

Regrinding instead of buying new – with the regrind service from WNT

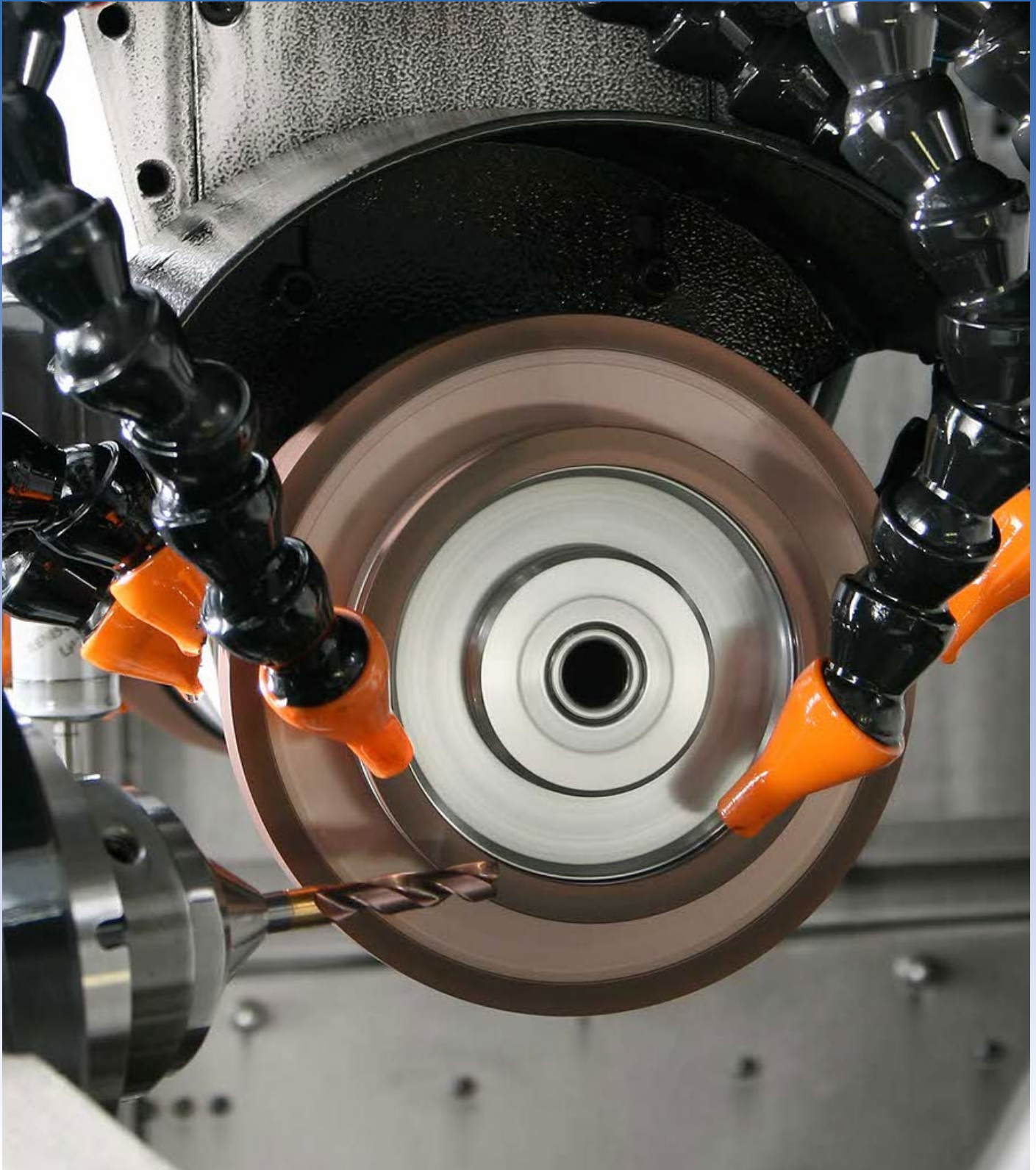


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Bringing the old back to life

WNT Restart – regrinding, not replacing

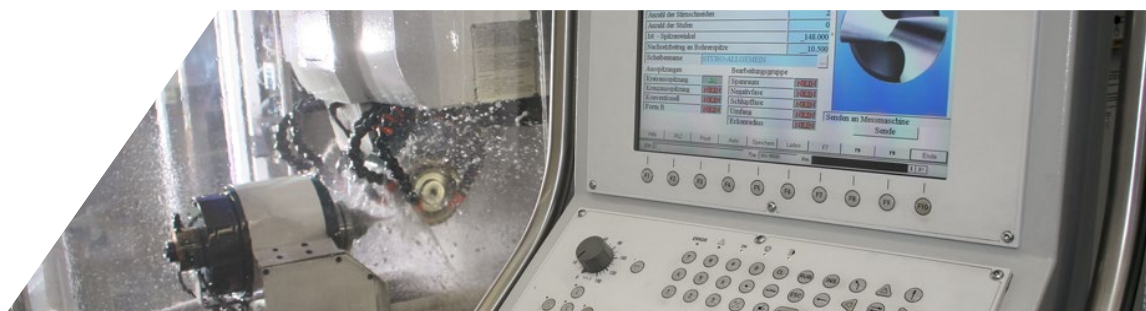
Your used precision tool is in the best possible hands with us. We return your tool to you with the original finish, coating and geometry – as good as new and ready for use back in the machine. What is more, you can also enjoy a practically full service life in comparison to new product. Reduce the pressure on your budget by reusing your old tools! Take advantage of this Service² from WNT.

i If you require something different from the standard grind, please specify this on the despatch note. The despatch note is delivered with our regrind box and is also available to download from our homepage.



"As much as is necessary,
but as little as possible"

In all cases your tools will be reground according to extent of the wear sustained. You can help to ensure that this is possible by changing your tools as soon as the cutting edges have worn by the defined amount. It is also important not to use your tools for so long that heavy chipping is suffered along the cutting edges.



Good to know



Service is a priority at WNT –
this also applies to the re-processing of used tools



Original Grinding

- Original Geometry

Original Coating

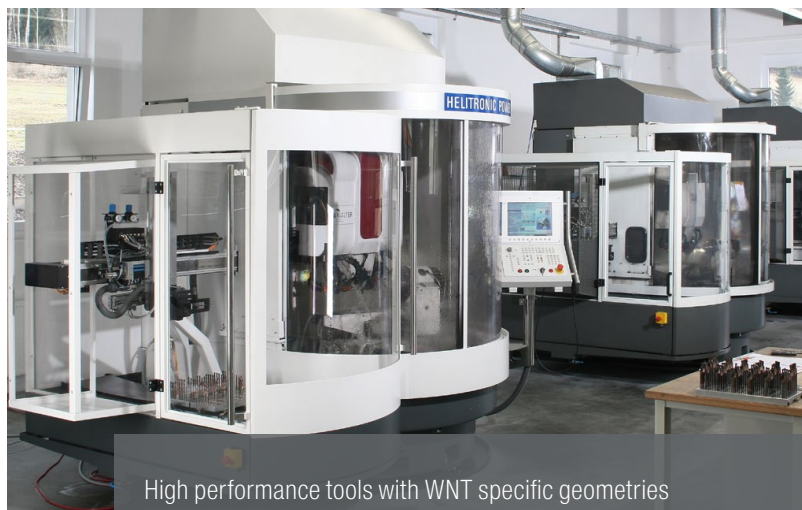
This guarantees that your recycled tools achieve almost 100 % of the service life and cutting performance of a new tool again.

Fair and transparent prices

- No surcharges for cutting off, roughing, etc.
- Prices shown are valid irrespective of the delivery condition of your tool. If regrind of a tool is uneconomical, the tool will be returned unprocessed.

Lead Time

Our standard delivery time is **15 working days**, starting on receipt of your order. Tools with special geometries or special coatings, which have a different delivery time are indicated accordingly.



High performance tools with WNT specific geometries and coatings are in safe hands with us.

Terms and conditions

All tools that have been reground are marked to indicate this. Non-WNT tools received for regrinding are ground according to WNT geometric guidelines.

Your benefits

- high process reliability by application of identical parameters as for new tools
- Reduction of your production and tooling costs
- low tool stockholding thanks to fast service
- ease of use with the WNT regrind box

A simple route to your reground tool

Send us your used tools

On request we can provide a regrind box free of charge to be available so your tools can be transported safely. See below to request a regrind box quickly and free of charge:

Free phone: 0800 073 2073

Fax: 0800 073 2074

E-Mail: orders@wnt.com



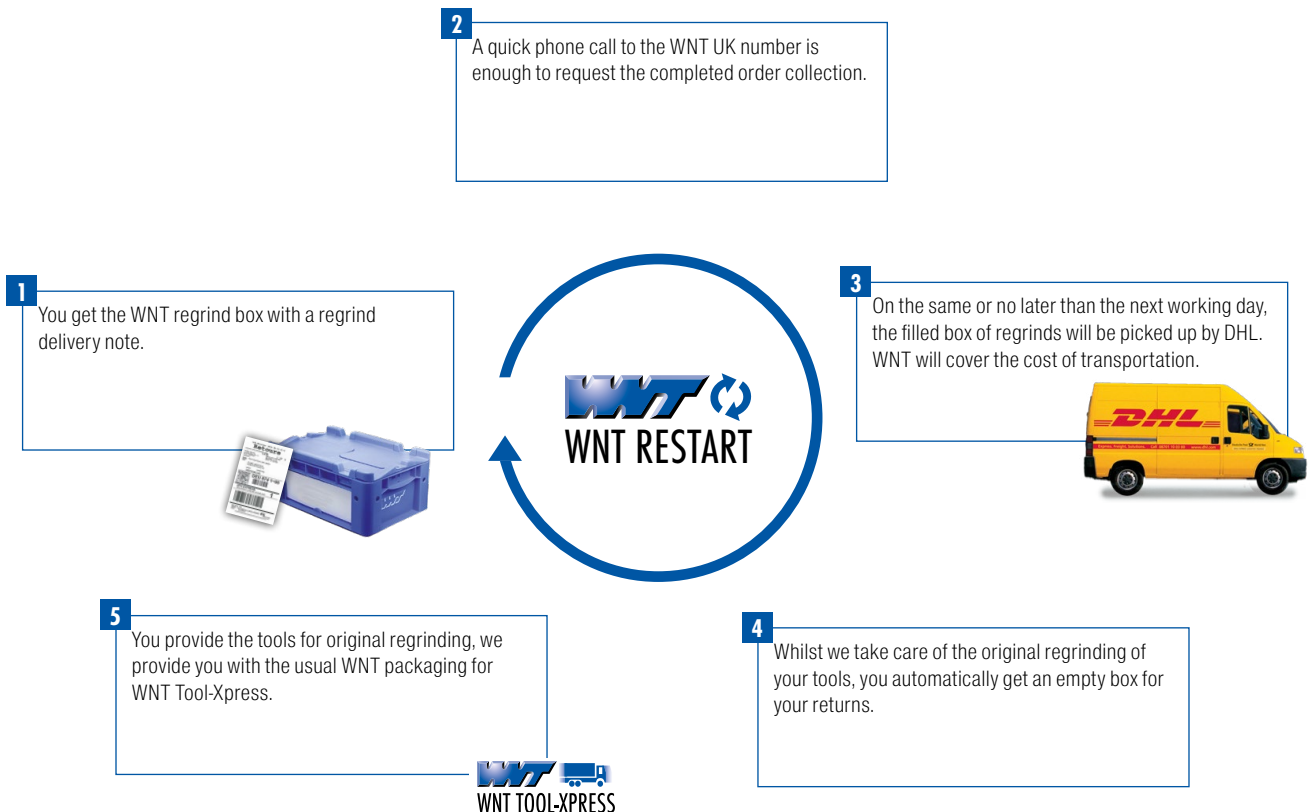
Size of the box in mm
300 x 200 x 138

Your tools are checked on arrival at our regrind center, whether or to what extent they can be reworked.

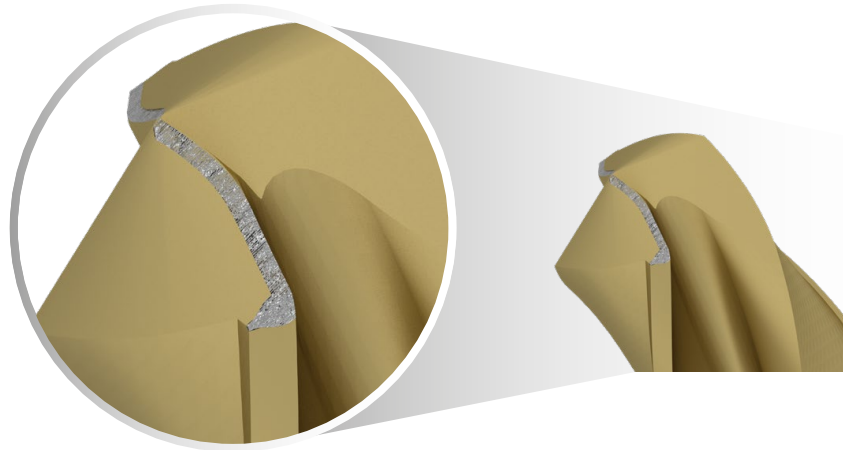
Then your tools are professionally sharpened and optionally coated.

Needless to say, the prepared tools are subject to our strict quality control by experienced professionals before they are returned.

The WNT regrind box route



Normal drill wear



Under ideal conditions, uniform wear should be seen along the entire cutting edge.

- Cutting speed OK
- Feed rate OK
- Drill and workpiece are clamped correctly

Maximum wear prior to regrinding

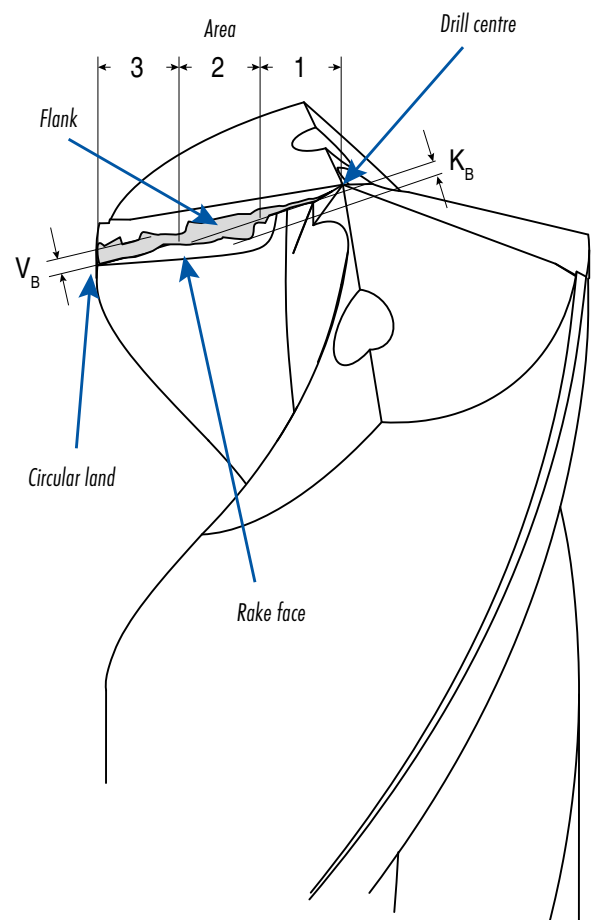
Drilling tools should be reground when the wear land has grown to a specific width (V_B) along with a certain amount of cratering (K_B).

Maximum flank wear (V_B) in mm

Drill diameter in mm	Area		
	3	2	1
3,00 – 6,00	0,20	0,20	0,20
6,01 – 10,00	0,25	0,20	0,20
10,01 – 14,00	0,25	0,25	0,25
14,01 – 17,00	0,30	0,25	0,25
17,01 – 20,00	0,35	0,30	0,30

Crater wear (K_B) in mm

Drill diameter in mm	Area		
	3	2	1
3,00 – 6,00	0,20	0,20	0,20
6,01 – 10,00	0,25	0,25	0,25
10,01 – 14,00	0,30	0,30	0,30
14,01 – 17,00	0,30	0,30	0,30
17,01 – 20,00	0,35	0,35	0,35



Types of wear on HSS and solid carbide drills

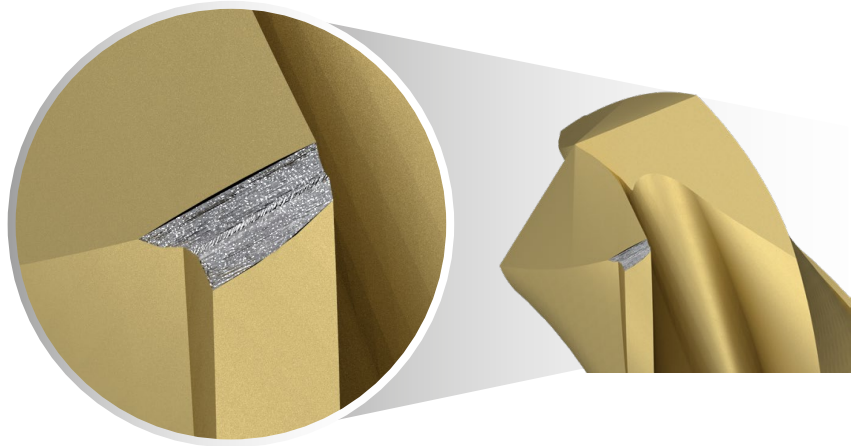
Splintering on edges

Cause

- Workpiece moves when the drill enters the material (e.g. workpiece is not clamped properly)
- Insufficient cooling
- Runout error too large

Solutions

- Check clamping element (check for play in the spindle unit)
- Check coolant supply
- Optimise runout



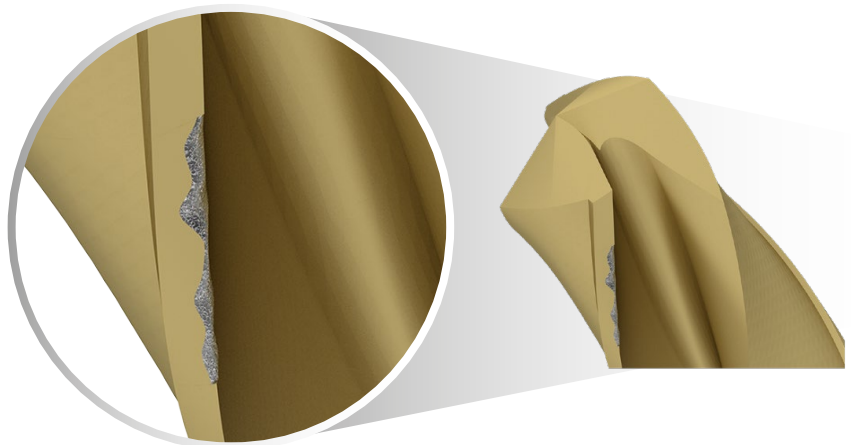
Splintering on guide lands

Cause

- Movement of the workpiece
- Incorrect handling or transport

Solutions

- Check workpiece clamping and tool stability
- Use original packaging for storage and transport



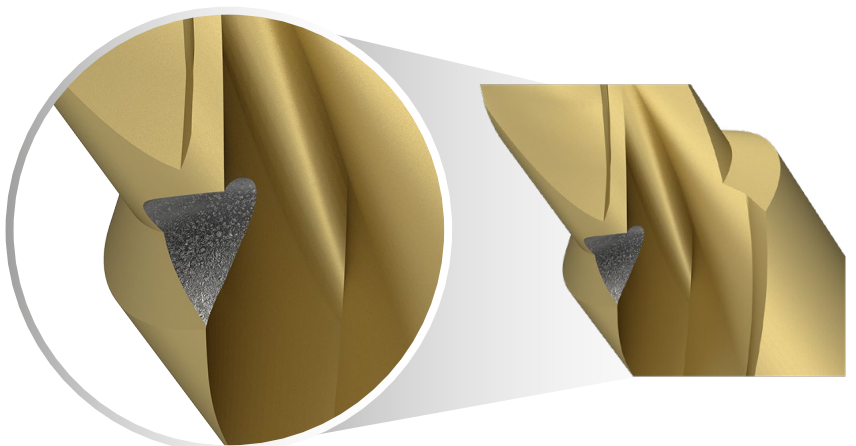
Splintering on steps

Cause

- Insufficient stability
- Chuck is not strong or precise enough

Solutions

- Check clamping device
- Use high-precision chucks



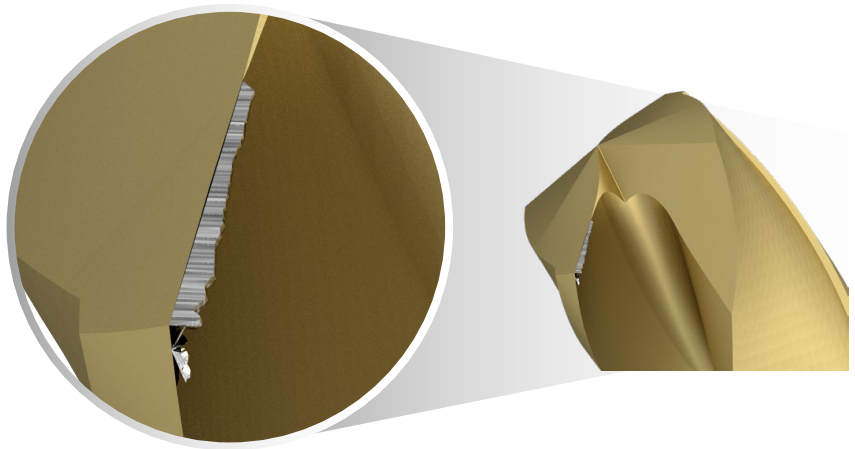
Built-up edge

Cause

- Cutting speed too low
- Negative bevel on cutting edges
- Insufficient cooling

Solutions

- Increase cutting speed
- Use a drill with sharper cutting edge preparation
- Check coolant supply



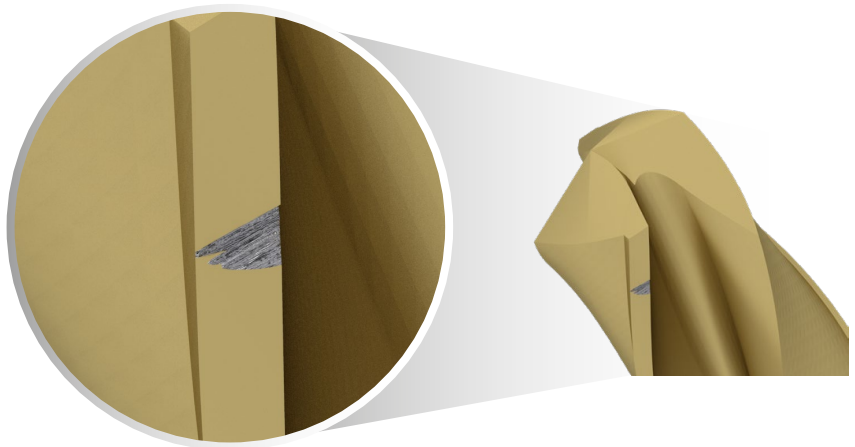
Chipping on guide lands

Cause

- Workpiece is moving when the drill exits the material; "springback"
- Insufficient cooling

Solutions

- Check workpiece clamping
- Check coolant, increase coolant pressure



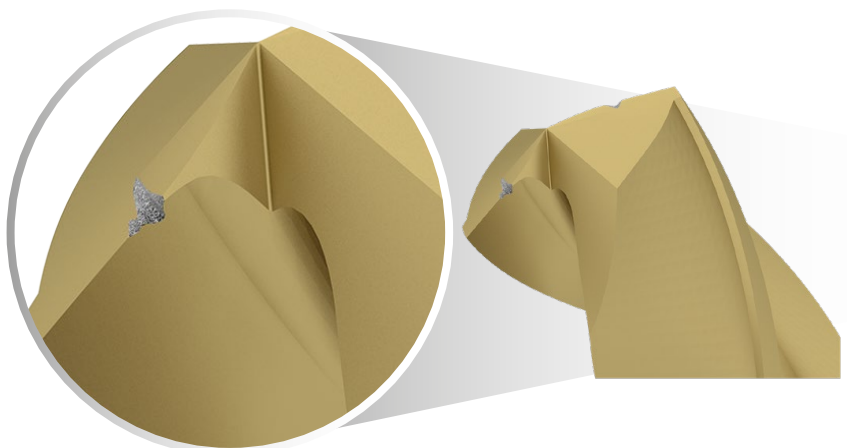
Chipping on main cutting edge

Cause

- Unstable drilling conditions
- Interrupted cut
- Maximum wear width exceeded

Solutions

- Optimise workpiece and tool clamping
- Reduce feed rate
- Change tool earlier



Types of wear on HSS and solid carbide drills

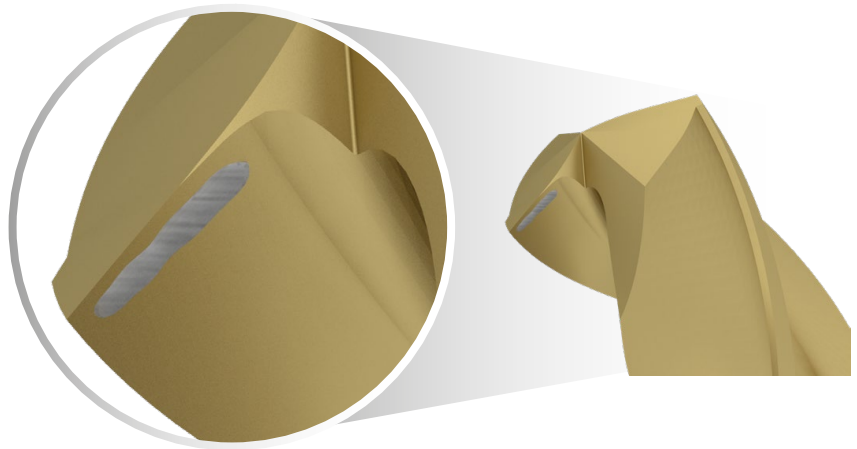
Cratering

Cause

- Cutting speed too low
- Insufficient cooling

Solutions

- Increase cutting speed
- Increase coolant pressure



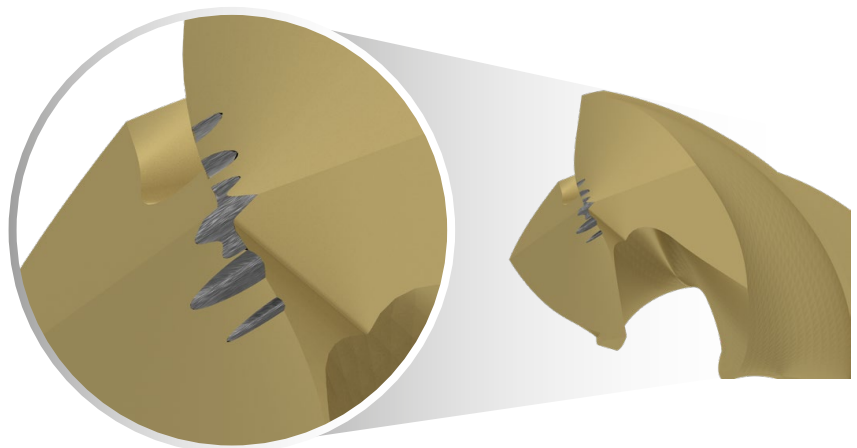
Point angle fragmentation

Cause

- Feed rate too low
- Drill not running true

Solutions

- Increase feed rate
- Runout < 0.02 mm



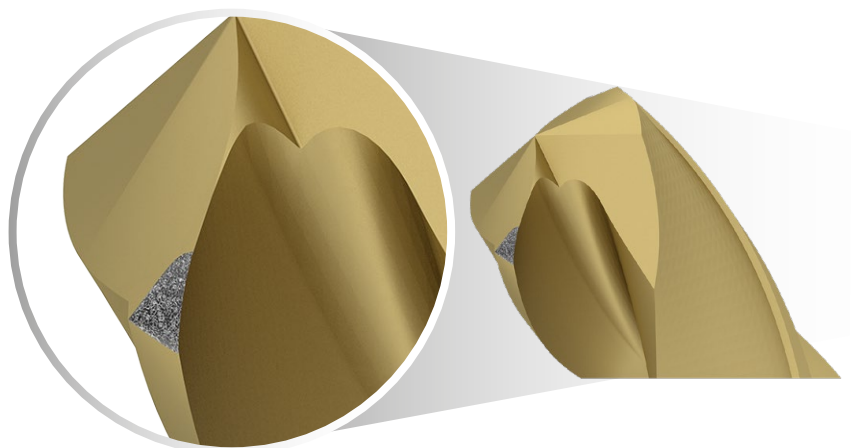
Excessive flank wear on the cutting edge

Cause

- Cutting speed too high
- Feed rate too low
- Insufficient cooling
- Drilling from two sides or interrupted cut on exit from material

Solutions

- Reduce cutting speed
- Increase feed rate
- Use higher-quality coolant (higher concentration, increase pressure, nozzle placement?)
- Check drill exit from material



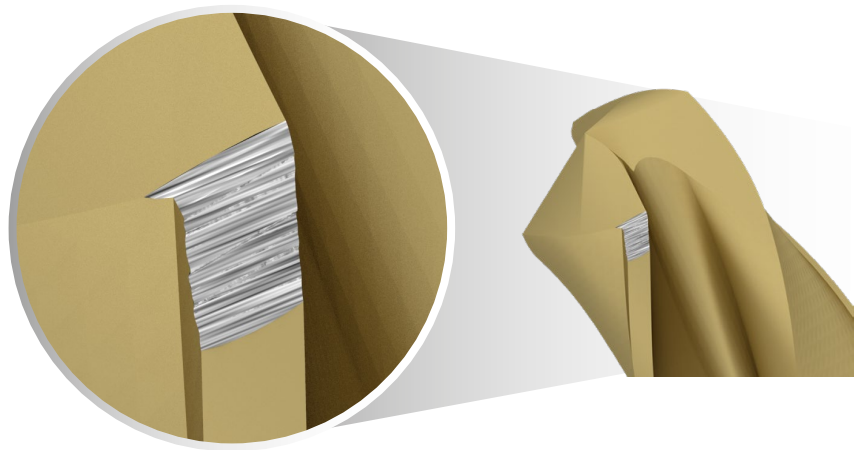
Excessive wear on the cutting edge

Cause

- Cutting speed too high
- Coolant pressure too low
- Drill not running true

Solutions

- Reduce cutting speed, increase feed rate
- Increase coolant pressure
- Runout < 0.02 mm



List of contents

Product	Type	Boring depth	Regrinding	Coating	Pages
HSS twist drills		10xD	✓	TiCN, TiAlN, TiN	11
HSS step drills			✓	TiN	11
WPC	UNI, VA	3xD 5xD 8xD 12xD	✓	TiAlN	12
WTX	UNI, VA, H, GG, Ti, AL, Speed, Feed UNI, Quattro, Finish, TB16, TB20, TB25, TB30, TB40, TB50	3xD 5xD 8xD 12xD 16–50xD	✓	DPA54, DPZ 74S, DPX 74S, TiAlN, Ti 700, Ti 800, Ti 1005	12–15
WTX – solid carbide drill heads	UNI, VA, AL, P, GG		✓	Ti 700, Ti 750, TiSi, TiB	16+17
WTX – step drills	SB		✓	Ti 700	17
WTX – configurable step drills	UNI, VA		✓	DPX 74S, Ti 700	18
Solid carbide twist drills	N	3xD 5xD	✓		18
Solid carbide three-flute drills	N	3xD	✓		19
Solid Carbide NC Spot Drill	NC-A		✓	TiAlN	19

Twist drills and core drills

- up to 10xD hole depth



Cutting-Ø-range mm	Regrinding		Regrinding Coating TiCN		Regrinding Coating TiAlN		Regrinding Coating TiN	
	Z0		Z0		Z0		Z0	
	Article no. 98 100 ...		Article no. 98 241 ...		Article no. 98 244 ...		Article no. 98 350 ...	
	£		£		£		£	
Ø 2.0 to Ø 4.0	3.43	040	5.71	040	5.71	040	5.71	040
≤ Ø 6,0	2.28	060	5.71	060	5.71	060	5.71	060
≤ Ø 8,0	2.28	080	7.99	080	7.99	080	7.99	080
≤ Ø 10,0	2.28	100	7.99	100	7.99	100	7.99	100
≤ Ø 12,0	3.43	120	9.12	120	9.12	120	9.12	120
≤ Ø 14,0	3.43	140	11.41	140	11.41	140	11.41	140
≤ Ø 16,0	4.57	160	12.56	160	12.56	160	12.56	160
≤ Ø 18,0	4.57	180	17.13	180	17.13	180	17.13	180
≤ Ø 20,0	4.57	200	18.26	200	18.26	200	18.26	200
≤ Ø 22,0	7.99	220	25.11	220			25.11	220
≤ Ø 26,0	10.28	260	25.11	260			25.11	260
≤ Ø 32,0	12.56	320	28.53	320			28.53	320
≤ Ø 36,0	15.97	360	34.23	360			34.23	360
≤ Ø 40,0	19.40	400	43.37	400			43.37	400

Grinding process:

- These tools are reground on the main cutting edge and receive, if present, their original coating.
- With heavy wear to the guide land, the tools will be reduced accordingly and then reground.

Step drill with 1 step – NC spot drills, short and long

- Point angle 90° and 120°



Cutting-Ø-range mm	Regrinding		Regrinding Coating TiN		Regrinding Coating TiAlN		Regrinding Coating TiN	
	Z0		Z0		Z0		Z0	
	Article no. 98 106 ...		Article no. 98 242 ...		Article no. 98 244 ...		Article no. 98 350 ...	
	£		£		£		£	
Ø 4.0 to Ø 6.0	11.41	060	14.84	060				
≤ Ø 8,0	11.41	080	14.84	080				
≤ Ø 10,0	11.41	100	14.84	100				
≤ Ø 12,0	12.56	120	15.97	120				
≤ Ø 14,0	13.69	140	18.26	140				
≤ Ø 16,0	14.84	160	19.40	160				
≤ Ø 18,0	17.13	180	23.97	180				
≤ Ø 20,0	17.13	200	25.11	200				

Grinding process:

- These tools are reground on the main cutting edge and receive, if present, their original coating.
- Stepped drills are also reground on the countersink angle.

WPC – High-performance drills

UNI

VA

- 3xD, 5xD, 8xD and 12xD hole depth



Cutting-Ø-range mm	Regrinding		Coating	
	TiAlN		Z0	
		Article no.	98 029 ...	
		£		
Ø 2.0 to Ø 6.0		15.97	060	
≤ Ø 8,0		17.13	080	
≤ Ø 10,0		17.13	100	
≤ Ø 12,0		22.83	120	
≤ Ø 14,0		22.83	140	
≤ Ø 16,0		28.53	160	
≤ Ø 18,0		28.53	180	
≤ Ø 20,0		31.95	200	

Grinding process:

- The drills are completely reground on the cutting edge.
- If the wear to the circular lands is excessive, the corresponding area is cut-off and then proceed as above.

WTX – High-performance drills

UNI

VA

H

GG

- 3xD, 5xD and 8xD hole depth



Cutting-Ø-range mm	Regrinding		Regrinding	
	Coating		Coating	
	Ti700		DPX74S	
	Z0		Z0	
		Article no.	Article no.	
		98 022 ...	98 002 ...	
		£		
Ø 2.0 to Ø 6.0		15.97	060	15.97 060
≤ Ø 8,0		18.26	080	18.26 080
≤ Ø 10,0		18.26	100	18.26 100
≤ Ø 12,0		23.97	120	23.97 120
≤ Ø 14,0		23.97	140	23.97 140
≤ Ø 16,0		29.67	160	29.67 160
≤ Ø 18,0		29.67	180	29.67 180
≤ Ø 20,0		33.10	200	33.10 200
≤ Ø 25,0		33.10	250	33.10 250

Grinding process:

- The drills are completely reground on the cutting edge.
- If the wear to the circular lands is excessive, the corresponding area is cut-off and then proceed as above.

WTX – High-performance drills

Quattro

- 5xD, 8xD and 12xD hole depth
- Article groups: **10 742 ...**, **10 747 ...**, **10 751 ...** and **10 755 ...**



Cutting-Ø-range mm		Regrinding	Coating
		Ti700	
		Z0	
		Article no.	
		98 031 ...	
		£	
Ø 3.0 to Ø 6.0		15.97	060
≤ Ø 8,0		18.26	080
≤ Ø 10,0		18.26	100
≤ Ø 12,0		23.97	120
≤ Ø 14,0		23.97	140
≤ Ø 16,0		29.67	160
≤ Ø 18,0		29.67	180
≤ Ø 20,0		42.23	200

Grinding process:

- The drills are completely reground on the cutting edge.
- If the wear to the circular lands is excessive, the corresponding area is cut-off and then proceed as above.

WTX – High-performance drills

Speed UNI	Speed VA	180	Feed UNI
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- 3xD, 5xD and 8xD hole depth
- WTX – Speed UNI/VA (**10 750 ...**, **10 754 ...**, **10 757 ...** and **10 773 ...**)
- WTX – 180 (**10 720 ...**, **10 721 ...**, **10 722 ...** and **10 723 ...**)
- WTX – Feed UNI (**10 790 ...** and **10 795 ...**)
- **Delivery time:** 20 working days



Cutting-Ø-range mm		Regrinding	Coating
		DPZ74S/Ti 800	
		Z0	
		Article no.	
		98 009 ...	
		£	
Ø 3.0 to Ø 6.0		22.83	060
≤ Ø 8,0		25.11	080
≤ Ø 10,0		28.53	100
≤ Ø 12,0		34.23	120
≤ Ø 14,0		35.37	140
≤ Ø 16,0		39.94	160
≤ Ø 18,0		42.23	180
≤ Ø 20,0		47.92	200

Grinding process:

- The drills are completely reground on the cutting edge.
- If the wear to the circular lands is excessive, the corresponding area is cut-off and then proceed as above.

WTX – High-performance drills

Ti

- 3xD: **10 786 ...** and 5xD: **10 787 ...** Hole depth
- **Delivery time:** 20 working days



Cutting-Ø-range mm	Regrinding	
	Coating	
	DPA54	
	Z0	
	Article no.	
	98 069 ...	
	£	
Ø 4.0 to Ø 6.0	21.68	060
≤ Ø 8,0	26.25	080
≤ Ø 10,0	27.38	100
≤ Ø 12,0	30.82	120
≤ Ø 14,0	33.10	140
≤ Ø 16,0	34.23	160
≤ Ø 18,0	37.66	180
≤ Ø 20,0	39.94	200

Grinding process:

- The drills are completely reground on the cutting edge.
- If the wear to the circular lands is excessive, the corresponding area is cut-off and then proceed as above.

WTX – High-performance drills

AL

- 5xD: **10 725 ...**, 8xD: **10 728 ...** and 12xD: **10 729 ...** Hole depth
- **Delivery time:** 20 working days



Cutting-Ø-range mm	Regrinding	
	Coating	
	Ti1005	
	Z0	
	Article no.	
	98 028 ...	
	£	
Ø 3.0 to Ø 6.0	21.68	060
≤ Ø 8,0	26.25	080
≤ Ø 10,0	27.38	100
≤ Ø 12,0	30.82	120
≤ Ø 14,0	33.10	140
≤ Ø 16,0	34.23	160
≤ Ø 18,0	37.66	180
≤ Ø 20,0	39.94	200

Grinding process:

- The drills are completely reground on the cutting edge.
- If the wear to the circular lands is excessive, the corresponding area is cut-off and then proceed as above.

WTX – High-performance drills

Finish BR	Finish BR100
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- 3xD: 10 760 ... and 10 761 ... and 5xD: 10 762 ... Hole depth



Cutting-Ø-range mm	Regrinding	
	Coating	
	Ti700	
	Z0	
	Article no.	
	98 023 ...	
	£	
Ø 3.97 to Ø 8.05	26.25	080
≤ Ø 10,05	29.67	100
≤ Ø 12,05	33.10	120
≤ Ø 14,05	36.52	140
≤ Ø 20,0	38.80	160

Grinding process:

- The drills are completely reground on the cutting edge.
- If the wear to the circular lands is excessive, the corresponding area is cut-off and then proceed as above.

i Drill reamers can usually be reground and recoated up to three times.

WTX – High performance deep hole drills

TB 16	TB 20	TB 25	TB 30	TB 40	TB 50
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- UNI ≤ 20xD 11 016 ..., 11 020 ... with TiAlN coating
- UNI ≤ 30xD 11 025 ..., 11 030 ... with TiAlN coating
- UNI ≤ 50xD 11 040 ..., 11 050 ... with TiAlN coating
- ALU ≤ 20xD 11 017 ..., 11 021 ... with DLC coating
- ALU ≤ 30xD 11 026 ..., 11 031 ... with DLC coating
- Delivery time:** 20 working days



Cutting-Ø-range mm	Regrinding		Regrinding		Regrinding	
	Coating		Coating		Coating	
	≤ 20xD		≤ 30xD		≤ 50xD	
	TiAlN/DLC		TiAlN/DLC		TiAlN/DLC	
	Z0		Z0		Z0	
	Article no.		Article no.		Article no.	
	98 026 ...		98 027 ...		98 050 ...	
	£		£		£	
Ø 2.0 to Ø 6.0	21.68	060	23.97	060	26.25	060
≤ Ø 8,0	25.11	080	26.25	080	30.82	080
≤ Ø 10,0	27.38	100	28.53	100	33.10	090
≤ Ø 12,0	29.67	120	30.82	120		

Grinding process:

- The drills are completely reground on the cutting edge.
- If the wear to the circular lands is excessive, the corresponding area is cut-off and then proceed as above.

WTX – Solid carbide drill head

Change
UNI

Change
P

Change
VA

Change
GG

Change
AL

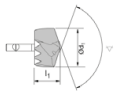
Article groups: 10 920 ..., 10 921 ..., 10 922 ..., 10 923 ... and 10 924 ...



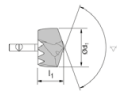
Cutting-Ø-range mm	Regrinding	
	Coating	
	Ti700/Ti750/TiSi/ TiB	
	Z0	
	Article no.	
	98 001 ...	
	£	
Ø 12.0 to Ø 15.5	29.67	155
≤ Ø 18,0	29.67	180
≤ Ø 20,0	31.95	200
≤ Ø 22,0	33.10	220
≤ Ø 24,0	33.10	240
≤ Ø 25,5	34.23	255
≤ Ø 28,0	36.52	280
≤ Ø 30,0	38.80	300
≤ Ø 32,49	41.08	320
≤ Ø 35,49	45.64	350
≤ Ø 38,49	50.21	380
≤ Ø 41,00	54.77	410

Grinding process:

- The drill heads are completely reground on the cutting edges and recoated with the original coating.
- Depending on the wear drills can be reground up to two times, critical head length is l_1 min.
- The drill head is marked accordingly.



	New Drill head length l_1	l_1 min. drill head length
for cutting-Ø-range	mm	mm
12,00 – 13,49	10,7	8,0
13,50 – 15,49	11,3	9,3
15,50 – 16,49	11,9	9,6
16,50 – 20,49	13,4	11,0
20,50 – 24,49	15,4	12,0
24,50 – 26,49	17,4	14,0



	New Drill head length l_1	l_1 min. drill head length
for cutting-Ø-range	mm	mm
26,50 – 30,49	17,4	15,0
30,50 – 32,49	18,4	16,0
32,50 – 35,49	24,30	22,0
35,50 – 38,49	26,30	23,0
38,50 – 41,00	26,30	24,0

WTX – Drilling Head for Exchangeable drills

**Change
FEED
UNI**

▪ Article group: 10 925 ...



Cutting-Ø-range mm	Regrinding	
	Coating	
	Ti750	
	NEW	Z0
	Article no.	
	98 093 ...	
	£	
Ø 14.0 to Ø 15.4	49.00	154
≤ Ø 17,40	52.20	174
≤ Ø 19,40	55.50	194
≤ Ø 22,40	58.20	224
≤ Ø 24,40	61.00	244
≤ Ø 26,40	68.90	264
≤ Ø 28,40	71.80	284
≤ Ø 30,40	76.00	304
≤ Ø 32,00	79.10	320

Grinding process:

- The drill heads are completely reground on the cutting edges and recoated with the original coating.
- Depending on the wear drills can be reground up to two times, critical head length is l_1 min.
- The drill head is marked accordingly.

WTX – Step drills

SB

▪ Article groups: 10 758 ... and 10 759 ...



Cutting-Ø-range mm	Regrinding	
	Coating	
	Ti700	
	Z0	
	Article no.	
	98 025 ...	
	£	
Ø 2.5 to Ø 6.0	18.26	060
≤ Ø 8,0	20.54	080
≤ Ø 10,0	22.83	100
≤ Ø 12,0	26.25	120
≤ Ø 14,0	27.38	140
≤ Ø 16,0	29.67	160
≤ Ø 18,0	31.95	180

Grinding process:

- These tools are reground on the main cutting edge and the countersink angle and recoated.

WTX – Configurable step drills

UNI

VA

▪ Item groups: 10 991 ..., 10 992 ..., 10 993 ..., 10 994 ..., 10 995 ..., 10 996 ..., 10 997 ... and 10 998 ...



Shank Ø mm	Regrinding	
	Coating	
	DPX74S/Ti 700	
	Z0	
	Article no.	
	98 991 ...	
	£	
Ø 4	24.31	040
Ø 6	24.31	060
Ø 8	26.02	080
Ø 10	27.38	100
Ø 12	29.22	120
Ø 14	30.46	140
Ø 16	31.84	160

Grinding process:

- These tools are reground on the main cutting edge and the countersink angle and recoated.

Twist drill – Standard version

N

- 3xD and 5xD hole depth
- Article groups: 10 700 ... and 10 710 ...



Cutting-Ø-range mm	Regrinding	
	Z0	
	Article no.	
	98 307 ...	
	£	
Ø 3.0 to Ø 11.9	5.71	119
≤ Ø 20,0	9.12	200

Grinding process:

- The drills are reground on the main cutting edge.
- If the wear to the circular lands is excessive, the corresponding area is cut-off and then proceed as above.

Three-flute drills

N

- Up to 3xD hole depth
- Article group: **10 715 ...**



Cutting-Ø-range mm	Regrinding	
	Z0	
	Article no.	
	98 132 ...	
	£	
Ø 3.0 to Ø 4.0	13.69	040
≤ Ø 6,0	13.69	060
≤ Ø 8,0	15.97	080
≤ Ø 10,0	17.13	100
≤ Ø 12,0	19.40	120
≤ Ø 14,0	20.54	140
≤ Ø 16,0	21.68	160
≤ Ø 18,0	22.83	180
≤ Ø 20,0	25.11	200

Grinding process:

- The drills are reground on the main cutting edge.
- If the wear to the circular lands is excessive, the corresponding area is cut-off and then proceed as above.

NC spot drills

NC-A

- Point Angle 90°, 120°, 142°



Cutting-Ø-range mm	Regrinding		Regrinding	
	Z0		Coating	
	Article no.		TiAlN	
	98 135 ...		Z0	
	£		Article no.	
			98 243 ...	
			£	
Ø 3.0 to Ø 4.0	10.28	040	13.69	040
≤ Ø 6,0	10.28	060	13.69	060
≤ Ø 8,0	13.69	080	18.26	080
≤ Ø 10,0	13.69	100	18.26	100
≤ Ø 12,0	13.69	120	18.26	120
≤ Ø 14,0	15.97	140	20.54	140
≤ Ø 16,0	15.97	160	22.83	160
≤ Ø 18,0	15.97	180	25.11	180
≤ Ø 20,0	15.97	200	26.25	200

Grinding process:

- These tools are reground on the main cutting edge and receive, if present, their original coating.

DIHART Monomax[®] – High Performance Reamers, short / long

- For intermediate sizes and special tolerances
- From 2 pcs per size you get 12 %, from 5 items 15 % volume discount
- **Lead Time:** 15 working days for CWC 10 version and 20 working days for CWN 10 version



Cutting-Ø-range mm	Retipping		Retipping Coating		Retipping		Retipping Coating	
	short		short		long		long	
	CWC10		CWN10		CWC10		CWN10	
	XX		XX		XX		XX	
	Article no. 98 620 ...		Article no. 98 600 ...		Article no. 98 621 ...		Article no. 98 601 ...	
	£		£		£		£	
Ø 5.6 to Ø 8.89	168.88	056	168.88	056	168.88	056	168.88	056
≤ Ø 9,89					240.78	089	190.56	089
≤ Ø 15,89	240.78	089	190.56	089	251.04	099	217.95	099
≤ Ø 18,89	256.75	159	240.78	159	256.75	159	240.78	159
≤ Ø 25,89	304.68	189	304.68	189	304.68	189	304.68	189

Grinding process:

- The segments are removed, new segments brazed in, ground and coated if required.

DIHART Monomax[®] – High Performance Reamers, short / long

- For preferred diameter within H7
- **Lead Time:** 15 working days for CWC 10 version and 20 working days for CWN 10 version



Cutting-Ø-range mm	Retipping		Retipping Coating		Retipping		Retipping Coating	
	short		short		long		long	
	CWC10		CWN10		CWC10		CWN10	
	Z0		Z0		Z0		Z0	
	Article no. 98 620 ...		Article no. 98 600 ...		Article no. 98 621 ...		Article no. 98 601 ...	
	£		£		£		£	
Ø 6,0	155.19	060	155.19	060	155.19	060	155.19	060
Ø 8,0	159.76	080	159.76	080	159.76	080	159.76	080
Ø 10,0	174.59	100	174.59	100	174.59	100	174.59	100
Ø 12,0	179.16	120	179.16	120	179.16	120	179.16	120
Ø 14,0	191.70	140	191.70	140	191.70	140	191.70	140
Ø 15,0	196.27	150	196.27	150	196.27	150	196.27	150
Ø 16,0	200.83	160	200.83	160	200.83	160	200.83	160
Ø 18,0	215.67	180	215.67	180	215.67	180	215.67	180
Ø 20,0	231.65	200	231.65	200	231.65	200	231.65	200

Grinding process:

- The segments are removed, new segments brazed in, ground and coated if required.

Solid carbide machine reamers

UNI HSR	VA HSR	H HSR
--------------------	-------------------	------------------

- UNI-HSR / TiAlN: **40 460 ...**, **40 461 ...** and **40 465 ...**
- VA-HSR / TiAlN: **40 450 ...** – **40 455 ...**
- H-HSR / AlTiN: **40 456 ...**, **40 457 ...** and **40 458 ...**



Cutting-Ø-range mm	Regrinding Coating TiAlN Z0 Article no. 98 652 ... £		Regrinding Coating AlTiN Z0 Article no. 98 654 ... £	
	026		026	
	060		060	
	140		140	
Ø 2.80 to Ø 6.20	46.79	026	46.79	026
≤ Ø 14,2	50.21	060	50.21	060
≤ Ø 20,2	54.77	140	54.77	140

Grinding process:

- With these tools, the end, the tooth face, and the diameter is brought forward by default.
- Maximum two regrinds.

CBN and PCD – Inserts

- Exclusively WNT products
- Price per piece
- **Lead Time:** 20 working days

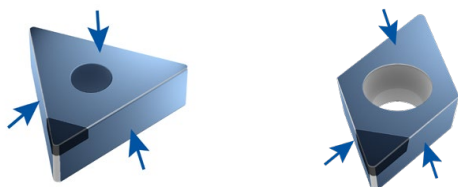


Entire cutting edge

		Regrinding XX	Regrinding XX	Regrinding NEW XX
		Article no. 98 640 ...	Article no. 98 641 ...	Article no. 98 642 ...
		£	£	£
PKD – PDC entire cutting edge	1 - 9			50.00 001
	10 - 24			45.00 001
	25 - 49			40.00 001
	50 - 99			36.00 001
	≥ 100			32.00 001
CBN – PBC10 / PBC25 / PBC40 / SBC1 / SBC25	1 - 9		20.02 001	
	10 - 24		16.95 001	
	25 - 49		13.87 001	
	50 - 99		12.33 001	
	≥ 100		10.28 001	
PKD – PDC / PDC-S	1 - 9	38.51 001		
	10 - 24	35.44 001		
	25 - 49	30.82 001		
	50 - 99	27.73 001		
	≥ 100	23.97 001		

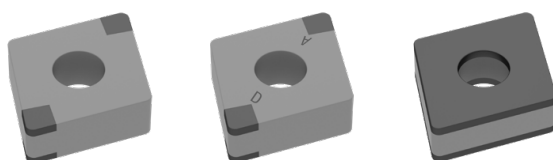
i The prices listed apply per order and item for WNT products only.
Regrinding is only performed if the segment is still suitable.

CBN – PBC10 / PBC25 / PBC40 / SBC1 / SBC25



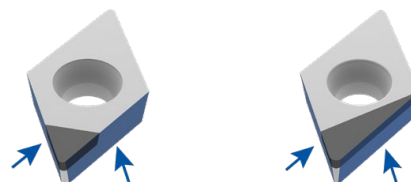
The surfaces indicated are reground

The following indexable inserts can only be reground upon special request:



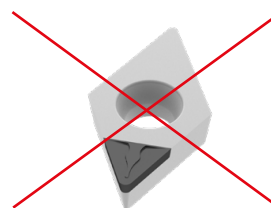
CNMX 1204..

PKD – PDC / PDC-S



The surfaces indicated are reground

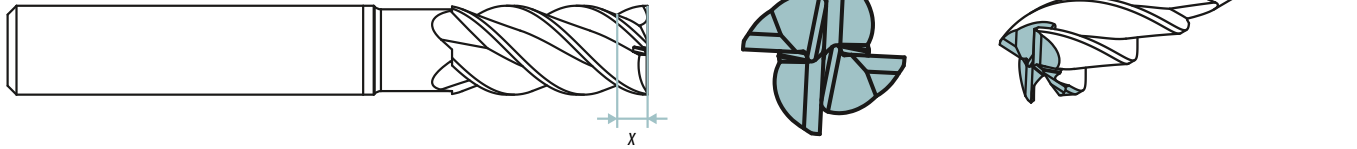
Indexable inserts with lasered chip breakers cannot be reground.



What effect does regrounding have on the milling cutter?

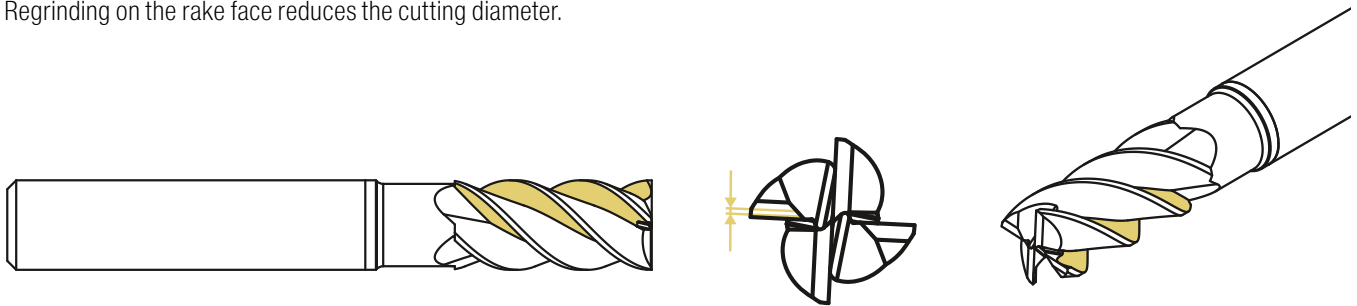
End

If the end geometry is too heavily worn, this will be cut off and reground.
As a result, the tool length (cutting length) will be reduced by the dimension „X“ that has been cut off.



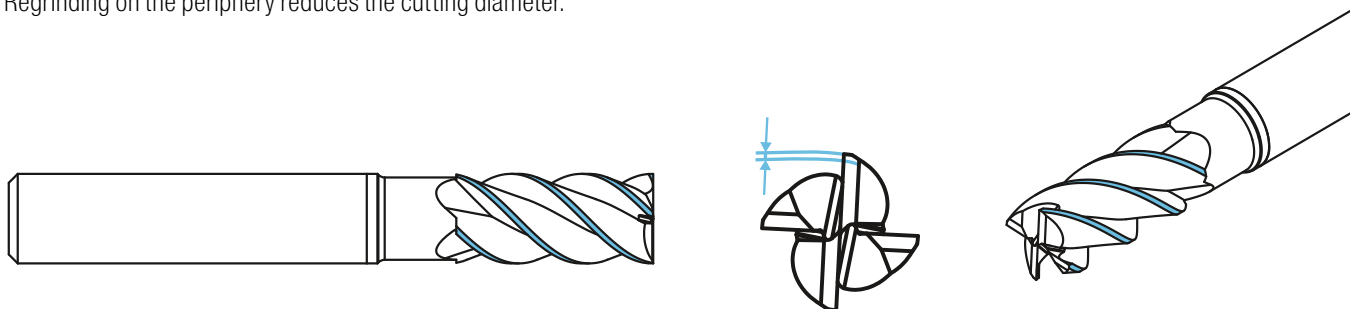
Rake faces

Regrinding on the rake face reduces the cutting diameter.



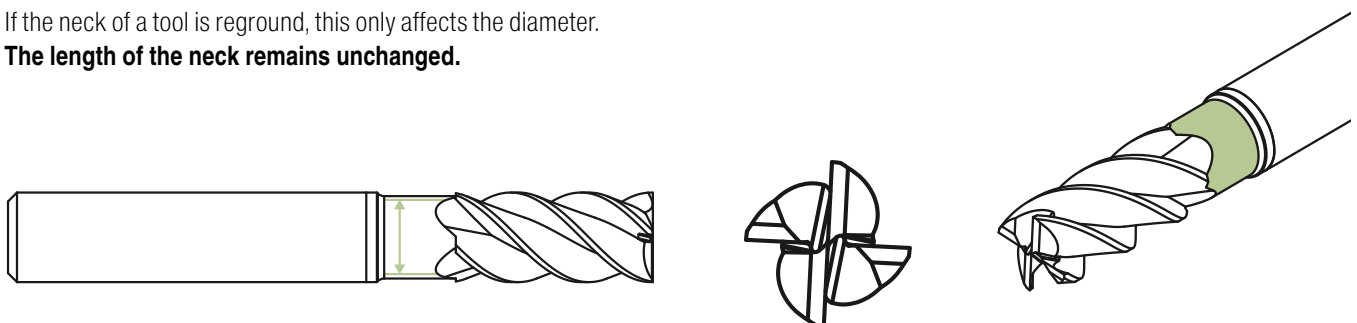
Diameter

Regrinding on the periphery reduces the cutting diameter.



Neck

If the neck of a tool is reground, this only affects the diameter.
The length of the neck remains unchanged.



List of contents

			Endmill	Ball nose end milling cutters	Slot and T-slot milling cutters	Shell end cutters	Side and face milling cutters
HSS Milling Cutters			25-27	27	28	28	29
High-performance solid carbide milling cutters			Endmill	Ball nose end milling cutters	Torus end milling cutters	High Feed Cutter	Form / chamfering and die-sinking cutters
SCR	MonsterMill		30-32	53	53		
ICR	MonsterMill		32				
TCR	MonsterMill		33				
MCR	MonsterMill		34				
ACR	MonsterMill		34+35				
PCR	MonsterMill		35+36				
CCR	CircularLine		36-38				
SC	S-Cut		38+39				
N	SilverLine		40+41	54	57		
W	AluLine		41-43	55+56	58		
H	BlueLine		44+45	54			
Solid carbide milling cutters for standard applications			46-52			59	59+60

End milling cutter

N

Article groups: 50 000 ..., 50 001 ... and 50 002 ...



Cutting-Ø-range mm	Regrinding Neck		Regrinding Neck		Regrinding Neck	
	Coating short		Coating medium		Coating long	
	Al200Pro		Al200Pro		Al200Pro	
	Z0		Z0		Z0	
	Article no. 98 275 ...		Article no. 98 276 ...		Article no. 98 277 ...	
	£		£		£	
Ø 6,0	5.80	060	6.52	060	7.42	060
Ø 8,0	7.74	080	8.38	080	8.75	080
Ø 10,0	8.14	100	9.05	100	9.49	100
Ø 12,0	9.41	120	9.68	120	11.05	120
Ø 16,0	13.69	160	14.42	160	16.43	160
Ø 20,0	19.90	200	21.37	200	24.28	200

Grinding process:

- Standard cutters are reground on the end and on the rake face.
- If the wear width is too large, the outside diameter is ground.
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.

Powdersteel end milling cutter

H

Article groups: 50 007 ... and 50 008 ...



Cutting-Ø-range mm	Regrinding Neck		Regrinding Neck	
	Coating short		Coating long	
	Ti200Pro		Ti200Pro	
	Z0		Z0	
	Article no. 98 281 ...		Article no. 98 282 ...	
	£		£	
Ø 25,0	99.50	252	128.72	252
Ø 25,0	104.07	254	132.36	254
Ø 32,0	160.67	322	208.13	322
Ø 32,0	165.23	324	212.70	324

Grinding process:

- Standard cutters are reground on the end and on the rake face.
- If the wear width is too large, the outside diameter is ground.
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.

Powdersteel fine roughing cutter

HR

Article groups: 50 004 ..., 50 005 ... and 50 006 ...



Cutting-Ø-range mm	Regrinding Neck		Regrinding Neck		Regrinding Neck	
	Coating short		Coating medium		Coating long	
	Al200Pro		Al200Pro		Al200Pro	
	Z0		Z0		Z0	
	Article no. 98 278 ...		Article no. 98 279 ...		Article no. 98 280 ...	
	£		£		£	
Ø 6,0	9.05	060	13.88	060	15.79	060
Ø 8,0	9.58	080	16.89	080	19.17	080
Ø 10,0	10.50	100	18.17	100	20.63	100
Ø 12,0	12.14	120	20.45	120	23.28	120
Ø 16,0	15.70	160	27.30	160	31.04	160
Ø 20,0	23.10	200	37.52	200	42.63	200

Grinding process:

- Standard cutters are reground on the end and on the rake face.
- If the wear width is too large, the outside diameter is ground.
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.

End mills with a cutting length of up to 3xD

Finish, Rough-Finish and Rough Versions



Cutting-Ø-range mm	Regrinding		Regrinding		Regrinding Neck		Regrinding Neck	
	Coating		Coating		Ti100 Black		Coating	
	Ti100 Black		Ti100 Black		Ti100 Black		Ti100 Black	
	Z0		Z0		Z0		Z0	
	Article no. 98 110 ...		Article no. 98 008 ...		Article no. 98 386 ...		Article no. 98 004 ...	
	£		£		£		£	
Ø 6.01 to Ø 8.00	11.41	080	14.84	080	17.13	080	19.40	080
≤ Ø 10,0	11.41	100	14.84	100	17.13	100	20.54	100
≤ Ø 12,0	11.41	120	15.97	120	17.13	120	21.68	120
≤ Ø 14,0	11.41	140	15.97	140	17.13	140	21.68	140
≤ Ø 16,0	12.56	160	18.26	160	18.26	160	22.83	160
≤ Ø 18,0	12.56	180	20.54	180	18.26	180	26.25	180
≤ Ø 20,0	12.56	200	21.68	200	18.26	200	27.38	200
≤ Ø 22,0	13.69	220	25.11	220	18.26	220	29.67	220
≤ Ø 26,0	17.13	260	28.53	260	21.68	260	31.95	260
≤ Ø 32,0	17.13	320	29.67	320	21.68	320	34.23	320
≤ Ø 36,0	22.83	360	41.08	360	26.25	360	45.64	360
≤ Ø 40,0	26.25	400	57.06	400	30.82	400	61.61	400

Grinding process:

- Standard cutters are reground on the end and on the rake face.
- If the wear width is too large, the outside diameter is ground.
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.

End mills with a cutting length of 3xD to 5xD

- Finish, Rough-Finish and Rough Versions



Cutting-Ø-range mm	Regrinding		Regrinding		Regrinding Neck		Regrinding Neck	
			Coating				Coating	
			Ti100 Black				Ti100 Black	
	Z0		Z0		Z0		Z0	
	Article no.		Article no.		Article no.		Article no.	
	98 111 ...		98 003 ...		98 387 ...		98 007 ...	
	£		£		£		£	
Ø 6.01 to Ø 8.00	14.84	080	17.13	080	19.40	080	22.83	080
≤ Ø 10,0	14.84	100	18.26	100	20.54	100	22.83	100
≤ Ø 12,0	19.40	120	23.97	120	25.11	120	28.53	120
≤ Ø 14,0	19.40	140	25.11	140	25.11	140	29.67	140
≤ Ø 16,0	23.97	160	30.82	160	28.53	160	34.23	160
≤ Ø 18,0	23.97	180	30.82	180	28.53	180	36.52	180
≤ Ø 20,0	23.97	200	33.10	200	28.53	200	37.66	200
≤ Ø 22,0	23.97	220	35.37	220	35.37	220	39.94	220
≤ Ø 26,0	27.38	260	42.23	260	31.95	260	44.51	260
≤ Ø 32,0	30.82	320	45.64	320	35.37	320	47.92	320
≤ Ø 36,0	35.37	360			39.94	360		
≤ Ø 40,0	38.80	400	69.62	400	43.37	400	73.03	400

Grinding process:

- Standard cutters are reground on the end and on the rake face.
- If the wear width is too large, the outside diameter is ground.
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.

Ball-nosed end mills

- Z = number of flutes

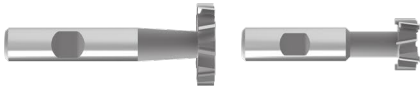


Cutting-Ø-range mm	Regrinding		Regrinding		Regrinding Coating		Regrinding Coating	
	Z = 2		Z ≤ 5		Z = 2		Z ≤ 5	
	Z0		Z0		Z0		Z0	
	Article no.		Article no.		Article no.		Article no.	
	98 120 ...		98 121 ...		98 006 ...		98 043 ...	
	£		£		£		£	
Ø 6.01 to Ø 8.00	14.84	080	20.54	080	17.13	080	25.11	080
≤ Ø 10,0	14.84	100	21.68	100	18.26	100	25.11	100
≤ Ø 12,0	14.84	120	22.83	120	18.26	120	26.25	120
≤ Ø 14,0	14.84	140	22.83	140	19.40	140		
≤ Ø 16,0	23.97	160	30.82	160	28.53	160	35.37	160
≤ Ø 18,0	23.97	180	30.82	180	30.82	180		
≤ Ø 20,0	23.97	200	30.82	200			38.80	200
≤ Ø 22,0	25.11	220	30.82	220	34.23	220		
≤ Ø 26,0	33.10	260	42.23	260	43.37	260	52.49	260
≤ Ø 32,0	42.23	320	45.64	320				

Grinding process:

- Ball Nosed cutters are reground only on the end, because grinding the rake face of the cutting diameter would make the radius smaller!
- Radius tolerance ± 0,05 mm

Slot and T-slot milling cutters



Cutting-Ø-range mm	Regrinding only on the periphery		Regrinding complete	
	Z0		Z0	
	Article no. 98 070 ...	£	Article no. 98 071 ...	£
Ø 10.5 to Ø 16.0	17.13	160	25.11	160
≤ Ø 22,0	20.54	220	30.82	220
≤ Ø 36,0	29.67	360	42.23	360
≤ Ø 45,0	37.66	450	49.08	450
≤ Ø 60,0	42.23	600	60.48	600

Grinding process:

- With low wear the tool is reground only on the periphery.
- If the clearance angle is too worn, the tool is completely reground.

Face milling cutters, DIN 1880

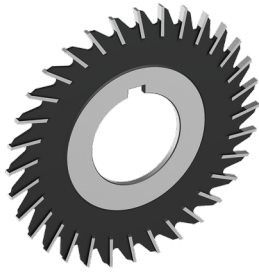


Cutting-Ø-range mm	Regrinding		Regrinding Coating Ti100 Black	
	Z0		Z0	
	Article no. 98 073 ...	£	Article no. 98 005 ...	£
Ø 40,0	19.40	040	30.82	040
Ø 50,0	22.83	050	35.37	050
Ø 63,0	27.38	063	45.64	063
Ø 80,0	36.52	080	73.03	080
Ø 100,0	49.08	100	108.41	100
Ø 125,0	53.63	125		

Grinding process:

- Shell mills and saws are reground on the rake angle and periphery!

Side and face milling cutters, DIN 1834



Cutting-Ø-range mm	Regrinding		Regrinding		Regrinding	
	cross cut		straight cut		coarse cross cut	
	Z0		Z0		Z0	
	Article no. 98 090 ...		Article no. 98 091 ...		Article no. 98 092 ...	
	£		£		£	
Ø 63,0	26.25	063	29.67	063	20.54	063
Ø 80,0	29.67	080	33.10	080	21.68	080
Ø 100,0	33.10	100	36.52	100	23.97	100
Ø 125,0	37.66	125	41.08	125	26.25	125
Ø 160,0	44.51	160	47.92	160	28.53	160

Grinding process:

- Shell mills and saws are reground on the rake angle and periphery!

Side and face milling cutters, DIN 885 A



Cutting-Ø-range mm	Regrinding		Regrinding	
	coarse cross cut		fine cross cut	
	Z0		Z0	
	Article no. 98 085 ...		Article no. 98 084 ...	
	£		£	
Ø 50,0	20.54	050	26.25	050
Ø 63,0	20.54	063	26.25	063
Ø 80,0	21.68	080	30.82	080
Ø 100,0	25.11	100	33.10	100
Ø 125,0	27.38	125	35.37	125
Ø 160,0	30.82	160	37.66	160

Grinding process:

- Shell mills and saws are reground on the rake angle and periphery!

MonsterMill – End milling cutter

SCR

HPC

- Article groups: 52 600 ..., 52 601 ..., 52 602 ..., 52 603 ... and 52 604 ...
- Z = number of flutes



Cutting-Ø-range mm	Regrinding		Regrinding	
	Coating		Coating	
	Z = 4		Z = 5	
	Ti1200		Ti1200	
	Z0		Z0	
	Article no. 98 670 ...		Article no. 98 670 ...	
	£		£	
Ø 6,0	10.28	060		
≤ Ø 8,0	12.56	080		
≤ Ø 10,0	17.13	100		
≤ Ø 12,0	27.38	120		
≤ Ø 14,0	34.23	140		
≤ Ø 16,0	43.37	160	45.64	161
≤ Ø 18,0	58.20	180	61.61	181
≤ Ø 20,0	66.18	200	69.62	201

Grinding process:

- These tools are reground on the end, on the rake face and the outside Ø.
- When present the neck Ø is reground.
- Depending on wear the tools can be reground up to 2 times.
- If the end is severely worn, the tool will be cut-off and reground.

MonsterMill – End milling cutter

SCR

HPC

- Article group: 52 605 ...
- Z = number of flutes



Cutting-Ø-range mm	Regrinding		Regrinding	
	Coating		Coating	
	Z = 4		Z = 5	
	Ti1200		Ti1200	
	Z0		Z0	
	Article no. 98 671 ...		Article no. 98 671 ...	
	£		£	
Ø 6,0	11.41	060		
Ø 8,0	14.84	080		
Ø 10,0	19.40	100		
Ø 12,0	30.82	120		
Ø 14,0	42.23	140		
Ø 16,0	51.36	160	53.63	161
Ø 18,0	71.89	180	75.32	181
Ø 20,0	81.02	200	84.44	201

Grinding process:

- These tools are reground on the end, on the rake face and the outside Ø.
- When present the neck Ø is reground.
- Depending on wear the tools can be reground up to 2 times.
- If the end is severely worn, the tool will be cut-off and reground.

MonsterMill – End milling cutter

SCR

HPC

▪ Article group: 52 606 ...



Cutting-Ø-range mm	Regrinding	
	Coating	
	with IK	
	Ti1200	
	Z0	
	Article no.	
	98 672 ...	
	£	
Ø 6,0	12.56	060
Ø 8,0	15.97	080
Ø 10,0	20.54	100
Ø 12,0	31.95	120
Ø 14,0	44.51	140
Ø 16,0	54.77	160
Ø 18,0	75.32	180
Ø 20,0	86.72	200

Grinding process:

- These tools are reground on the end, on the rake face and the outside Ø.
- If the end is severely worn, the tool will be cut-off and reground.
- Depending on wear the tools can be reground up to 2 times.

MonsterMill – End milling cutter

SCR

HPC

▪ Article group: 52 608 ... / Number of teeth = 6



Cutting-Ø-range mm	Regrinding		Regrinding	
	Coating		Coating	
	short/long		extra long	
	Ti1200		Ti1200	
	Z0		Z0	
	Article no.		Article no.	
	98 674 ...		98 674 ...	
	£		£	
Ø 6,0	12.56	060	14.84	062
Ø 8,0	17.13	080	19.40	082
Ø 10,0	22.83	100	25.11	102
Ø 12,0	35.37	120	39.94	122
Ø 16,0	55.92	160	65.05	162
Ø 20,0	86.72	200	103.85	202

Grinding process:

- These tools are reground on the end, on the rake face and the outside Ø.
- If the end is severely worn, the tool will be cut-off and reground.
- Depending on wear the tools can be reground up to 2 times.

MonsterMill – End milling cutter with corner radius

SCR

HPC

▪ Article group: 52 607 ...



Cutting-Ø-range mm	Regrinding	
	Coating	
	Ti1200	
	Z0	
	Article no.	
	98 673 ...	
	£	
Ø 6,0	11.41	060
Ø 8,0	14.84	080
Ø 10,0	19.40	100
Ø 12,0	30.82	120
Ø 14,0	38.80	140
Ø 16,0	49.08	160
Ø 20,0	75.32	200

Grinding process:

- These tools are completely reground on the periphery, end and waist.
- For tools with reduced neck, the neck Ø will also be reground.
- Depending on the amount of wear, the tool can be reground up to two times.
- If the end is too severely worn, the end will be cut off and the tool reground.
- Radius tolerance $\pm 0,01$ mm

MonsterMill – End milling cutter

ICR

HPC

▪ Article groups: 52 784 ... and 52 786 ...



Cutting-Ø-range mm	Regrinding		Regrinding		Regrinding		Regrinding		Regrinding	
	Coating		Coating		Coating		Coating		Coating	
	52 784 ..1		52 784 ..2 52 784 ..6		52 784 ..5		52 784 ..3 52 786 ..3		52 784 ..4 52 786 ..4	
	Ti1500		Ti1500		Ti1500		Ti1500		Ti1500	
	Z0		Z0		Z0		Z0		Z0	
	Article no.		Article no.		Article no.		Article no.		Article no.	
	98 661 ...		98 661 ...		98 661 ...		98 666 ...		98 666 ...	
	£		£		£		£		£	
Ø 6,0			13.69	062					14.84	062
Ø 8,0			15.97	082					17.13	082
Ø 10,0			20.54	102					22.83	102
Ø 12,0			27.38	122					29.67	122
Ø 14,0			38.80	142					42.23	142
Ø 16,0	49.08	163	47.92	162	45.64	164	50.21	163	52.49	162
Ø 18,0	65.05	183	65.05	182	60.48	184	65.05	183	68.47	182
Ø 20,0	74.17	203	74.17	202	69.62	204	76.46	203	81.02	202

Grinding process:

- These tools are completely reground on the external Ø, end and waist as well as the reduced neck and then recoated.
- Depending on the amount of wear, the tool can be reground up to two times.
- If the end is too severely worn, the end will be cut off and the tool reground.

MonsterMill – End milling cutter

TCR

HPC

- Article groups: 52 500 ... and 52 501 ...
- Delivery time: 20 working days



Cutting-Ø-range mm	Regrinding		Regrinding	
	Coating		Neck	
	AlTi		Coating	
	Z0		AlTi	
	Article no.		Article no.	
	98 189 ...		98 239 ...	
	£		£	
Ø 5,0	10.28	050	15.97	050
Ø 6,0	11.41	060	15.97	060
Ø 8,0	11.41	080	17.13	080
Ø 10,0	13.69	100	19.40	100
Ø 12,0	18.26	120	23.97	120
Ø 16,0	21.68	160	27.38	160
Ø 20,0	27.38	200	31.95	200

Grinding process:

- These tools are reground on the end and on the rake face.
- If the wear width is too large, the outside diameter is ground.
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.

MonsterMill – End milling cutter with corner radius

TCR

HPC

- Article group: 52 502 ...
- Delivery time: 20 working days



Cutting-Ø-range mm	Regrinding		Regrinding	
	Coating		Neck	
	AlTi		Coating	
	Z0		AlTi	
	Article no.		Article no.	
	98 188 ...		98 238 ...	
	£		£	
Ø 5,0	11.41	050	17.13	050
Ø 6,0	11.41	060	17.13	060
Ø 8,0	12.56	080	18.26	080
Ø 10,0	13.69	100	19.40	100
Ø 12,0	19.40	120	23.97	120
Ø 16,0	23.97	160	29.67	160
Ø 20,0	28.53	200	34.23	200

Grinding process:

- Cutters with corner radius will be reground on the end, the rake face and the radius.
- If the wear width is too large, the outside diameter is ground.
- If the end is severely worn, the tool will be cut-off and reground.
- Radius tolerance $\pm 0,05$ mm

MonsterMill – Rough milling cutter

MCR

▪ Article group: 52 752 ...



Cutting-Ø-range mm	Regrinding Coating short Ti1000 Z0 Article no. 98 659 ... £		Regrinding Coating long Ti1000 Z0 Article no. 98 659 ... £		Regrinding Coating extra long Ti1000 Z0 Article no. 98 659 ... £	
Ø 6,0	19.40	060	20.54	061	19.40	062
Ø 8,0	21.68	080	25.11	081	21.68	082
Ø 10,0	23.97	100	26.25	101	25.11	102
Ø 12,0	29.67	120	31.95	121	30.82	122
Ø 14,0	34.23	140	35.37	141	36.52	142
Ø 16,0	47.92	160	51.36	161	51.36	162
Ø 20,0	63.90	200	67.33	201	69.62	202

Grinding process:

- These tools are completely reground on the ripper profile, end and waist as well as the reduced neck and then recoated.
- Depending on the amount of wear, the tool can be reground up to two times.
- If the end is too severely worn, the end will be cut off and the tool reground.

MonsterMill – Rough milling cutter

ACR

▪ Article group: 52 754 ...



Cutting-Ø-range mm	Regrinding Z0 Article no. 98 660 ... £	
Ø 6,0	29.67	060
Ø 8,0	34.23	080
Ø 10,0	39.94	100
Ø 12,0	51.36	120
Ø 16,0	67.33	160
Ø 20,0	100.41	200
Ø 25,0	148.34	250

Grinding process:

- These tools are completely reground on the ripper profile, end and waist as well as the reduced neck.
- Depending on the amount of wear, the tool can be reground up to two times.
- If the end is too severely worn, the end will be cut off and the tool reground.

MonsterMill – Rough milling cutter with corner radius

ACR

▪ Article group: 52 754 ...



Cutting-Ø-range mm	Regrinding	
	Z0	
	Article no.	
	98 660 ...	
	£	
Ø 12,0	55.92	126
Ø 16,0	74.17	166
Ø 20,0	110.69	206
Ø 25,0	163.18	256

Grinding process:

- These tools are completely reground on the ripper profile, end and waist as well as the reduced neck.
- Depending on the amount of wear, the tool can be reground up to two times.
- If the end is too severely worn, the end will be cut off and the tool reground.
- Radius tolerance $\pm 0,01$ mm

MonsterMill – End milling cutter with corner radius

PCR
UNI

HPC

▪ Article groups: 52 613 ... – 52 615 ...



Cutting-Ø-range mm	Regrinding		Regrinding	
	Coating		Neck	
	short		Coating	
	APA72S		long/extra long	
	APA72S		APA72S	
	NEW	Z0	NEW	Z0
	Article no.		Article no.	
	98 067 ...		98 068 ...	
	£		£	
Ø 6,0	41.57	060	44.30	060
≤ Ø 8,0	44.76	080	47.96	080
≤ Ø 10,0	48.59	100	52.04	100
≤ Ø 12,0	53.40	120	57.51	120
≤ Ø 14,0	56.29	140	59.62	140
≤ Ø 16,0	62.14	160	67.17	160
≤ Ø 18,0	65.82	180	71.28	180
≤ Ø 20,0	72.22	200	78.58	200

Grinding process:

- These tools are completely reground on the external Ø, end and waist as well as the reduced neck and then recoated.
- Depending on the amount of wear, the tool can be reground up to two times.
- Radius tolerance $\pm 0,03$ mm

MonsterMill – End milling cutter with corner radius

PCR
ALU

HPC

Article groups: 52 616 ... and 52 617 ...



Cutting-Ø-range mm	Regrinding	
	Neck	Coating
	long/extra long	DLC
	NEW Z0	
	Article no.	
	98 094 ...	
	£	
Ø 8,7 bis Ø 10	104.38	100
≤ Ø 12,0	118.23	120
≤ Ø 14,0	131.71	140
≤ Ø 16,0	142.84	160
≤ Ø 18,0	155.87	180
≤ Ø 20,0	174.26	200

Grinding process:

- These tools are completely reground on the external Ø, end and waist as well as the reduced neck and then recoated.
- Depending on the amount of wear, the tool can be reground up to two times.
- Radius tolerance ± 0,03 mm

CircularLine – End milling cutter

CCR
UNI

HPC

Article groups: 53 585 ... and 53 587 ... – 53 589 ...



Cutting-Ø-range mm	Regrinding		Regrinding		Regrinding		Regrinding	
	Neck		Neck		Neck		Neck	
	Coating		Coating		Coating		Coating	
	short/long		short/long		extra long		extra long	
	DPX72S		DPX72S		DPX72S		DPX72S	
	Z0		Z0		Z0		Z0	
	Article no.		Article no.		Article no.		Article no.	
	98 203 ...		98 204 ...		98 207 ...		98 208 ...	
	£		£		£		£	
Ø 6,0	21.68	060	26.25	060	22.83	060	28.53	060
Ø 8,0	21.68	080	27.38	080	23.97	080	29.67	080
Ø 10,0	23.97	100	29.67	100	27.38	100	31.95	100
Ø 12,0	26.25	120	31.95	120	30.82	120	36.52	120
Ø 16,0	31.95	160	37.66	160	35.37	160	41.08	160
Ø 20,0	37.66	200	43.37	200	41.08	200	46.79	200

Grinding process:

- These tools are completely reground on the external Ø, end and waist as well as the reduced neck and then recoated.
- Depending on the amount of wear, the tool can be reground up to two times.

CircularLine – End milling cutter with corner radius

CCR
UNI

HPC

Article group: 53 586 ..., 53 592 ... and 53 593 ...



Cutting-Ø-range mm	Regrinding		Regrinding Neck		Regrinding		Regrinding Neck	
	Coating		Coating		Coating		Coating	
	short/long		short/long		extra long		extra long	
	DPX72S		DPX72S		DPX72S		DPX72S	
	Z0		Z0		Z0		Z0	
	Article no. 98 205 ...		Article no. 98 206 ...		Article no. 98 209 ...		Article no. 98 210 ...	
	£		£		£		£	
Ø 6,0	22.83	060	28.53	060	23.97	060	26.25	060
Ø 8,0	25.11	080	30.82	080	25.11	080	28.53	080
Ø 10,0	28.53	100	34.23	100	29.67	100	33.10	100
Ø 12,0	30.82	120	36.52	120	36.52	120	39.94	120
Ø 16,0	37.66	160	43.37	160	45.64	160	49.08	160
Ø 20,0	43.37	200	49.08	200	57.06	200	60.48	200

Grinding process:

- These tools are completely reground on the external Ø, end and waist as well as the reduced neck and then recoated.
- Depending on the amount of wear, the tool can be reground up to two times.
- Radius tolerance ± 0,05 mm

CircularLine – End milling cutter

CCR
AL

HPC

Article groups: 53 590 ... and 53 591 ...



Cutting-Ø-range mm	Regrinding		Regrinding Neck		Regrinding		Regrinding Neck	
	Coating		Coating		Coating		Coating	
	long		long		extra long		extra long	
	DPX72S		DPX72S		DPX72S		DPX72S	
	Z0		Z0		Z0		Z0	
	Article no. 98 245 ...		Article no. 98 246 ...		Article no. 98 249 ...		Article no. 98 250 ...	
	£		£		£		£	
Ø 6,0	19.40	060	21.68	060	20.54	060	22.83	060
Ø 8,0	20.54	080	23.97	080	21.68	080	25.11	080
Ø 10,0	22.83	100	26.25	100	25.11	100	27.38	100
Ø 12,0	29.67	120	33.10	120	31.95	120	35.37	120
Ø 16,0	35.37	160	38.80	160	38.80	160	41.08	160
Ø 20,0	45.64	200	47.92	200	49.08	200	52.49	200

Grinding process:

- These tools are completely reground on the external Ø, end and waist as well as the reduced neck and then recoated.
- Depending on the amount of wear, the tool can be reground up to two times.

CircularLine – End milling cutter with corner radius

CCR
AL

HPC

Article groups: 53 594 ... and 53 595 ...



Cutting-Ø-range mm	Regrinding		Regrinding Neck		Regrinding		Regrinding Neck	
	Coating long		Coating long		Coating extra long		Coating extra long	
	DLC		DLC		DLC		DLC	
	Z0		Z0		Z0		Z0	
	Article no. 98 247 ...		Article no. 98 248 ...		Article no. 98 251 ...		Article no. 98 252 ...	
	£		£		£		£	
Ø 6,0	21.68	060	23.97	060	22.83	060	25.11	060
Ø 8,0	22.83	080	26.25	080	25.11	080	27.38	080
Ø 10,0	30.82	100	33.10	100	33.10	100	36.52	100
Ø 12,0	33.10	120	36.52	120	35.37	120	39.94	120
Ø 16,0	39.94	160	44.51	160	42.23	160	46.79	160
Ø 20,0	63.90	200	70.75	200	69.62	200	76.46	200

Grinding process:

- These tools are completely reground on the external Ø, end and waist as well as the reduced neck and then recoated.
- Depending on the amount of wear, the tool can be reground up to two times.
- Radius tolerance $\pm 0,05$ mm

S-Cut – End mills with a cutting length of up to 3xD

SC
UNI

HPC

Article groups: 52 223 ... – 52 227 ..., 52 229 ..., 52 230 ...



Cutting-Ø-range mm	Regrinding		Regrinding Neck		Regrinding		Regrinding Neck	
	Coating APX72S		Coating APX72S		Coating APX72S		Coating APX72S	
	Z0		Z0		Z0		Z0	
	Article no. 98 211 ...		Article no. 98 211 ...		Article no. 98 211 ...		Article no. 98 211 ...	
	£		£		£		£	
	£		£		£		£	
Ø 3.0 to Ø 4.0	28.53	040	28.53	040	28.53	040	28.53	040
≤ Ø 6,0	28.53	060	28.53	060	28.53	060	28.53	060
≤ Ø 8,0	31.95	080	31.95	080	31.95	080	31.95	080
≤ Ø 10,0	36.52	100	36.52	100	36.52	100	36.52	100
≤ Ø 12,0	42.23	120	42.23	120	42.23	120	42.23	120
≤ Ø 14,0	47.92	140	47.92	140	47.92	140	47.92	140
≤ Ø 16,0	53.63	160	53.63	160	53.63	160	53.63	160
≤ Ø 18,0	61.61	180	61.61	180	61.61	180	61.61	180
≤ Ø 20,0	65.05	200	65.05	200	65.05	200	65.05	200
≤ Ø 25,0	73.03	250	73.03	250	73.03	250	73.03	250

Grinding process:

- These tools are reground on the end, on the rake face and the outside Ø.
- When present the neck Ø is reground.
- Depending on wear the tools can be reground up to 2 times.
- If the end is severely worn, the tool will be cut-off and reground.

S-Cut – End mills with a cutting length of 3xD to 5xD



▪ Article group: 52 226 ...



		Regrinding
		Neck
		Coating
		APX72S
		Z0
	Article no.	
	98 212 ...	
	£	
Cutting-Ø-range mm		
Ø 3.0 to Ø 4.0	30.82	040
Ø 5.0 to Ø 6.0	30.82	060
Ø 8,0	35.37	080
Ø 10,0	41.08	100
Ø 12,0	46.79	120
Ø 14,0	52.49	140
Ø 16,0	59.34	160
Ø 18,0	68.47	180
Ø 20,0	70.75	200
Ø 25,0	81.02	250

Grinding process:

- These tools are reground on the end, on the rake face and the outside Ø.
- When present the neck Ø is reground.
- Depending on wear the tools can be reground up to 2 times.
- If the end is severely worn, the tool will be cut-off and reground.

S-Cut – End milling cutter with corner radius



▪ Article group: 52 228 ...



		Regrinding
		Neck
		Coating
		APX72S
		Z0
	Article no.	
	98 213 ...	
	£	
Cutting-Ø-range mm		
Ø 3,0	43.37	040
Ø 4.0 to Ø 6.0	43.37	060
Ø 8,0	52.49	080
Ø 10,0	57.06	100
Ø 12,0	66.18	120
Ø 14,0	73.03	140
Ø 16,0	81.02	160
Ø 18,0	89.01	180
Ø 20,0	92.43	200
Ø 25,0	106.12	250

Grinding process:

- These tools are reground on the end, on the rake face and the outside Ø.
- When present the neck Ø is reground.
- Depending on wear the tools can be reground up to 2 times.
- If the end is severely worn, the tool will be cut-off and reground.
- Radius tolerance ± 0,015 mm

SilverLine – End milling cutter

N

HPC

Article groups: 50 951 ..., 50 954 ..., 50 955 ..., 50 964 ... and 50 965 ...



Cutting-Ø-range mm	Regrinding		Regrinding Neck	
	Coating		Coating	
	Ti1010		Ti1010	
	Z0		Z0	
	Article no. 98 190 ...	£	Article no. 98 240 ...	£
Ø 5,0	10.28	050	12.56	050
Ø 6,0	11.41	060	13.69	060
Ø 8,0	12.56	080	14.84	080
Ø 10,0	13.69	100	15.97	100
Ø 12,0	18.26	120	20.54	120
Ø 14,0	20.54	140	22.83	140
Ø 16,0	22.83	160	25.11	160
Ø 18,0	23.97	180	26.25	180
Ø 20,0	27.38	200	29.67	200

Grinding process:

- These tools are reground on the end and on the rake face.
- If the wear width is too large, the outside diameter is ground.
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.

SilverLine – End milling cutter with corner radius

N

HPC

Article groups: 50 952 ... and 50 968 ...



Cutting-Ø-range mm	Regrinding		Regrinding Neck	
	Coating		Coating	
	Ti1010		Ti1010	
	Z0		Z0	
	Article no. 98 191 ...	£	Article no. 98 354 ...	£
Ø 5,0	11.41	050	13.69	050
Ø 6,0	11.41	060	13.69	060
Ø 8,0	12.56	080	14.84	080
Ø 10,0	14.84	100	17.13	100
Ø 12,0	19.40	120	21.68	120
Ø 14,0	21.68	140	23.97	140
Ø 16,0	23.97	160	26.25	160
Ø 18,0	26.25	180	28.53	180
Ø 20,0	28.53	200	30.82	200

Grinding process:

- Corner radius milling cutters and milling cutters with irregular pitch will be reground on the end, the rake face and the radius.
- If the wear width is too large, the outside diameter is ground.
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.
- Radius tolerance $\pm 0,05$ mm

SilverLine – High Accuracy Finish Milling Cutter

N

HPC

▪ Article group: 50 959 ...



Cutting-Ø-range mm	Regrinding		Regrinding Neck	
	Coating Ti1010		Coating Ti1010	
	Z0		Z0	
	Article no. 98 193 ...		Article no. 98 352 ...	
	£		£	
Ø 6,0	15.97	060	18.26	060
Ø 8,0	18.26	080	20.54	080
Ø 10,0	20.54	100	22.83	100
Ø 12,0	26.25	120	26.25	120
Ø 16,0	31.95	160	34.23	160
Ø 20,0	37.66	200	39.94	200
Ø 25,0	50.21	250	44.51	250

Grinding process:

- These tools are reground on the end and on the rake face.
- If the wear width is too large, the outside diameter is ground.
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.
- Maximum run-out and maximum rejuvenation of 0.015 mm

AluLine – End mills with up to 5 teeth and a cutting length of up to 3xD

W

HPC

▪ Delivery time: 20 working days



Cutting-Ø-range mm	Regrinding		Regrinding		Regrinding		Regrinding Neck		Regrinding Neck		Regrinding Neck	
	Coating Ti1005		Coating DLC		Z0		Z0		Coating Ti1005		Coating DLC	
	Z0		Z0		Z0		Z0		Z0		Z0	
	Article no. 98 080 ...		Article no. 98 076 ...		Article no. 98 504 ...		Article no. 98 390 ...		Article no. 98 362 ...		Article no. 98 505 ...	
	£		£		£		£		£		£	
Ø 5,0	11.41	050	13.69	050	14.06	050	13.69	050	15.97	050	17.06	050
≤ Ø 6,0	11.41	060	14.84	060	15.25	060	13.69	060	17.13	060	18.26	060
≤ Ø 8,0	12.56	080	14.84	080	16.71	080	14.84	080	18.26	080	19.71	080
≤ Ø 10,0	13.69	100	17.13	100	18.62	100	15.97	100	19.40	100	21.63	100
≤ Ø 12,0	18.26	120	21.68	120	25.01	120	20.54	120	23.97	120	28.02	120
≤ Ø 14,0	18.26	140	22.83	140	26.93	140	20.54	140	25.11	140	29.95	140
≤ Ø 16,0	20.54	160	25.11	160	29.95	160	22.83	160	27.38	160	32.95	160
≤ Ø 18,0	21.68	180	26.25	180	32.95	180	23.97	180	28.53	180	35.96	180
≤ Ø 20,0	22.83	200	29.67	200	38.99	200	26.25	200	31.95	200	41.99	200
≤ Ø 25,0	31.95	250	39.94	250	53.50	250	34.23	250	42.23	250	56.50	250

Grinding process:

- These tools are reground on the end and on the rake face.
- If the wear width is too large, the outside diameter is ground.
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.

AluLine – End mills with up to 5 teeth and a cutting length over 3,1xD to 5xD

W

HPC

▪ **Delivery time:** 20 working days



Cutting-Ø-range mm	Regrinding		Regrinding Neck		Regrinding Coating DLC		Regrinding Neck Coating DLC		Regrinding Coating Ti1005		Regrinding Neck Coating Ti1005	
	Z0		Z0		Z0		Z0		Z0		Z0	
	Article no. 98 502 ...		Article no. 98 503 ...		Article no. 98 506 ...		Article no. 98 507 ...		Article no. 98 572 ...		Article no. 98 573 ...	
	£		£		£		£		£		£	
Ø 5,0	11.14	050	14.33	050	15.25	050	18.26	050	13.69	050	16.80	050
≤ Ø 6,0	11.69	060	14.70	060	16.34	060	19.35	060	14.14	060	17.35	060
≤ Ø 8,0	13.32	080	16.34	080	17.99	080	20.99	080	15.70	080	18.71	080
≤ Ø 10,0	15.61	100	18.62	100	20.27	100	23.28	100	18.62	100	21.63	100
≤ Ø 12,0	21.26	120	24.28	120	27.57	120	30.49	120	24.65	120	27.66	120
≤ Ø 14,0	23.82	140	26.84	140	30.03	140	33.04	140	27.66	140	30.77	140
≤ Ø 16,0	26.55	160	29.58	160	32.78	160	35.78	160	30.77	160	33.78	160
≤ Ø 18,0	29.48	180	32.50	180	35.69	180	38.71	180	34.04	180	37.07	180
≤ Ø 20,0	34.97	200	37.97	200	42.72	200	45.73	200	40.35	200	43.37	200
≤ Ø 25,0	52.04	250	55.05	250	59.79	250	62.81	250	59.25	250	62.25	250

Grinding process:

- These tools are reground on the end and on the rake face.
- If the wear width is too large, the outside diameter is ground.
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.

AluLine – End mills with up to 5 teeth and a corner radius, cutting length of up to 3xD

W

HPC



Cutting-Ø-range mm	Regrinding		Regrinding Neck		Regrinding Coating Ti1005		Regrinding Neck Coating Ti1005	
	Z0		Z0		Z0		Z0	
	Article no. 98 081 ...		Article no. 98 368 ...		Article no. 98 077 ...		Article no. 98 370 ...	
	£		£		£		£	
Ø 5,0	11.41	050	14.84	050	14.84	050	17.13	050
≤ Ø 6,0	12.56	060	14.84	060	14.84	060	17.13	060
≤ Ø 8,0	13.69	080	15.97	080	15.97	080	18.26	080
≤ Ø 10,0	13.69	100	17.13	100	17.13	100	19.40	100
≤ Ø 12,0	18.26	120	20.54	120	21.68	120	23.97	120
≤ Ø 14,0	19.40	140	21.68	140	23.97	140	26.25	140
≤ Ø 16,0	21.68	160	23.97	160	26.25	160	28.53	160
≤ Ø 18,0	22.83	180	25.11	180	27.38	180	30.82	180
≤ Ø 20,0	25.11	200	27.38	200	30.82	200	33.10	200
≤ Ø 25,0	36.52	250	38.80	250	43.37	250	46.79	250

Grinding process:

- Corner radius milling cutters and milling cutters with irregular pitch will be reground on the end, the rake face and the radius.
- If the wear width is too large, the outside diameter is ground.
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.
- Radius tolerance ± 0,05 mm

AluLine – Roughing-finishing milling cutters with up to 5 teeth, cutting length of up to 3xD

W

HPC



Cutting-Ø-range mm	Regrinding		Regrinding	
	Coating		Neck	
	Ti1005		Coating	
	Z0		Ti1005	
	Article no. 98 079 ...		Article no. 98 366 ...	
	£		£	
Ø 5,0	13.69	050	17.13	050
≤ Ø 6,0	14.84	060	17.13	060
≤ Ø 8,0	15.97	080	18.26	080
≤ Ø 10,0	17.13	100	19.40	100
≤ Ø 12,0	21.68	120	23.97	120
≤ Ø 14,0	22.83	140	25.11	140
≤ Ø 16,0	25.11	160	27.38	160
≤ Ø 18,0	26.25	180	28.53	180
≤ Ø 20,0	29.67	200	31.95	200
≤ Ø 25,0	41.08	250	43.37	250

Grinding process:

- These tools are reground on the end and on the rake face.
- If the wear width is too large, the outside diameter is ground.
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.

AluLine – High Accuracy Finish Milling Cutter

W

HPC



Cutting-Ø-range mm	Regrinding		Regrinding	
	Coating		Neck	
	Ti1005		Coating	
	Z0		Ti1005	
	Article no. 98 557 ...		Article no. 98 558 ...	
	£		£	
Ø 5.1 to Ø 6.0	18.98	060	22.00	060
≤ Ø 8,0	21.90	080	24.92	080
≤ Ø 10,0	25.75	100	28.75	100
≤ Ø 12,0	32.68	120	35.69	120
≤ Ø 14,0	36.70	140	39.17	140
≤ Ø 16,0	40.62	160	43.64	160
≤ Ø 18,0	44.81	180	47.84	180
≤ Ø 20,0	52.04	200	55.05	200

Grinding process:

- These tools are reground on the end and on the rake face.
- If the wear width is too large, the outside diameter is ground.
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.
- Maximum run-out and maximum rejuvenation of 0.015 mm

BlueLine – Finish milling cutter

H

- Article groups: **52 133 ...**, **52 134 ...** and **52 344 ...**
- Lead Time:** 20 working days



		Regrinding
		Coating
		Ti2000
		Z0
		Article no.
		98 197 ...
		£
Cutting-Ø-range		
mm		
Ø 6,0	15.97	060
Ø 8,0	17.13	080
Ø 10,0	23.97	100
Ø 12,0	30.82	120
Ø 14,0	37.66	140
Ø 16,0	45.64	160
Ø 18,0	47.92	180
Ø 20,0	53.63	200

Grinding process:

- These tools are reground on the end, on the rake face and the outside Ø.
- If the wear width is too large, the tool is cut-off and reground.
- For tools with reduced neck the neck Ø is reground.

BlueLine – Finish milling cutter

H

- Article groups: **52 135 ...**, **52 136 ...** and **52 348 ...**
- Lead Time:** 20 working days



		Regrinding
		Coating
		Ti2000
		Z0
		Article no.
		98 198 ...
		£
Cutting-Ø-range		
mm		
Ø 6,0	18.26	060
Ø 8,0	21.68	080
Ø 10,0	30.82	100
Ø 12,0	38.80	120
Ø 14,0	45.64	140
Ø 16,0	52.49	160
Ø 18,0	58.20	180
Ø 20,0	66.18	200

Grinding process:

- These tools are reground on the end, on the rake face and the outside Ø.
- If the wear width is too large, the tool is cut-off and reground.
- For tools with reduced neck the neck Ø is reground.

BlueLine – Finish milling cutter with corner radius

H

- Article groups: 52 138 ..., 52 139 ..., 52 325 ... and 52 326 ...
- Lead Time: 20 working days



		Regrinding
		Coating
		Ti2000
		Z0
	Article no.	
	98 195 ...	
Cutting-Ø-range	£	
mm		
Ø 6,0	22.83	060
Ø 8,0	25.11	080
Ø 10,0	37.66	100
Ø 12,0	46.79	120
Ø 14,0	54.77	140
Ø 16,0	68.47	160
Ø 18,0	79.87	180
Ø 20,0	82.16	200

Grinding process:

- Corner radius milling cutters and milling cutters with graduated flute depth are reground on the end, rake face and radius or step.
- If the end is too severely worn, the end will be cut off and the tool reground.
- For tools with reduced neck, the neck Ø will also be reground.
- Radius tolerance $\pm 0,01$ mm

BlueLine – Finish milling cutter with corner radius

H

- Article groups: 52 137 ..., 52 140 ..., 52 141 ..., 52 324 ..., 52 353 ..., 52 354 ... and 52 361 ...
- Lead Time: 20 working days



		Regrinding
		Coating
		Ti2000
		Z0
	Article no.	
	98 194 ...	
Cutting-Ø-range	£	
mm		
Ø 6,0	20.54	060
Ø 8,0	21.68	080
Ø 10,0	30.82	100
Ø 12,0	38.80	120
Ø 14,0	44.51	140
Ø 16,0	57.06	160
Ø 18,0	61.61	180
Ø 20,0	69.62	200

Grinding process:

- Corner radius milling cutters and milling cutters with graduated flute depth are reground on the end, rake face and radius or step.
- If the end is too severely worn, the end will be cut off and the tool reground.
- For tools with reduced neck, the neck Ø will also be reground.
- Radius tolerance $\pm 0,01$ mm

End mills with a cutting length of up to 3xD

- Finish, Rough-Finish and Roughing Cutter, Cutter with irregular pitch



Cutting-Ø-range mm	Regrinding	Regrinding	Regrinding	Regrinding	Regrinding Neck	Regrinding Neck	Regrinding Neck	Regrinding Neck
		Coating	Coating	Coating		Coating	Coating	Coating
		TiCN	Ti400	Ti1000		TiCN	Ti400	Ti1000
	Z0	Z0	Z0	Z0	Z0	Z0	Z0	Z0
	Article no. 98 150 ...	Article no. 98 310 ...	Article no. 98 312 ...	Article no. 98 316 ...	Article no. 98 388 ...	Article no. 98 318 ...	Article no. 98 320 ...	Article no. 98 324 ...
	£	£	£	£	£	£	£	£
Ø 3.0 to Ø 4.0	14.84 040	15.97 040	15.97 040	17.13 040	21.68 040	23.97 040	23.97 040	25.11 040
≤ Ø 6,0	15.97 060	18.26 060	18.26 060	19.40 060	23.97 060	26.25 060	26.25 060	26.25 060
≤ Ø 8,0	15.97 080	19.40 080	19.40 080	19.40 080	23.97 080	26.25 080	26.25 080	27.38 080
≤ Ø 10,0	15.97 100	19.40 100	19.40 100	20.54 100	23.97 100	27.38 100	27.38 100	28.53 100
≤ Ø 12,0	18.26 120	22.83 120	22.83 120	22.83 120	26.25 120	29.67 120	29.67 120	30.82 120
≤ Ø 14,0	18.26 140	22.83 140	22.83 140	22.83 140	26.25 140	30.82 140	30.82 140	30.82 140
≤ Ø 16,0	21.68 160	27.38 160	27.38 160	27.38 160	29.67 160	34.23 160	34.23 160	35.37 160
≤ Ø 18,0	21.68 180	29.67 180	29.67 180	30.82 180	29.67 180	37.66 180	37.66 180	37.66 180
≤ Ø 20,0	21.68 200	30.82 200	30.82 200	31.95 200	29.67 200	38.80 200	38.80 200	39.94 200
≤ Ø 22,0	21.68 220	33.10 220	33.10 220	37.66 220	29.67 220	41.08 220	41.08 220	45.64 220
≤ Ø 26,0	26.25 260	38.80 260	38.80 260	44.51 260	34.23 260	45.64 260	45.64 260	51.36 260
≤ Ø 32,0	27.38 320	42.23 320	42.23 320	47.92 320	34.23 320	49.08 320	49.08 320	55.92 320

Grinding process:

- Standard cutters are reground on the end and on the rake face.
- If the wear width is too large, the outside diameter is ground.
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.

End mills with a cutting length of 3xD to 5xD

- Finish, Rough-Finish and Roughing Cutter, Cutter with irregular pitch



Cutting-Ø-range mm	Regrinding		Regrinding		Regrinding		Regrinding		Regrinding Neck		Regrinding Neck		Regrinding Neck		Regrinding Neck	
			Coating		Coating		Coating				Coating		Coating		Coating	
	TiCN		Ti400		Ti1000		Ti1000		TiCN		Ti400		Ti400		Ti1000	
	Z0		Z0		Z0		Z0		Z0		Z0		Z0		Z0	
	Article no.		Article no.		Article no.		Article no.		Article no.		Article no.		Article no.		Article no.	
	98 151 ...		98 311 ...		98 313 ...		98 317 ...		98 389 ...		98 319 ...		98 321 ...		98 325 ...	
£		£		£		£		£		£		£		£		
Ø 3.0 to Ø 4.0	15.97	040	18.26	040	18.26	040	19.40	040	23.97	040	26.25	040	26.25	040	26.25	040
≤ Ø 6,0	18.26	060	20.54	060	20.54	060	21.68	060	25.11	060	27.38	060	27.38	060	28.53	060
≤ Ø 8,0	18.26	080	20.54	080	20.54	080	21.68	080	25.11	080	28.53	080	28.53	080	28.53	080
≤ Ø 10,0	18.26	100	21.68	100	21.68	100	22.83	100	25.11	100	29.67	100	29.67	100	29.67	100
≤ Ø 12,0	21.68	120	26.25	120	26.25	120	26.25	120	29.67	120	33.10	120	33.10	120	34.23	120
≤ Ø 14,0	21.68	140	26.25	140	26.25	140	27.38	140	29.67	140	34.23	140	34.23	140	34.23	140
≤ Ø 16,0	25.11	160	30.82	160	30.82	160	30.82	160	31.95	160	37.66	160	37.66	160	38.80	160
≤ Ø 18,0	25.11	180	33.10	180	33.10	180	34.23	180	31.95	180	39.94	180	39.94	180	41.08	180
≤ Ø 20,0	26.25	200	36.52	200	36.52	200	36.52	200	34.23	200	43.37	200	43.37	200	44.51	200
≤ Ø 22,0	26.25	220	37.66	220	37.66	220	43.37	220	34.23	220	45.64	220	45.64	220	50.21	220
≤ Ø 26,0	33.10	260	44.51	260	44.51	260	50.21	260	39.94	260	52.49	260	52.49	260	58.20	260
≤ Ø 32,0	33.10	320	47.92	320	47.92	320	54.77	320	39.94	320	55.92	320	55.92	320	61.61	320

Grinding process:

- Standard cutters are reground on the end and on the rake face.
- If the wear width is too large, the outside diameter is ground.
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.

End mills with a corner radius up to 3xD (also with graduated flute depth)



Cutting-Ø-range mm	Regrinding		Regrinding		Regrinding Neck		Regrinding Neck	
			Coating				Coating	
			Ti1000				Ti1000	
	Z0		Z0		Z0		Z0	
	Article no.		Article no.		Article no.		Article no.	
	98 202 ...		98 328 ...		98 332 ...		98 334 ...	
	£		£		£		£	
Ø 3.0 to Ø 4.0	18.26 040		20.54 040		26.25 040		28.53 040	
≤ Ø 6,0	20.54 060		22.83 060		27.38 060		30.82 060	
≤ Ø 8,0	20.54 080		23.97 080		27.38 080		30.82 080	
≤ Ø 10,0	20.54 100		25.11 100		27.38 100		31.95 100	
≤ Ø 12,0	22.83 120		27.38 120		29.67 120		35.37 120	
≤ Ø 14,0	22.83 140		27.38 140		29.67 140		35.37 140	
≤ Ø 16,0	27.38 160		33.10 160		34.23 160		41.08 160	
≤ Ø 18,0	27.38 180		36.52 180		34.23 180		43.37 180	
≤ Ø 20,0	27.38 200		37.66 200		34.23 200		44.51 200	
≤ Ø 22,0	27.38 220		43.37 220		34.23 220		51.36 220	
≤ Ø 26,0	33.10 260		50.21 260		41.08 260		58.20 260	
≤ Ø 32,0	35.37 320		54.77 320		45.64 320		62.77 320	

Grinding process:

- Corner radius milling cutters and milling cutters with irregular pitch will be reground on the end, the rake face and the radius.
- If the wear width is too large, the outside diameter is ground.
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.
- Radius tolerance $\pm 0,05$ mm

End milling cutter

AL

- Article groups: 52 639 ... and 52 669 ...
- Lead Time: 20 working days



Cutting-Ø-range mm	Regrinding		Coating		Ti10/Ti 20	
	Z0					
	Article no.		Article no.		Article no.	
	98 665 ...		98 665 ...		98 665 ...	
	£		£		£	
Ø 6,0	19.40 060		23.97 080		29.67 103	
Ø 8,0	23.97 080		29.67 104		36.52 124	
Ø 10,0	29.67 103		37.66 126		52.49 160	
Ø 12,0	29.67 104		52.49 160		83.31 200	
Ø 16,0	37.66 126					
Ø 20,0	52.49 160					

Grinding process:

- These tools are reground on the end and rake face.
- If the wear width is too large, the external diameter will be ground.
- If the end is too severely worn, the end will be cut off and the tool reground.
- For tools with reduced neck, the neck Ø will also be reground.
- Depending on the amount of wear, the tool can be reground up to two times.

Endmill

W

HPC

- Uncoated article groups: 50 960 ..., 54 590 ..., 54 591 ..., 54 610 ..., 54 611 ..., 54 630 ..., 54 631 ..., 54 650 ...
- Ti 1005 article groups: 54 592 ..., 54 593 ..., 54 612 ..., 54 613 ..., 54 632 ..., 54 633 ..., 54 652 ...



Cutting-Ø-range mm	Regrinding		Regrinding		Regrinding Neck		Regrinding Neck	
			Coating Ti1005				Coating Ti1005	
	Z0		Z0		Z0		Z0	
	Article no. 98 080 ...		Article no. 98 076 ...		Article no. 98 390 ...		Article no. 98 362 ...	
	£		£		£		£	
Ø 5,0	11.41	050	13.69	050	13.69	050	15.97	050
≤ Ø 6,0	11.41	060	14.84	060	13.69	060	17.13	060
≤ Ø 8,0	12.56	080	14.84	080	14.84	080	18.26	080
≤ Ø 10,0	13.69	100	17.13	100	15.97	100	19.40	100
≤ Ø 12,0	18.26	120	21.68	120	20.54	120	23.97	120
≤ Ø 14,0	18.26	140	22.83	140	20.54	140	25.11	140
≤ Ø 16,0	20.54	160	25.11	160	22.83	160	27.38	160
≤ Ø 18,0	21.68	180	26.25	180	23.97	180	28.53	180
≤ Ø 20,0	22.83	200	29.67	200	26.25	200	31.95	200
≤ Ø 25,0	31.95	250	39.94	250	34.23	250	42.23	250

Grinding process:

- These tools are reground on the end and on the rake face.
- If the wear width is too large, the outside diameter is ground.
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.

End milling cutter with corner radius

W

HPC

- Uncoated article groups: 54 594 ..., 54 595 ..., 54 620 ...
- Ti 1005 article groups: 54 596 ..., 54 597 ..., 54 622 ...



Cutting-Ø-range mm	Regrinding		Regrinding Neck		Regrinding		Regrinding Neck	
					Coating Ti1005		Coating Ti1005	
	Z0		Z0		Z0		Z0	
	Article no. 98 081 ...		Article no. 98 368 ...		Article no. 98 077 ...		Article no. 98 370 ...	
	£		£		£		£	
Ø 5,0	11.41	050	14.84	050	14.84	050	17.13	050
≤ Ø 6,0	12.56	060	14.84	060	14.84	060	17.13	060
≤ Ø 8,0	13.69	080	15.97	080	15.97	080	18.26	080
≤ Ø 10,0	13.69	100	17.13	100	17.13	100	19.40	100
≤ Ø 12,0	18.26	120	20.54	120	21.68	120	23.97	120
≤ Ø 14,0	19.40	140	21.68	140	23.97	140	26.25	140
≤ Ø 16,0	21.68	160	23.97	160	26.25	160	28.53	160
≤ Ø 18,0	22.83	180	25.11	180	27.38	180	30.82	180
≤ Ø 20,0	25.11	200	27.38	200	30.82	200	33.10	200
≤ Ø 25,0	36.52	250	38.80	250	43.37	250	46.79	250

Grinding process:

- Corner radius milling cutters and milling cutters with irregular pitch will be reground on the end, the rake face and the radius.
- If the wear width is too large, the outside diameter is ground.
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.
- Radius tolerance ± 0,05 mm

Endmill

W

HPC

- Uncoated article groups: 54 624 ..., 54 626 ..., 54 660 ..., 54 662 ...
- Ti 1005 article groups: 54 625 ..., 54 627 ...



Cutting-Ø-range mm	Regrinding		Regrinding Neck		Regrinding Coating Ti1005		Regrinding Neck Coating Ti1005	
	Z0		Z0		Z0		Z0	
	Article no. 98 083 ...		Article no. 98 392 ...		Article no. 98 079 ...		Article no. 98 366 ...	
	£		£		£		£	
Ø 5,0	11.41	050	13.69	050	13.69	050	17.13	050
≤ Ø 6,0	12.56	060	14.84	060	14.84	060	17.13	060
≤ Ø 8,0	12.56	080	14.84	080	15.97	080	18.26	080
≤ Ø 10,0	13.69	100	15.97	100	17.13	100	19.40	100
≤ Ø 12,0	18.26	120	20.54	120	21.68	120	23.97	120
≤ Ø 14,0	18.26	140	21.68	140	22.83	140	25.11	140
≤ Ø 16,0	20.54	160	22.83	160	25.11	160	27.38	160
≤ Ø 18,0	21.68	180	23.97	180	26.25	180	28.53	180
≤ Ø 20,0	23.97	200	26.25	200	29.67	200	31.95	200
≤ Ø 25,0	34.23	250	36.52	250	41.08	250	43.37	250

Grinding process:

- These tools are reground on the end and on the rake face.
- If the wear width is too large, the outside diameter is ground.
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.

End milling cutter

W

- Article group: 50 900 ...



Cutting-Ø-range mm	Regrinding		Regrinding Neck	
	Coating Ti1001		Coating Ti1001	
	Z0		Z0	
	Article no. 98 220 ...		Article no. 98 380 ...	
	£		£	
Ø 5,0	10.28	050	12.56	050
≤ Ø 6,0	10.28	060	12.56	060

Grinding process:

- These tools are reground on the end and on the rake face.
- If the wear width is too large, the outside diameter is ground.
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.

Roughing-Finishing Cutter

WF

- Article groups: 52 164 ..., 52 165 ..., 52 166 ... and 52 167 ...
- Lead Time: 20 working days



Cutting-Ø-range mm	Regrinding		Regrinding	
	Coating		Coating	
	short		long	
	Ti10		Ti10	
	Z0		Z0	
Article no.	98 235 ...		Article no.	
	£		98 236 ...	
£			£	
Ø 4.0 to Ø 5.0	12.56	050	14.84	050
≤ Ø 6,0	12.56	060	14.84	060
≤ Ø 8,0	13.69	080	15.97	080
≤ Ø 10,0	17.13	100	20.54	100
≤ Ø 12,0	22.83	120	27.38	120
≤ Ø 16,0	33.10	160	41.08	160
≤ Ø 20,0	46.79	200	54.77	200

Grinding process:

- These tools are reground on the end and rake face.
- If the end is too severely worn, the end will be cut off and the tool reground.
- For tools with reduced neck, the neck Ø will also be reground.

End milling cutter

N

HPC

- Article groups: 54 001 ... – 54 006 ..., 54 050 ... – 54 052 ... and 54 060 ... – 54 062 ...



Cutting-Ø-range mm	Regrinding		Regrinding	
	Coating		Coating	
	Ti1000		Ti1000	
	Z0		Z0	
	Article no.		Article no.	
Article no.	98 214 ...		98 215 ...	
	£		£	
£			£	
Ø 8,0	12.56	080	14.84	080
Ø 10,0	13.69	100	15.97	100
Ø 12,0	18.26	120	20.54	120
Ø 16,0	22.83	160	25.11	160
Ø 20,0	27.38	200	29.67	200

Grinding process:

- These tools are reground on the end and on the rake face.
- If the wear width is too large, the outside diameter is ground.
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.

End milling cutter with corner radius

N

HPC

Article groups: 54 053 ..., 54 054 ..., 54 063 ... and 54 064 ...



Cutting-Ø-range mm	Regrinding	
	Neck	Coating
	Ti1000	
	NEW Z0	
	Article no. 98 049 ...	
	£	
Ø 8,0	14.84	080
Ø 10,0	17.13	100
Ø 12,0	21.68	120
Ø 16,0	26.25	160
Ø 20,0	30.82	200

Grinding process:

- These tools are reground on the end and on the rake face.
- If the wear width is too large, the outside diameter is ground.
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.
- Radius tolerance $\pm 0,05$ mm

Multi-flute milling cutter

N

Article groups: 50 631 ..., 52 109 ..., 52 129 ... and 52 716 ...



Cutting-Ø-range mm	Regrinding		Regrinding		Regrinding		Regrinding		Regrinding		Regrinding	
	Neck		Neck		Neck		Neck		Neck		Neck	
	Coating		Coating		Coating		Coating		Coating		Coating	
	Ti400		Ti400		Ti1000		Ti1000		Ti400		Ti1000	
	Z0		Z0		Z0		Z0		Z0		Z0	
	Article no. 98 144 ...		Article no. 98 290 ...		Article no. 98 292 ...		Article no. 98 396 ...		Article no. 98 294 ...		Article no. 98 296 ...	
	£		£		£		£		£		£	
Ø 4,0	28.53	040	30.82	040	31.95	040	36.52	040	37.66	040	38.80	040
≤ Ø 6,0	28.53	060	30.82	060	31.95	060	36.52	060	37.66	060	38.80	060
≤ Ø 8,0	28.53	080	31.95	080	31.95	080	36.52	080	38.80	080	39.94	080
≤ Ø 10,0	31.95	100	35.37	100	36.52	100	38.80	100	43.37	100	43.37	100
≤ Ø 12,0	31.95	120	36.52	120	36.52	120	38.80	120	43.37	120	44.51	120
≤ Ø 14,0	38.80	140	43.37	140	43.37	140	45.64	140	50.21	140	51.36	140
≤ Ø 16,0	38.80	160	43.37	160	44.51	160	45.64	160	51.36	160	51.36	160
≤ Ø 18,0	38.80	180	46.79	180	46.79	180	45.64	180	53.63	180	54.77	180
≤ Ø 20,0	38.80	200	47.92	200	49.08	200	45.64	200	54.77	200	55.92	200
≤ Ø 22,0	45.64	220	57.06	220	61.61	220	52.49	220	63.90	220	68.47	220
≤ Ø 26,0	45.64	260	57.06	260	62.77	260	52.49	260	65.05	260	69.62	260

Grinding process:

- Fine-tooth cutters are reground only on the end and the rake face.
- If the wear width is too large, the outside diameter is ground.
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.

Multi-flute milling cutter

N

HSC

▪ Article group: 52 723 ...



		Regrinding
		Neck
		Coating
		Ti1000
		Z0
	Article no.	98 662 ...
Cutting-Ø-range	£	
mm		
Ø 6,0	15.97	060
Ø 8,0	21.68	080
Ø 10,0	27.38	100
Ø 12,0	37.66	120
Ø 16,0	66.18	160

Grinding process:

- Multi-flute milling cutters are only reground on the end and rake face.
- However, if the wear width is too large, the outside diameter will be ground.
- If the end is too severely worn, it will be cut off and the tool will be reground.
- For tools with reduced neck, the neck Ø will also be reground.
- Depending on the amount of wear, the tool can be reground up to two times.

Rough milling cutter

HR

- Article groups: 52 338 ..., 52 339 ..., 52 340 ..., 52 341 ..., 52 342 ... and 52 343 ...
- **Delivery time:** 20 working days



		Regrinding
		Neck
		Coating
		Ti1000
		Z0
	Article no.	98 664 ...
Cutting-Ø-range	£	
mm		
Ø 6,0	21.68	060
Ø 8,0	23.97	080
Ø 10,0	29.67	100
Ø 12,0	34.23	120
Ø 14,0	37.66	140
Ø 16,0	41.08	160
Ø 18,0	45.64	180
Ø 20,0	50.21	200
Ø 25,0	65.05	250

Grinding process:

- These tools are completely reground on the end and waist as well as the reduced neck and then recoated.

MonsterMill – Ball Nosed Cutter

SCR

Article groups: 52 611 ... and 52 612 ...



Cutting-Ø-range mm	Regrinding		Regrinding	
	Coating		Coating	
	short		long	
	Ti1200		Ti1200	
	Z0		Z0	
	Article no. 98 677 ...		Article no. 98 678 ...	
	£		£	
Ø 6,0	11.41	060	11.41	060
Ø 8,0	14.84	080	15.97	080
Ø 10,0	19.40	100	20.54	100
Ø 12,0	30.82	120	31.95	120
Ø 16,0	49.08	160	51.36	160

Grinding process:

- Ball-nosed end mills are usually reground on the end only.
- If the end is too severely worn, it is cut off and reground.
- For tools with reduced neck, the neck Ø will also be reground.
- Depending on the amount of wear, the tool can be reground up to two times.
- Radius tolerance $\pm 0,01$ mm

MonsterMill – Torus Face Milling Cutter

SCR

Article groups: 52 609 ... and 52 610 ...



Cutting-Ø-range mm	Regrinding		Regrinding	
	Coating		Coating	
	long		extra long	
	Ti1200		Ti1200	
	Z0		Z0	
	Article no. 98 675 ...		Article no. 98 676 ...	
	£		£	
Ø 3,0	25.11	030		
Ø 4,0	26.25	040		
Ø 5,0	28.53	050		
Ø 6,0	26.25	060		
Ø 8,0	29.67	080	35.37	080
Ø 10,0	35.37	100	37.66	100
Ø 12,0	45.64	120	49.08	120
Ø 16,0	70.75	160	75.32	160

Grinding process:

- Torus cutters are usually reground on the end and radius only.
- If the end is too severely worn, it is cut off and reground.
- For tools with reduced neck, the neck Ø will also be reground.
- Depending on the amount of wear, the tool can be reground up to two times.

SilverLine – Ball-nosed end mills and torus cutters

N

HPC

▪ Article groups: 50 953 ..., 50 956 ..., 50 957 ..., 50 961 ... and 50 962 ...



Cutting-Ø-range mm	Regrinding		Regrinding	
	Coating		Neck	
	Ti1010		Coating	
	Z0		Ti1010	
	Article no. 98 192 ...		Article no. 98 356 ...	
	£		£	
Ø 5,0	12.56	050	14.84	050
Ø 6,0	13.69	060	15.97	060
Ø 8,0	14.84	080	17.13	080
Ø 10,0	15.97	100	18.26	100
Ø 12,0	20.54	120	22.83	120
Ø 16,0	26.25	160	28.53	160
Ø 20,0	30.82	200	33.10	200

Grinding process:

- Ball Nosed cutters are reground only on the end, because grinding the rake face of the cutting diameter would make the radius smaller!
- Torus cutters will be reground only on the end and the radius.
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.
- Radius tolerance $\pm 0,05$ mm

BlueLine – Ball Nosed Cutter

H

▪ Article groups: 52 256 ... – 52 259 ..., 52 302 ... – 52 305 ..., 52 352 ..., 52 355 ..., 52 404 ... and 52 405 ...

▪ Lead Time: 20 working days



Cutting-Ø-range mm	Regrinding		Regrinding	
	Coating		Neck	
	Ti2000		Coating	
	Z0		Ti2000	
	Article no. 98 196 ...		Article no. 98 196 ...	
	£		£	
Ø 6,0	20.54	060	20.54	060
Ø 8,0	20.54	080	20.54	080
Ø 10,0	23.97	100	23.97	100
Ø 12,0	30.82	120	30.82	120
Ø 14,0	35.37	140	35.37	140
Ø 16,0	37.66	160	37.66	160
Ø 20,0	43.37	200	43.37	200

Grinding process:

- Ball Nosed cutters are reground only on the end, because grinding the rake face of the cutting diameter would make the radius smaller!
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.
- Radius tolerance $\pm 0,01$ mm

Ball-nosed end mills and torus cutters

▪ Z = number of flutes



Cutting-Ø-range mm	Regrinding		Regrinding		Regrinding Neck		Regrinding Neck		Regrinding Neck		Regrinding Neck		Regrinding		Regrinding	
	Z = 2		Z = 4		Z = 2		Z = 4		Z = 2		Z = 4		Coating		Coating	
	Ti1000		Ti1000		Ti1000		Ti1000		Ti1000		Ti1000		Ti1000		Ti1000	
	Z0		Z0		Z0		Z0		Z0		Z0		Z0		Z0	
	Article no.		Article no.		Article no.		Article no.		Article no.		Article no.		Article no.		Article no.	
	98 160 ...		98 161 ...		98 426 ...		98 428 ...		98 422 ...		98 424 ...		98 414 ...		98 416 ...	
	£		£		£		£		£		£		£		£	
Ø 3.0 to Ø 4.0	15.97	040	22.83	040	22.83	040	29.67	040	26.25	040	31.95	040	18.26	040	25.11	040
≤ Ø 6,0	15.97	060	22.83	060	22.83	060	29.67	060	26.25	060	33.10	060	18.26	060	25.11	060
≤ Ø 8,0	17.13	080	23.97	080	25.11	080	31.95	080	28.53	080	35.37	080	20.54	080	27.38	080
≤ Ø 10,0	17.13	100	23.97	100	25.11	100	31.95	100	29.67	100	35.37	100	21.68	100	28.53	100
≤ Ø 12,0	19.40	120	27.38	120	26.25	120	34.23	120	30.82	120	39.94	120	23.97	120	31.95	120
≤ Ø 14,0	20.54	140	27.38	140	26.25	140	34.23	140	31.95	140	39.94	140	25.11	140	31.95	140
≤ Ø 16,0	23.97	160	29.67	160	31.95	160	37.66	160	37.66	160	43.37	160	29.67	160	36.52	160
≤ Ø 18,0	25.11	180	29.67	180	31.95	180	37.66	180	39.94	180	46.79	180	33.10	180	38.80	180
≤ Ø 20,0	27.38	200	31.95	200	31.95	200	37.66	200	42.23	200	47.92	200	34.23	200	41.08	200

Grinding process:

- Ball Nosed cutters are reground only on the end, because grinding the rake face of the cutting diameter would make the radius smaller!
- Torus cutters will be reground only on the end and the radius.
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.
- Radius tolerance $\pm 0,05$ mm

AluLine – Ball Nosed Cutter



▪ Article groups: 54 640 ..., 54 642 ..., 53 508 ... – 53 511 ...



Cutting-Ø-range mm	Regrinding		Regrinding		Regrinding Neck		Regrinding Neck	
	Coating		Coating		Coating		Coating	
	Ti1005		Ti1005		Ti1005		Ti1005	
	Z0		Z0		Z0		Z0	
	Article no.		Article no.		Article no.		Article no.	
	98 082 ...		98 078 ...		98 394 ...		98 374 ...	
	£		£		£		£	
Ø 5,0	13.69	050	15.97	050	15.97	050	19.40	050
≤ Ø 6,0	13.69	060	17.13	060	15.97	060	19.40	060
≤ Ø 8,0	14.84	080	17.13	080	17.13	080	19.40	080
≤ Ø 10,0	15.97	100	19.40	100	18.26	100	21.68	100
≤ Ø 12,0	19.40	120	23.97	120	22.83	120	26.25	120
≤ Ø 14,0	21.68	140	25.11	140	23.97	140	27.38	140
≤ Ø 16,0	22.83	160	27.38	160	26.25	160	30.82	160
≤ Ø 18,0	25.11	180	29.67	180	27.38	180	31.95	180
≤ Ø 20,0	26.25	200	31.95	200	28.53	200	34.23	200

Grinding process:

- Torus cutters will be reground only on the end and the radius.
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.
- Radius tolerance $\pm 0,05$ mm

Ball Nosed Cutter

W

Article groups: 50 903 ... and 50 904 ...



Cutting-Ø-range mm	Regrinding		Regrinding Neck	
	Coating		Coating	
	Ti1001		Ti1001	
	Z0		Z0	
	Article no. 98 222 ...		Article no. 98 382 ...	
Ø 5,0	£ 12.56	050	£ 14.84	050
≤ Ø 6,0	12.56	060	14.84	060
≤ Ø 8,0	13.69	080	15.97	080
≤ Ø 10,0	14.84	100	17.13	100
≤ Ø 12,0	19.40	120	21.68	120
≤ Ø 14,0	21.68	140	23.97	140
≤ Ø 16,0	23.97	160	26.25	160
≤ Ø 18,0	25.11	180	27.38	180
≤ Ø 20,0	28.53	200	30.82	200

Grinding process:

- Ball Nosed cutters are reground only on the end, because grinding the rake face of the cutting diameter would make the radius smaller!
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.
- Radius tolerance $\pm 0,05$ mm

Ball Nosed Cutter

N

HPC

Article groups: 54 055 ... – 54 058 ...



Cutting-Ø-range mm	Regrinding		Regrinding Neck	
	Coating		Coating	
	Ti1000		Ti1000	
	NEW Z0		NEW Z0	
	Article no. 98 044 ...		Article no. 98 060 ...	
Ø 8,0	£ 14.84	080	£ 17.13	080
Ø 10,0	15.97	100	18.26	100
Ø 12,0	20.54	120	22.83	120
Ø 16,0	26.25	160	28.53	160
Ø 20,0	30.82	200	33.10	200

Grinding process:

- Ball Nosed cutters are reground only on the end, because grinding the rake face of the cutting diameter would make the radius smaller!
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.
- Radius tolerance $\pm 0,05$ mm

Torus Cutter



Article groups: 50 901 ... and 50 902 ...



Cutting-Ø-range mm	Regrinding		Regrinding	
	Coating		Neck	
	Ti1001		Coating	
	Z0		Ti1001	
	Article no.		Article no.	
	98 221 ...		98 384 ...	
	£		£	
Ø 5,0	10.28	050	12.56	050
≤ Ø 6,0	11.41	060	13.69	060
≤ Ø 8,0	11.41	080	14.84	080
≤ Ø 10,0	13.69	100	15.97	100
≤ Ø 12,0	18.26	120	20.54	120

Grinding process:

- Torus cutters will be reground only on the end and the radius.
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.
- Radius tolerance ± 0,05 mm

Torus Cutter



Article groups: 52 333 ... and 52 334 ...
Lead Time: 20 working days



Cutting-Ø-range mm	Regrinding		Regrinding	
	Coating		Coating	
	long		extra long	
	Ti10		Ti10	
	Z0		Z0	
	Article no.		Article no.	
	98 237 ...		98 234 ...	
	£		£	
Ø 3.0 to Ø 6.0	18.26	060	19.40	060
Ø 8,0	19.40	080	20.54	080
Ø 10,0	26.25	100	27.38	100
Ø 12,0	33.10	120	37.66	120
Ø 16,0	43.37	160	58.20	160

Grinding process:

- Torus cutters will be reground only on the end and the radius.
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.
- Radius tolerance ± 0,01 mm

Torus Cutter

▪ Article groups: 52 731 ..., 52 732 ... and 52 733 ...



Cutting-Ø-range mm		Regrinding
		Coating
		Ti1000
		Z0
		Article no.
		98 159 ...
		£
Ø 6,0		17.13 065
Ø 8,0		22.83 086
Ø 10,0		29.67 107
Ø 12,0		38.80 128
Ø 16,0		58.20 169

Grinding process:

- Torus cutters are only reground on the end and radius.
- If the end is too severely worn, it is cut off and reground.
- For tools with reduced neck, the neck Ø will also be reground.
- Radius tolerance ± 0,01 mm

High Feed Cutter

N

HFC

Article groups: 56 900 ..., 56 902 ... and 56 904 ...



Cutting-Ø-range mm	Regrinding		Coating		TiAlN		Z0	
	Article no.		Article no.		Article no.		Article no.	
		98 187 ...						
		£						
Ø 6,0		20.54					060	
Ø 8,0		21.68					080	
Ø 10,0		23.97					100	
Ø 12,0		30.82					120	
Ø 16,0		38.80					160	

Grinding process:

- Torus cutters will be reground only on the end and the radius.
- If the end is severely worn, the tool will be cut-off and reground.
- For tools with reduced neck the neck diameter is reground.

Quarter-round profile milling cutters / engraving cutters / die-sinking cutters

N



Cutting-Ø-range mm	Regrinding		Regrinding		Regrinding		Regrinding	
					Coating		Coating	
	≤ 3xD		> 3xD ≤ 5xD		> 3xD ≤ 5xD		≤ 3xD	
					Ti1000		Ti1000	
	Z0		Z0		Z0		Z0	
	Article no. 98 200 ...		Article no. 98 201 ...		Article no. 98 344 ...		Article no. 98 342 ...	
	£		£		£		£	
Ø 3.0 to Ø 4.0	17.13	040	19.40	040	21.68	040	19.40	040
≤ Ø 6,0	19.40	060	20.54	060	23.97	060	21.68	060
≤ Ø 8,0	19.40	080	20.54	080	23.97	080	21.68	080
≤ Ø 10,0	19.40	100	20.54	100	25.11	100	22.83	100
≤ Ø 12,0	20.54	120	25.11	120	29.67	120	25.11	120
≤ Ø 14,0	22.83	140	25.11	140	29.67	140	26.25	140
≤ Ø 16,0	25.11	160	28.53	160	34.23	160	30.82	160
≤ Ø 18,0	25.11	180	28.53	180	37.66	180	34.23	180
≤ Ø 20,0	26.25	200	30.82	200	41.08	200	35.37	200
≤ Ø 22,0	28.53	220	31.95	220	46.79	220	41.08	220
≤ Ø 26,0	30.82	260	37.66	260	54.77	260	47.92	260
≤ Ø 32,0	33.10	320	41.08	320	59.34	320	52.49	320

NC deburring cutters



Cutting-Ø-range mm	Regrinding		Regrinding	
			Coating	
			Ti1000	
	Z0		Z0	
	Article no.		Article no.	
	98 130 ...		98 346 ...	
	£		£	
Ø 4,0	12.56	040	15.97	040
Ø 6,0	12.56	060	15.97	060
Ø 8,0	12.56	080	15.97	080
Ø 10,0	12.56	100	17.13	100
Ø 12,0	12.56	120	17.13	120

Grinding process:
▪ These tools are completely reground

NC front and rear chamfer milling cutters



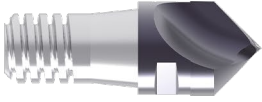
Cutting-Ø-range mm	Regrinding		Regrinding	
			Coating	
			Ti1000	
	Z0		Z0	
	Article no.		Article no.	
	98 138 ...		98 348 ...	
	£		£	
Ø 3.0 to Ø 4.0	12.56	040	15.97	040
≤ Ø 6,0	12.56	060	15.97	060
≤ Ø 8,0	12.56	080	15.97	080
≤ Ø 10,0	12.56	100	17.13	100
≤ Ø 12,0	12.56	120	17.13	120

Grinding process:
▪ These tools are reground only on the rake face.

MultiChange – Solid Carbide NC Spot Drills

NC-A

- Article groups: 10 709 ..., 10 712 ... and 10 714 ...



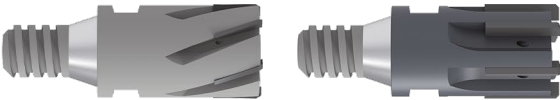
Cutting-Ø-range mm	Regrinding		Coating	
	Ti1050		Z0	
	Article no.		Article no.	
	98 690 ...		98 690 ...	
	£		£	
Ø 8,0	13.69	080	13.69	080
Ø 10,0	17.13	100	17.13	100
Ø 12,0	22.83	120	22.83	120
Ø 16,0	26.25	160	26.25	160
Ø 20,0	31.95	200	31.95	200

Grinding process:

- These spot drills are reground on the main cutting edge.

MultiChange – Exchange Head Reamers

- Article groups: 40 210 ... – 40 213 ..., 40 240 ... – 40 243 ..., 40 245 ... – 40 247 ... (Regrind)
- Article groups: 40 220 ... – 40 223 ..., 40 230 ... – 40 233 ... (Regrind and recoat)



Cutting-Ø-range mm	Regrinding		Regrinding	
	Z0		TiAlN	
	Article no.		Article no.	
	98 691 ...		98 692 ...	
	£		£	
Ø 8.00 to Ø 15.99	37.66	080	42.23	080
≤ Ø 17,99	39.94	160	44.51	160
≤ Ø 21,99	42.23	180	46.79	180
≤ Ø 30,20	44.51	220	51.36	220

Grinding process:

- These tools can be reground only on the cutting chamfer so that the cutting and diameter tolerance is maintained.
- If regrounding is not feasible, the tools are returned unprocessed!
- Maximum two regrinds.

MultiChange – Solid Carbide End Mills



▪ Article groups: 52 860 ... and 52 861 ...



Cutting-Ø-range mm	Regrinding		Regrinding	
	Coating		Coating	
	Z = 4		Z = 3	
	Ti1100		Ti1100	
	Z0		Z0	
	Article no.		Article no.	
	98 680 ...		98 681 ...	
	£		£	
Ø 8,0	13.69	080	15.97	080
Ø 10,0	17.13	100	20.54	100
Ø 12,0	22.83	120	29.67	120
Ø 16,0	26.25	160	30.82	160
Ø 20,0	31.95	200	37.66	200

Grinding process:

- Regrind on end and cutting edges
- If the wear width is too large, the outside diameter is ground.

 Attention: Note shank relief after regrinding!

MultiChange – Solid Carbide Finishing Cutter



▪ Article group: 52 863 ...



Cutting-Ø-range mm	Regrinding		Regrinding	
	Coating		Coating	
	Ti1100		Ti1100	
	Z0		Z0	
	Article no.		Article no.	
	98 683 ...		98 683 ...	
	£		£	
Ø 8,0	15.97		15.97	080
Ø 10,0	20.54		20.54	100
Ø 12,0	26.25		26.25	120
Ø 16,0	30.82		30.82	160
Ø 20,0	37.66		37.66	200

Grinding process:

- Regrind on end and cutting edges
- If the wear width is too large, the outside diameter is ground.

MultiChange – Solid Carbide Rough-Finish Cutter



▪ Article group: 52 862 ...



Cutting-Ø-range mm	Regrinding	
	Coating	
	Ti1100	
	Z0	
	Article no. 98 682 ...	
	£	
Ø 8,0	18.26	080
Ø 10,0	21.68	100
Ø 12,0	26.25	120
Ø 16,0	29.67	160
Ø 20,0	35.37	200

Grinding process:

- Regrind on end and cutting edges
- If the wear width is too large, the tool is considered as "not re-sharpened."

MultiChange – Solid Carbide High Feed Cutter



▪ Article group: 52 864 ...



Cutting-Ø-range mm	Regrinding	
	Coating	
	Ti1100	
	Z0	
	Article no. 98 684 ...	
	£	
Ø 8,0	15.97	080
Ø 10,0	20.54	100
Ø 12,0	26.25	120
Ø 16,0	30.82	160
Ø 20,0	37.66	200

Grinding process:

- Regrind on end and cutting edges
- If the wear width is too large, the outside diameter is ground.

MultiChange – Solid Carbide Torus Cutter



▪ Article group: 52 865 ...



Cutting-Ø-range mm	Regrinding	
	Coating	
	Ti1100	
	Z0	
	Article no. 98 685 ...	
	£	
Ø 8,0	18.26	080
Ø 10,0	22.83	100
Ø 12,0	28.53	120
Ø 16,0	35.37	160
Ø 20,0	42.23	200

Grinding process:

- Regrind on end only
- If the wear width is too large, the tool is considered as "not re-sharpened."
- Radius tolerance ± 0,02 mm

MultiChange – Solid Carbide Quarter Round Cutter



▪ Article group: 52 869 ...



Cutting-Ø-range mm	Regrinding	
	Coating	
	Ti1100	
	Z0	
	Article no. 98 693 ...	
	£	
Ø 8,0	21.68	080
Ø 10,0	23.97	100
Ø 12,0	25.11	120
Ø 16,0	31.95	160
Ø 20,0	41.08	200

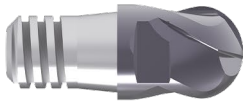
Grinding process:

- Regrind on end only
- If the wear width is too large, the tool is considered as "not re-sharpened."
- Radius tolerance ± 0,03 mm

MultiChange – Solid Carbide Ball Nosed Cutter



▪ Article group: 52 866 ...



Cutting-Ø-range mm	Regrinding		Coating	
			Ti1100	
			Z0	
			Article no. 98 686 ...	
			£	
Ø 10,0			21.68	100
Ø 12,0			26.25	120
Ø 16,0			29.67	160
Ø 20,0			35.37	200

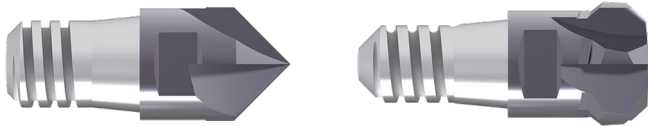
Grinding process:

- Regrind on end only
- If the wear width is too large, the tool is considered as "not re-sharpened."
- Radius tolerance ± 0,02 mm

MultiChange – Solid Carbide Chamfer Cutters



▪ Article groups: 52 867 ... and 52 868 ...



Cutting-Ø-range mm	Regrinding		Regrinding	
	Coating		Coating	
	Ti1050		Ti1100	
	Z0		Z0	
	Article no. 98 687 ...		Article no. 98 688 ...	
	£		£	
Ø 10,0	17.13	100	20.54	100
Ø 12,0	22.83	120	26.25	120
Ø 16,0	26.25	160	30.82	160
Ø 20,0	31.95	200	37.66	200

Grinding process:

- Regrinding on end only for article group 52 867 ...
- Regrinding on cutting edges for article group 52 868...
- If the wear width is too large, the tool is considered as „not re-sharpened.“

MultiChange – PCD End Mills

PDC

▪ Article group: 52 880 ...



Cutting-Ø-range mm	Regrinding		Retipping	
	Z0		Z0	
	Article no. 98 610 ...		Article no. 98 612 ...	
	£		£	
Ø 6.01 to Ø 8.00	95.85	080	116.39	080
≤ Ø 10,0	111.83	100	136.93	100
≤ Ø 12,0	128.95	120	156.33	120
≤ Ø 16,0	170.03	160	205.40	160

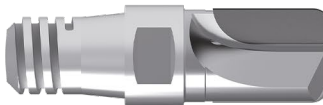
Grinding process:

- PCD end milling cutters can be reground on the face 1 time.
- From the 2nd time the segments are removed, new segments brazed in and ground.

MultiChange – PCD Torus cutters

PDC

▪ Article group: 52 882 ...



Cutting-Ø-range mm	Regrinding		Retipping	
	Z0		Z0	
	Article no. 98 616 ...		Article no. 98 618 ...	
	£		£	
Ø 6.01 to Ø 8.00	89.01	080	114.11	080
≤ Ø 10,0	98.13	100	126.66	100
≤ Ø 12,0	106.12	120	136.93	120

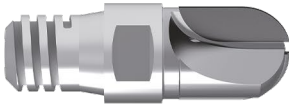
Grinding process:

- PCD Torus cutters can be reground on the end and radius 1 time.
- From the 2nd time the segments are removed, new segments brazed in and ground.
- Radius tolerance $\pm 0,01$ mm

MultiChange – PCD Ball Nosed Cutters

PDC

▪ Article group: 52 881 ...



Cutting-Ø-range mm	Retipping	
	Z0	
	Article no.	
	98 614 ...	
	£	
Ø 6.01 to Ø 8.00	130.08	080
≤ Ø 10,0	135.80	100
≤ Ø 12,0	163.18	120
≤ Ø 16,0	188.29	160

Grinding process:

- The segments are removed, new segments brazed in and ground.
- Radius tolerance ± 0,05 mm

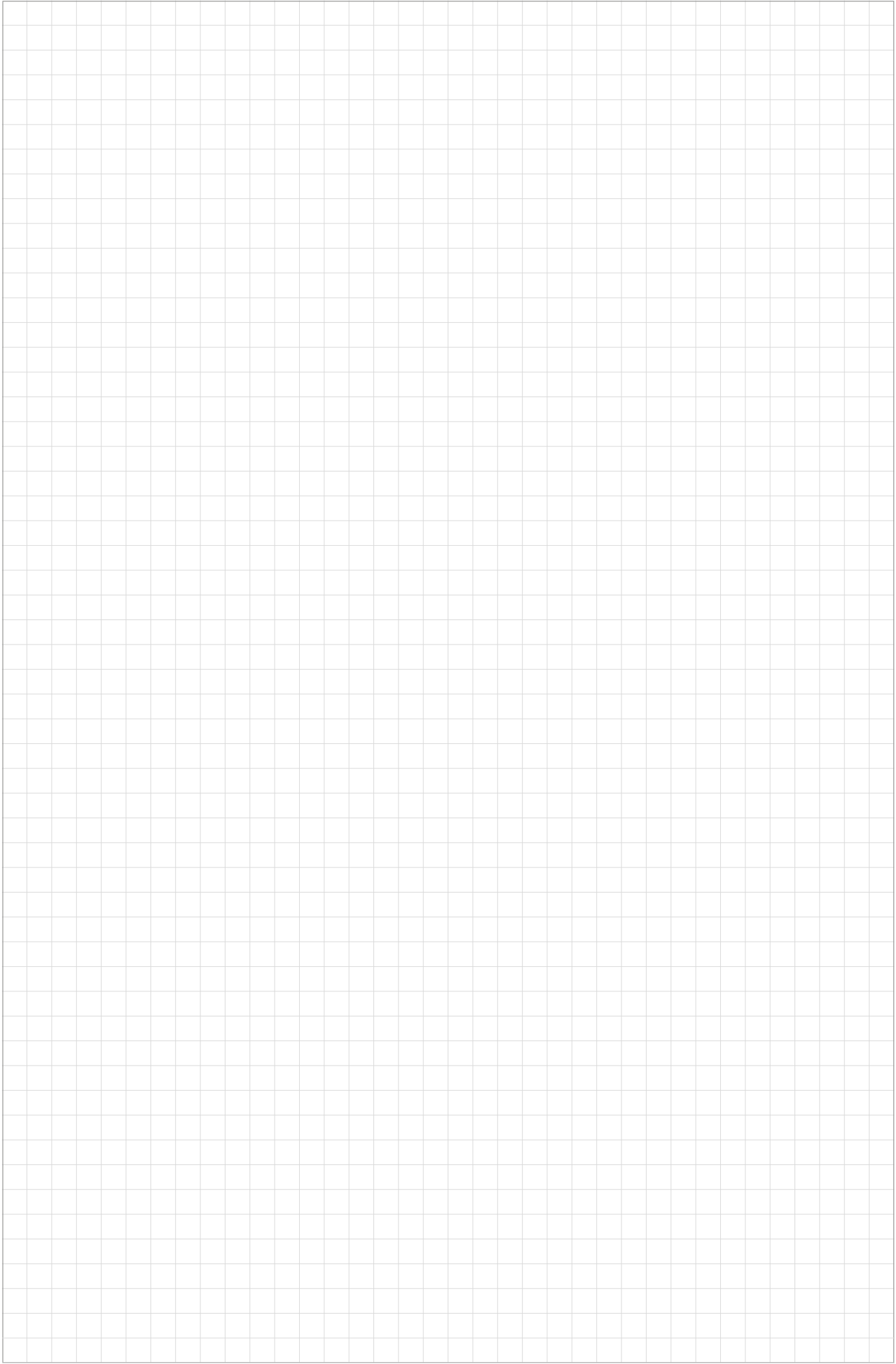
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10 107 ...	98 350 ...	11	10 523 ...	98 242 ...	11	10 762 ...	98 023 ...	15	11 738 ...	98 022 ...	12
10 109 ...	98 100 ...	11	10 525 ...	98 106 ...	11	10 770 ...	98 022 ...	12	11 739 ...	98 022 ...	12
10 110 ...	98 350 ...	11	10 526 ...	98 106 ...	11	10 773 ...	98 009 ...	13	11 745 ...	98 022 ...	12
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10 120 ...	98 350 ...	11	10 532 ...	98 242 ...	11	10 786 ...	98 069 ...	14	11 757 ...	98 022 ...	12
10 122 ...	98 350 ...	11	10 700 ...	98 307 ...	18	10 787 ...	98 069 ...	14	11 765 ...	98 022 ...	12
10 124 ...	98 350 ...	11	10 702 ...	98 135 ...	19	10 790 ...	98 009 ...	13	11 776 ...	98 002 ...	12
10 130 ...	98 100 ...	11	10 703 ...	98 135 ...	19	10 795 ...	98 009 ...	13	11 777 ...	98 002 ...	12
10 152 ...	98 100 ...	11	10 704 ...	98 135 ...	19	10 920 ...	98 001 ...	16	11 778 ...	98 002 ...	12
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10 168 ...	98 100 ...	11	10 709 ...	98 690 ...	61	10 923 ...	98 001 ...	16	11 781 ...	98 002 ...	12
10 169 ...	98 100 ...	11	10 710 ...	98 307 ...	18	10 924 ...	98 001 ...	16	11 782 ...	98 002 ...	12
10 170 ...	98 350 ...	11	10 712 ...	98 690 ...	61	10 925 ...	98 093 ...	17	11 783 ...	98 002 ...	12
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10 172 ...	98 241 ...	11	10 715 ...	98 132 ...	19	10 992 ...	98 991 ...	18	11 785 ...	98 002 ...	12
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10 223 ...	98 100 ...	11	10 724 ...	98 243 ...	19	11 017 ...	98 026 ...	15	40 212 ...	98 691 ...	61
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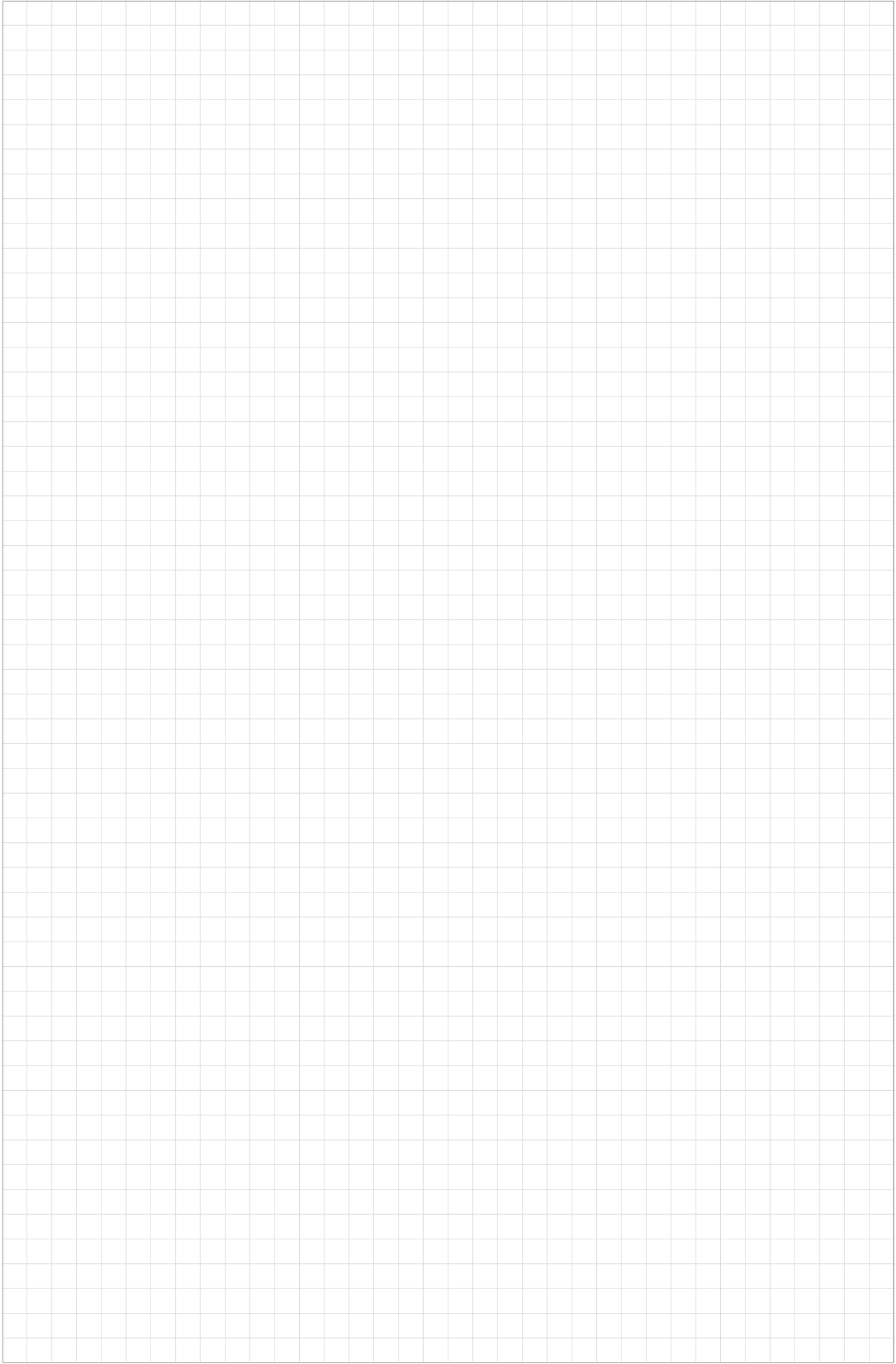
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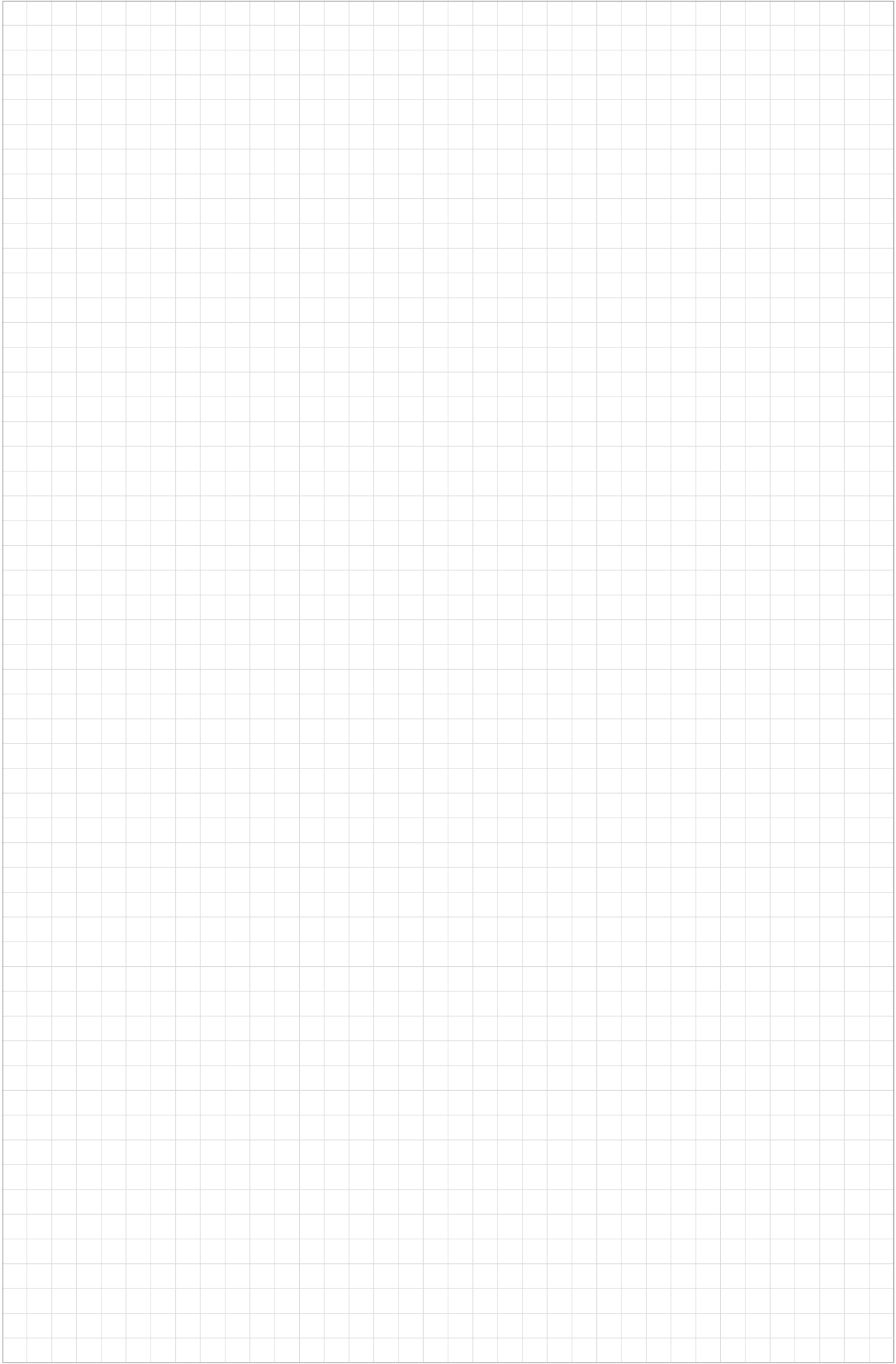
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