2 | 35,14 | 172 | 74,12 | 172 2) |
| 17,50 | 228 | 130 | 2 | 28,60 | 175 | 69,64 | 175 2) |
| 17,75 | 228 | 130 | 2 | 35,47 | 177 | 75,53 | 177 2) |
| 18,00 | 228 | 130 | 2 | 30,34 | 180 | 71,61 | 180 2) |
| 18,25 | 233 | 135 | 2 | 36,45 | 182 | | |
| 18,50 | 233 | 135 | 2 | 32,64 | 185 | 69,64 | 185 2) |
| 18,75 | 233 | 135 | 2 | 38,32 | 187 | | |
| 19,00 | 233 | 135 | 2 | 32,41 | 190 | 74,12 | 190 2) |
| 19,25 | 238 | 140 | 2 | 40,72 | 192 | | |
| 19,50 | 238 | 140 | 2 | 37,54 | 195 | | |
| 19,75 | 238 | 140 | 2 | 42,57 | 197 | | |
| 20,00 | 238 | 140 | 2 | 34,60 | 200 | 79,69 | 200 2) |
| 20,25 | 243 | 145 | 2 | 46,61 | 202 | | |
| 20,50 | 243 | 145 | 2 | 36,68 | 205 | | |
| 20,75 | 243 | 145 | 2 | 47,05 | 207 | | |
| 21,00 | 243 | 145 | 2 | 39,08 | 210 | 94,42 | 210 2) |
| 21,25 | 248 | 150 | 2 | 48,46 | 212 | | |
| 21,50 | 248 | 150 | 2 | 44,65 | 215 | | |
| 21,75 | 248 | 150 | 2 | 50,76 | 217 | | |
| 22,00 | 248 | 150 | 2 | 43,56 | 220 | 101,50 | 220 2) |
| 22,25 | 248 | 150 | 2 | 52,07 | 222 | | |
| 22,50 | 253 | 155 | 2 | 47,05 | 225 | 124,50 | 225 2) |

| DC h8 mm | OAL mm | LCF mm | MK | 10 265 ... EUR T2 | | 10 280 ... EUR T2 | |
|---|---|---|---|---|---|---|---|
| 22,75 | 253 | 155 | 2 | 53,37 | 227 | | |
| 23,00 | 253 | 155 | 2 | 51,09 | 230 | 117,90 | 230 2) |
| 23,50 | 276 | 155 | 3 | 50,76 | 235 | | |
| 23,75 | 281 | 160 | 3 | 69,74 | 237 | | |
| 24,00 | 281 | 160 | 3 | 53,17 | 240 | 127,70 | 240 2) |
| 24,50 | 281 | 160 | 3 | 55,23 | 245 | | |
| 24,75 | 281 | 160 | 3 | 76,75 | 247 | | |
| 25,00 | 281 | 160 | 3 | 58,62 | 250 | 131,00 | 250 2) |
| 25,50 | 286 | 165 | 3 | 60,90 | 255 | | |
| 25,75 | 286 | 165 | 3 | 79,46 | 257 | | |
| 26,00 | 286 | 165 | 3 | 67,34 | 260 | 151,70 | 260 2) |
| 26,50 | 286 | 165 | 3 | 64,95 | 265 | | |
| 26,75 | 291 | 170 | 3 | 102,60 | 267 | | |
| 27,00 | 291 | 170 | 3 | 67,34 | 270 | 174,60 | 270 2) |
| 27,50 | 291 | 170 | 3 | 69,32 | 275 | | |
| 27,75 | 291 | 170 | 3 | 98,79 | 277 | | |
| 28,00 | 291 | 170 | 3 | 74,22 | 280 | | |
| 28,50 | 296 | 175 | 3 | 90,82 | 285 | | |
| 28,75 | 296 | 175 | 3 | 102,60 | 287 | | |
| 29,00 | 296 | 175 | 3 | 80,56 | 290 | | |
| 29,50 | 296 | 175 | 3 | 82,30 | 295 | | |
| 29,75 | 296 | 175 | 3 | 105,10 | 297 | | |
| 30,00 | 296 | 175 | 3 | 80,56 | 300 | | |
| 30,50 | 301 | 180 | 3 | 98,03 | 305 | | |
| 31,00 | 301 | 180 | 3 | 95,18 | 310 | | |
| 31,50 | 301 | 180 | 3 | 108,20 | 315 | | |
| 32,00 | 334 | 185 | 4 | 100,10 | 320 | | |
| 32,50 | 334 | 185 | 4 | 115,70 | 325 | | |
| 33,00 | 334 | 185 | 4 | 107,40 | 330 | | |
| 33,50 | 334 | 185 | 4 | 119,00 | 335 | | |
| 34,00 | 339 | 190 | 4 | 125,60 | 340 | | |
| 34,50 | 339 | 190 | 4 | 140,90 | 345 | | |
| 35,00 | 339 | 190 | 4 | 127,70 | 350 | | |
| 35,50 | 339 | 190 | 4 | 148,40 | 355 | | |
| 36,00 | 344 | 195 | 4 | 139,70 | 360 | | |
| 36,50 | 344 | 195 | 4 | 154,00 | 365 | | |
| 37,00 | 344 | 195 | 4 | 151,70 | 370 | | |
| 37,50 | 344 | 195 | 4 | 170,40 | 375 | | |
| 38,00 | 349 | 200 | 4 | 160,50 | 380 | | |
| 38,50 | 349 | 200 | 4 | 191,00 | 385 | | |
| 39,00 | 349 | 200 | 4 | 176,90 | 390 | | |
| 39,50 | 349 | 200 | 4 | 221,70 | 395 | | |
| 40,00 | 349 | 200 | 4 | 183,40 | 400 | | |
| 41,00 | 354 | 205 | 4 | 193,20 | 410 | | |
| 42,00 | 354 | 205 | 4 | 211,80 | 420 | | |
| 43,00 | 359 | 210 | 4 | 225,90 | 430 | | |
| 44,00 | 359 | 210 | 4 | 237,90 | 440 | | |
| 45,00 | 359 | 210 | 4 | 248,90 | 450 | | |
| 46,00 | 364 | 215 | 4 | 256,60 | 460 | | |
| 47,00 | 364 | 215 | 4 | 274,00 | 470 | | |
| 48,00 | 369 | 220 | 4 | 280,60 | 480 | | |
| 49,00 | 369 | 220 | 4 | 293,70 | 490 | | |
| 50,00 | 369 | 220 | 4 | 303,40 | 500 | | |
| 51,00 | 412 | 225 | 5 | 364,60 | 510 | | |
| 52,00 | 412 | 225 | 5 | 390,80 | 520 | | |
| 53,00 | 412 | 225 | 5 | 414,80 | 530 | | |
| 54,00 | 417 | 230 | 5 | 425,70 | 540 | | |
| 55,00 | 417 | 230 | 5 | 433,30 | 550 | | |
| 56,00 | 417 | 230 | 5 | 444,20 | 560 | | |
| 57,00 | 422 | 235 | 5 | 462,90 | 570 | | |
| 58,00 | 422 | 235 | 5 | 494,50 | 580 | | |
| 59,00 | 422 | 235 | 5 | 518,50 | 590 | | |
| 60,00 | 422 | 235 | 5 | 535,90 | 600 | | |

| | | |
|---|---|---|
| P | ○ | ● |
| M | | ○ |
| K | ● | ● |
| N | ○ | ● |
| S | | ○ |
| H | | ○ |
| O | ○ | ○ |

1) nitrirani posneti robovi
2) vaporiziran

→ $v_c$ Stran 49

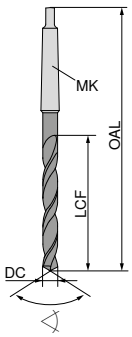
# Spiralni sveder DIN 341, dolg

≤ 10xD

N

vap.

WTL



| DC h8 mm | OAL mm | LCF mm | MK | 10 295 ... EUR T2 | | 10 297 ... EUR T2 | |
|---|---|---|---|---|---|---|---|
| 10,00 | 197 | 116 | 1 | 21,62 | 100 | 39,95 | 100 1) |
| 10,20 | 197 | 116 | 1 | 24,02 | 102 | 37,99 | 102 1) |
| 10,50 | 197 | 116 | 1 | 21,94 | 105 | 43,01 | 105 1) |
| 10,80 | 206 | 125 | 1 | 28,06 | 108 | | |
| 11,00 | 206 | 125 | 1 | 22,59 | 110 | 42,13 | 110 1) |
| 11,20 | 206 | 125 | 1 | 30,12 | 112 | 38,32 | 112 1) |
| 11,50 | 206 | 125 | 1 | 22,59 | 115 | 43,22 | 115 1) |
| 11,80 | 206 | 125 | 1 | 30,46 | 118 | 38,32 | 118 1) |
| 12,00 | 215 | 134 | 1 | 22,59 | 120 | 43,22 | 120 1) |
| 12,20 | 215 | 134 | 1 | 30,12 | 122 | 37,67 | 122 1) |
| 12,50 | 215 | 134 | 1 | 22,81 | 125 | 43,88 | 125 1) |
| 12,80 | 215 | 134 | 1 | 32,64 | 128 | 37,99 | 128 1) |
| 13,00 | 215 | 134 | 1 | 22,81 | 130 | 45,62 | 130 1) |
| 13,20 | 215 | 134 | 1 | 32,64 | 132 | | |
| 13,50 | 223 | 142 | 1 | 25,43 | 135 | 47,70 | 135 1) |
| 13,80 | 223 | 142 | 1 | 41,81 | 138 | 43,01 | 138 1) |
| 14,00 | 223 | 142 | 1 | 25,76 | 140 | 52,50 | 140 1) |
| 14,25 | 245 | 147 | 2 | 40,17 | 142 | | |
| 14,50 | 245 | 147 | 2 | 32,64 | 145 | 51,09 | 145 1) |
| 14,75 | 245 | 147 | 2 | 40,17 | 147 | | |
| 15,00 | 245 | 147 | 2 | 32,31 | 150 | 54,03 | 150 1) |
| 15,25 | 251 | 153 | 2 | 40,17 | 152 | | |
| 15,50 | 251 | 153 | 2 | 31,44 | 155 | 53,17 | 155 1) |
| 15,75 | 251 | 153 | 2 | 40,61 | 157 | | |
| 16,00 | 251 | 153 | 2 | 33,84 | 160 | 55,01 | 160 1) |
| 16,25 | 257 | 159 | 2 | 45,62 | 162 | | |
| 16,50 | 257 | 159 | 2 | 35,47 | 165 | 55,34 | 165 2) |
| 16,75 | 257 | 159 | 2 | 43,76 | 167 | | |
| 17,00 | 257 | 159 | 2 | 35,14 | 170 | 62,65 | 170 2) |
| 17,25 | 263 | 165 | 2 | 49,66 | 172 | | |
| 17,50 | 263 | 165 | 2 | 40,17 | 175 | 60,04 | 175 2) |
| 17,75 | 263 | 165 | 2 | 49,45 | 177 | | |
| 18,00 | 263 | 165 | 2 | 39,95 | 180 | 65,50 | 180 2) |
| 18,25 | 269 | 171 | 2 | 58,83 | 182 | | |
| 18,50 | 269 | 171 | 2 | 44,65 | 185 | 60,04 | 185 2) |
| 18,75 | 269 | 171 | 2 | 56,43 | 187 | | |
| 19,00 | 269 | 171 | 2 | 43,88 | 190 | 74,12 | 190 2) |
| 19,25 | 275 | 177 | 2 | 61,89 | 192 | | |
| 19,50 | 275 | 177 | 2 | 50,76 | 195 | 73,68 | 195 2) |
| 19,75 | 275 | 177 | 2 | 69,20 | 197 | | |
| 20,00 | 275 | 177 | 2 | 48,14 | 200 | 79,03 | 200 2) |
| 20,50 | 282 | 184 | 2 | 60,57 | 205 | 77,94 | 205 2) |
| 21,00 | 282 | 184 | 2 | 55,01 | 210 | 93,11 | 210 2) |
| 21,50 | 289 | 191 | 2 | 65,50 | 215 | | |
| 21,75 | 289 | 191 | 2 | 87,54 | 217 | | |
| 22,00 | 289 | 191 | 2 | 60,04 | 220 | 103,30 | 220 2) |
| 22,50 | 296 | 198 | 2 | 66,69 | 225 | | |
| 23,00 | 296 | 198 | 2 | 62,44 | 230 | | |
| 23,50 | 319 | 198 | 3 | 76,08 | 235 | | |
| 24,00 | 327 | 206 | 3 | 76,75 | 240 | 131,00 | 240 2) |
| 24,50 | 327 | 206 | 3 | 82,41 | 245 | | |
| 25,00 | 327 | 206 | 3 | 77,29 | 250 | 136,50 | 250 2) |
| 25,50 | 335 | 214 | 3 | 92,67 | 255 | | |
| 26,00 | 335 | 214 | 3 | 88,63 | 260 | 158,30 | 260 2) |
| 26,50 | 335 | 214 | 3 | 95,07 | 265 | | |
| 27,00 | 343 | 222 | 3 | 95,07 | 270 | | |
| 27,50 | 343 | 222 | 3 | 117,90 | 275 | | |
| 28,00 | 343 | 222 | 3 | 105,80 | 280 | | |
| 29,00 | 351 | 230 | 3 | 122,30 | 290 | | |
| 29,50 | 351 | 230 | 3 | 138,60 | 295 | | |
| 30,00 | 351 | 230 | 3 | 122,30 | 300 | | |
| 30,50 | 360 | 239 | 3 | 155,00 | 305 | | |
| 31,00 | 360 | 239 | 3 | 147,40 | 310 | | |
| 31,50 | 360 | 239 | 3 | 163,80 | 315 | | |
| 32,00 | 397 | 248 | 4 | 158,30 | 320 | | |
| 33,00 | 397 | 248 | 4 | 158,30 | 330 | | |
| 33,50 | 397 | 248 | 4 | 184,50 | 335 | | |
| 34,00 | 406 | 257 | 4 | 195,40 | 340 | | |
| 35,00 | 406 | 257 | 4 | 189,90 | 350 | | |
| 36,00 | 416 | 267 | 4 | 219,40 | 360 | | |
| 37,00 | 416 | 267 | 4 | 247,80 | 370 | | |
| 37,50 | 416 | 267 | 4 | 266,30 | 375 | | |
| 38,00 | 426 | 277 | 4 | 236,80 | 380 | | |
| 39,00 | 426 | 277 | 4 | 253,30 | 390 | | |
| 40,00 | 426 | 277 | 4 | 266,30 | 400 | | |
| 42,00 | 436 | 287 | 4 | 301,30 | 420 | | |
| 43,00 | 447 | 298 | 4 | 323,10 | 430 | | |
| 44,00 | 447 | 298 | 4 | 323,10 | 440 | | |
| 45,00 | 447 | 298 | 4 | 337,30 | 450 | | |
| 50,00 | 470 | 321 | 4 | 443,20 | 500 | | |

| | 10 295 ... | 10 297 ... |
|---|---|---|
| P | ○ | ● |
| M | | ○ |
| K | ● | ● |
| N | ○ | ● |
| S | | ○ |
| H | | ○ |
| O | ○ | ○ |

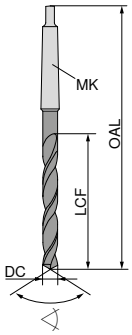
1) nitrirani posneti robovi
2) vaporiziran

→ $v_c$ Stran 51

# Spiralni sveder DIN 1870, zelo dolg, 1. dolžina

> 10xD

WTL



130°
HSS

**10 305 ...**

| DC h8 mm | OAL mm | LCF mm | MK | EUR T2 | |
|---|---|---|---|---|---|
| 10,0 | 285 | 185 | 1 | 40,82 | 100 1) |
| 10,5 | 285 | 185 | 1 | 49,66 | 105 1) |
| 11,0 | 300 | 195 | 1 | 47,70 | 110 1) |
| 11,5 | 300 | 195 | 1 | 50,10 | 115 1) |
| 12,0 | 310 | 205 | 1 | 53,17 | 120 1) |
| 12,5 | 310 | 205 | 1 | 54,80 | 125 1) |
| 13,0 | 310 | 205 | 1 | 55,34 | 130 1) |
| 13,5 | 325 | 220 | 1 | 63,85 | 135 1) |
| 14,0 | 325 | 220 | 1 | 62,11 | 140 1) |
| 14,5 | 340 | 220 | 2 | 64,29 | 145 1) |
| 15,0 | 340 | 220 | 2 | 67,68 | 150 1) |
| 15,5 | 355 | 230 | 2 | 74,12 | 155 1) |
| 16,0 | 355 | 230 | 2 | 71,06 | 160 1) |
| 16,5 | 355 | 230 | 2 | 71,61 | 165 2) |
| 17,0 | 355 | 230 | 2 | 72,81 | 170 2) |
| 17,5 | 370 | 245 | 2 | 76,75 | 175 2) |
| 18,0 | 370 | 245 | 2 | 79,03 | 180 2) |
| 18,5 | 370 | 245 | 2 | 87,54 | 185 2) |
| 19,0 | 370 | 245 | 2 | 89,40 | 190 2) |
| 19,5 | 385 | 260 | 2 | 96,49 | 195 2) |
| 20,0 | 385 | 260 | 2 | 102,10 | 200 2) |
| 21,0 | 385 | 260 | 2 | 117,90 | 210 2) |
| 22,0 | 405 | 270 | 2 | 123,40 | 220 2) |
| 23,0 | 405 | 270 | 2 | 145,10 | 230 2) |
| 24,0 | 440 | 290 | 3 | 161,50 | 240 2) |
| 25,0 | 440 | 290 | 3 | 163,80 | 250 2) |
| 26,0 | 440 | 290 | 3 | 177,90 | 260 2) |
| 28,0 | 460 | 305 | 3 | 206,30 | 280 2) |
| 30,0 | 460 | 305 | 3 | 236,80 | 300 2) |

| | |
|---|---|
| P | ● |
| M | |
| K | ● |
| N | ● |
| S | |
| H | |
| O | ○ |

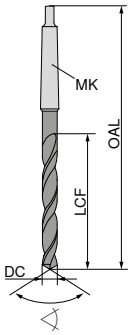
1) nitrirani posneti robovi
2) vaporiziran

→ $v_c$ Stran 53

# Spiralni sveder DIN 1870, zelo dolg, 2. dolžina

> 10xD

WTL



130°
HSS

**10 315 ...**

| DC h8 mm | OAL mm | LCF mm | MK | EUR T2 | |
|---|---|---|---|---|---|
| 10,0 | 360 | 235 | 1 | 58,62 | 100 1) |
| 10,5 | 360 | 235 | 1 | 73,68 | 105 1) |
| 11,0 | 375 | 250 | 1 | 67,14 | 110 1) |
| 11,5 | 375 | 250 | 1 | 71,61 | 115 1) |
| 12,0 | 395 | 260 | 1 | 81,65 | 120 1) |
| 13,0 | 395 | 260 | 1 | 85,58 | 130 1) |
| 13,5 | 410 | 275 | 1 | 91,26 | 135 1) |
| 14,0 | 410 | 275 | 1 | 91,26 | 140 1) |
| 14,5 | 425 | 275 | 2 | 92,02 | 145 1) |
| 15,0 | 425 | 275 | 2 | 92,67 | 150 1) |
| 15,5 | 445 | 295 | 2 | 96,49 | 155 1) |
| 16,0 | 445 | 295 | 2 | 95,07 | 160 1) |
| 16,5 | 445 | 295 | 2 | 108,50 | 165 2) |
| 17,0 | 445 | 295 | 2 | 102,10 | 170 2) |
| 17,5 | 465 | 310 | 2 | 110,20 | 175 2) |
| 18,0 | 465 | 310 | 2 | 114,60 | 180 2) |
| 18,5 | 465 | 310 | 2 | 123,40 | 185 2) |
| 19,0 | 465 | 310 | 2 | 125,60 | 190 2) |
| 19,5 | 490 | 325 | 2 | 143,00 | 195 2) |
| 20,0 | 490 | 325 | 2 | 141,90 | 200 2) |
| 21,0 | 490 | 325 | 2 | 151,70 | 210 2) |
| 22,0 | 515 | 345 | 2 | 182,30 | 220 2) |
| 23,0 | 515 | 345 | 2 | 184,50 | 230 2) |
| 24,0 | 555 | 365 | 3 | 206,30 | 240 2) |
| 25,0 | 555 | 365 | 3 | 208,50 | 250 2) |
| 26,0 | 555 | 365 | 3 | 244,50 | 260 2) |
| 28,0 | 580 | 385 | 3 | 283,80 | 280 2) |
| 30,0 | 580 | 385 | 3 | 328,60 | 300 2) |

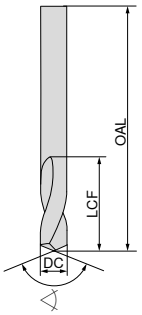
| | |
|---|---|
| P | ● |
| M | |
| K | ● |
| N | ● |
| S | |
| H | |
| O | ○ |

1) nitrirani posneti robovi
2) vaporiziran

→ $v_c$ Stran 53

# NC-sveder za navrtanje, tovarniški standard

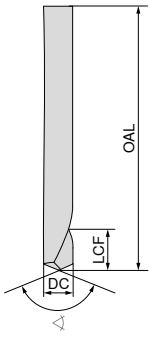
▲ Vzvojni utor




| | NC-A | NC-A TiN | NC-A | NC-A TiN |
|---|---|---|---|---|
| | | | | |
| | 120° | 120° | 90° | 90° |
| | HSS | HSS | HSS | HSS |
| | **10 510 ...** | **10 512 ...** | **10 520 ...** | **10 522 ...** |

| $DC_{h6}$ mm | OAL mm | LCF mm | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 46 | 12,0 | 7,05 | 030 | 10,23 | 030 | 7,05 | 030 | 10,23 | 030 |
| 4 | 55 | 12,0 | 7,16 | 040 | 10,46 | 040 | 7,16 | 040 | 10,46 | 040 |
| 5 | 62 | 14,0 | 7,49 | 050 | 10,90 | 050 | 7,49 | 050 | 10,90 | 050 |
| 6 | 66 | 16,0 | 7,67 | 060 | 11,02 | 060 | 7,67 | 060 | 11,02 | 060 |
| 8 | 79 | 21,0 | 12,88 | 080 | 18,66 | 080 | 12,88 | 080 | 18,66 | 080 |
| 10 | 89 | 25,0 | 14,30 | 100 | 20,63 | 100 | 14,30 | 100 | 20,63 | 100 |
| 12 | 102 | 30,0 | 20,73 | 120 | 30,24 | 120 | 20,73 | 120 | 30,24 | 120 |
| 16 | 115 | 37,5 | 27,17 | 160 | 39,52 | 160 | 27,17 | 160 | 39,52 | 160 |
| 20 | 131 | 45,0 | 43,76 | 200 | 63,53 | 200 | 43,76 | 200 | 63,53 | 200 |

▲ Z vpenjalno površino, podobno DIN 1835 B




| | | | | |
|---|---|---|---|---|
| | | | | |
| | ~B 120° | ~B 120° | ~B 90° | ~B 90° |
| | HSS | HSS | HSS | HSS |
| | **10 511 ...** | **10 513 ...** | **10 521 ...** | **10 523 ...** |

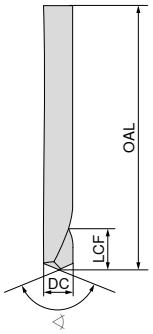
| $DC_{h6}$ mm | OAL mm | LCF mm | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 66 | 7,0 | 7,89 | 060 | 11,02 | 060 | 7,89 | 060 | 11,02 | 060 |
| 8 | 79 | 9,0 | 11,13 | 080 | 15,72 | 080 | 11,13 | 080 | 15,72 | 080 |
| 10 | 89 | 11,5 | 12,44 | 100 | 17,36 | 100 | 12,44 | 100 | 17,36 | 100 |
| 12 | 102 | 14,0 | 17,24 | 120 | 24,67 | 120 | 17,24 | 120 | 24,67 | 120 |
| 16 | 115 | 18,0 | 22,59 | 160 | 32,20 | 160 | 22,59 | 160 | 32,20 | 160 |
| 20 | 131 | 23,0 | 32,20 | 200 | 46,94 | 200 | 32,20 | 200 | 46,94 | 200 |

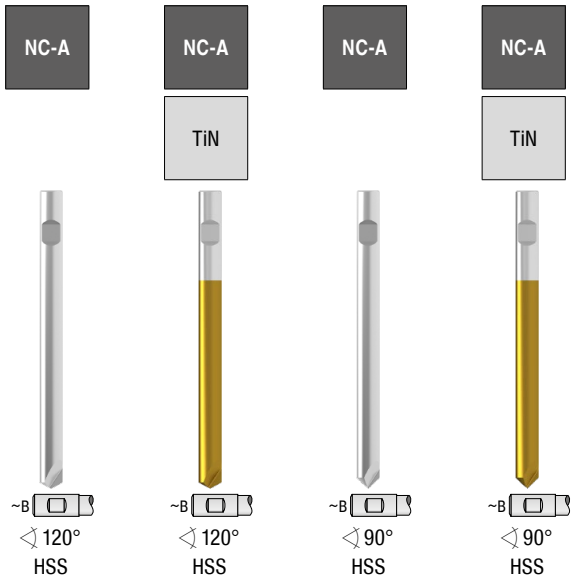
| | | | | |
|---|---|---|---|---|
| P | **15-35** | **25-55** | **15-35** | **25-55** |
| M | 10 | 20 | 10 | 20 |
| K | **20-35** | **30-55** | **20-35** | **30-55** |
| N | 50-70 | 65-85 | 50-70 | 65-85 |
| S | | | | |
| H | | | | |
| O | | | | |

Primerno samo za navrtanje!

# NC-sveder za navrtanje, tovarniški standard, dolg

▲ Z vpenjalno površino, podobno DIN 1835 B



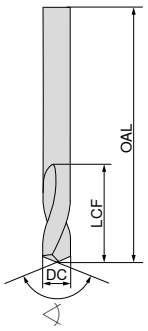

| DC h6 mm | OAL mm | LCF mm | 10 530 ... EUR T2 | | 10 532 ... EUR T2 | | 10 526 ... EUR T2 | | 10 528 ... EUR T2 | |
|---|---|---|---|---|---|---|---|---|---|---|
| **6** | 93 | 7,0 | 9,68 | **060** | 13,75 | **060** | 9,68 | **060** | 13,75 | **060** |
| **8** | 117 | 9,0 | 15,06 | **080** | 21,72 | **080** | 15,06 | **080** | 21,72 | **080** |
| **10** | 133 | 11,5 | 16,59 | **100** | 23,79 | **100** | 16,59 | **100** | 23,79 | **100** |
| **12** | 151 | 14,0 | 19,76 | **120** | 28,16 | **120** | 19,76 | **120** | 28,16 | **120** |
| **16** | 178 | 18,0 | 30,24 | **160** | 43,66 | **160** | 30,24 | **160** | 43,66 | **160** |
| **20** | 205 | 23,0 | 41,92 | **200** | 61,45 | **200** | 41,92 | **200** | 61,45 | **200** |

| | | | | |
|---|---|---|---|---|
| P | **15-35** | **25-55** | **15-35** | **25-55** |
| M | 10 | 20 | 10 | 20 |
| K | **20-35** | **30-55** | **20-35** | **30-55** |
| N | 50-70 | 65-85 | 50-70 | 65-85 |
| S | | | | |
| H | | | | |
| O | | | | |

Primerno samo za navrtanje!

# NC-sveder za navrtanje, tovarniški standard, dolg

▲ Vzvojni utor



NC-A

90°
HSS

**10 525 ...**

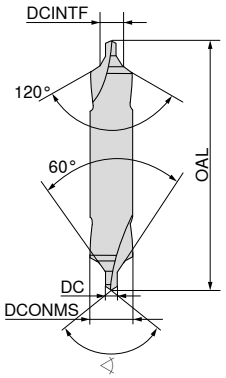
| DC h6 mm | OAL mm | LCF mm | EUR T2 | |
|---|---|---|---|---|
| **6,35** | 105 | 17 | 11,90 | **025** |
| **8,00** | 118 | 21 | 21,84 | **030** |
| **9,52** | 132 | 25 | 22,17 | **040** |
| **12,70** | 159 | 30 | 31,44 | **050** |
| **15,87** | 186 | 37 | 27,40 | **060** |
| **19,05** | 213 | 45 | 63,10 | **075** |

| | |
|---|---|
| P | **15-35** |
| M | 10 |
| K | **20-35** |
| N | 50-70 |
| S | |
| H | |
| O | |

Primerno samo za navrtanje!

# Centrirni sveder DIN 333, oblika B

▲ Z zaščitnim ugrezom 120°




ZB

ZB

Desno
118°
HSS

Levo
118°
HSS

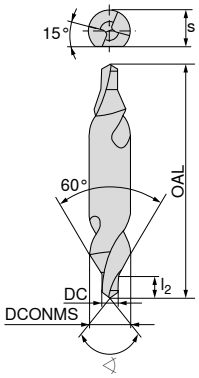
**10 480 ...**

**10 485 ...**

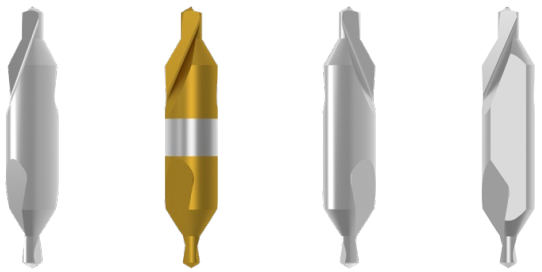
| DC mm | DCONMS h8 mm | DCINTF k12 mm | OAL mm | EUR T2 | | EUR T2 | |
|---|---|---|---|---|---|---|---|
| **1,00** | 4,0 | 2,12 | 35,5 | 7,23 | **100** | 16,49 | **100** |
| **1,25** | 5,0 | 2,65 | 40,0 | 8,18 | **125** | 19,32 | **125** |
| **1,60** | 6,3 | 3,35 | 45,0 | 7,56 | **160** | 20,30 | **160** |
| **2,00** | 8,0 | 4,25 | 50,0 | 8,18 | **200** | 21,62 | **200** |
| **2,50** | 10,0 | 5,30 | 56,0 | 9,98 | **250** | 21,94 | **250** |
| **3,15** | 11,2 | 6,70 | 62,0 | 14,51 | **315** | 29,80 | **315** |
| **4,00** | 14,0 | 8,50 | 69,0 | 18,66 | **400** | 32,53 | **400** |
| **5,00** | 18,0 | 10,60 | 77,0 | 23,91 | **500** | 34,93 | **500** |

| | | |
|---|---|---|
| P | **15-35** | **15-35** |
| M | 10 | 10 |
| K | **20-35** | **20-35** |
| N | 50-70 | 50-70 |
| S | | |
| H | | |
| O | | |

# Centrirni sveder DIN 333, oblika A




| | ZB | ZB | ZB | ZB |
|---|---|---|---|---|
| | | TiN | | |



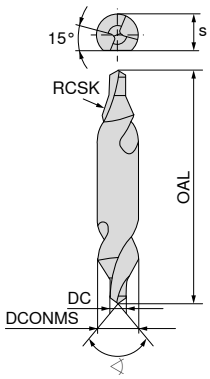
| | Desno ◁ 118° HSS | Desno ◁ 118° HSS | Levo ◁ 118° HSS | Desno ◁ 118° HSS-E |
|---|---|---|---|---|
| | **10 415 ...** | **10 425 ...** | **10 435 ...** | **10 445 ...** |

| DC mm | s mm | DCONMS $_{h8}$ mm | OAL mm | $l_2$ mm | EUR T2 | | EUR T2 | | EUR T2 | | EUR T2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0,50** | | 3,15 | 25,0 | 0,8 | 5,31 | **050** [2] | 12,56 | **050** [2] | 7,23 | **050** [2] | | |
| **0,80** | | 3,15 | 25,0 | 1,1 | 5,11 | **080** [2] | 12,11 | **080** [2] | 7,11 | **080** [2] | | |
| **1,00** | | 3,15 | 31,5 | 1,3 | 4,64 | **100** | 11,13 | **100** | 6,42 | **100** | | |
| **1,25** | | 3,15 | 31,5 | 1,6 | 5,31 | **125** | 12,66 | **125** | 7,56 | **125** | | |
| **1,60** | 3,25 | 4,00 | 35,5 | 2,0 | | | | | | | 5,72 | **160** [1] |
| **1,60** | | 4,00 | 35,5 | 2,0 | 4,26 | **160** | 10,16 | **160** | 6,63 | **160** | | |
| **2,00** | 4,20 | 5,00 | 40,0 | 2,5 | | | | | | | 5,85 | **200** [1] |
| **2,00** | | 5,00 | 40,0 | 2,5 | 4,54 | **200** | 10,82 | **200** | 7,43 | **200** | | |
| **2,50** | 5,35 | 6,30 | 45,0 | 3,1 | | | | | | | 6,78 | **250** [1] |
| **2,50** | | 6,30 | 45,0 | 3,1 | 5,27 | **250** | 12,56 | **250** | 8,03 | **250** | | |
| **3,15** | 6,95 | 8,00 | 50,0 | 3,9 | | | | | | | 8,91 | **315** [1] |
| **3,15** | | 8,00 | 50,0 | 3,9 | 6,78 | **315** | 15,94 | **315** | 10,16 | **315** | | |
| **4,00** | 8,40 | 10,00 | 56,0 | 5,0 | | | | | | | 13,00 | **400** [1] |
| **4,00** | | 10,00 | 56,0 | 5,0 | 10,64 | **400** | 25,00 | **400** | 13,65 | **400** | | |
| **5,00** | 10,95 | 12,50 | 63,0 | 6,3 | | | | | | | 18,99 | **500** [1] |
| **5,00** | | 12,50 | 63,0 | 6,3 | 15,29 | **500** | 35,80 | **500** | 21,18 | **500** | | |
| **6,30** | 14,00 | 16,00 | 71,0 | 8,0 | | | | | | | 31,87 | **630** [1] |
| **6,30** | | 16,00 | 71,0 | 8,0 | 22,71 | **630** | 53,27 | **630** | 31,22 | **630** | | |

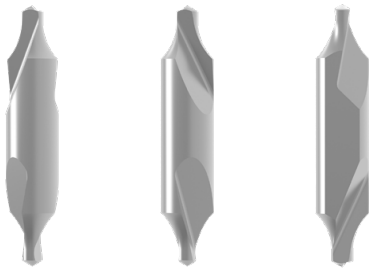
| | | | | |
|---|---|---|---|---|
| P | **15-35** | **25-55** | **15-35** | **15-35** |
| M | 10 | 20 | 10 | 10 |
| K | **20-35** | **30-55** | **20-35** | **20-35** |
| N | 50-70 | 65-85 | 50-70 | 50-70 |
| S | | | | |
| H | | | | |
| O | | | | |

**1)** s površino
**2)** Le enostranska uporaba

# Centrirni sveder DIN 333, oblika R




ZB ZB ZB



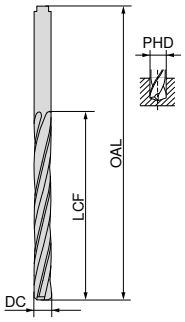
| | | | | | Desno ◁ 118° HSS | | Levo ◁ 118° HSS | | Desno ◁ 118° HSS | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | **10 455 ...** | | **10 475 ...** | | **10 465 ...** | |
| **DC** mm | s mm | DCONMS $_{h8}$ mm | OAL mm | RCSK mm | EUR T2 | | EUR T2 | | EUR T2 | |
| **0,50** | | 3,15 | 25,0 | 2,00 | 5,31 | **050** [2] | | | | |
| **0,80** | | 3,15 | 25,0 | 2,50 | 5,11 | **080** [2] | 10,16 | **080** [2] | | |
| **1,00** | | 3,15 | 31,5 | 2,90 | 4,57 | **100** | 7,93 | **100** | | |
| **1,25** | | 3,15 | 31,5 | 3,15 | 5,21 | **125** | 9,52 | **125** | | |
| **1,60** | 3,25 | 4,00 | 35,5 | 4,00 | | | | | 5,72 | **160** [1] |
| **1,60** | | 4,00 | 35,5 | 4,00 | 4,26 | **160** | 7,74 | **160** | | |
| **2,00** | 4,20 | 5,00 | 40,0 | 5,00 | | | | | 5,85 | **200** [1] |
| **2,00** | | 5,00 | 40,0 | 5,00 | 4,54 | **200** | 7,93 | **200** | | |
| **2,50** | 5,35 | 6,30 | 45,0 | 6,30 | | | | | 6,78 | **250** [1] |
| **2,50** | | 6,30 | 45,0 | 6,30 | 5,27 | **250** | 8,18 | **250** | | |
| **3,15** | 6,95 | 8,00 | 50,0 | 8,00 | | | | | 8,71 | **315** [1] |
| **3,15** | | 8,00 | 50,0 | 8,00 | 6,78 | **315** | 11,35 | **315** | | |
| **4,00** | 8,40 | 10,00 | 56,0 | 10,00 | | | | | 13,32 | **400** [1] |
| **4,00** | | 10,00 | 56,0 | 10,00 | 9,86 | **400** | 16,49 | **400** | | |
| **5,00** | 10,95 | 12,50 | 63,0 | 12,50 | | | | | 18,99 | **500** [1] |
| **5,00** | | 12,50 | 63,0 | 12,50 | 14,96 | **500** | 24,12 | **500** | | |
| **6,30** | 14,00 | 16,00 | 71,0 | 16,00 | | | | | 31,87 | **630** [1] |
| **6,30** | | 16,00 | 71,0 | 16,00 | 22,71 | **630** | | | | |

| | | | |
|---|---|---|---|
| P | **15-35** | **15-35** | **15-35** |
| M | 10 | 10 | 10 |
| K | **20-35** | **20-35** | **20-35** |
| N | 50-70 | 50-70 | 50-70 |
| S | | | |
| H | | | |
| O | | | |

**1)** s površino
**2)** Le enostranska uporaba

# Predpovrtalo (spiralno grezilo)

▲ S cilindričnim držalom, DIN 344



N

vap.

120°

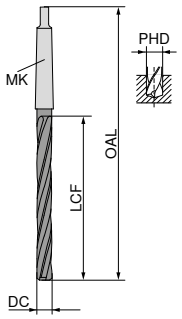
HSS

**10 226 ...**

| DC h8 mm | OAL mm | LCF mm | PHD mm | EUR T2 | |
|---|---|---|---|---|---|
| **3,80** | 96 | 64 | 2,8 | 21,62 | **038** |
| **4,00** | 96 | 64 | 2,8 | 21,07 | **040** |
| **4,80** | 108 | 74 | 3,5 | 15,72 | **048** |
| **5,00** | 108 | 74 | 3,5 | 15,50 | **050** |
| **5,80** | 116 | 80 | 4,2 | 15,72 | **058** |
| **6,00** | 116 | 80 | 4,2 | 15,50 | **060** |
| **6,80** | 133 | 93 | 4,9 | 17,69 | **068** |
| **7,00** | 133 | 93 | 4,9 | 17,69 | **070** |
| **7,80** | 142 | 100 | 5,6 | 20,30 | **078** |
| **8,00** | 142 | 100 | 5,6 | 19,98 | **080** |
| **8,80** | 151 | 107 | 6,3 | 21,62 | **088** |
| **9,00** | 151 | 107 | 6,3 | 21,07 | **090** |
| **9,80** | 162 | 116 | 7,0 | 23,91 | **098** |
| **10,00** | 162 | 116 | 7,0 | 23,58 | **100** |
| **10,75** | 173 | 125 | 7,7 | 32,20 | **107** |
| **11,00** | 173 | 125 | 7,7 | 28,38 | **110** |
| **11,75** | 184 | 134 | 8,4 | 32,53 | **117** |
| **12,00** | 184 | 134 | 8,4 | 29,25 | **120** |

| | |
|---|---|
| P | **15-35** |
| M | 10 |
| K | **20-35** |
| N | 50-80 |
| S | 14-28 |
| H | |
| O | |

# Predpovrtalo (spiralno grezilo)




N

vap.

MK

120°

HSS

**10 228 ...**

| DC h8 mm | OAL mm | LCF mm | PHD mm | MK | EUR T2 | |
|---|---|---|---|---|---|---|
| **10,00** | 168 | 87 | 7,0 | 1 | 28,38 | **100** |
| **10,75** | 175 | 94 | 7,7 | 1 | 34,28 | **107** |
| **11,00** | 175 | 94 | 7,7 | 1 | 30,46 | **110** |
| **11,75** | 182 | 101 | 8,4 | 1 | 34,28 | **117** |
| **12,00** | 182 | 101 | 8,4 | 1 | 30,46 | **120** |
| **12,75** | 182 | 101 | 9,1 | 1 | 37,33 | **127** |
| **13,00** | 182 | 101 | 9,1 | 1 | 33,40 | **130** |
| **13,75** | 189 | 108 | 9,8 | 1 | 37,67 | **137** |
| **14,00** | 189 | 108 | 9,8 | 1 | 33,95 | **140** |
| **14,75** | 212 | 114 | 10,5 | 2 | 42,35 | **147** |
| **15,00** | 212 | 114 | 10,5 | 2 | 37,67 | **150** |
| **15,75** | 218 | 120 | 11,2 | 2 | 43,88 | **157** |
| **16,00** | 218 | 120 | 11,2 | 2 | 39,29 | **160** |
| **16,75** | 223 | 125 | 11,9 | 2 | 46,83 | **167** |
| **17,00** | 223 | 125 | 11,9 | 2 | 41,58 | **170** |
| **17,75** | 228 | 130 | 12,6 | 2 | 48,03 | **177** |
| **18,00** | 228 | 130 | 12,6 | 2 | 42,35 | **180** |
| **18,70** | 233 | 135 | 13,3 | 2 | 48,36 | **187** |
| **19,00** | 233 | 135 | 13,3 | 2 | 47,70 | **190** |
| **19,70** | 238 | 140 | 14,0 | 2 | 48,36 | **197** |
| **20,00** | 238 | 140 | 14,0 | 2 | 47,70 | **200** |
| **20,70** | 243 | 145 | 14,6 | 2 | 56,43 | **207** |
| **21,00** | 243 | 145 | 14,6 | 2 | 55,77 | **210** |
| **21,70** | 248 | 150 | 15,3 | 2 | 57,08 | **217** |
| **22,00** | 248 | 150 | 15,3 | 2 | 56,22 | **220** |
| **22,70** | 253 | 155 | 16,0 | 2 | 62,98 | **227** |
| **23,00** | 253 | 155 | 16,0 | 2 | 62,21 | **230** |
| **23,70** | 281 | 160 | 16,6 | 3 | 65,70 | **237** |
| **24,00** | 281 | 160 | 16,6 | 3 | 64,29 | **240** |
| **24,70** | 281 | 160 | 17,3 | 3 | 69,86 | **247** |
| **25,00** | 281 | 160 | 17,3 | 3 | 68,66 | **250** |
| **25,70** | 286 | 165 | 18,0 | 3 | 73,13 | **257** |
| **26,00** | 286 | 165 | 18,0 | 3 | 72,15 | **260** |
| **26,70** | 291 | 170 | 18,6 | 3 | 85,37 | **267** |
| **27,00** | 291 | 170 | 18,6 | 3 | 83,73 | **270** |
| **27,70** | 291 | 170 | 19,3 | 3 | 86,13 | **277** |
| **28,00** | 291 | 170 | 19,3 | 3 | 84,70 | **280** |
| **28,70** | 296 | 175 | 20,0 | 3 | 94,31 | **287** |
| **29,00** | 296 | 175 | 20,0 | 3 | 93,44 | **290** |
| **29,70** | 296 | 175 | 20,5 | 3 | 98,13 | **297** |
| **30,00** | 296 | 175 | 20,5 | 3 | 96,83 | **300** |

| | |
|---|---|
| P | **15-35** |
| M | 10 |
| K | **20-35** |
| N | 50-80 |
| S | 14-28 |
| H | |
| O | |

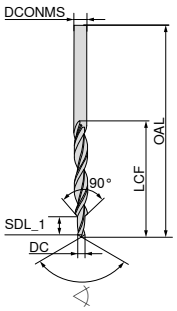
# Večfazni stopenjski sveder, DIN 8378

- Kot grezila 90°
- Za osnovne izvrtine za navoj skladno z DIN 336, preglednica 1 s prostimi ugrezi 90° ter za skoznje izvrtine skladno z DIN EN 20273 – sredinska izvedba
- Za izbiro pomika upoštevajte manjši Ø DC

DIN 8378

SB

vap.

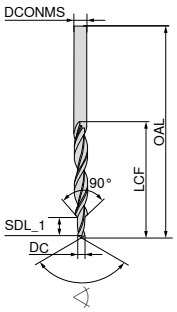


**10 365 ...**

| Za navoj | DC h9 mm | DCONMS h8 mm | OAL mm | SDL_1 mm | LCF mm | EUR T2 | |
|---|---|---|---|---|---|---|---|
| M3 | 2,5 | 3,4 | 70 | 8,8 | 39 | 18,23 | 030 |
| M4 | 3,3 | 4,5 | 80 | 11,4 | 47 | 19,54 | 040 |
| M5 | 4,2 | 5,5 | 93 | 13,6 | 57 | 20,09 | 050 |
| M6 | 5,0 | 6,6 | 101 | 16,5 | 63 | 22,93 | 060 |
| M8 | 6,8 | 9,0 | 125 | 21,0 | 81 | 25,76 | 080 |
| M10 | 8,5 | 11,0 | 142 | 25,5 | 94 | 32,96 | 100 |
| M12 | 10,2 | 13,5 | 160 | 30,0 | 108 | 42,35 | 120 |

- Za skoznje izvrtine skladno z DIN EN 20273 – fina izvedba
- Z ugrezi za glave vijakov 90°
- Za izbiro pomika upoštevajte manjši Ø DC

DIN 8374



**10 355 ...**

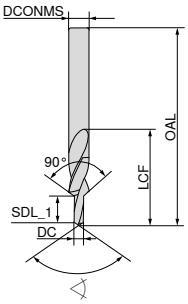
| Za navoj | DC h9 mm | DCONMS h8 mm | OAL mm | SDL_1 mm | LCF mm | EUR T2 | |
|---|---|---|---|---|---|---|---|
| M3 | 3,2 | 6,0 | 93 | 9 | 57 | 20,95 | 030 |
| M4 | 4,3 | 8,0 | 117 | 11 | 75 | 24,88 | 040 |
| M5 | 5,3 | 10,0 | 133 | 13 | 87 | 30,56 | 050 |
| M6 | 6,4 | 11,5 | 142 | 15 | 94 | 34,93 | 060 |
| M8 | 8,4 | 15,0 | 169 | 19 | 114 | 57,63 | 080 |
| M10 | 10,5 | 19,0 | 198 | 23 | 135 | 88,96 | 100 |

| | |
|---|---|
| P | **15-35** |
| M | 10 |
| K | **20-35** |
| N | 50-80 |
| S | |
| H | |
| O | |

# Stopenjski sveder, skupna dolžina skladno z DIN 1897

- Kot grezila 90°
- Za osnovne izvrtine za navoj skladno z DIN 336, preglednica 1 s prostimi ugrezi 90° ter za skoznje izvrtine skladno z DIN EN 20273 – sredinska izvedba
- Za izbiro pomika upoštevajte manjši Ø DC

SB

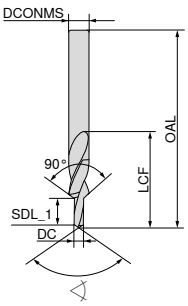


**10 320 ...**

| Za navoj | DC h6 mm | DCONMS h6 mm | OAL mm | SDL_1 mm | LCF mm | EUR T2 | |
|---|---|---|---|---|---|---|---|
| M3 | 2,5 | 3,4 | 52 | 8,8 | 20 | 11,68 | 030 |
| M4 | 3,3 | 4,5 | 58 | 11,4 | 24 | 11,79 | 040 |
| M5 | 4,2 | 5,5 | 66 | 13,6 | 28 | 12,66 | 050 |
| M6 | 5,0 | 6,6 | 70 | 16,5 | 31 | 13,65 | 060 |
| M8 | 6,8 | 9,0 | 84 | 21,0 | 40 | 15,72 | 080 |
| M10 | 8,5 | 11,0 | 95 | 25,5 | 47 | 20,30 | 100 |
| M12 | 10,2 | 13,5 | 107 | 30,0 | 54 | 26,08 | 120 |

- Za skoznje izvrtine skladno z DIN EN 20273 – fina izvedba
- Z ugrezi za glave vijakov 90°
- Za izbiro pomika upoštevajte manjši Ø DC

DIN 8374



**10 330 ...**

| Za navoj | DC h6 mm | DCONMS h6 mm | OAL mm | SDL_1 mm | LCF mm | EUR T2 | |
|---|---|---|---|---|---|---|---|
| M3 | 3,2 | 6,0 | 66 | 9 | 28 | 13,65 | 030 |
| M4 | 4,3 | 8,0 | 79 | 11 | 37 | 15,17 | 040 |
| M5 | 5,3 | 10,0 | 89 | 13 | 43 | 19,10 | 050 |
| M6 | 6,4 | 11,5 | 95 | 15 | 47 | 21,18 | 060 |
| M8 | 8,4 | 15,0 | 111 | 19 | 56 | 24,88 | 080 |
| M10 | 10,5 | 19,0 | 127 | 23 | 64 | 36,78 | 100 |

| | |
|---|---|
| P | **15-35** |
| M | 10 |
| K | **20-35** |
| N | 50-80 |
| S | |
| H | |
| O | |

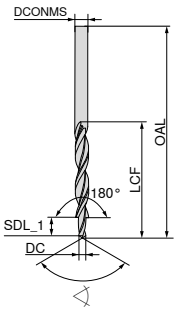
# Večfazni stopenjski sveder, DIN 8376

- Kot grezila 180°
- Za skoznje izvrtine skladno z DIN EN 20273 – sredinska izvedba
- Za ugreze za glave vijakov skladno z DIN 974-1 – 1. vrstica
- Za izbiro pomika upoštevajte manjši Ø DC

DIN 8376

SB

vap.



118°
HSS

**10 375 ...**

| Za navoj | DC h9 mm | DCONMS h8 mm | OAL mm | SDL_1 mm | LCF mm | EUR T2 | | |
|---|---|---|---|---|---|---|---|---|
| **M3** | 3,4 | 6 | 93 | 9 | 57 | 20,95 | **030** | 1) |
| **M4** | 4,5 | 8 | 117 | 11 | 75 | 24,88 | **040** | |
| **M5** | 5,5 | 10 | 133 | 13 | 87 | 29,69 | **050** | |
| **M6** | 6,6 | 11 | 142 | 15 | 94 | 34,17 | **060** | |
| **M8** | 9,0 | 15 | 169 | 19 | 114 | 43,12 | **080** | |
| **M10** | 11,0 | 18 | 191 | 23 | 130 | 89,72 | **100** | |

| | |
|---|---|
| P | **15-35** |
| M | 10 |
| K | **20-35** |
| N | 50-80 |
| S | |
| H | |
| O | |

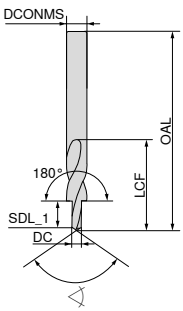
**1)** DCONMS ni po DIN 974-1

# Stopenjski sveder, tovarniški standard, DIN 1897

- Kot grezila 180°
- Za skoznje izvrtine skladno z DIN EN 20273 – sredinska izvedba
- Za ugreze za glave vijakov skladno z DIN 974-1 – 1. vrstica
- Za izbiro pomika upoštevajte manjši Ø DC

DIN 8376

SB



118°
HSS

**10 340 ...**

| Za navoj | DC h6 mm | DCONMS h6 mm | OAL mm | SDL_1 mm | LCF mm | EUR T2 | | |
|---|---|---|---|---|---|---|---|---|
| **M3** | 3,4 | 6 | 66 | 9 | 28 | 13,00 | **030** | 1) |
| **M4** | 4,5 | 8 | 79 | 11 | 37 | 14,74 | **040** | |
| **M5** | 5,5 | 10 | 89 | 13 | 43 | 18,23 | **050** | |
| **M6** | 6,6 | 11 | 95 | 15 | 47 | 20,95 | **060** | |
| **M8** | 9,0 | 15 | 111 | 19 | 56 | 26,85 | **080** | |
| **M10** | 11,0 | 18 | 123 | 23 | 62 | 40,07 | **100** | |

| | |
|---|---|
| P | **15-35** |
| M | 10 |
| K | **20-35** |
| N | 50-80 |
| S | |
| H | |
| O | |

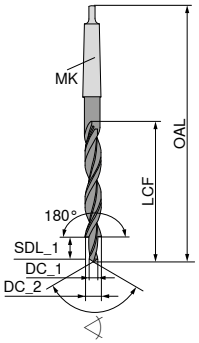
**1)** DCONMS ni po DIN 974-1

# Večfazni stopenjski sveder, DIN 8377

- Kot grezila 180°
- Za skoznje izvrtine skladno z DIN EN 20273 – sredinska izvedba
- Za ugreze za glave vijakov skladno z DIN 974-1 – 1. vrstica
- Za izbiro pomika upoštevajte manjši Ø DC

SB

vap.



HSS

| Za navoj | DC_1 h9 mm | DC_2 mm | OAL mm | SDL_1 mm | LCF mm | MK | 10 405 ... EUR T2 | |
|---|---|---|---|---|---|---|---|---|
| **M5** | 5,5 | 10 | 168 | 13 | 87 | 1 | 42,57 | **050** |
| **M6** | 6,6 | 11 | 175 | 15 | 94 | 1 | 43,12 | **060** |
| **M8** | 9,0 | 15 | 212 | 19 | 114 | 2 | 56,66 | **080** |
| **M10** | 11,0 | 18 | 228 | 23 | 130 | 2 | 75,76 | **100** |
| **M12** | 13,5 | 20 | 238 | 27 | 140 | 2 | 91,80 | **120** |
| **M14** | 15,5 | 24 | 281 | 31 | 160 | 3 | 117,90 | **140** |
| **M16** | 17,5 | 26 | 286 | 35 | 165 | 3 | 139,70 | **160** |
| **M18** | 20,0 | 30 | 296 | 39 | 175 | 3 | 161,50 | **180** |
| **M20** | 22,0 | 33 | 334 | 43 | 185 | 4 | 187,80 | **200** |

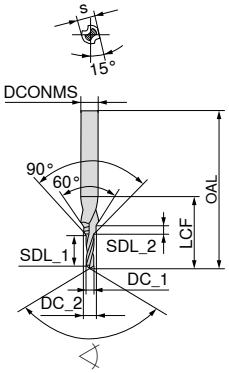
| | |
|---|---|
| P | **15-35** |
| M | 10 |
| K | **20-35** |
| N | 50-80 |
| S | |
| H | |
| O | |

# Stopenjski sveder za centriranje, tovarniški standard

- S vpenjalno površino
- Kot grezila 60°
- Specialni sveder za izdelavo osnovnih izvrtin za navoj s centriranjem, kotom grezila 60°, skladno z DIN 332, list 2, oblika D.
- Koničenje ≥ Ø 3,3 mm
- Za izbiro pomika upoštevajte manjši Ø DC

SB

vap.



118°
HSS

**10 350 ...**

| Za navoj | DC_1 h8 mm | DCONMS h7 mm | DC_2 mm | s mm | OAL mm | SDL_1 mm | LCF mm | SDL_2 mm | EUR T2 | |
|---|---|---|---|---|---|---|---|---|---|---|
| **M4** | 3,3 | 8,0 | 4,3 | 6,75 | 63 | 11,0 | 23 | 1,60 | 50,33 | **040** |
| **M5** | 4,2 | 10,0 | 5,3 | 8,45 | 67 | 13,0 | 27 | 2,15 | 55,23 | **050** |
| **M6** | 5,0 | 12,5 | 6,4 | 10,45 | 71 | 16,0 | 33 | 2,90 | 60,47 | **060** |
| **M8** | 6,8 | 14,0 | 8,4 | 12,50 | 88 | 19,5 | 41 | 3,50 | 57,31 | **080** |
| **M10** | 8,5 | 16,0 | 10,5 | 14,85 | 94 | 23,0 | 47 | 4,70 | 65,70 | **100** |
| **M12** | 10,2 | 20,0 | 13,0 | 18,45 | 105 | 28,0 | 59 | 6,50 | 86,45 | **120** |
| **M16** | 14,0 | 25,0 | 17,0 | 23,40 | 132 | 33,0 | 67 | 8,30 | 121,10 | **160** |
| **M20** | 17,5 | 31,5 | 21,0 | 29,35 | 145 | 38,0 | 77 | 10,35 | 161,50 | **200** |
| **M24** | 21,0 | 40,0 | 25,0 | 36,50 | 160 | 45,0 | 90 | 12,00 | 258,70 | **240** |

| | |
|---|---|
| P | **15-35** |
| M | 10 |
| K | **20-35** |
| N | 50-80 |
| S | |
| H | |
| O | |

# Primeri materialov k preglednicam z rezalnimi podatki

| | Podskupina materialov | Kazalo | Sestava/struktura/toplotna obdelava | | Trdnost N/mm²*/HB/HRC | Številka materiala | Oznaka materiala | Številka materiala | Oznaka materiala |
|---|---|---|---|---|---|---|---|---|---|
| P | Nelegirano jeklo | P.1.1 | < 0,15 % C | Žarjeno | 420 N/mm² / 125 HB | 1.0401 | C15 | 1.1141 | Ck15 |
| | | P.1.2 | < 0,45 % C | Žarjeno | 640 N/mm² / 190 HB | 1.1191 | C45E | 1.0718 | 9SMnPb28 |
| | | P.1.3 | | Poboljšano | 840 N/mm² / 250 HB | 1.1191 | C45E | 1.0535 | C55 |
| | | P.1.4 | < 0,75 % C | Žarjeno | 910 N/mm² / 270 HB | 1.1223 | C60R | 1.0535 | C55 |
| | | P.1.5 | | Poboljšano | 1010 N/mm² / 300 HB | 1.1223 | C60R | 1.0727 | 45S20 |
| | Nizko legirano jeklo | P.2.1 | | Žarjeno | 610 N/mm² / 180 HB | 1.7131 | 16MnCr5 | 1.6587 | 17CrNiMo6 |
| | | P.2.2 | | Poboljšano | 930 N/mm² / 275 HB | 1.7131 | 16MnCr5 | 1.6587 | 17CrNiMo6 |
| | | P.2.3 | | Poboljšano | 1010 N/mm² / 300 HB | 1.7225 | 42CrMo4 | 1.3505 | 100Cr6 |
| | | P.2.4 | | Poboljšano | 1200 N/mm² / 375 HB | 1.7225 | 42CrMo4 | 1.3505 | 100Cr6 |
| | Visoko legirano jeklo in visoko legirano orodno jeklo | P.3.1 | | Žarjeno | 680 N/mm² / 200 HB | 1.4021 | X20Cr13 | 1.4034 | X46Cr13 |
| | | P.3.2 | | Kaljeno in popuščano | 1100 N/mm² / 300 HB | 1.2343 | X38CrMoV5-1 | 1.4034 | X46Cr13 |
| | | P.3.3 | | Kaljeno in popuščano | 1300 N/mm² / 400 HB | 1.2343 | X38CrMoV5-1 | 1.4034 | X46Cr13 |
| | Nerjavno jeklo | P.4.1 | Feritno/martenzitno | Žarjeno | 680 N/mm² / 200 HB | 1.4016 | X6Cr17 | 1.2316 | X36CrMo16 |
| | | P.4.2 | Martenzitno | Poboljšano | 1010 N/mm² / 300 HB | 1.4112 | X90CrMoV18 | 1.2316 | X36CrMo16 |
| M | Nerjavno jeklo | M.1.1 | Avstenitno/avstenitno-feritno | Hitro hlajeno | 610 N/mm² / 180 HB | 1.4301 | X5CrNi18-10 | 1.4571 | X6CrNiMoTi17-12-2 |
| | | M.2.1 | Avstenitno | Poboljšano | 300 HB | 1.4841 | X15CrNiSi25-21 | 1.4539 | X1NiCrMoCu25-20-5 |
| | | M.3.1 | Avstenitno/feritno (Duplex) | | 780 N/mm² / 230 HB | 1.4462 | X2CrNiMoN22-5-3 | 1.4501 | X2CrNiMoCuWN25-7-4 |
| K | Siva litina | K.1.1 | Perlitna/feritna | | 350 N/mm² / 180 HB | 0.6010 | GG-10 | 0.6025 | GG-25 |
| | | K.1.2 | Perlitna (martenzitna) | | 500 N/mm² / 260 HB | 0.6030 | GG-30 | 0.6045 | GG-45 |
| | Lito železo s krogličnim grafitom | K.2.1 | Feritno | | 540 N/mm² / 160 HB | 0.7040 | GGG-40 | 0.7060 | GGG-60 |
| | | K.2.2 | Perlitno | | 845 N/mm² / 250 HB | 0.7070 | GGG-70 | 0.7080 | GGG-80 |
| | Temprana litina | K.3.1 | Feritna | | 440 N/mm² / 130 HB | 0.8035 | GTW-35-04 | 0.8045 | GTW-45 |
| | | K.3.2 | Perlitno | | 780 N/mm² / 230 HB | 0.8165 | GTS-65-02 | 0.8170 | GTS-70-02 |
| N | Kovana aluminijeva zlitina | N.1.1 | Neutrdljiva | | 60 HB | 3.0255 | Al99,5 | 3.3315 | AlMg1 |
| | | N.1.2 | Utrdljiva | Utrjeno s staranjem | 340 N/mm² / 100 HB | 3.1355 | AlCuMg2 | 3.2315 | AlMgSi1 |
| | Aluminijeva livarska zlitina | N.2.1 | ≤ 12 % Si, nekaljiva | | 250 N/mm² / 75 HB | 3.2581 | G-AlSi12 | 3.2163 | G-AlSi9Cu3 |
| | | N.2.2 | ≤ 12 % Si, kaljiva | Utrjeno s staranjem | 300 N/mm² / 90 HB | 3.2134 | G-AlSi5Cu1Mg | 3.2373 | G-AlSi9Mg |
| | | N.2.3 | ≤ 12 % Si, nekaljiva | | 440 N/mm² / 130 HB | | G-AlSi17Cu4Mg | | G-AlSi18CuNiMg |
| | Baker in bakrove zlitine (bron/medenina) | N.3.1 | Zlitine za obdelavo na avtomatih, Pb > 1 % | | 375 N/mm² / 110 HB | 2.0380 | CuZn39Pb2 (Ms58) | 2.0410 | CuZn44Pb2 |
| | | N.3.2 | CuZn, CuSnZn | | 300 N/mm² / 90 HB | 2.0331 | CuZn15 | 2.4070 | CuZn28Sn1As |
| | | N.3.3 | CuSn, baker brez vsebnosti svinca in elektrolitski baker | | 340 N/mm² / 100 HB | 2.0060 | E-Cu57 | 2.0590 | CuZn40Fe |
| | Magnezijeve zlitine | N.4.1 | Magnezij in magnezijeve zlitine | | 70 HB | 3.5612 | MgAl6Zn | 3.5312 | MgAl3Zn |
| S | Visoko toplotno odporne zlitine | S.1.1 | Osnova Fe | Žarjeno | 680 N/mm² / 200 HB | 1.4864 | X12NiCrSi 36-16 | 1.4865 | G-X40NiCrSi38-18 |
| | | S.1.2 | | Utrjeno s staranjem | 950 N/mm² / 280 HB | 1.4980 | X6NiCrTiMoVB25-15-2 | 1.4876 | X10NiCrAlTi32-20 |
| | | S.2.1 | Osnova Ni ali Co | Žarjeno | 840 N/mm² / 250 HB | 2.4631 | NiCr20TiAl (Nimonic80A) | 3.4856 | NiCr22Mo9Nb |
| | | S.2.2 | | Utrjeno s staranjem | 1180 N/mm² / 350 HB | 2.4668 | NiCr19Nb5Mo3 (Inconel 718) | 2.4955 | NiFe25Cr20NbTi |
| | | S.2.3 | | Ulito | 1080 N/mm² / 320 HB | 2.4765 | CoCr20W15Ni | 1.3401 | G-X120Mn12 |
| | Titanove zlitine | S.3.1 | Čisti titan | | 400 N/mm² | 3.7025 | Ti99,8 | 3.7034 | Ti99,7 |
| | | S.3.2 | Alfa + beta zlitine | Utrjeno s staranjem | 1050 N/mm² / 320 HB | 3.7165 | TiAl6V4 | Ti-6246 | Ti-6Al-2Sn-4Zr-6Mo |
| | | S.3.3 | Beta zlitine | | 1400 N/mm² / 410 HB | Ti555.3 | Ti-5Al-5V-5Mo-3Cr | R56410 | Ti-10V-2Fe-3Al |
| H | Kaljeno jeklo | H.1.1 | | Kaljeno in popuščano | 46–55 HRC | | | | |
| | | H.1.2 | | Kaljeno in popuščano | 56–60 HRC | | | | |
| | | H.1.3 | | Kaljeno in popuščano | 61–65 HRC | | | | |
| | | H.1.4 | | Kaljeno in popuščano | 66–70 HRC | | | | |
| | Lito železo | H.2.1 | | Ulito | 400 HB | | | | |
| | Kaljeno lito železo | H.3.1 | | Kaljeno in popuščano | 55 HRC | | | | |
| O | Nekovinski materiali | O.1.1 | Umetne mase, duroplasti | | ≤ 150 N/mm² | | | | |
| | | O.1.2 | Umetne mase, termoplasti | | ≤ 100 N/mm² | | | | |
| | | O.2.1 | Ojačano z aramidnimi vlakni | | ≤ 1000 N/mm² | | | | |
| | | O.2.2 | Ojačano s steklenimi/karbonskimi vlakni | | ≤ 1000 N/mm² | | | | |
| | | O.3.1 | Grafit | | | | | | |

*** Natezna trdnost**

# Referenčne vrednosti rezalnih podatkov – globina vrtanja 3xD

| | Tip VX-TiN 10 122 ... | | Tip UNI-PM-TiN 10 113 ... | | Tip UNI-TiN 10 107 ... | | Tip N 10 105 ... | | Tip VA 10 130 ... | | Tip WNX 10 106 ... | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Kazalo** | $v_c$ v m/min | F | $v_c$ v m/min | F | $v_c$ v m/min | F | $v_c$ v m/min | F | $v_c$ v m/min | F | $v_c$ v m/min | F |
| **P.1.1** | **46** | 6 | **44** | 6 | **46** | 6 | 28 | 6 | 38 | 5 | **38** | 6 |
| **P.1.2** | **39** | 5 | **37** | 5 | **39** | 5 | 24 | 5 | 32 | 4 | **32** | 5 |
| **P.1.3** | **35** | 5 | **33** | 5 | **35** | 5 | 21 | 5 | 29 | 4 | **29** | 5 |
| **P.1.4** | **32** | 5 | **31** | 5 | **32** | 5 | 20 | 5 | 27 | 4 | **27** | 5 |
| **P.1.5** | **28** | 5 | **26** | 5 | **28** | 5 | 17 | 5 | | | **23** | 5 |
| **P.2.1** | **35** | 5 | **32** | 6 | **35** | 5 | 17 | 4 | 25 | 5 | **28** | 6 |
| **P.2.2** | **24** | 4 | **23** | 5 | **24** | 4 | 12 | 3 | 18 | 4 | **20** | 5 |
| **P.2.3** | **21** | 4 | **19** | 5 | **21** | 4 | 10 | 3 | | | **17** | 5 |
| **P.2.4** | **19** | 3 | **18** | 4 | **19** | 3 | 9 | 2 | | | **15** | 4 |
| **P.3.1** | **17** | 4 | **21** | 4 | **17** | 4 | 13 | 4 | | | **18** | 4 |
| **P.3.2** | **13** | 3 | **16** | 3 | **13** | 3 | | | | | **14** | 3 |
| **P.3.3** | **12** | 3 | **15** | 3 | **12** | 3 | | | | | **13** | 3 |
| **P.4.1** | **18** | 4 | **14** | 3 | **18** | 4 | | | 15 | 3 | **13** | 3 |
| **P.4.2** | **17** | 3 | **14** | 2 | **17** | 3 | | | 14 | 2 | **12** | 2 |
| **M.1.1** | **15** | 4 | | | **15** | 4 | | | **13** | 3 | | |
| **M.2.1** | **12** | 3 | | | **12** | 3 | | | **11** | 2 | | |
| **M.3.1** | **10** | 3 | | | **10** | 3 | | | **9** | 2 | | |
| **K.1.1** | **41** | 6 | **46** | 6 | **41** | 6 | **30** | 6 | | | **40** | 6 |
| **K.1.2** | **33** | 6 | **37** | 6 | **33** | 6 | **24** | 6 | | | **32** | 6 |
| **K.2.1** | **35** | 6 | **39** | 6 | **35** | 6 | **26** | 6 | | | **34** | 6 |
| **K.2.2** | **27** | 5 | **30** | 5 | **27** | 5 | **20** | 5 | | | **26** | 5 |
| **K.3.1** | **35** | 6 | **39** | 6 | **35** | 6 | **26** | 6 | | | **34** | 6 |
| **K.3.2** | **27** | 5 | **30** | 5 | **27** | 5 | **20** | 5 | | | **26** | 5 |
| **N.1.1** | | | | | | | | | **80** | 7 | | |
| **N.1.2** | | | | | | | | | **80** | 7 | | |
| **N.2.1** | 75 | 6 | 69 | 6 | 75 | 6 | 50 | 6 | **65** | 6 | 60 | 6 |
| **N.2.2** | 60 | 5 | 55 | 5 | 60 | 5 | 40 | 5 | **52** | 5 | 48 | 5 |
| **N.2.3** | 52 | 5 | 48 | 5 | 52 | 5 | 35 | 5 | **46** | 5 | 42 | 5 |
| **N.3.1** | 69 | 5 | 64 | 5 | 69 | 5 | 60 | 5 | **60** | 5 | 56 | 5 |
| **N.3.2** | 41 | 4 | 39 | 4 | 41 | 4 | 36 | 4 | **36** | 4 | 34 | 4 |
| **N.3.3** | 55 | 4 | 52 | 4 | 55 | 4 | 48 | 4 | **48** | 4 | 45 | 4 |
| **N.4.1** | 70 | 5 | 60 | 5 | 70 | 5 | 45 | 5 | **6** | 5 | 55 | 5 |
| **S.1.1** | | | 7 | 2 | | | | | 8 | 1 | 6 | 2 |
| **S.1.2** | | | 6 | 1 | | | | | 6 | 1 | 5 | 1 |
| **S.2.1** | | | 6 | 2 | | | | | 7 | 1 | 5 | 2 |
| **S.2.2** | | | | | | | | | | | | |
| **S.2.3** | | | | | | | | | | | | |
| **S.3.1** | 9 | 2 | | | 9 | 2 | | | 10 | 2 | | |
| **S.3.2** | 6 | 1 | | | 6 | 1 | | | 7 | 1 | | |
| **S.3.3** | | | | | | | | | 6 | 2 | | |
| **H.1.1** | | | 6 | 1 | | | | | | | 5 | 1 |
| **H.1.2** | | | | | | | | | | | | |
| **H.1.3** | | | | | | | | | | | | |
| **H.1.4** | | | | | | | | | | | | |
| **H.2.1** | | | 10 | 3 | | | | | | | 9 | 3 |
| **H.3.1** | | | | | | | | | | | | |
| **O.1.1** | 29 | 4 | 23 | 4 | 29 | 4 | 20 | 5 | | | 20 | 4 |
| **O.1.2** | 29 | 4 | | | 29 | 4 | 20 | 5 | | | | |
| **O.2.1** | 29 | 4 | 23 | 4 | 29 | 4 | 20 | 5 | | | 20 | 4 |
| **O.2.2** | 29 | 4 | 23 | 4 | 29 | 4 | 20 | 5 | | | 20 | 4 |
| **O.3.1** | | | | | | | | | | | | |

Rezalni podatki so močno odvisni od zunanjih pogojev, kot so stabilnost orodja, vpetje obdelovanca, material in tip stroja. Navedeni podatki predstavljajo možne rezalne podatke, ki jih je treba, odvisno od pogojev pri uporabi, popraviti navzgor ali navzdol.

| | Tip WT 10 109 ... | | Tip WT-TiN 10 110 ... | | Tip WTL-L 10 112 ... | | Tip WT-MK 10 285 ... | |
|---|---|---|---|---|---|---|---|---|
| Kazalo | $v_c$ v m/min | F | $v_c$ v m/min | F | $v_c$ v m/min | F | $v_c$ v m/min | F |
| **P.1.1** | **38** | 6 | **44** | 6 | 28 | 6 | **38** | 6 |
| **P.1.2** | **32** | 5 | **37** | 5 | 24 | 5 | **32** | 5 |
| **P.1.3** | **29** | 5 | **33** | 5 | 21 | 5 | **29** | 5 |
| **P.1.4** | **27** | 5 | **31** | 5 | 20 | 5 | **27** | 5 |
| **P.1.5** | **23** | 5 | **26** | 5 | 17 | 5 | **23** | 5 |
| **P.2.1** | **25** | 5 | **29** | 5 | 17 | 4 | **25** | 5 |
| **P.2.2** | **18** | 4 | **20** | 4 | 12 | 3 | **18** | 4 |
| **P.2.3** | **15** | 4 | **17** | 4 | 10 | 3 | **15** | 4 |
| **P.2.4** | **14** | 3 | **16** | 3 | 9 | 2 | **14** | 3 |
| **P.3.1** | **16** | 4 | **18** | 4 | 13 | 4 | **16** | 4 |
| **P.3.2** | **12** | 3 | **14** | 3 | | | **12** | 3 |
| **P.3.3** | **12** | 3 | **14** | 3 | | | **12** | 3 |
| **P.4.1** | **14** | 3 | **17** | 3 | | | **14** | 3 |
| **P.4.2** | **14** | 2 | **16** | 2 | | | **14** | 2 |
| **M.1.1** | **12** | 3 | **14** | 3 | | | **12** | 3 |
| **M.2.1** | **10** | 2 | **12** | 2 | | | **10** | 2 |
| **M.3.1** | **8** | 2 | **10** | 2 | | | **8** | 2 |
| **K.1.1** | **35** | 6 | **40** | 6 | **30** | 6 | **35** | 6 |
| **K.1.2** | **28** | 6 | **32** | 6 | **24** | 6 | **28** | 6 |
| **K.2.1** | **30** | 6 | **34** | 6 | **26** | 6 | **30** | 6 |
| **K.2.2** | **23** | 5 | **26** | 5 | **20** | 5 | **23** | 5 |
| **K.3.1** | **30** | 6 | **34** | 6 | **26** | 6 | **30** | 6 |
| **K.3.2** | **23** | 5 | **26** | 5 | **20** | 5 | **23** | 5 |
| **N.1.1** | | | | | **60** | 7 | | |
| **N.1.2** | | | | | **60** | 7 | | |
| **N.2.1** | | | | | **50** | 6 | | |
| **N.2.2** | | | | | **40** | 5 | | |
| **N.2.3** | | | | | **35** | 5 | | |
| **N.3.1** | 62 | 5 | 71 | 5 | **60** | 5 | 62 | 5 |
| **N.3.2** | 37 | 4 | 43 | 4 | **36** | 4 | 37 | 4 |
| **N.3.3** | | | | | **48** | 4 | | |
| **N.4.1** | | | | | **45** | 5 | | |
| **S.1.1** | 8 | 1 | **9** | 1 | | | 8 | 1 |
| **S.1.2** | 6 | 1 | **7** | 1 | | | 6 | 1 |
| **S.2.1** | 7 | 1 | **8** | 1 | | | 7 | 1 |
| **S.2.2** | | | **5** | 1 | | | | |
| **S.2.3** | | | **6** | 1 | | | | |
| **S.3.1** | 10 | 2 | **12** | 2 | | | 10 | 2 |
| **S.3.2** | 7 | 1 | **7** | 1 | | | 7 | 1 |
| **S.3.3** | 6 | 2 | **7** | 2 | | | 6 | 2 |
| **H.1.1** | 4 | 1 | 5 | 1 | | | 4 | 1 |
| **H.1.2** | | | | | | | | |
| **H.1.3** | | | | | | | | |
| **H.1.4** | | | | | | | | |
| **H.2.1** | 8 | 3 | 9 | 3 | | | 8 | 3 |
| **H.3.1** | | | | | | | | |
| **O.1.1** | | | | | 20 | 4 | | |
| **O.1.2** | | | | | | | | |
| **O.2.1** | | | | | 20 | 4 | | |
| **O.2.2** | | | | | 20 | 4 | | |
| **O.3.1** | | | | | | | | |

Pri vrtanju v žilave materiale, ki so nagnjeni k mašenju odrezkov, bi morali pri globinah vrtanja ≥ 4xD odstraniti odrezke, rezalna hitrost $v_c$ bi se morala zmanjšati kot sledi: pri globinah vrtanja > 4xD za 10 %, pri globinah vrtanja > 6xD za 15–20 %.
Nadalje se priporoca hlajenje z emulzijo.

$v_c$ = rezalna hitrost v m/min.
F = faktor izbire podajanja
za referenčno vrednost podajanja si oglejte
→ **Stran 55**

# Referenčne vrednosti rezalnih podatkov – globina vrtanja 5xD

| | Tip VX-TiN 10 124 ... | | Tip UNI-PM-TiN 10 173 ... | | Tip UNI-TiN 10 171 ... | | Tip N 10 152 ... | | Tip VA 10 175 ... | | Tip W 10 161 ... | | Tip WTL 10 168 ... | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Kazalo** | $v_c$ v m/min | F | $v_c$ v m/min | F | $v_c$ v m/min | F | $v_c$ v m/min | F | $v_c$ v m/min | F | $v_c$ v m/min | F | $v_c$ v m/min | F |
| **P.1.1** | **46** | 6 | **44** | 6 | **46** | 6 | 28 | 6 | 38 | 5 | | | **32** | 6 |
| **P.1.2** | **39** | 5 | **37** | 5 | **39** | 5 | 24 | 5 | 32 | 4 | | | **27** | 5 |
| **P.1.3** | **35** | 5 | **33** | 5 | **35** | 5 | 21 | 5 | 29 | 4 | | | **24** | 5 |
| **P.1.4** | **32** | 5 | **31** | 5 | **32** | 5 | 20 | 5 | 27 | 4 | | | **23** | 5 |
| **P.1.5** | **28** | 5 | **26** | 5 | **28** | 5 | 17 | 5 | | | | | **19** | 5 |
| **P.2.1** | **35** | 5 | **32** | 6 | **35** | 5 | 17 | 4 | 25 | 5 | | | **20** | 5 |
| **P.2.2** | **24** | 4 | **23** | 5 | **24** | 4 | 12 | 3 | 18 | 4 | | | **14** | 4 |
| **P.2.3** | **21** | 4 | **19** | 5 | **21** | 4 | 10 | 3 | | | | | **12** | 4 |
| **P.2.4** | **19** | 3 | **18** | 4 | **19** | 3 | 9 | 2 | | | | | **11** | 3 |
| **P.3.1** | **17** | 4 | **21** | 4 | **17** | 4 | 13 | 4 | | | | | **15** | 4 |
| **P.3.2** | **13** | 3 | **16** | 3 | **13** | 3 | | | | | | | **11** | 3 |
| **P.3.3** | **12** | 3 | **15** | 3 | **12** | 3 | | | | | | | **10** | 3 |
| **P.4.1** | **18** | 4 | **14** | 3 | **18** | 4 | | | 15 | 3 | | | **10** | 3 |
| **P.4.2** | **17** | 3 | **14** | 2 | **17** | 3 | | | 14 | 2 | | | **10** | 2 |
| **M.1.1** | **15** | 4 | | | **15** | 4 | | | **13** | 3 | | | 9 | 3 |
| **M.2.1** | **14** | 4 | | | **14** | 4 | | | **12** | 3 | | | 8 | 2 |
| **M.3.1** | **10** | 3 | | | **10** | 3 | | | **9** | 2 | | | | |
| **K.1.1** | **41** | 6 | **46** | 6 | **41** | 6 | **30** | 6 | | | | | **35** | 6 |
| **K.1.2** | **33** | 6 | **37** | 6 | **33** | 6 | **24** | 6 | | | | | **28** | 6 |
| **K.2.1** | **35** | 6 | **39** | 6 | **35** | 6 | **26** | 6 | | | | | **29** | 6 |
| **K.2.2** | **27** | 5 | **30** | 5 | **27** | 5 | **20** | 5 | | | | | **22** | 5 |
| **K.3.1** | **35** | 6 | **39** | 6 | **35** | 6 | **26** | 6 | | | | | **29** | 6 |
| **K.3.2** | **27** | 5 | **30** | 5 | **27** | 5 | **20** | 5 | | | | | **22** | 5 |
| **N.1.1** | | | | | | | | | **80** | 7 | **70** | 7 | **69** | 7 |
| **N.1.2** | | | | | | | | | **80** | 7 | **70** | 7 | **69** | 7 |
| **N.2.1** | 75 | 6 | 69 | 6 | 75 | 6 | 50 | 6 | **65** | 6 | **60** | 6 | **58** | 6 |
| **N.2.2** | 60 | 5 | 55 | 5 | 60 | 5 | 40 | 5 | **52** | 5 | | | **46** | 5 |
| **N.2.3** | 52 | 5 | 48 | 5 | 52 | 5 | 35 | 5 | **46** | 5 | | | **40** | 5 |
| **N.3.1** | 69 | 5 | 64 | 5 | 69 | 5 | 60 | 5 | **60** | 5 | | | **69** | 5 |
| **N.3.2** | 41 | 4 | 39 | 4 | 41 | 4 | 36 | 4 | **36** | 4 | | | **41** | 4 |
| **N.3.3** | 55 | 4 | 52 | 4 | 55 | 4 | 48 | 4 | **48** | 4 | **56** | 4 | **55** | 4 |
| **N.4.1** | 75 | 6 | 65 | 6 | 70 | 6 | 45 | 6 | **60** | 6 | **60** | 6 | **6** | 6 |
| **S.1.1** | | | 7 | 2 | | | | | 8 | 1 | | | 7 | 2 |
| **S.1.2** | | | 6 | 1 | | | | | 6 | 1 | | | 6 | 1 |
| **S.2.1** | | | 6 | 2 | | | | | 7 | 1 | | | 6 | 2 |
| **S.2.2** | | | | | | | | | | | | | 3 | 1 |
| **S.2.3** | | | | | | | | | | | | | 4 | 1 |
| **S.3.1** | 9 | 2 | | | 9 | 2 | | | 10 | 2 | | | 6 | 2 |
| **S.3.2** | 6 | 1 | | | 6 | 1 | | | 7 | 1 | | | 4 | 1 |
| **S.3.3** | | | | | | | | | 6 | 1 | | | | |
| **H.1.1** | | | 6 | 1 | | | | | | | | | 5 | 1 |
| **H.1.2** | | | | | | | | | | | | | | |
| **H.1.3** | | | | | | | | | | | | | | |
| **H.1.4** | | | | | | | | | | | | | | |
| **H.2.1** | | | 10 | 3 | | | | | | | | | 9 | 3 |
| **H.3.1** | | | | | | | | | | | | | | |
| **O.1.1** | 29 | 4 | 23 | 4 | 29 | 4 | 20 | 5 | | | | | 23 | 4 |
| **O.1.2** | 29 | 4 | | | 29 | 4 | 20 | 5 | | | | | 23 | 4 |
| **O.2.1** | 29 | 4 | 23 | 4 | 29 | 4 | 20 | 5 | | | | | 23 | 4 |
| **O.2.2** | 29 | 4 | 23 | 4 | 29 | 4 | 20 | 5 | | | | | 23 | 4 |
| **O.3.1** | | | | | | | | | | | | | | |

Rezalni podatki so močno odvisni od zunanjih pogojev, kot so stabilnost orodja, vpetje obdelovanca, material in tip stroja. Navedeni podatki predstavljajo možne rezalne podatke, ki jih je treba, odvisno od pogojev pri uporabi, popraviti navzgor ali navzdol.

| | Tip WTL-TiN 10 170 ... | | Tip WTL-TiCN 10 172 ... | | Tip WTL-L 10 169 ... | | Tip WNXi 10 180 ... | | Tip WNXi-TiN 10 181 ... | | Tip N-MK 10 265 ... | | Tip WTL-MK 10 280 ... | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Kazalo** | $v_c$ v m/min | F | $v_c$ v m/min | F | $v_c$ v m/min | F | $v_c$ v m/min | F | $v_c$ v m/min | F | $v_c$ v m/min | F | $v_c$ v m/min | F |
| **P.1.1** | **37** | 6 | **37** | 6 | 28 | 6 | **45** | 7 | **52** | 7 | 28 | 6 | **32** | 6 |
| **P.1.2** | **31** | 5 | **31** | 5 | 24 | 5 | **38** | 6 | **44** | 6 | 24 | 5 | **27** | 5 |
| **P.1.3** | **28** | 5 | **28** | 5 | 21 | 5 | **34** | 6 | **39** | 6 | 21 | 5 | **24** | 5 |
| **P.1.4** | **26** | 5 | **26** | 5 | 20 | 5 | **32** | 6 | **36** | 6 | 20 | 5 | **23** | 5 |
| **P.1.5** | **22** | 5 | **22** | 5 | 17 | 5 | **27** | 6 | **31** | 6 | 17 | 5 | **19** | 5 |
| **P.2.1** | **22** | 5 | **22** | 5 | 17 | 5 | **27** | 5 | **31** | 5 | 17 | 4 | **20** | 5 |
| **P.2.2** | **16** | 4 | **16** | 4 | 12 | 4 | **19** | 4 | **22** | 4 | 12 | 3 | **14** | 4 |
| **P.2.3** | **13** | 4 | **13** | 4 | 10 | 4 | **16** | 4 | **19** | 4 | 10 | 3 | **12** | 4 |
| **P.2.4** | **12** | 3 | **12** | 3 | 9 | 3 | **15** | 3 | **17** | 3 | 9 | 2 | **11** | 3 |
| **P.3.1** | **17** | 4 | **17** | 4 | 13 | 4 | **21** | 5 | **24** | 5 | 13 | 4 | **15** | 4 |
| **P.3.2** | **13** | 3 | **13** | 3 | 10 | 3 | **16** | 4 | **18** | 4 | | | **11** | 3 |
| **P.3.3** | **12** | 3 | **12** | 3 | | | **15** | 4 | **17** | 4 | | | **10** | 3 |
| **P.4.1** | **12** | 3 | **12** | 3 | | | **14** | 4 | **17** | 4 | | | **10** | 3 |
| **P.4.2** | **11** | 2 | **11** | 2 | | | **14** | 3 | **16** | 3 | | | **10** | 2 |
| **M.1.1** | 11 | 3 | 11 | 3 | | | | | | | | | 9 | 3 |
| **M.2.1** | | | | | | | | | | | | | 8 | 2 |
| **M.3.1** | | | | | | | | | | | | | | |
| **K.1.1** | **40** | 6 | **40** | 6 | **30** | 6 | **48** | 7 | **56** | 7 | **30** | 6 | **35** | 6 |
| **K.1.2** | **32** | 6 | **32** | 6 | **24** | 6 | **39** | 7 | **44** | 7 | **24** | 6 | **28** | 6 |
| **K.2.1** | **34** | 6 | **34** | 6 | **26** | 6 | **41** | 7 | **47** | 7 | **26** | 6 | **29** | 6 |
| **K.2.2** | **26** | 5 | **26** | 5 | **20** | 5 | **31** | 6 | **36** | 6 | **20** | 5 | **22** | 5 |
| **K.3.1** | **34** | 6 | **34** | 6 | **26** | 6 | **41** | 7 | **47** | 7 | **26** | 6 | **29** | 6 |
| **K.3.2** | **26** | 5 | **26** | 5 | **20** | 5 | **31** | 6 | **36** | 6 | **20** | 5 | **22** | 5 |
| **N.1.1** | | | | | **60** | 7 | | | | | | | **69** | 7 |
| **N.1.2** | | | | | **60** | 7 | | | | | | | **69** | 7 |
| **N.2.1** | 66 | 6 | 66 | 6 | **50** | 6 | 81 | 7 | 93 | 7 | 50 | 6 | **58** | 6 |
| **N.2.2** | 53 | 5 | 53 | 5 | **40** | 5 | 64 | 6 | 74 | 6 | 40 | 5 | **46** | 5 |
| **N.2.3** | 46 | 5 | 46 | 5 | **35** | 5 | 56 | 6 | 65 | 6 | 35 | 5 | **40** | 5 |
| **N.3.1** | 79 | 5 | 79 | 5 | **60** | 5 | 97 | 6 | 111 | 6 | 60 | 5 | **69** | 5 |
| **N.3.2** | 48 | 4 | 48 | 4 | **36** | 4 | 58 | 5 | 67 | 5 | 36 | 4 | **41** | 4 |
| **N.3.3** | 63 | 4 | 63 | 4 | **48** | 4 | 77 | 5 | 89 | 5 | 48 | 4 | **55** | 4 |
| **N.4.1** | 60 | 6 | 60 | 6 | **45** | 6 | 70 | 7 | 80 | 7 | 45 | 6 | **50** | 6 |
| **S.1.1** | 8 | 2 | 8 | 2 | | | | | | | | | 7 | 2 |
| **S.1.2** | 6 | 1 | 6 | 1 | | | | | | | | | 6 | 1 |
| **S.2.1** | 7 | 2 | 7 | 2 | | | | | | | | | 6 | 2 |
| **S.2.2** | 4 | 1 | 4 | 1 | | | | | | | | | 3 | 1 |
| **S.2.3** | 5 | 1 | 5 | 1 | | | | | | | | | 4 | 1 |
| **S.3.1** | 7 | 2 | 7 | 2 | | | | | | | | | 6 | 2 |
| **S.3.2** | 4 | 1 | 4 | 1 | | | | | | | | | 4 | 1 |
| **S.3.3** | | | | | | | | | | | | | | |
| **H.1.1** | 5 | 1 | 5 | 1 | | | | | | | | | 5 | 1 |
| **H.1.2** | | | | | | | | | | | | | | |
| **H.1.3** | | | | | | | | | | | | | | |
| **H.1.4** | | | | | | | | | | | | | | |
| **H.2.1** | 11 | 3 | 11 | 3 | | | | | | | | | 9 | 3 |
| **H.3.1** | | | | | | | | | | | | | | |
| **O.1.1** | 26 | 4 | 26 | 4 | 20 | 4 | 32 | 5 | 37 | 5 | 20 | 5 | 23 | 4 |
| **O.1.2** | 26 | 4 | 26 | 4 | 20 | 4 | | | | | 20 | 5 | 23 | 4 |
| **O.2.1** | 26 | 4 | 26 | 4 | 20 | 4 | 32 | 5 | 37 | 5 | 20 | 5 | 23 | 4 |
| **O.2.2** | 26 | 4 | 26 | 4 | 20 | 4 | 32 | 5 | 37 | 5 | 20 | 5 | 23 | 4 |
| **O.3.1** | | | | | | | | | | | | | | |

Pri vrtanju v žilave materiale, ki so nagnjeni k mašenju odrezkov, bi morali pri globinah vrtanja ≥ 4xD odstraniti odrezke, rezalna hitrost $v_c$ bi se morala zmanjšati kot sledi: pri globinah vrtanja > 4xD za 10 %, pri globinah vrtanja > 6xD za 15–20 %.
Nadalje se priporoca hlajenje z emulzijo.

$v_c$ = rezalna hitrost v m/min.
F = faktor izbire podajanja
za referenčno vrednost podajanja si oglejte
→ **Stran 55**

# Referenčne vrednosti rezalnih podatkov – globina vrtanja 10xD

| | Tip NC 10 223 ... | | Tip NC-TiALN 10 224 ... | | Tip UNI-TiN 10 270 ... | | Tip WTL 10 225 ... | | Tip WTL 10 215 ... | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Kazalo** | $v_c$ v m/min | F | $v_c$ v m/min | F | $v_c$ v m/min | F | $v_c$ v m/min | F | $v_c$ v m/min | F |
| **P.1.1** | 35 | 7 | 41 | 7 | **41** | 6 | **29** | 6 | 25 | 6 |
| **P.1.2** | 30 | 6 | 34 | 6 | **35** | 5 | **25** | 5 | 21 | 5 |
| **P.1.3** | 26 | 6 | 30 | 6 | **31** | 5 | **22** | 5 | 19 | 5 |
| **P.1.4** | 25 | 6 | 28 | 6 | **29** | 5 | **20** | 5 | 18 | 5 |
| **P.1.5** | 21 | 6 | 24 | 6 | **25** | 5 | **17** | 5 | 15 | 5 |
| **P.2.1** | 21 | 5 | 25 | 5 | **31** | 5 | **18** | 5 | 15 | 5 |
| **P.2.2** | 15 | 4 | 17 | 4 | **22** | 4 | **12** | 4 | 11 | 4 |
| **P.2.3** | 13 | 4 | 15 | 4 | **19** | 4 | **11** | 4 | 9 | 4 |
| **P.2.4** | 12 | 3 | 14 | 3 | **17** | 3 | **10** | 3 | 8 | 3 |
| **P.3.1** | 16 | 5 | 19 | 5 | **16** | 4 | **13** | 4 | 12 | 4 |
| **P.3.2** | | | | | **12** | 3 | **10** | 3 | 9 | 3 |
| **P.3.3** | | | | | **10** | 2 | **8** | 3 | | |
| **P.4.1** | | | 13 | 4 | **16** | 4 | **9** | 3 | | |
| **P.4.2** | | | 12 | 3 | **15** | 3 | **9** | 2 | | |
| **M.1.1** | | | 12 | 4 | **13** | 4 | 8 | 3 | | |
| **M.2.1** | | | 8 | 3 | **8** | 3 | 2 | 2 | | |
| **M.3.1** | | | | | **9** | 3 | | | | |
| **K.1.1** | **38** | 7 | **43** | 7 | **37** | 6 | **31** | 6 | **27** | 6 |
| **K.1.2** | **30** | 7 | **35** | 7 | **30** | 6 | **25** | 6 | **22** | 6 |
| **K.2.1** | **32** | 7 | **37** | 7 | **32** | 6 | **26** | 6 | **23** | 6 |
| **K.2.2** | **25** | 6 | **28** | 6 | **24** | 5 | **20** | 5 | **18** | 5 |
| **K.3.1** | **32** | 7 | **37** | 7 | **32** | 6 | **26** | 6 | **23** | 6 |
| **K.3.2** | **25** | 6 | **28** | 6 | **24** | 5 | **20** | 5 | **18** | 5 |
| **N.1.1** | | | | | | | **62** | 7 | **54** | 7 |
| **N.1.2** | | | | | | | **62** | 7 | **54** | 7 |
| **N.2.1** | 63 | 7 | 72 | 7 | 67 | 6 | **52** | 6 | **45** | 6 |
| **N.2.2** | 50 | 6 | 58 | 6 | 54 | 5 | **41** | 5 | **36** | 5 |
| **N.2.3** | 44 | 6 | 51 | 6 | 47 | 5 | **36** | 5 | **32** | 5 |
| **N.3.1** | 76 | 6 | 87 | 6 | 62 | 5 | **62** | 5 | **54** | 5 |
| **N.3.2** | 45 | 5 | 52 | 5 | 37 | 4 | **37** | 4 | **32** | 4 |
| **N.3.3** | 60 | 5 | 70 | 5 | 50 | 4 | **50** | 4 | **43** | 4 |
| **N.4.1** | 60 | 5 | 50 | 6 | 50 | 6 | **50** | 6 | **45** | 5 |
| **S.1.1** | | | | | | | 6 | 2 | | |
| **S.1.2** | | | | | | | 5 | 1 | | |
| **S.2.1** | | | | | | | 5 | 2 | | |
| **S.2.2** | | | | | | | 3 | 1 | | |
| **S.2.3** | | | | | | | 4 | 1 | | |
| **S.3.1** | | | | | 8 | 2 | 5 | 2 | | |
| **S.3.2** | | | | | 5 | 1 | 3 | 1 | | |
| **S.3.3** | | | | | | | | | | |
| **H.1.1** | | | | | | | 4 | 1 | | |
| **H.1.2** | | | | | | | | | | |
| **H.1.3** | | | | | | | | | | |
| **H.1.4** | | | | | | | | | | |
| **H.2.1** | | | | | | | 8 | 3 | | |
| **H.3.1** | | | | | | | | | | |
| **O.1.1** | 25 | 6 | 29 | 6 | 26 | 4 | 21 | 4 | 18 | 4 |
| **O.1.2** | 25 | 6 | 29 | 6 | 26 | 4 | 21 | 4 | 18 | 4 |
| **O.2.1** | 25 | 6 | 29 | 6 | 26 | 4 | 21 | 4 | 18 | 4 |
| **O.2.2** | 25 | 6 | 29 | 6 | 26 | 4 | 21 | 4 | 18 | 4 |
| **O.3.1** | | | | | | | | | | |

Rezalni podatki so močno odvisni od zunanjih pogojev, kot so stabilnost orodja, vpetje obdelovanca, material in tip stroja. Navedeni podatki predstavljajo možne rezalne podatke, ki jih je treba, odvisno od pogojev pri uporabi, popraviti navzgor ali navzdol.

| | Tip WTL-TiN 10 210 ... | | Tip WTW 10 200 ... | | Tip N-MK 10 295 ... | | Tip WTL-MK 10 297 ... | |
|---|---|---|---|---|---|---|---|---|
| Kazalo | $v_c$ v m/min | F | $v_c$ v m/min | F | $v_c$ v m/min | F | $v_c$ v m/min | F |
| **P.1.1** | 29 | 6 | | | 25 | 6 | **29** | 6 |
| **P.1.2** | 25 | 5 | | | 21 | 5 | **25** | 5 |
| **P.1.3** | 22 | 5 | | | 19 | 5 | **22** | 5 |
| **P.1.4** | 20 | 5 | | | 18 | 5 | **20** | 5 |
| **P.1.5** | 17 | 5 | | | 15 | 5 | **17** | 5 |
| **P.2.1** | 18 | 5 | | | 15 | 4 | **18** | 5 |
| **P.2.2** | 12 | 4 | | | 11 | 3 | **12** | 4 |
| **P.2.3** | 11 | 4 | | | 9 | 3 | **11** | 4 |
| **P.2.4** | 10 | 3 | | | 8 | 2 | **10** | 3 |
| **P.3.1** | 13 | 4 | | | 12 | 4 | **13** | 4 |
| **P.3.2** | 10 | 3 | | | | | **10** | 3 |
| **P.3.3** | 8 | 3 | | | | | **8** | 3 |
| **P.4.1** | | | | | | | **9** | 3 |
| **P.4.2** | | | | | | | **9** | 2 |
| **M.1.1** | | | | | | | 8 | 3 |
| **M.2.1** | | | | | | | 2 | 2 |
| **M.3.1** | | | | | | | | |
| **K.1.1** | **31** | 6 | | | **27** | 6 | **31** | 6 |
| **K.1.2** | **25** | 6 | | | **22** | 6 | **25** | 6 |
| **K.2.1** | **26** | 6 | | | **23** | 6 | **26** | 6 |
| **K.2.2** | **20** | 5 | | | **18** | 5 | **20** | 5 |
| **K.3.1** | **26** | 6 | | | **23** | 6 | **26** | 6 |
| **K.3.2** | **20** | 5 | | | **18** | 5 | **20** | 5 |
| **N.1.1** | | | **72** | 7 | | | **62** | 7 |
| **N.1.2** | | | **72** | 7 | | | **62** | 7 |
| **N.2.1** | 52 | 6 | | | 45 | 6 | **52** | 6 |
| **N.2.2** | 41 | 5 | | | 36 | 5 | **41** | 5 |
| **N.2.3** | 36 | 5 | | | 32 | 5 | **36** | 5 |
| **N.3.1** | 62 | 5 | | | 54 | 5 | **62** | 5 |
| **N.3.2** | 37 | 4 | | | 32 | 4 | **37** | 4 |
| **N.3.3** | 50 | 4 | | | 43 | 4 | **50** | 4 |
| **N.4.1** | 50 | 5 | | | 60 | 6 | **50** | 6 |
| **S.1.1** | | | | | | | 6 | 2 |
| **S.1.2** | | | | | | | 5 | 1 |
| **S.2.1** | | | | | | | 5 | 2 |
| **S.2.2** | | | | | | | 3 | 1 |
| **S.2.3** | | | | | | | 4 | 1 |
| **S.3.1** | | | | | | | 5 | 2 |
| **S.3.2** | | | | | | | 3 | 1 |
| **S.3.3** | | | | | | | | |
| **H.1.1** | | | | | | | 4 | 1 |
| **H.1.2** | | | | | | | | |
| **H.1.3** | | | | | | | | |
| **H.1.4** | | | | | | | | |
| **H.2.1** | | | | | | | 8 | 3 |
| **H.3.1** | | | | | | | | |
| **O.1.1** | 21 | 4 | | | 18 | 5 | 21 | 4 |
| **O.1.2** | 21 | 4 | | | 18 | 5 | 21 | 4 |
| **O.2.1** | 21 | 4 | | | 18 | 5 | 21 | 4 |
| **O.2.2** | 21 | 4 | | | 18 | 5 | 21 | 4 |
| **O.3.1** | | | | | | | | |

Pri vrtanju v žilave materiale, ki so nagnjeni k mašenju odrezkov, bi morali pri globinah vrtanja ≥ 4xD odstraniti odrezke, rezalna hitrost $v_c$ bi se morala zmanjšati kot sledi: pri globinah vrtanja > 4xD za 10 %, pri globinah vrtanja > 6xD za 15–20 %.
Nadalje se priporoca hlajenje z emulzijo.

$v_c$ = rezalna hitrost v m/min.
F = faktor izbire podajanja
za referenčno vrednost podajanja si oglejte
→ **Stran 55**

# Referenčne vrednosti rezalnih podatkov – globina vrtanja nad 10xD

| | Tip WTL-R1 10 235 ... | | Tip WTL-R2 10 245 ... | | Tip WTL-R3 10 255 ... | | Tip WTL-TiAlN-R1 10 236 ... | | Tip WTL-TiAlN-R2 10 246 ... | | Tip WTL-TiAlN-R3 10 256 ... | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Kazalo** | $v_c$ v m/min | F | $v_c$ v m/min | F | $v_c$ v m/min | F | $v_c$ v m/min | F | $v_c$ v m/min | F | $v_c$ v m/min | F |
| **P.1.1** | **21** | 5 | **21** | 5 | **21** | 5 | **24** | 5 | **24** | 5 | **24** | 5 |
| **P.1.2** | **18** | 4 | **18** | 4 | **18** | 4 | **21** | 4 | **21** | 4 | **21** | 4 |
| **P.1.3** | **16** | 4 | **16** | 4 | **16** | 4 | **18** | 4 | **18** | 4 | **18** | 4 |
| **P.1.4** | **15** | 4 | **15** | 4 | **15** | 4 | **17** | 4 | **17** | 4 | **17** | 4 |
| **P.1.5** | **13** | 4 | **13** | 4 | **13** | 4 | **14** | 4 | **14** | 4 | **14** | 4 |
| **P.2.1** | **13** | 4 | **13** | 4 | **13** | 4 | **15** | 4 | **15** | 4 | **15** | 4 |
| **P.2.2** | **9** | 3 | **9** | 3 | **9** | 3 | **10** | 3 | **10** | 3 | **10** | 3 |
| **P.2.3** | **8** | 3 | **8** | 3 | **8** | 3 | **9** | 3 | **9** | 3 | **9** | 3 |
| **P.2.4** | **7** | 2 | **7** | 2 | **7** | 2 | **8** | 2 | **8** | 2 | **8** | 2 |
| **P.3.1** | **10** | 3 | **10** | 3 | **10** | 3 | **11** | 3 | **11** | 3 | **11** | 3 |
| **P.3.2** | **7** | 2 | **7** | 2 | **7** | 2 | **8** | 2 | **8** | 2 | **8** | 2 |
| **P.3.3** | **6** | 2 | **6** | 2 | **6** | 2 | **7** | 2 | **7** | 2 | **7** | 2 |
| **P.4.1** | | | | | | | | | | | | |
| **P.4.2** | | | | | | | | | | | | |
| **M.1.1** | | | | | | | | | | | | |
| **M.2.1** | | | | | | | | | | | | |
| **M.3.1** | | | | | | | | | | | | |
| **K.1.1** | **23** | 5 | **23** | 5 | **23** | 5 | **26** | 5 | **26** | 5 | **26** | 5 |
| **K.1.2** | **18** | 5 | **18** | 5 | **18** | 5 | **21** | 5 | **21** | 5 | **21** | 5 |
| **K.2.1** | **19** | 5 | **19** | 5 | **19** | 5 | **22** | 5 | **22** | 5 | **22** | 5 |
| **K.2.2** | **15** | 4 | **15** | 4 | **15** | 4 | **17** | 4 | **17** | 4 | **17** | 4 |
| **K.3.1** | **19** | 5 | **19** | 5 | **19** | 5 | **22** | 5 | **22** | 5 | **22** | 5 |
| **K.3.2** | **15** | 4 | **15** | 4 | **15** | 4 | **17** | 4 | **17** | 4 | **17** | 4 |
| **N.1.1** | **45** | 6 | **45** | 6 | **45** | 6 | **52** | 6 | **52** | 6 | **52** | 6 |
| **N.1.2** | **45** | 6 | **45** | 6 | **45** | 6 | **52** | 6 | **52** | 6 | **52** | 6 |
| **N.2.1** | **38** | 5 | **38** | 5 | **38** | 5 | **43** | 5 | **43** | 5 | **43** | 5 |
| **N.2.2** | **30** | 4 | **30** | 4 | **30** | 4 | **35** | 4 | **35** | 4 | **35** | 4 |
| **N.2.3** | **26** | 4 | **26** | 4 | **26** | 4 | **30** | 4 | **30** | 4 | **30** | 4 |
| **N.3.1** | **45** | 4 | **45** | 4 | **45** | 4 | **52** | 4 | **52** | 4 | **52** | 4 |
| **N.3.2** | **27** | 3 | **27** | 3 | **27** | 3 | **31** | 3 | **31** | 3 | **31** | 3 |
| **N.3.3** | **36** | 3 | **36** | 3 | **36** | 3 | **41** | 3 | **41** | 3 | **41** | 3 |
| **N.4.1** | **55** | 5 | **55** | 5 | **55** | 5 | **60** | 6 | **60** | 6 | **60** | 6 |
| **S.1.1** | | | | | | | | | | | | |
| **S.1.2** | | | | | | | | | | | | |
| **S.2.1** | | | | | | | | | | | | |
| **S.2.2** | | | | | | | | | | | | |
| **S.2.3** | | | | | | | | | | | | |
| **S.3.1** | | | | | | | | | | | | |
| **S.3.2** | | | | | | | | | | | | |
| **S.3.3** | | | | | | | | | | | | |
| **H.1.1** | | | | | | | | | | | | |
| **H.1.2** | | | | | | | | | | | | |
| **H.1.3** | | | | | | | | | | | | |
| **H.1.4** | | | | | | | | | | | | |
| **H.2.1** | | | | | | | | | | | | |
| **H.3.1** | | | | | | | | | | | | |
| **O.1.1** | 15 | 3 | 15 | 3 | 15 | 3 | 17 | 3 | 17 | 3 | 17 | 3 |
| **O.1.2** | 15 | 3 | 15 | 3 | 15 | 3 | 17 | 3 | 17 | 3 | 17 | 3 |
| **O.2.1** | 15 | 3 | 15 | 3 | 15 | 3 | 17 | 3 | 17 | 3 | 17 | 3 |
| **O.2.2** | 15 | 3 | 15 | 3 | 15 | 3 | 17 | 3 | 17 | 3 | 17 | 3 |
| **O.3.1** | | | | | | | | | | | | |

Rezalni podatki so močno odvisni od zunanjih pogojev, kot so stabilnost orodja, vpetje obdelovanca, material in tip stroja. Navedeni podatki predstavljajo možne rezalne podatke, ki jih je treba, odvisno od pogojev pri uporabi, popraviti navzgor ali navzdol.

| | | Tip WTL-MK-R1 10 305 ... | | Tip WTL-MK-R2 10 315 ... | |
|---|---|---|---|---|---|
| | Kazalo | $v_c$ v m/min | F | $v_c$ v m/min | F |
| | P.1.1 | **21** | 5 | **21** | 5 |
| | P.1.2 | **18** | 4 | **18** | 4 |
| | P.1.3 | **16** | 4 | **16** | 4 |
| | P.1.4 | **15** | 4 | **15** | 4 |
| | P.1.5 | **13** | 4 | **13** | 4 |
| | P.2.1 | **13** | 4 | **13** | 4 |
| | P.2.2 | **9** | 3 | **9** | 3 |
| | P.2.3 | **8** | 3 | **8** | 3 |
| | P.2.4 | **7** | 2 | **7** | 2 |
| | P.3.1 | **10** | 3 | **10** | 3 |
| | P.3.2 | **7** | 2 | **7** | 2 |
| | P.3.3 | **6** | 2 | **6** | 2 |
| | P.4.1 | | | | |
| | P.4.2 | | | | |
| | M.1.1 | | | | |
| | M.2.1 | | | | |
| | M.3.1 | | | | |
| | K.1.1 | **23** | 5 | **23** | 5 |
| | K.1.2 | **18** | 5 | **18** | 5 |
| | K.2.1 | **19** | 5 | **19** | 5 |
| | K.2.2 | **15** | 4 | **15** | 4 |
| | K.3.1 | **19** | 5 | **19** | 5 |
| | K.3.2 | **15** | 4 | **15** | 4 |
| | N.1.1 | **45** | 6 | **45** | 6 |
| | N.1.2 | **45** | 6 | **45** | 6 |
| | N.2.1 | **38** | 5 | **38** | 5 |
| | N.2.2 | **30** | 4 | **30** | 4 |
| | N.2.3 | **26** | 4 | **26** | 4 |
| | N.3.1 | **45** | 4 | **45** | 4 |
| | N.3.2 | **27** | 3 | **27** | 3 |
| | N.3.3 | **36** | 3 | **36** | 3 |
| | N.4.1 | **55** | 5 | **55** | 5 |
| | S.1.1 | | | | |
| | S.1.2 | | | | |
| | S.2.1 | | | | |
| | S.2.2 | | | | |
| | S.2.3 | | | | |
| | S.3.1 | | | | |
| | S.3.2 | | | | |
| | S.3.3 | | | | |
| | H.1.1 | | | | |
| | H.1.2 | | | | |
| | H.1.3 | | | | |
| | H.1.4 | | | | |
| | H.2.1 | | | | |
| | H.3.1 | | | | |
| | O.1.1 | 15 | 3 | 15 | 3 |
| | O.1.2 | 15 | 3 | 15 | 3 |
| | O.2.1 | 15 | 3 | 15 | 3 |
| | O.2.2 | 15 | 3 | 15 | 3 |
| | O.3.1 | | | | |

Pri vrtanju v žilave materiale, ki so nagnjeni k mašenju odrezkov, bi morali pri globinah vrtanja ≥ 4xD odstraniti odrezke, rezalna hitrost $v_c$ bi se morala zmanjšati kot sledi: pri globinah vrtanja > 4xD za 10 %, pri globinah vrtanja > 6xD za 15–20 %.
Nadalje se priporoca hlajenje z emulzijo.

$v_c$ = rezalna hitrost v m/min.
F = faktor izbire podajanja
za referenčno vrednost podajanja si oglejte
→ **Stran 55**

# Referenčne vrednosti rezalnih podatkov – miniaturni sveder 10 103 ...

| | | Nazivni premer v mm | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Ø 0,15 | Ø 0,20–0,25 | Ø 0,30–0,35 | Ø 0,40–0,55 | Ø 0,60–0,75 | Ø 0,80–0,95 | Ø 1,00–1,45 |
| Kazalo | $v_c$ v m/min | f mm/vrt | f mm/vrt | f mm/vrt | f mm/vrt | f mm/vrt | f mm/vrt | f mm/vrt |
| **P.1.1** | **33** | 0,0090 | 0,0110 | 0,0150 | 0,0190 | 0,0260 | 0,0310 | 0,0500 |
| **P.1.2** | **28** | 0,0070 | 0,0090 | 0,0110 | 0,0140 | 0,0200 | 0,0240 | 0,0410 |
| **P.1.3** | **25** | 0,0070 | 0,0090 | 0,0110 | 0,0140 | 0,0200 | 0,0240 | 0,0410 |
| **P.1.4** | **23** | 0,0070 | 0,0090 | 0,0110 | 0,0140 | 0,0200 | 0,0240 | 0,0410 |
| **P.1.5** | **20** | 0,0070 | 0,0090 | 0,0110 | 0,0140 | 0,0200 | 0,0240 | 0,0410 |
| **P.2.1** | **20** | 0,0050 | 0,0070 | 0,0090 | 0,0110 | 0,0150 | 0,0200 | 0,0350 |
| **P.2.2** | **14** | 0,0040 | 0,0050 | 0,0070 | 0,0080 | 0,0120 | 0,0160 | 0,0290 |
| **P.2.3** | **12** | 0,0040 | 0,0050 | 0,0070 | 0,0080 | 0,0120 | 0,0160 | 0,0290 |
| **P.2.4** | **11** | 0,0030 | 0,0040 | 0,0050 | 0,0070 | 0,0090 | 0,0130 | 0,0240 |
| **P.3.1** | **15** | 0,0050 | 0,0070 | 0,0090 | 0,0110 | 0,0150 | 0,0200 | 0,0350 |
| **P.3.2** | **11** | 0,0040 | 0,0050 | 0,0070 | 0,0080 | 0,0120 | 0,0160 | 0,0290 |
| **P.3.3** | **10** | 0,0040 | 0,0050 | 0,0070 | 0,0080 | 0,0120 | 0,0160 | 0,0290 |
| **P.4.1** | **11** | 0,0040 | 0,0050 | 0,0070 | 0,0080 | 0,0120 | 0,0160 | 0,0290 |
| **P.4.2** | **10** | 0,0030 | 0,0040 | 0,0050 | 0,0070 | 0,0090 | 0,0130 | 0,0240 |
| **M.1.1** | 9 | 0,0040 | 0,0050 | 0,0070 | 0,0080 | 0,0120 | 0,0160 | 0,0290 |
| **M.2.1** | 8 | 0,0040 | 0,0050 | 0,0070 | 0,0080 | 0,0120 | 0,0160 | 0,0290 |
| **M.3.1** | | | | | | | | |
| **K.1.1** | **35** | 0,0090 | 0,0110 | 0,0150 | 0,0190 | 0,0260 | 0,0310 | 0,0500 |
| **K.1.2** | **28** | 0,0090 | 0,0110 | 0,0150 | 0,0190 | 0,0260 | 0,0310 | 0,0500 |
| **K.2.1** | **30** | 0,0090 | 0,0110 | 0,0150 | 0,0190 | 0,0260 | 0,0310 | 0,0500 |
| **K.2.2** | **23** | 0,0070 | 0,0090 | 0,0110 | 0,0140 | 0,0200 | 0,0240 | 0,0410 |
| **K.3.1** | **30** | 0,0090 | 0,0110 | 0,0150 | 0,0190 | 0,0260 | 0,0310 | 0,0500 |
| **K.3.2** | **23** | 0,0070 | 0,0090 | 0,0110 | 0,0140 | 0,0200 | 0,0240 | 0,0410 |
| **N.1.1** | **70** | 0,0120 | 0,0140 | 0,0190 | 0,0240 | 0,0340 | 0,0380 | 0,0600 |
| **N.1.2** | **70** | 0,0120 | 0,0140 | 0,0190 | 0,0240 | 0,0340 | 0,0380 | 0,0600 |
| **N.2.1** | **59** | 0,0090 | 0,0110 | 0,0150 | 0,0190 | 0,0260 | 0,0310 | 0,0500 |
| **N.2.2** | **47** | 0,0070 | 0,0090 | 0,0110 | 0,0140 | 0,0200 | 0,0240 | 0,0410 |
| **N.2.3** | **41** | 0,0070 | 0,0090 | 0,0110 | 0,0140 | 0,0200 | 0,0240 | 0,0410 |
| **N.3.1** | **70** | 0,0070 | 0,0090 | 0,0110 | 0,0140 | 0,0200 | 0,0240 | 0,0410 |
| **N.3.2** | **42** | 0,0050 | 0,0070 | 0,0090 | 0,0110 | 0,0150 | 0,0200 | 0,0350 |
| **N.3.3** | **56** | 0,0050 | 0,0070 | 0,0090 | 0,0110 | 0,0150 | 0,0200 | 0,0350 |
| **N.4.1** | **42** | 0,0070 | 0,0090 | 0,0110 | 0,0140 | 0,0200 | 0,0240 | 0,0410 |
| **S.1.1** | 7 | 0,0030 | 0,0040 | 0,0050 | 0,0070 | 0,0090 | 0,0130 | 0,0240 |
| **S.1.2** | 6 | 0,0020 | 0,0030 | 0,0040 | 0,0050 | 0,0070 | 0,0100 | 0,0200 |
| **S.2.1** | 6 | 0,0030 | 0,0040 | 0,0050 | 0,0070 | 0,0090 | 0,0130 | 0,0240 |
| **S.2.2** | 4 | 0,0020 | 0,0030 | 0,0040 | 0,0050 | 0,0070 | 0,0100 | 0,0200 |
| **S.2.3** | 4 | 0,0020 | 0,0030 | 0,0040 | 0,0050 | 0,0070 | 0,0100 | 0,0200 |
| **S.3.1** | 6 | 0,0030 | 0,0040 | 0,0050 | 0,0070 | 0,0090 | 0,0130 | 0,0240 |
| **S.3.2** | 4 | 0,0020 | 0,0030 | 0,0040 | 0,0050 | 0,0070 | 0,0100 | 0,0200 |
| **S.3.3** | | | | | | | | |
| **H.1.1** | | | | | | | | |
| **H.1.2** | | | | | | | | |
| **H.1.3** | | | | | | | | |
| **H.1.4** | | | | | | | | |
| **H.2.1** | | | | | | | | |
| **H.3.1** | | | | | | | | |
| **O.1.1** | 23 | 0,0070 | 0,0090 | 0,0110 | 0,0140 | 0,0200 | 0,0240 | 0,0410 |
| **O.1.2** | 23 | 0,0070 | 0,0090 | 0,0110 | 0,0140 | 0,0200 | 0,0240 | 0,0410 |
| **O.2.1** | 23 | 0,0070 | 0,0090 | 0,0110 | 0,0140 | 0,0200 | 0,0240 | 0,0410 |
| **O.2.2** | 23 | 0,0070 | 0,0090 | 0,0110 | 0,0140 | 0,0200 | 0,0240 | 0,0410 |
| **O.3.1** | | | | | | | | |

Rezalni podatki so močno odvisni od zunanjih pogojev, kot so stabilnost orodja, vpetje obdelovanca, material in tip stroja. Navedeni podatki predstavljajo možne rezalne podatke, ki jih je treba, odvisno od pogojev pri uporabi, popraviti navzgor ali navzdol.

# Referenčne vrednosti podajanja za spiralne svedre iz HSS

| Faktor F | Premer svedra v mm | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0,5 | 1 | 2 | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 26 | 30 |
| | Podajanje f v mm/U | | | | | | | | | | | | | | | |
| 1 | 0,004 | 0,006 | 0,02 | 0,03 | 0,04 | 0,04 | 0,05 | 0,06 | 0,08 | 0,08 | 0,09 | 0,1 | 0,12 | 0,15 | 0,18 | 0,19 |
| 2 | 0,006 | 0,008 | 0,02 | 0,03 | 0,05 | 0,05 | 0,05 | 0,08 | 0,1 | 0,1 | 0,1 | 0,12 | 0,12 | 0,2 | 0,2 | 0,2 |
| 3 | 0,007 | 0,012 | 0,03 | 0,05 | 0,06 | 0,069 | 0,08 | 0,1 | 0,12 | 0,13 | 0,13 | 0,16 | 0,16 | 0,25 | 0,25 | 0,25 |
| 4 | 0,008 | 0,014 | 0,04 | 0,06 | 0,08 | 0,09 | 0,1 | 0,14 | 0,16 | 0,16 | 0,16 | 0,2 | 0,2 | 0,3 | 0,3 | 0,3 |
| 5 | 0,01 | 0,016 | 0,06 | 0,08 | 0,1 | 0,12 | 0,13 | 0,16 | 0,2 | 0,2 | 0,22 | 0,25 | 0,25 | 0,4 | 0,4 | 0,4 |
| 6 | 0,012 | 0,018 | 0,06 | 0,1 | 0,12 | 0,14 | 0,16 | 0,2 | 0,25 | 0,25 | 0,25 | 0,3 | 0,3 | 0,5 | 0,5 | 0,5 |
| 7 | 0,014 | 0,02 | 0,08 | 0,13 | 0,16 | 0,18 | 0,2 | 0,25 | 0,35 | 0,35 | 0,35 | 0,4 | 0,4 | 0,6 | 0,6 | 0,6 |
| 8 | 0,016 | 0,023 | 0,1 | 0,16 | 0,2 | 0,2 | 0,25 | 0,35 | 0,4 | 0,4 | 0,4 | 0,4 | 0,5 | 0,6 | 0,7 | 0,8 |
| 9 | 0,019 | 0,025 | 0,13 | 0,17 | 0,2 | 0,23 | 0,32 | 0,4 | 0,4 | 0,5 | 0,5 | 0,5 | 0,6 | 0,8 | 0,9 | 0,9 |

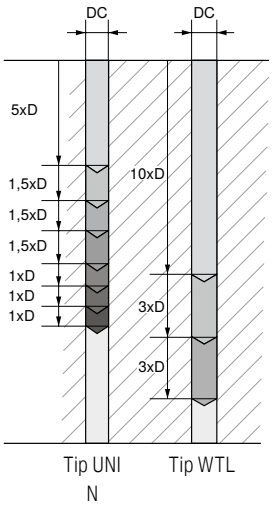
Vsi navedeni podatki so referenčne vrednosti in predstavljajo srednje vrednosti.

# Rezalna hitrost za spiralne svedre iz HSS

| $v_c$ m/min | Premer svedra v mm | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2,0 | 2,5 | 3,15 | 4,0 | 5,0 | 6,3 | 8,0 | 10,0 | 12,5 | 16,0 | 20,0 | 25,0 | 31,5 | 40,0 | 50,0 | 63,0 | 80,0 |
| | Število vrtljajev v vrt./min | | | | | | | | | | | | | | | | |
| 80 | 12500 | 10000 | 8000 | 6300 | 5000 | 4000 | 3200 | 2500 | 2000 | 1600 | 1250 | 1000 | 800 | 630 | 500 | 400 | 320 |
| 63 | 10000 | 8000 | 6300 | 5000 | 4000 | 3200 | 2500 | 2000 | 1600 | 1250 | 1000 | 800 | 630 | 500 | 400 | 320 | 250 |
| 50 | 8000 | 6300 | 5000 | 4000 | 3200 | 2500 | 2000 | 1600 | 1250 | 1000 | 800 | 630 | 500 | 400 | 320 | 250 | 200 |
| 40 | 6300 | 5000 | 4000 | 3200 | 2500 | 2000 | 1600 | 1250 | 1000 | 800 | 630 | 500 | 400 | 320 | 250 | 200 | 160 |
| 32 | 5000 | 4000 | 3200 | 2500 | 2000 | 1600 | 1250 | 1000 | 800 | 630 | 500 | 400 | 320 | 250 | 200 | 160 | 125 |
| 25 | 4000 | 3200 | 2500 | 2000 | 1600 | 1250 | 1000 | 800 | 630 | 500 | 400 | 320 | 250 | 200 | 160 | 125 | 100 |
| 20 | 3200 | 2500 | 2000 | 1600 | 1250 | 1000 | 800 | 630 | 500 | 400 | 320 | 250 | 200 | 160 | 125 | 100 | 80 |
| 16 | 2500 | 2000 | 1600 | 1250 | 1000 | 800 | 630 | 500 | 400 | 320 | 250 | 200 | 160 | 125 | 100 | 80 | 63 |
| 12 | 2000 | 1600 | 1250 | 1000 | 800 | 630 | 500 | 400 | 320 | 250 | 200 | 160 | 125 | 100 | 80 | 63 | 50 |
| 10 | 1600 | 1250 | 1000 | 800 | 630 | 500 | 400 | 320 | 250 | 200 | 160 | 125 | 100 | 80 | 63 | 50 | 40 |
| 8 | 1250 | 1000 | 800 | 630 | 500 | 400 | 320 | 250 | 200 | 160 | 125 | 100 | 80 | 63 | 50 | 40 | 32 |
| 6 | 1000 | 800 | 630 | 500 | 400 | 320 | 250 | 200 | 160 | 125 | 100 | 80 | 63 | 50 | 40 | 32 | 25 |
| 5 | 800 | 630 | 500 | 400 | 320 | 250 | 200 | 160 | 125 | 100 | 80 | 63 | 50 | 40 | 32 | 25 | 20 |
| 4 | 630 | 500 | 400 | 320 | 250 | 200 | 160 | 125 | 100 | 80 | 63 | 50 | 40 | 32 | 25 | 20 | 16 |
| 3 | 500 | 400 | 320 | 250 | 200 | 160 | 125 | 100 | 80 | 63 | 50 | 40 | 32 | 25 | 20 | 16 | 12 |

## Pogostost odstranjevanja odrezkov pri globokih vrtinah:

- Sveder je potrebno zadostno hladiti
- Z uporabo svedra s poudarjenimi utori (tipa WTL) se občutno izboljša transport odrezkov
- Za izredno globoke izvrtine ali pri horizontalnem vrtanju se priporočajo svedri s hladilnimi kanali z notranjim dovodom hladilnega sredstva



# Prevleke

**TiN**

- Prevleka TiN
- Najvišja delovna temperatura: 450 °C

**TiCN**

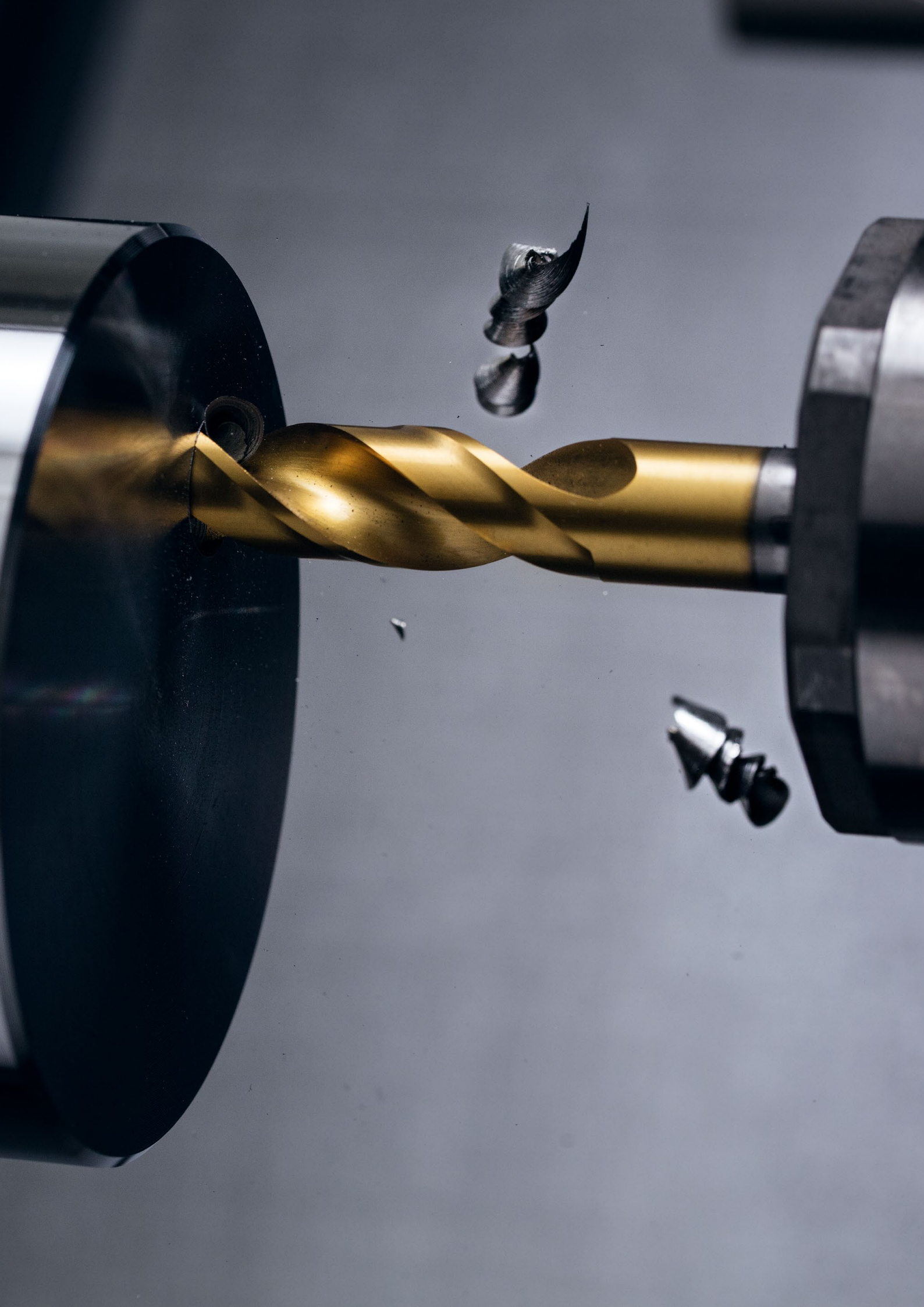
- Večslojna prevleka TiCN
- Najvišja delovna temperatura: 450 °C

**TiAlN**

- Z večslojno prevleko TiAlN
- Najvišja delovna temperatura: 900 °C

**F.-nit**

- PVD-prevleka na osnovi titanovega karbonitrida, ki je posebno primerna za obdelavo jekla
- Uporaba do pribl. 450 °C

**vap.**

- Vaporizirano
- Vaporizacija (nanašanje z naparjanjem) preprečuje tvorbo hladnih zavaritev na orodju in povečuje trdoto površine ter s tem odpornost proti obrabi.