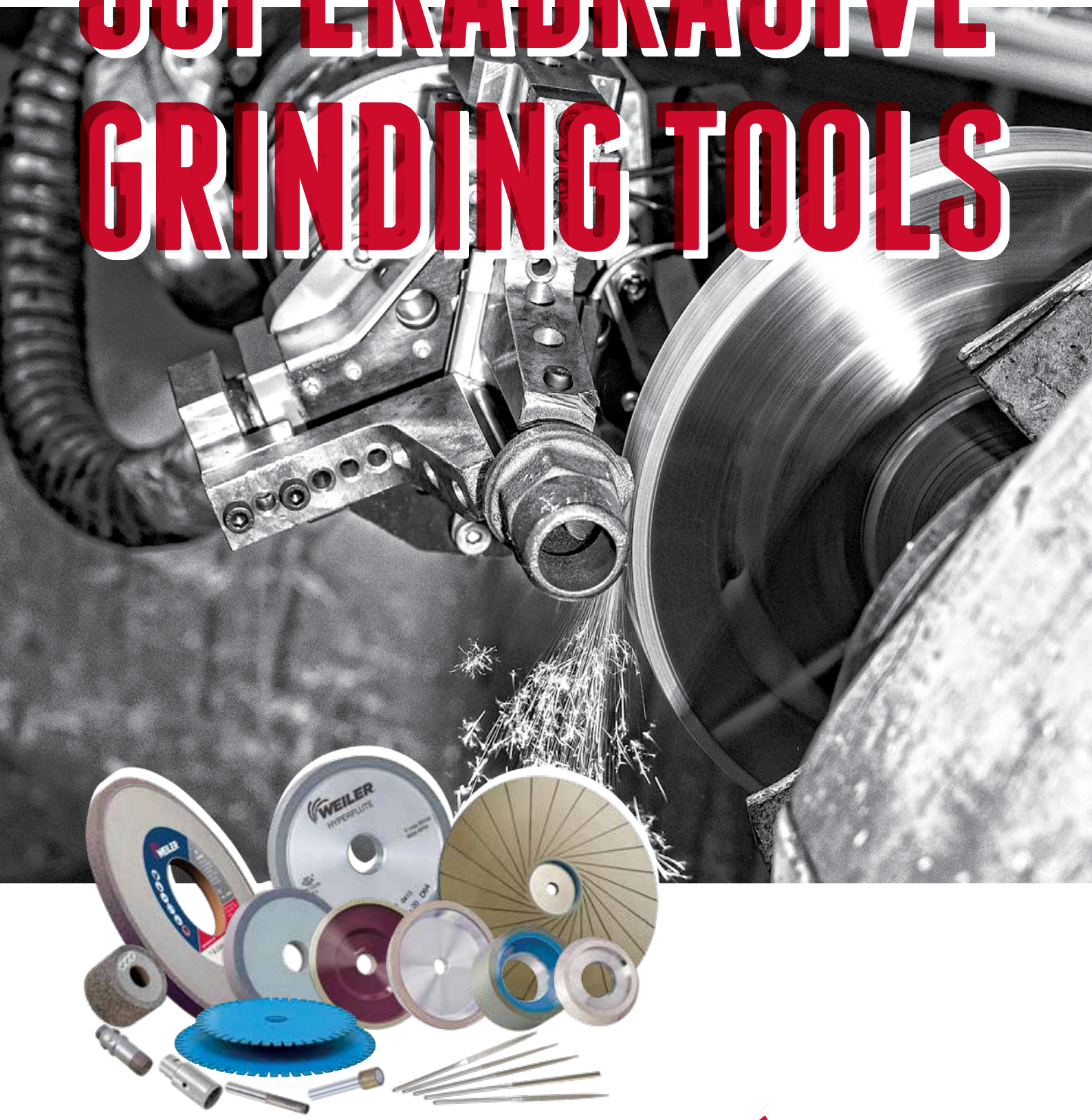
SUPERABRASIVE GRINDING TOOLS



Resin, vitrified, hybrid and metal bonded and electroplated tools.

WEILER®

People who take work seriously partner with Weiler. We work collaboratively to help solve our customers' biggest challenges.

We understand that every production operation is different, so is every production challenge. One solution does not fit all. Weiler experts can examine your specific production and product challenges and develop customized solutions that optimize your operation.

Together we will maximize productivity enabling your business to be more efficient and ultimately more profitable.

WHY WEILER

Weiler's **heritage dates to 1879**. Today, the tradition of excellence continues under the leadership of the fourth generation, Chris Weiler, President/CEO. Having grown from a power brush manufacturer to a global surface conditioning problem-solver, Weiler's mission is to partner with our customers and distributors to ensure their businesses stay productive and profitable. Our people, products and our strong desire to win deliver a competitive edge for our partners.

Weiler products are designed with productivity in mind.

Work Faster: Weiler products are designed to provide superior performance through maximum aggression and long life. That means you get your work done faster and more efficiently.

Work Safer: Weiler products are designed and manufactured to the strictest standards to ensure the highest level of quality and safety.

Work Better: We partner with you to improve your productivity and drive cost out of your business.

Weiler shares your goals of growth and profitability. For both, you need the right tools for the job. We don't just supply those products — we work with you to create solutions. Because that's what you deserve from a partner.

Weiler. Your partner in success.

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MANUFACTURING PROGRAMME

RESIN BONDED
grinding wheels

PROPERTIES:
Organic, partially elastic bond
USE:
Smaller removal and sharpening of metal materials

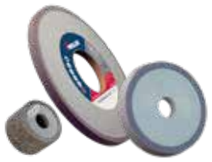
HYBRID BONDED
grinding wheels

PROPERTIES:
Hard, partially brittle bond
USE:
Great removal of hard metal materials on CNC machines

METAL BONDED
grinding wheels

PROPERTIES:
Hard, tough bond
USE:
Processing glass, technical and grinding ceramics, stone and concrete

VITRIFIED BONDED
grinding wheels

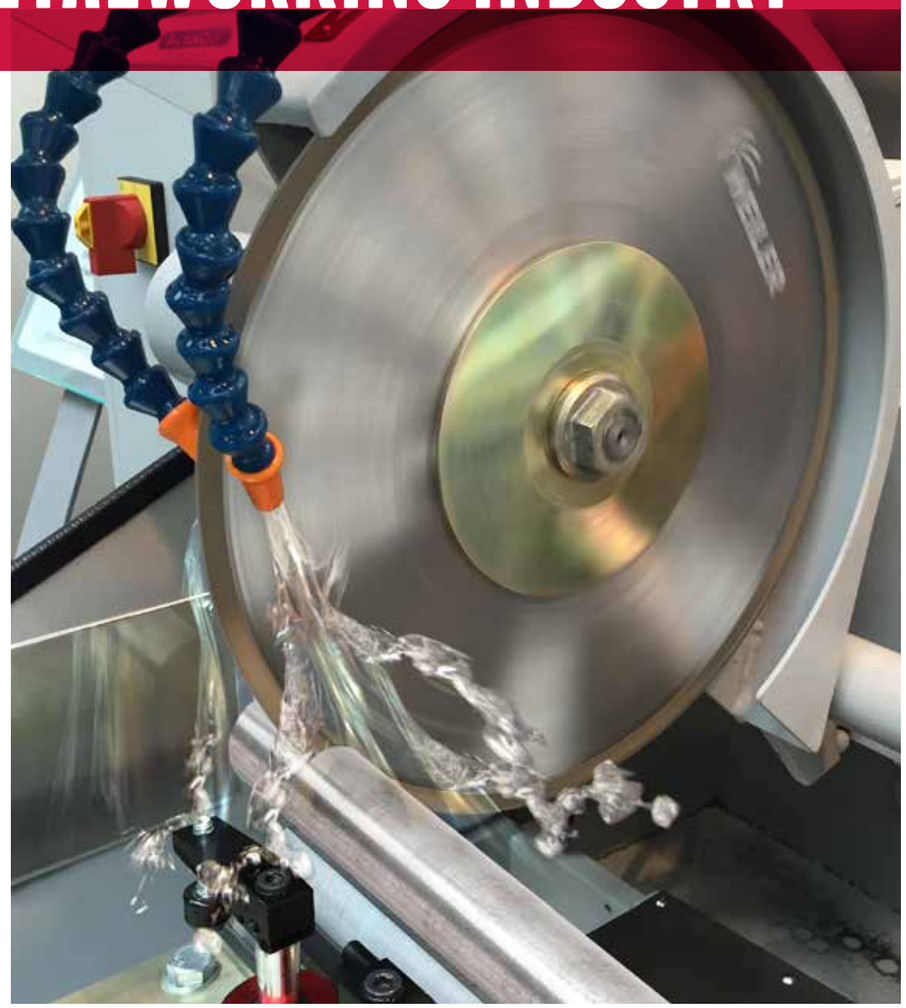


PROPERTIES:
Rigid, brittle bond
USE:
Greater removal of hard, tough metal materials

ELECTROPLATED
grinding tools

PROPERTIES:
Rigid single-layer distribution of abrasive
USE:
Processing of metal and non-metal materials

1. METALWORKING INDUSTRY



OVERVIEW OF ABRASIVES BY THEIR INTENDED USE

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STANDARD SHAPES OF GRINDING TOOLS

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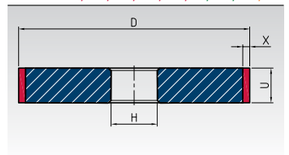

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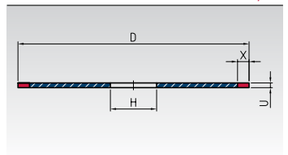

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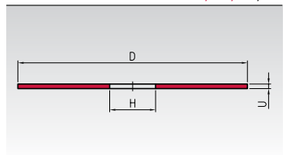

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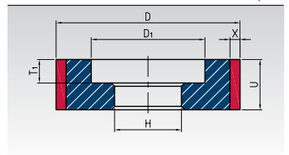

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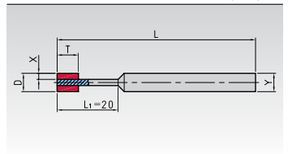

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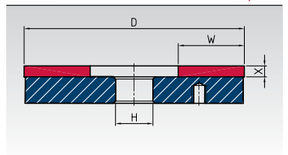

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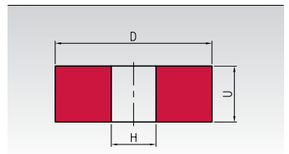

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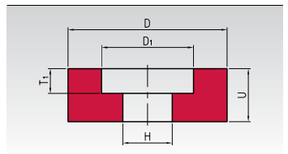

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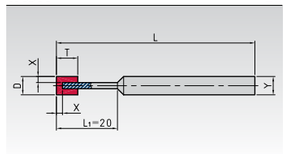

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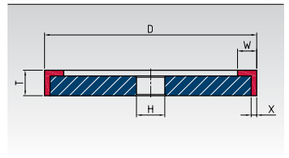

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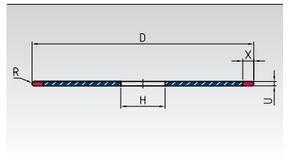

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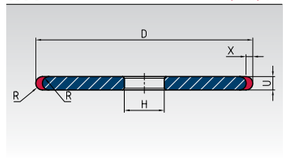

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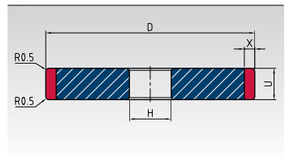

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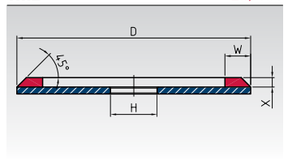

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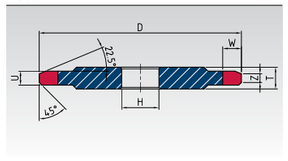

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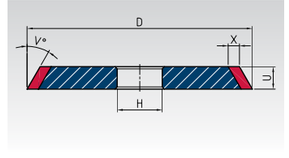

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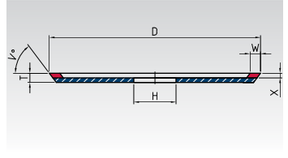

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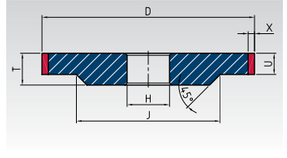

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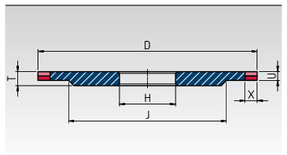

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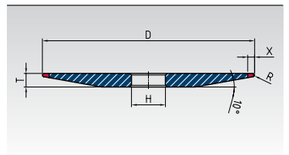

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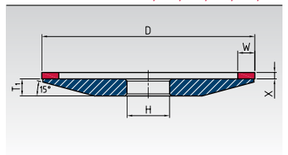

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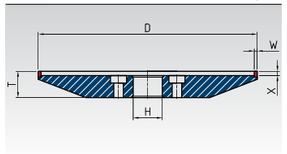

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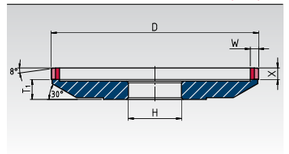

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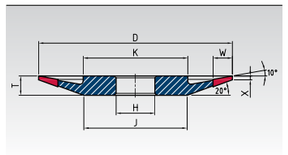

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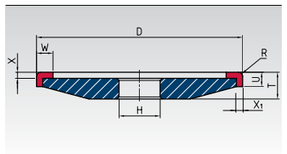

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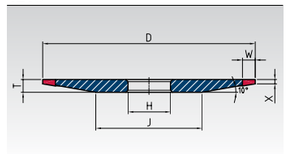

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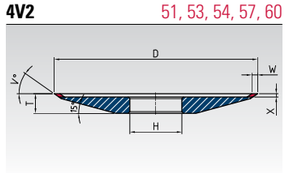

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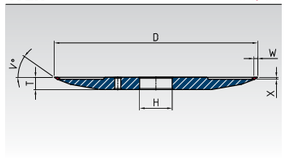

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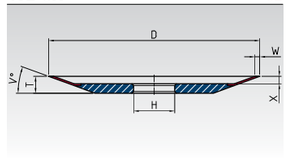

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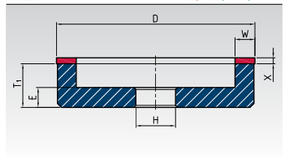

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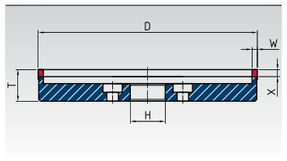

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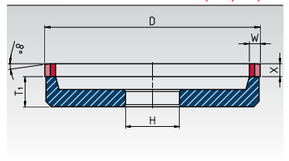

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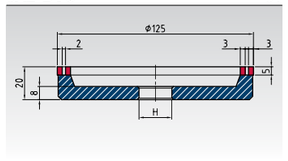

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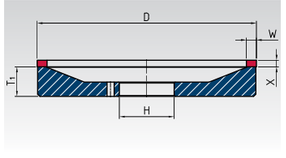

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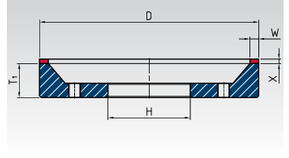

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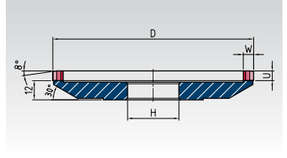
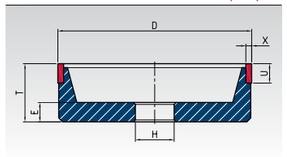


RB=resin bond **VB=vitrified bond** **EP=electroplated** **HB=hybrid bond** **MB=metal bond**

6A9 36, 47, 49



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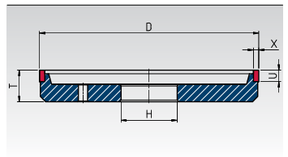

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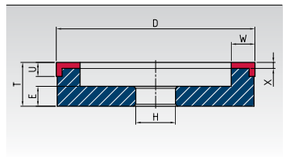

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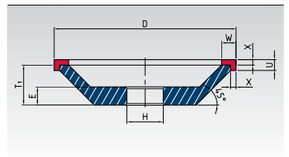

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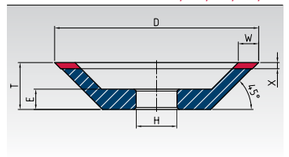
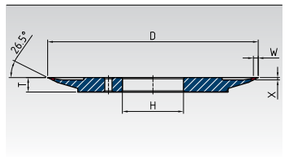
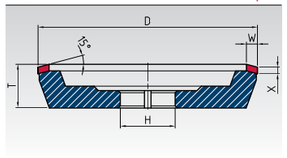


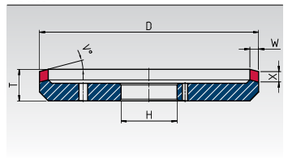
12V2H 53



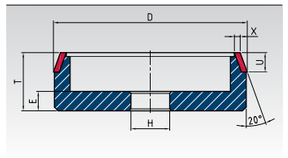
6V5 48, 67



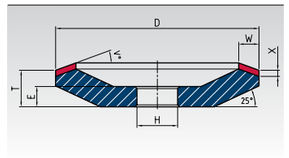
6V5H 45



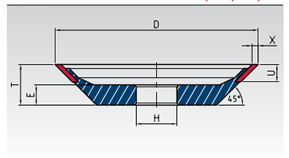
6V9 36



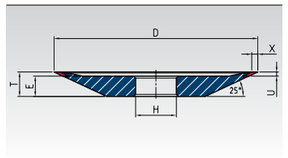
12V5/V° 36



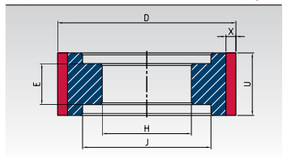
12V9 59, 60, 75, 75



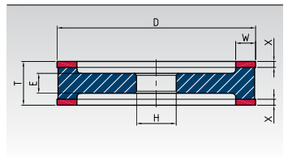
12V9/25° 38



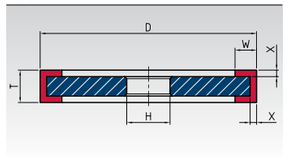
9A1 21, 97



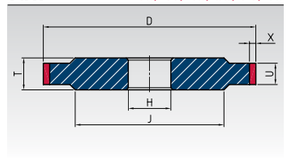
9A3 37



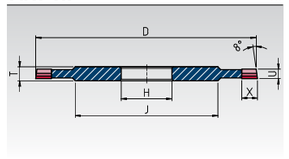
9U1 37



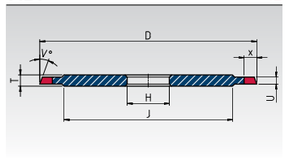
14A1 19, 41, 48, 66, 71, 19



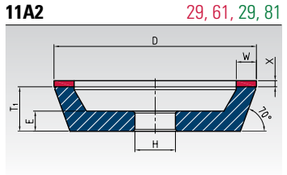
14A1-TR 43



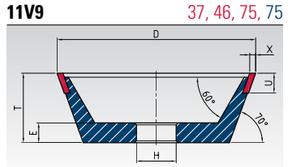
14B1 42



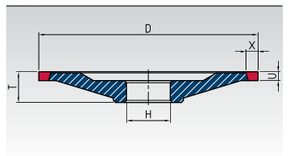
11A2 29, 61, 29, 81



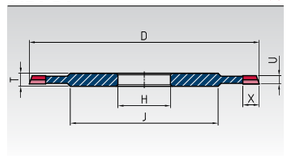
11V9 37, 46, 75, 75



12A1 61



14B1-DV 63



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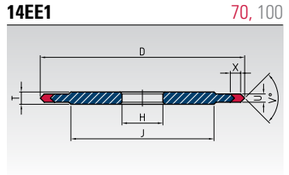
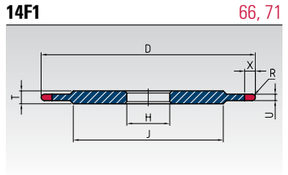
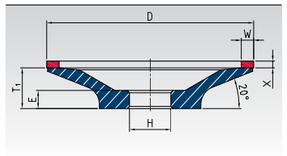


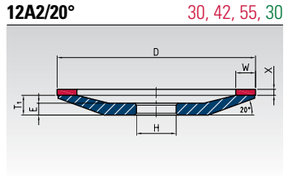
14F1 66, 71



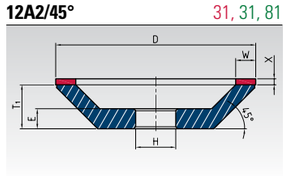
12A2/1 38



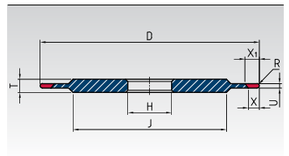
12A2/20° 30, 42, 55, 30



12A2/45° 31, 31, 81



14F1-S 65



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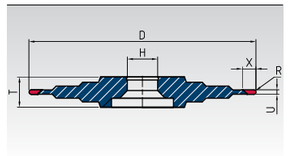

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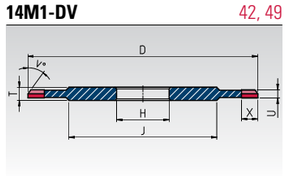
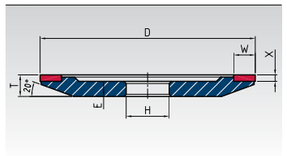
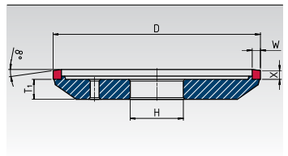


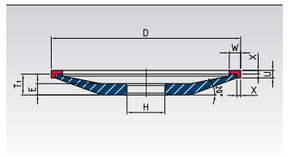
12A9 38



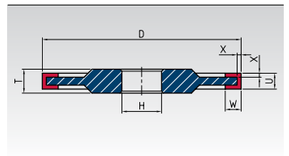
12A9H 44



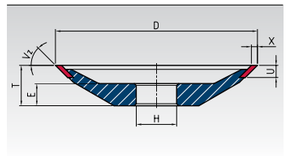
12C9/20° 39



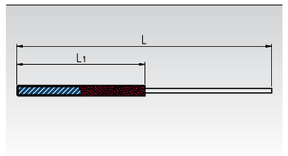
14U1 39



15V9/Vz° 40

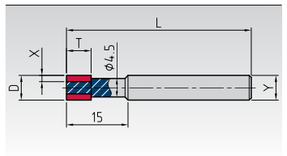


DIA FILES 82

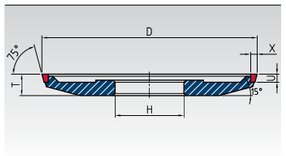


RB=resin bond **VB=vitrified bond** **EP=electroplated** **HB=hybrid bond** **MB=metal bond**

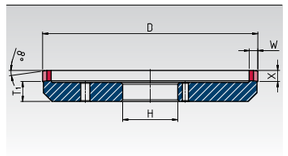
US-1A1W 64



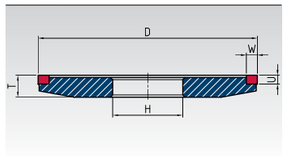
VB-4B9 55



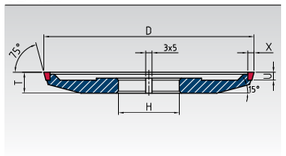
VB-6A2-DV 44



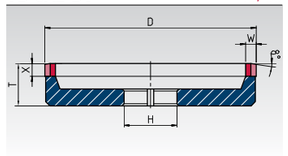
VB-12B9 62



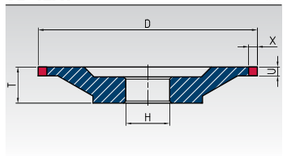
VD-4B9 62



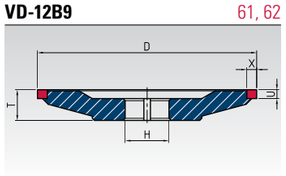
VD-6A2-DV 45, 50



VD-12A1 63



VD-12B9 61, 62



RB=resin bond **VB=vitrified bond** **EP=electroplated** **HB=hybrid bond** **MB=metal bond**

RECOMMENDATIONS FOR THE SELECTION OF THE WORKING PARAMETERS FOR STANDARD MACHINES

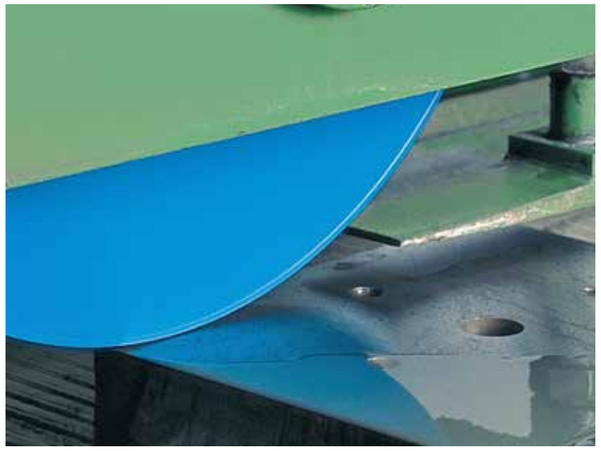
The table below shows the guidelines for precision grinding in the metalworking industry with respect to the grinding process.

		SPEED OF THE LONGITUDINAL FEED m/min	GRINDING DEPTH		
			Coarse grinding mm	Medium grinding mm	Fine grinding mm
Surface grinding		5 - 20	0,01 - 0,03	0,005 - 0,02	0,001 - 0,01
External cylindrical grinding		0,5 - 3,0	0,01 - 0,02	0,005 - 0,01	0,001 - 0,005
Internal cylindrical grinding		0,5 - 2,0	0,005 - 0,02	0,005 - 0,01	0,001 - 0,005
Grinding and tool sharpening		0,5 - 6,0	0,02 - 0,01	0,01 - 0,02	0,005 - 0,001

Grinding phases for the production of milling machines	PERIPHERAL SPEED V_s m/s		FEED RATE mm/min		GRINDING DEPTH mm	
	D	CBN	D	CBN	D	CBN
Creep feed grinding	18 - 22	30 - 50	30 - 200	50 - 200	Full groove depth up to ~ 7mm	Full groove depth up to ~ 7mm
Grinding of free angle	18 - 22	30 - 50	50 - 300	200 - 300	0,3 - 1	0,3 - 1,5
Lateral grinding	18 - 22	30 - 50	30 - 40	60 - 70	Depends on the geometry of the front part	Depends on the geometry of the front part
Lateral grinding - slits	18 - 22	30 - 50	30 - 70	40 - 50	Full groove depth up to ~ 4mm	Full groove depth up to ~ 5mm

Refer to the manufacturer for all other methods.

1.1 PERIPHERAL SURFACE GRINDING AND EXTERNAL CYLINDRICAL GRINDING

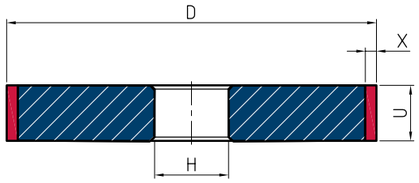


RESIN BONDED

grinding wheels

1A1

D x U x X x H



D	U	X	H
75	5 - 20	3/4/5/6	Custom-made
90	5 - 20	3/4/5/6	
100	5 - 20	3/4/5/6/8	
125	5 - 20	3/4/5/6/8	
150	5 - 20	3/4/5/6/8/10	
175	5 - 25	3/4/5/6/8/10	
200	10 - 25	3/4/5/6/8/10/12	
220	10 - 25	3/4/5/6/10	
250	10 - 25	3/4/5/6/8/10/12/15	
300	10 - 30	3/5/6,4/8/10/12,7	
350	12 - 30	3/5/8/10/15	
400	12 - 30	3/5/6,4/12,5	
450	10 - 30	3/5/10/12,7	
500	15 - 40	3/6,4/10/12,7	
600	15 - 40	6,4	
750	15 - 40	6	

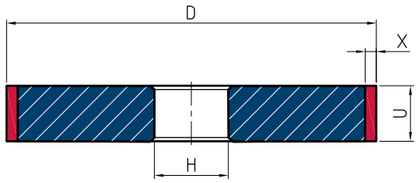
Order printout sample:
1A1 450 x 20 x 5 x 127
B151 BMR C75

VITRIFIED BONDED

grinding wheels

1A1 - K

D x U x X x H



D	U	X	H
100	5 - 25	6/6,4/8/10/12/12,5/15	20/25/32
125	5 - 25	6/6,4/8/10/12/12,5/15	20/25/32
150	5 - 25	6/6,4/8/10/12/12,5/15	20/25/32
175	2 - 25	6/6,4/8/10/15/20/25	20/25/32/40
200	5 - 30	6/8/10/12/12,5/15/20/25	20/25/32/40/51
220	5 - 25	6/10	20/25/32/40/51
250	10 - 30	5/6/8/10/12/15	25/32/40/51/76
300	10 - 25	5/6/6,4/8/10/12	32/40/51/76/127
350	10 - 25	5/8/10/15/25	32/40/51/76/127/151
400	10 - 25	5/6,4/10/12,5/20	51/76/127/151/203
450	10 - 25	5/10/12,5/20	76/127/151/203
500*	20/30/50	6	76/127/151/203
550*	20	7	76/127/151/203
600*	20	7	76/127/151/203

* segmented

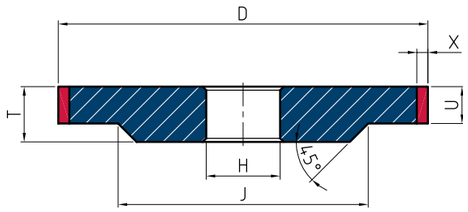
Order printout sample:
1A1-K 400 x 20 x 5 x 127
B126 O6V3 C100

RESIN BONDED

grinding wheels

3A1

D x U x X x H



D	U	X	H	T_{min}	J
50	3/5/8	3/4/5	Custom-made	5	35
55	3/5/8	3/5		5	38
63	3/5/8	3/5		5	45
75	5/6/8/10	3/4/5/6		8	55
90	5/6/8/10	3/4/5/6		8	65
100	5/6/8/10	3/4/5/6/8		8	75
125	5/6/8/10/12	3/4/5/6/8		10	100
150	6/8/10/12/15/20	3/4/5/6/8/10		10	120
175	6/8/10/12/15/20/25	3/4/5/6/8/10		10	140
200	6/8/10/12/15/20/25	3/4/5/6/8/10/12		12	160
220	6/8/10/12/15/20/25	3/4/5/6/10		12	180
250	8/10/12/15/25/30	3/4/5/6/8/10/12/15		12	200
300	10/15/20/25/30	3/5/6,4/8/10/12,7		15	250
350	10/15/20/25/30	3/5/8/10/15		15	300
400	10/15/20/25/30	3/5/6,4/12,5		20	350
450	10/15/20/25/30	3/5/10/12,7		20	400
500	15/20/25/30/40	3/6,4/10/12,7		25	450
600	15/20/25/30/40	6,4		25	550
750	15/20/25/30/40	6		25	700

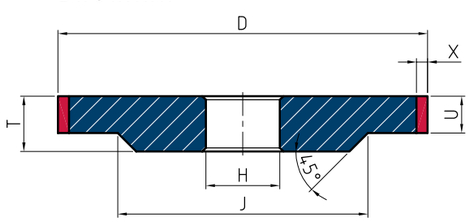
Order printout sample:
1V3A1 250 x 10 x 3 x 76
D126 B40S C75

VITRIFIED BONDED

grinding wheels

3A1

D x U x X x H



D	U	X	H	T	J
100	5 - 25	6/6,4/8/10/12/12,5/15	Custom-made	Custom-made	Custom-made
125	5 - 25	6/6,4/8/10/12/12,5/15			
150	5 - 25	6/6,4/8/10/12/12,5/15			
175	5 - 25	6/6,4/8/10/15/20/25			
200	5 - 25	6/8/10/12/12,5/15/20/25			
220	5 - 25	5/6/10			
250	10 - 25	6/8/10/12/15			
300	10 - 25	6/6,4/8/10/12			

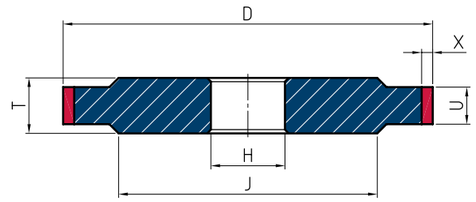
Order printout sample:
3A1 250 x 15 x 8 x 76
B126 O6V3 C100

RESIN BONDED

grinding wheels

14A1

D x U x X x H



D	U	X	H	T_{min}	J
50	3/5/8	3/4/5	Custom-made	5	35
55	3/5/8	3/5		5	38
63	3/5/8	3/5		5	45
75	5/6/8/10	3/4/5/6		8	55
90	5/6/8/10	3/4/5/6		8	65
100	5/6/8/10	3/4/5/6/8		8	75
125	5/6/8/10/12	3/4/5/6/8		10	100
150	6/8/10/12/15/20	3/4/5/6/8/10		10	120
175	6/8/10/12/15/20/25	3/4/5/6/8/10		10	140
200	6/8/10/12/15/20/25	3/4/5/6/8/10/12		12	160
220	6/8/10/12/15/20/25	3/4/5/6/10		12	180
250	8/10/12/15/25/30	3/4/5/6/8/10/12/15		12	200
300	10/15/20/25/30	3/5/6,4/8/10/12,7		15	250
350	10/15/20/25/30	3/5/8/10/15		15	300
400	10/15/20/25/30	3/5/6,4/12,5		20	350
450	10/15/20/25/30	3/5/10/12,7		20	400
500	15/20/25/30/40	3/6,4/10/12,7		25	450
600	15/20/25/30/40	6,4		25	550
750	15/20/25/30/40	6		25	700

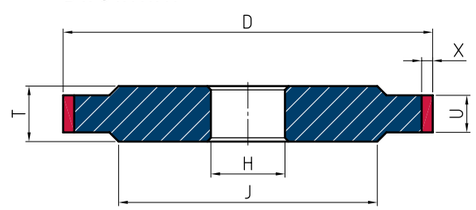
Order printout sample:
14A1 500 x 20 x 6,4 x 203,2
D107 BMR C75

VITRIFIED BONDED

grinding wheels

14A1

D x U x X x H



D	U	X	H	T	J
100	5 - 25	6/6,4/8/10/12/12,5/15	Custom-made	Custom-made	Custom-made
125	5 - 25	6/6,4/8/10/12/12,5/15			
150	5 - 25	6/6,4/8/10/12/12,5/15			
175	2 - 25	6/6,4/8/10/15/20/25			
200	5 - 30	6/8/10/12/12,5/15/20/25			
220	5 - 25	5/6/10			
250	10 - 30	6/8/10/12/15			
300	10 - 25	6/6,4/8/10/12			

Order printout sample:
14A1 300 x 25 x 10 x 127
B126 P4V3 C100

SA-CENTERLESS

SUPERABRASIVE GRINDING TOOLS

This grinding tools are used for the mass production roughing and finishing of cylindrical shape workpieces and the mass production of true round parts.

Superabrasives grinding wheels for through-feed centerless grinding

SA-CENTERLESS

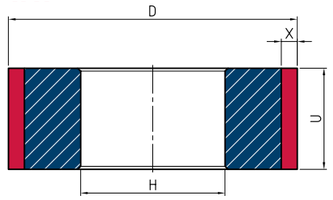
Features:

- faster material removal rates
- good surface finish after fine grinding
- high roundness and cylindricity of workpice and good dimension consistency
- great profile retention and lifetime
- used for rough grinding, semi-fine grinding and fine grinding.

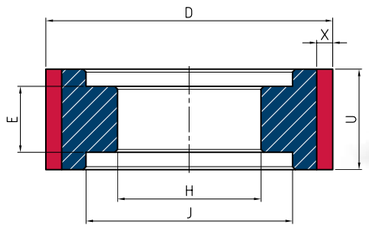
Working material:

Mainly used for grinding tungsten carbide rod blanks, ceramic parts, magnetic material, high speed steel round bars, rings for friction bearings, bearing needles, parts of tripod, etc.

1A1



9A1



Dimensions: D x U x X x H						Composition
D	U	X	H	E (9A1)	J (9A1)	Grit size / Bond / Concentration
100	40	3/5	According to specification			**Resin bond:** for tungsten carbide (WC), high speed steel (HSS), technical ceramics (Al2O3), magnetic materials (AlNiCo, SmCo) **Metal bond:** for technical ceramics (Al2O3) Grit size, type of bond and concentration is determined according to applications and customer requirements.
150	20 - 80	3/5/10				
200	30 - 100	3/5/10				
250/300	50 - 100	3/5/6/8/10				
350	60 - 100	3/5/6/10				
400	80 - 250	3/5/6,4/8/10				
450	80 - 250	3/5/10				
500	80 - 250	6,4/10/12,7				
600	80 - 400	6,4/10				

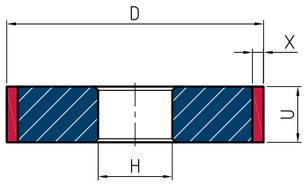
1.2 INTERNAL CYLINDRICAL GRINDING

RESIN BONDED

grinding wheels

1A1

D x U x X x H



D	U	X	H
6	6 - 10	1,5	Custom-made
7	6 - 10	2	
8	6 - 10	2	
9	6 - 10	2	
10	5 - 10	2	
12	5 - 10	2	
15	10 - 15	2/3/5	
18	10 - 15	2	
20	10 - 15	2/3/5	
22	10 - 15	2/3/5	
25	10 - 15	2/3/5	
30	10 - 20	2/3/5	
35	10 - 20	2/3/5	
40	10 - 20	3/4	
45	10 - 20	3/4	
50	5 - 20	3/4/5	
55	5 - 20	3/5	
63	5 - 20	3/5	

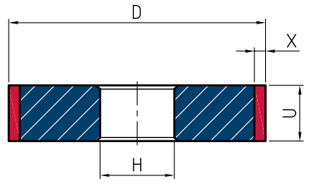
Order printout sample:
1A1 35 x 12 x 3 x 10
B107 BMK C75

VITRIFIED BONDED

grinding wheels

1A1

D x U x X x H



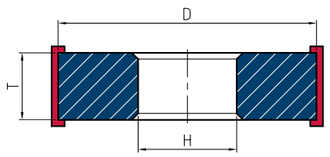
D	U	X	H
20	10 - 20	3	3/6/8/10
22	8	3	8
25	10 - 25	3/5	6/8/10/13
30	10 - 25	3	8/10/13/16/20
35	10 - 25	3	8/10
40	10 - 25	3/8	8/10/13/16
45	10 - 25	7,5	8/10
50	10 - 25	3	8/10/13/20
60	10 - 25	3	15
75	10 - 25	3	20

ELECTROPLATED

grinding wheels

1A1

D x T x H



D	T	H
10	10/15	6
15	10	8
20	10	8
25	10	10
30	15	10

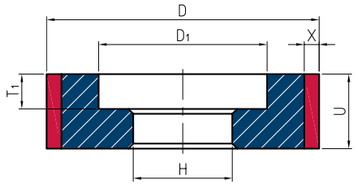
Order printout sample:
1A1 20 x 10 x 8
B126 ELECTROPLATED

RESIN BONDED

grinding wheels

1A1S

D x U x X x H / D_1 x T_1



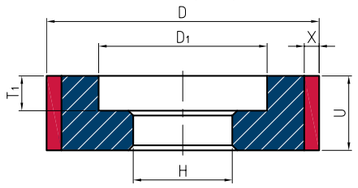
D	U	X	H	D_1	T_1
15	10/15	2/3/4/5	Custom-made	10	4/6
18	10/15	2		12	4/6
20	10/15	2/3/5		12	4/6
22	10/15	2/3/5		12	4/6
25	10/15	2/3/5		13/17	4/6
30	15/20	1,5/2/3/5		16/20	6/8
35	15/20	2/3/5		25	6/8
40	15/20	3/4		30	6/8

VITRIFIED BONDED

grinding wheels

1A1S

D x U x X x H / D_1 x T_1



D	U	X	H	D_1	T_1
20	10 - 20	3	6/8/10	12	max. U/2
22	8	3	8	12	
25	10 - 25	3/5	6/8/10/12,7/13	13 - 18	
30	10 - 25	3/5	8/10/12,7/13	16 - 22	
35	10 - 25	3/5	8/10/12,7/13	20 - 28	
40	10 - 25	3/5/8	8/10/12,7/13	20 - 32	
45	10 - 25	7,5	8/10/12,7/13	20 - 28	
50	10 - 25	3/5	6/8/10/13/20	30 - 40	
60	10 - 25	3/5	20	30 - 45	
75	10 - 25	3/5	20	30 - 50	

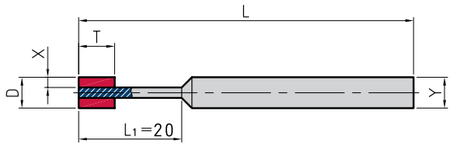
Order printout sample:
1A1S-K 30 x 20 x 3 x 10 / 15 x 10
B107 O5V3 C100

RESIN BONDED

grinding pins

1A1W

D x T x X x Y x L



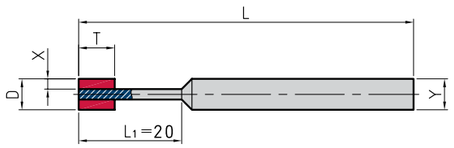
D	T	X	Y	L
6	6/10	1,5	6	70
7	6/10	2	6	70
8	6/10	2	6	70
9	6/10	2	6	70
10	6/10	2	6	70
12	6/10	2	6	70
15	6/10/12	2	6/8	70
18	6/10/12	2	6/8/10	70
20	6/10/12	2	6/8/10	70

VITRIFIED BONDED

grinding pins

1A1W

D x T x X x Y x L



D	T	X	Y	L
8	6/10	2	6	70
9	6/10	2	6	70
10	6/10	2	6	70
12	6/10	2	6	70
14	6/10	2	6	70
15	6/10/12	2	6/8	70
18	6/10/12	2	6/8/10	70
20	6/10/12	2	6/8/10	70

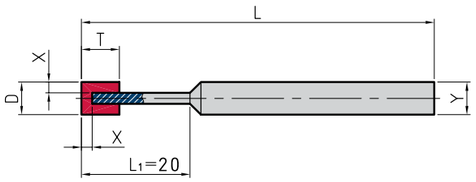
Order printout sample:
1A1W 10 x 6 x 2 x 6 x 70
B91 O5V3 C100

RESIN BONDED

grinding pins

1A8W

D x T x X x Y x L



D	T	X	Y	L
3	6	0,5	3/6	70
4	6	1	3/6	70
5	6	1,5	3/6	70
6	6	2	3/6	70

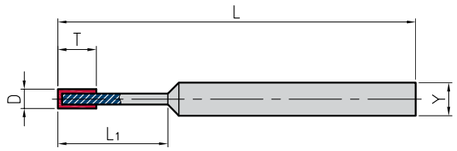
Order printout sample:
1A8W 6 x 6 x 2 x 6 x 70
D64 B40S C75

ELECTROPLATED

grinding pins

1A1W

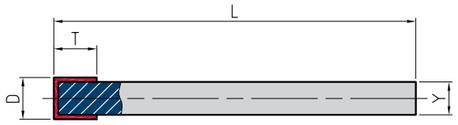
D x T x L_1 x Y x L



D	T	L_1	Y	L
1	5	10	3	40/55
1,5	5	12	3	40/55
2	5	12	3	40/55
2,5	5	16	3	40/55
3	5	16	3	40/55

1A1W

D x T x Y x L



D	T	Y	L
3,5	5	3	40/55
4	5	3	40/55
4,5	5	3	55
5	6	3	55
6	6	3	55
7	8	6	60
8	10	6	80
9	10	6	80
10	10	6	80
12	10	6	80
15	10	8	80

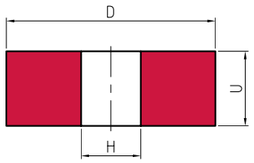
Order printout sample:
1A1W 6 x 6 x 3 x 55
B126

VITRIFIED BONDED

grinding wheels

1A8

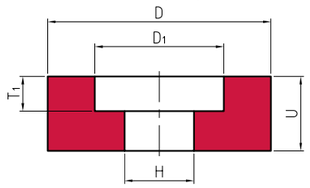
D x U x H



D	U	H
8	5 - 10	3/4
9	5 - 10	3/4
10	8 - 16	3/4
12	8 - 16	3/4
13	8 - 16	4/5
14	8 - 16	4/5/6
16	8 - 20	4/5/6
17	8 - 20	4/5/6
18	8 - 20	4/5/6

1A8S

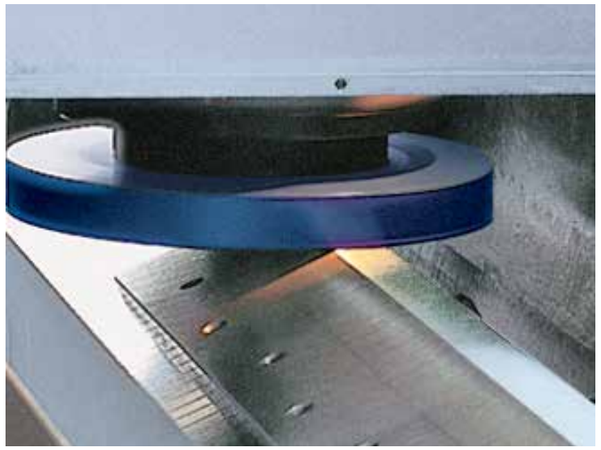
D x U x H / D_1 xT_1



D	U	H	D_1	T_1
8	5 - 10	3/4	Upon arrangement	Max. U/2
9	5 - 10	3/4		
10	8 - 16	3/4		
12	8 - 16	3/4		
13	8 - 16	4/5		
14	8 - 16	4/5/6		
16	8 - 20	4/5/6		
17	8 - 20	4/5/6		
18	8 - 20	4/5/6		

Order printout sample:
1A8S 18 x 20 x 6 / 12 x 8
B126 O6V3 C100

1.3 SURFACE GRINDING ON THE FACE OF THE WHEEL

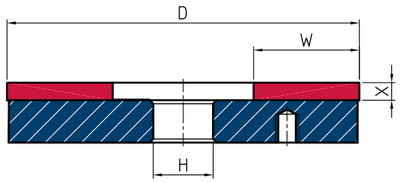


RESIN BONDED

grinding wheels

1A2M

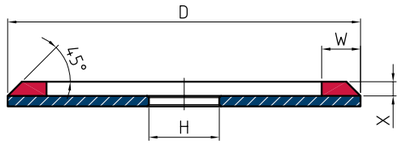
D x W x X x H



D	W	X	H
300	140	5	Custom-made
400	130	5	
400	150	5	
400	175	5	
500	180	5	
600	150	5/10	
600	230	5/10	

1M2

D x W x X x H



D	W	X	H
125	3/5	1/1,5/2	Custom-made
150	3/5	1/1,5/2	

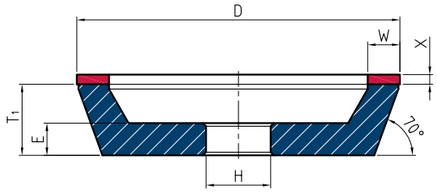
Order printout sample:
1M2 125 x 5 x 2 x 20
D64 B40S C75

RESIN BONDED

grinding wheels

11A2

D x W x X x H



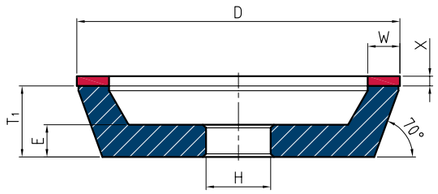
D	W	X	H	$T_{1\,min}$	E
50	3/4/5	2/3/4	Custom-made	13	8
55	10	2/3/4		15	10
63	3/5/10	2/3/4		15	10
75	3/4/5/6/8/10/15	2/3/4/5		18	10
90	3/4/5/6/8/10	2/3/4/5		22	10
100	3/4/5/6/8/10/1,5/15/20	2/3/4/5		22	10
125	3/4/5/6/8/10/12,5/15/20	2/3/4/5/6		23	10
150	3/4/5/6/8/10/12,5/15/20/25	2/3/4/5/6		23	10
175	3/4/5/6/8/10/12,5/15/20/25	2/3/4/5/6		23	12
200	4/5/6/8/10/12/15/20/25	2/3/4/5/6		23	12
220	4/10/15/20	2/3/4/5/6		25	12
250	5/6/8/10/12/15/25	2/3/4/5/6		25	15

VITRIFIED BONDED

grinding wheels

11A2

D x W x X x H



D	W	X	H	$T_{1\,min}$	E
100	6/8/10/12,5/15/20	4 - 6	Custom-made	22	10
125	6/8/10/12,5/15/20	4 - 6		23	10
150	6/8/10/12,5/15/20/25	4 - 6		23	10
175	6/8/10/12,5/15/20/25	4 - 6		23	12
200	6/8/10/12/15/20/25	4 - 6		23	12
220	10/15/20	4 - 6		25	12
250	8/10/12/15/25	4 - 6		25	15

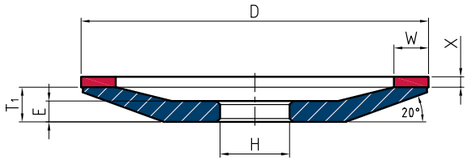
Order printout sample:
11A2 100 x 8 x 6 x 20
B107 P4V3 C100

RESIN BONDED

grinding wheels

12A2/20°

D x W x X x H



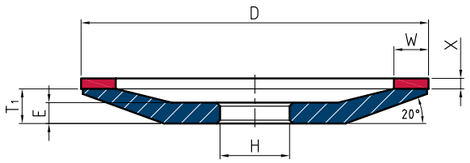
D	W	X	H	T_1	E
50	3/4/5/10	2/3/4	Custom-made	7	5
55	10	2/3/4		7	5
63	3/5/10	2/3/4		9	6
75	3/4/5/6/8/10/15	2/3/4/5		9	6
90	3/4/5/6/8/10	2/3/4/5		10	6
100	3/4/5/6/8/10/12,5/15/20	2/3/4/5		10	6
125	3/4/5/6/8/10/12,5/15/20	2/3/4/5/6		14	8
150	3/4/5/6/8/10/12,5/15/20/25	2/3/4/5/6		16	9
175	3/4/5/6/8/10/12,5/15/20/25	2/3/4/5/6		18	10
200	4/5/6/8/10/12/15/20/25	2/3/4/5/6		20	11
220	4/10/15/20	2/3/4/5/6		23	13
250	5/6/8/10/12/15/25	2/3/4/5/6		23	13

VITRIFIED BONDED

grinding wheels

12A2/20°

D x W x X x H



D	W	X	H	T_1	E
100	6/8/10/12,5/15/20	4 - 6	Custom-made	10	8
125	6/8/10/12,5/15/20	4 - 6		14	8
150	6/8/10/12,5/15/20/25	4 - 8		16	9
175	6/8/10/12,5/15/20/25	5 - 10		18	10
200	6/8/10/12/15/20/25	6 - 12		20	11
220	10/15/20	6 - 15		23	13
250	8/10/12/15/25	5 - 10		23	13

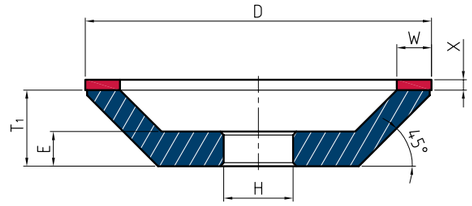
Order printout sample:
12A2/20° 125 x 10 x 6 x 20
D91 P3V C125

RESIN BONDED

grinding wheels

12A2/45°

D x W x X x H



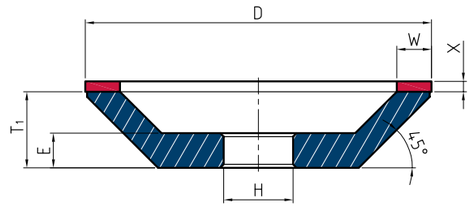
D	W	X	H	T_1	E
50	3/4/5/10	2/3/4	Custom-made	20	8
55	10	2/3/4		20	8
63	3/5/10	2/3/4		20	8
75	3/4/5/6/8/10/15	2/3/4/5		20	10
90	3/4/5/6/8/10	2/3/4/5		22	10
100	3/4/5/6/8/10/12,5/15/20	2/3/4/5		22	10
125	3/4/5/6/8/10/12,5/15/20	2/3/4/5/6		22	10
150	3/4/5/6/8/10/12,5/15/20/25	2/3/4/5/6		22	10
175	3/4/5/6/8/10/12,5/15/20/25	2/3/4/5/6		25	12
200	4/5/6/8/10/12/15/20/25	2/3/4/5/6		25	12
220	4/10/15/20	2/3/4/5/6		25	12
250	5/6/8/10/12/15/25	2/3/4/5/6		25	12

VITRIFIED BONDED

grinding wheels

12A2/45°

D x W x X x H



D	W	X	H	T_1	E
100	6/8/10/12,5/15/20	4 - 6	Custom-made	22	10
125	6/8/10/12,5/15/20	4 - 6		22	10
150	6/8/10/12,5/15/20/25	4 - 6		22	10
175	6/8/10/12,5/15/20/25	5 - 10		25	12
200	6/8/10/12/15/20/25	6 - 12		25	12
220	10/15/20	6 - 5		25	12
250	8/10/12/15/25	6 - 15		25	12

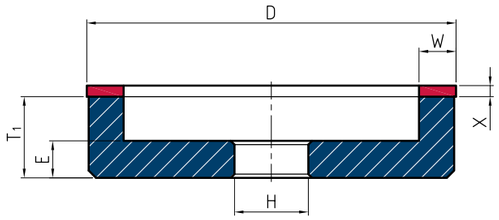
Order printout sample:
12A2/45° 150 x 8 x 6 x 20
B126 O6V3 C100

RESIN BONDED

grinding wheels

6A2

D x W x X x H



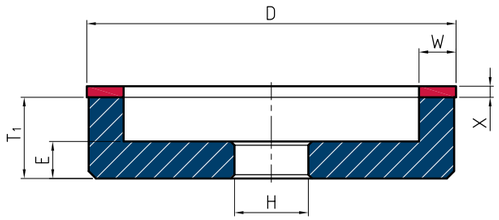
D	W	X	H	T_1	E
30	3/5	2/3	Custom-made	18	8
40	3/5	2/3		20	8
45	3/4	2/3		20	8
50	3/4/5/10	2/3/4		20	10
55	10	2/3/4		20	10
63	3/5/10	2/3/4		20	10
75	3/4/5/6/8/10/15	2/3/4/5		20	10
90	3/4/5/6/8/10	2/3/4/5		22	10
100	3/4/5/6/8/10/12,5/15/20	2/3/4/5		22	10
125	3/4/5/6/8/10/12,5/15/20	2/3/4/5/6		22	10
150	3/4/5/6/8/10/12,5/15/20/25	2/3/4/5/6		22	10
175	3/4/5/6/8/10/12,5/15/20/25	2/3/4/5/6		25	13
200	4/5/6/8/10/12/15/20/25	2/3/4/5/6		25	13
220	4/10/15/20	2/3/4/5/6		25	13
250	5/6/8/10/12/15/25	2/3/4/5/6		25	13

VITRIFIED BONDED

grinding wheels

6A2

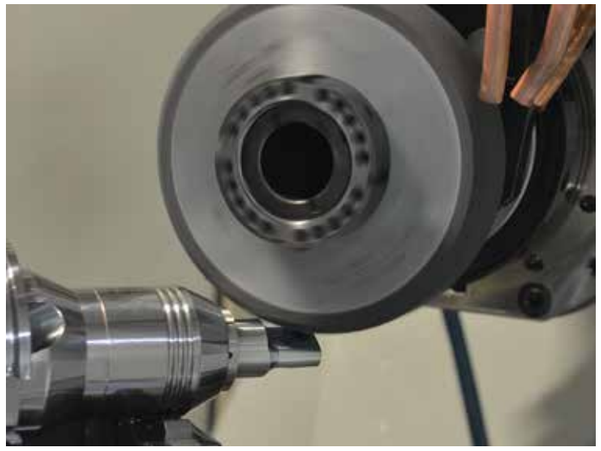
D x W x X x H



D	W	X	H	T_1	E
100	6/8/10/12,5/15/20	4 - 10	Custom-made	22	10
125	6/8/10/12,5/15/20	4 - 10		22	10
150	6/8/10/12,5/15/20/25	4 - 10		22	10
175	6/8/10/12,5/15/20/25	4 - 10		25	13
200	6/8/10/12/15/20/25	4 - 10		25	13
220	10/15/20	6 - 10		25	13
250	8/10/12/15/25	6 - 12		25	13
300	8/10/12	6 - 12		30	15

Order printout sample:
6A2 100 x 6 x 5 x 20
B126 M6V3 C100

1.4 TOOL GRINDING AND SHARPENING

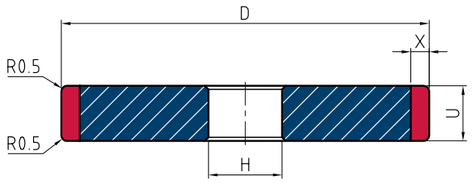


RESIN BONDED

grinding wheels

1L1

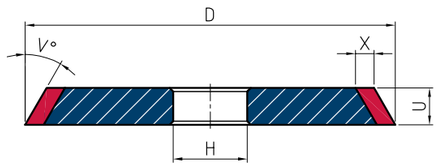
D x U x X x H



D	U	X	H
75	3/4/5/6/10	2/3/5	Custom-made
100	3/4/5/6/10	2/3/5	
125	3/4/5/6/10	2/3/6	
150	4/5/6/10	3/5/6	
175	6/10/15	3/5/6	
200	6/10/15	3/5/6	

1V1/V°

D x U x X x H



D	U	X	V°	H
50	5/10	3/5	10/15/20/30/45	Custom-made
75	6/10	3/5	10/15/20/30/45	
90	6/10	3/5	10/15/20/30/45	
100	6/10/12	3/5/6/8/10	10/15/20/30/45	
125	6/10/12	3/5/6/8/10	10/15/20/30/45	
150	6/10/12	3/5/6/8/10	10/15/20/30/45	

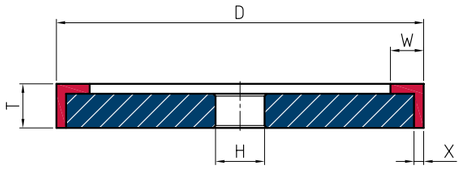
Order printout sample:
1V1/15° 100 x 6 x 3 x 20
D91 BP C100

RESIN BONDED

grinding wheels

1C9

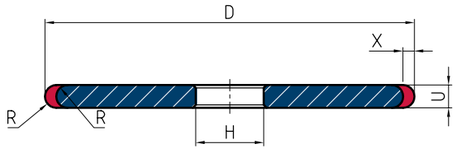
D x T x W x X x H



D	T	W	X	H
100	10	10	2	Custom-made
125	10	10	2	
150	10/20	10	2/3	
175	20/25	10	3/4	
200	20/25	10	3/4	

1FF1

D x U x X/R x H

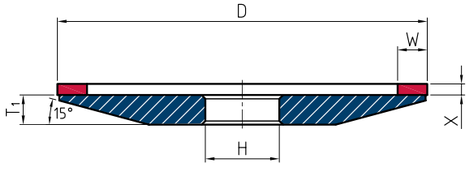


D	U	X	R	H
50	4	2	2	Custom-made
75	4	2	2	
75	8	2	4	
100	5	2	2,5	
125	6	2	3	
125	8	2	4	
125	16	2	8	
150	5	2	2,5	
150	20	2	10	

Order printout sample:
1FF1 125 x 6 x 2/3 x 20
B76 BMR C100

4A2

D x W x X x H



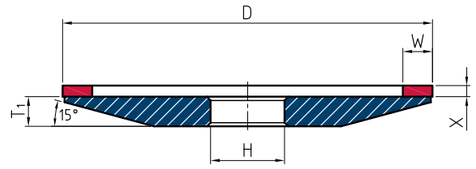
D	W	X	H	T_1
50	3/4/5/10	2/3/4	Custom-made	6
55	10	2/3/4		6
63	3/5/10	2/3/4		6
75	3/4/5/6/8/10	2/3/4/5		6
90	3/4/5/6/8/10	2/3/4/5		8
100	3/4/5/6/8/10/12,5/15	2/3/4/5		8
125	3/4/5/6/8/10/12,5/15	2/3/4/5/6		8
150	3/4/5/6/8/10/12,5/15/20	2/3/4/5/6		8
175	3/4/5/6/8/10/12,5/15/20/25	2/3/4/5/6		10
200	4/5/6/8/10/12/15/20/25	2/3/4/5/6		12
220	4/10/15/20	2/3/4/5/6		12
250	5/6/8/10/12/15/25	2/3/4/5/6		14

VITRIFIED BONDED

grinding wheels

4A2

D x W x X x H



D	W	X	H	T_1
100	5/6/8/10/12,5/15	5 - 8	Custom-made	8
125	5/6/8/10/12,5/15	5 - 8		8
150	5/6/8/10/12,5/15/20	5 - 8		8
175	5/6/8/10/12,5/15/20/25	6 - 10		10
200	5/6/8/10/12/15/20/25	6 - 10		12
220	10/15/20	6 - 10		12
250	8/10/12/15/25	8 - 12		14

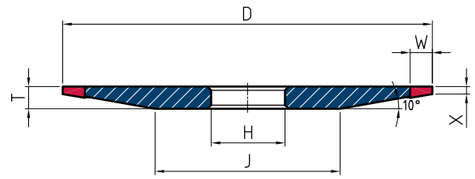
Order printout sample:
4A2 125 x 15 x 6 x 20
B107 O4V3 C100

RESIN BONDED

grinding wheels

4ET9

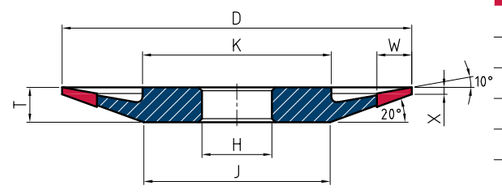
D x W x X x H



D	W	X	H	T	J
50	6	1/2	Custom-made	4	14/25
75	6/10	1/2		5	27/39
100	6/10	1/2		6	41/52
125	6/10	1/2		8	43/55
150	6/10	1/2		10	43/57
175	6/10	1/2		12	71/82

4BT9

D x W x X x H



D	W	X	H	T	K=J
50	6/10	1/2	Custom-made	6	20/26
75	6/10	1/2		8	34/40
100	6/10	1/2		10	48/54
125	6/10	1/2		12	62/68
150	6/10	1/2		14	76/82
175	6/10	1/2		14	101/107

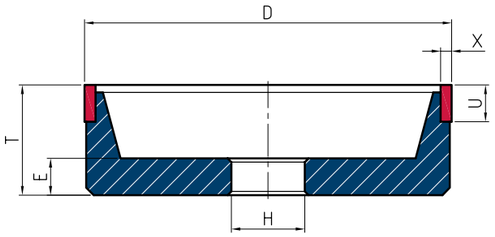
Order printout sample:
4BT9 100 x 6 x 2 x 20
D76 B40S C75

RESIN BONDED

grinding wheels

6A9

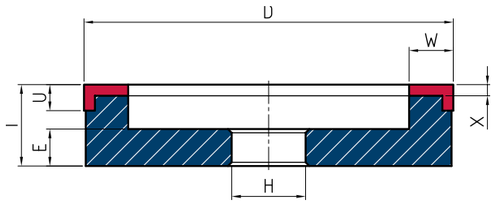
D x X x U x H



D	X	U	H	T	E
50	2/3	6/10	Custom-made	20	8
75	2/3/4	6/10		25	10
100	2/3/4	6/10		30	10
125	2/3/4	6/10		30	10
150	2/3/4	6/10		35	10
175	3/4/5	6/10		35	10
200	3/4/5	6/10		40	13
220	3/4/5	6/10		40	13
250	3/4/5	6/10		40	13

6C2

D x W x X x U x H

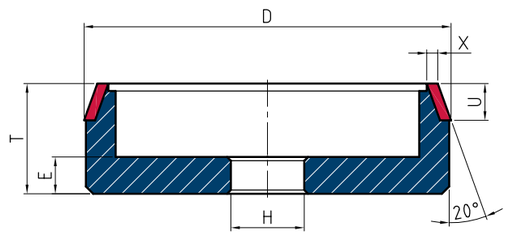


D	W	X	U	H	T	E
100	6/10	3	5/7	Custom-made	22	10
125	6/10	3	5/7		22	10
150	6/10	3	5/7		22	10

Order printout sample:
6C2 100 x 6 x 3 x 5 x 20
D91 V80 C75

6V9

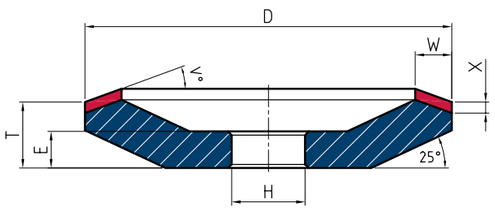
D x X x U x H



D	X	U	H	T	E
75	2/3	6/10	Custom-made	25	8
100	2/3	6/10		30	10
125	2/3	6/10		35	10
150	2/3	6/10		35	10

12V5/V°

D x W x X x H



D	W	X	H	T	V	E
75	4/6	2/3	Custom-made	15	10/20	10
100	6/10	2/3		18	10/20	10
125	6/10	2/3		18	10/20	10
150	6/10	2/3		20	10/20	12

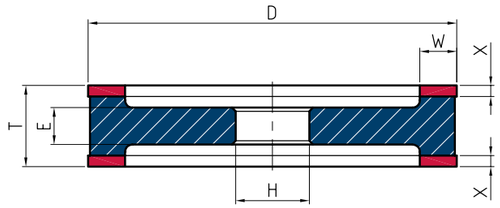
Order printout sample:
12V5/10° 100 x 6 x 2 x 20
D76 BMR C75

RESIN BONDED

grinding wheels

9A3

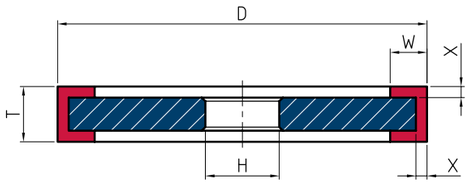
D x W x X x H



D	W	X	H	T	E
75	6	2/3/4	Custom-made	22	10
100	6/10	2/3/4		22	10
125	6/10	2/3/4		22	10
150	6/10/15	2/3/4		25	14
175	6/10/15	2/3/4		25	14
200	10/15/20	2/3/4		30	18

9U1

D x T x W x X x H

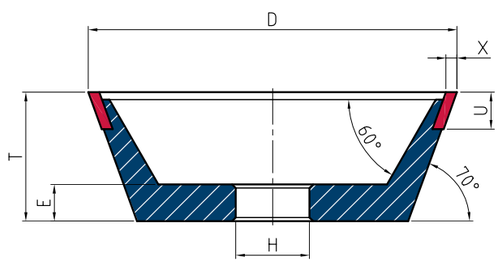


D	T	W	X	H
75	10/15	6/10	2/3	Custom-made
100	10/15	6/10	2/3	
125	10/15	6/10	2/3	
150	10/15	6/10	2/3	
175	10/15	10/15	2/3	
200	10/15	10/15	2/3	

Order printout sample:
9U1 100 x 10 x 6 x 3 x 20
B126 BMR C75

11V9

D x X x U x H



D	X	U	H	T	E
40	1,5/2/3	6	Custom-made	18	8
50	1,5/2/3	6		20	8
75	1,5/2/3	6/10		30	10
90	1,5/2/3	6/10		35	10
100	1,5/2/3	6/10		35	10
125	1,5/2/3	6/10		40	10
150	1,5/2/3	6/10		50	10

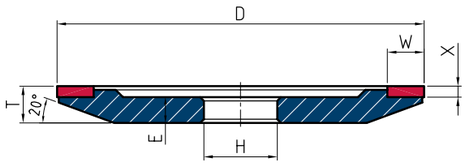
Order printout sample:
11V9 100 x 3 x 10 x 20
D64 CX100 C100

RESIN BONDED

grinding wheels

12A9

D x W x X x H

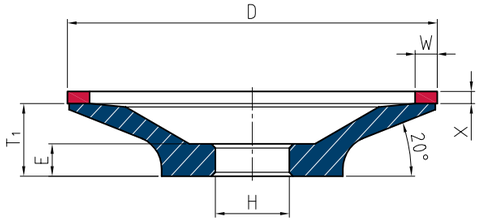


D	W	X	H	T	E
50	3/5	2/3	Custom-made	10	8/7
63	3/5	2/3		10	8/7
75	6/10	2/3		10	8/7
90	6/10	2/3		10	8/7
100	6/10	2/3		10	8/7
125	6/10	2/3		10	8/7
150	6/10/12,5	2/3		12	10/9
175	6/10/12,5	2/3		12	10/9
200	6/10/12,5	2/3		12	10/9

Order printout sample:
12A9 150 x 6 x 3 x 20
B151 B47S C75

12A2/1

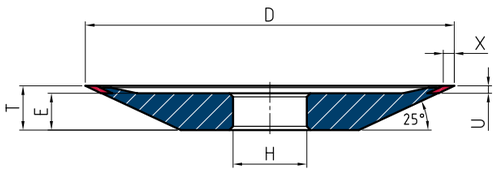
D x W x X x H



D	W	X	H	T_1	E
75	3/4/5	2/3	Custom-made	18	8
100	3/4/5	2/3/4		18	8
125	3/4/5	2/3/4		19	9
150	3/4/5	2/3/4		20	10
175	4/5/6	2/3/4		20	10
200	4/5/6	2/3/4		20	10

12V9/25°

D x X x U x H



D	X	U	H	T	E
100	3	2	Custom-made	12	10
125	3	2		13	10
150	3	3		16	10
150	6	3		14	10

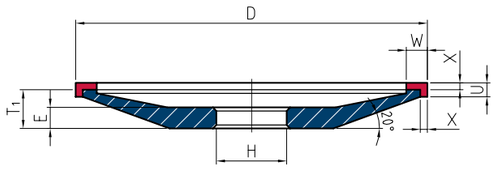
Order printout sample:
12V9/25° 100 x 3 x 2 x 20
D46 BMN C50

RESIN BONDED

grinding wheels

12C9/20°

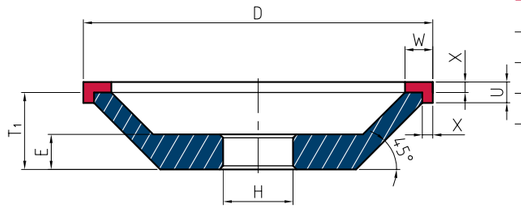
D x W x X/U x H



D	W	X	U	H	T_1	E
50	3/5	1	2	Custom-made	8	5
75	6/8/10	2	4		8	5
100	6/10/15	2/3	4/5		9	6
125	6/10/15	2/3	4/5		13	8
150	8/10/15	2/3	4/5		15	9

12C9/45°

D x W x X/U x H

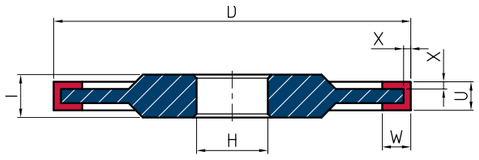


D	W	X	U	H	T_1	E
50	3/5	1	2	Custom-made	18	10
75	6/8/10	2	4		22	10
100	6/10/15	2/3	4/5		22	10
125	6/10/15	2/3	4/5		22	10
150	8/10/15	2/3	4/5		22	10

Order printout sample:
12C9/45° 100 x 10 x 3/5 x 20
D107 B40S C100

14U1

D x U x W x X x H



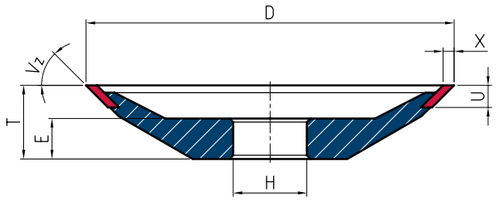
D	U	W	X	H	T
75	6	6/10	2	Custom-made	U+2
75	8/10	6/10	2/3		
100	6	6/10	2		
100	8/10	6/10	2/3		
125	6	6/10	2		
125	8/10	6/10	2/3		
150	6	6/10/15	2		
150	8/10	6/10/15	2/3		
175	6	6/10/15	2		
175	8/10	6/10/15	2/3		
200	6	6/10/15	2		
200	8/10	6/10/15	2/3		

RESIN BONDED

grinding wheels

15V9/V_z°

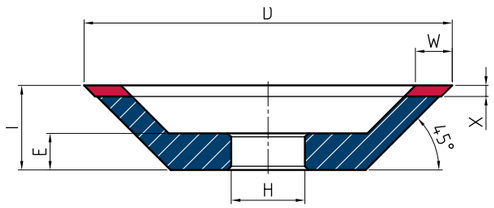
D x X x U x H



D	X	U	H	T	E	V_z°
75	2/3	6	Custom-made	13	6	45
85	2/3	6		15	8	45
100	2/3	6		20	11	30
100	2/3	6		20	11	45
125	2/3	6		20	11	30
125	2/3	6		20	11	45
150	2/3	6		20	11	30
150	2/3	6		20	11	45
175	2/3	8		25	11	45
200	2/3	6		25	11	45

12V2

D x W x X x H

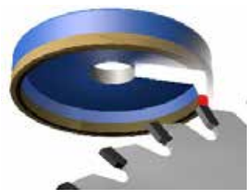


D	W	X	H	T	E
50	5/10	2/3	Custom-made	15	8
75	6/10	2/3		20	10
90	6/10	2/3/4		23	10
100	6/10	2/3/4		23	10
125	6/10/12,5	2/3/4		23	10
150	6/10/12,5	2/3/4		23	10

Order printout sample:
12V2 100 x 10 x 3 x 20
D64 BMR C75

1.5 GRINDING WHEELS FOR CUTTING TOOLS IN THE WOODWORKING AND PLASTICS INDUSTRY

1.5.1 BACK GRINDING

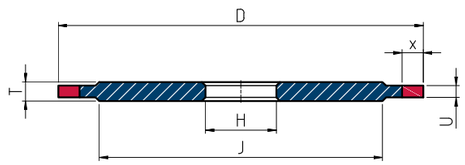


RESIN BONDED

grinding wheels

14A1

D x U x X x H



Machine: AKEMAT

For grinding tooth tops with normal pitch.

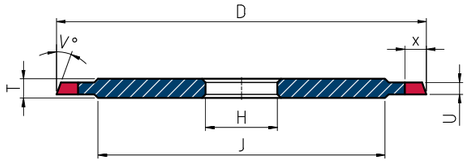
D	U	X	H	T	J
150	5	8	32	8	120

RESIN BONDED

grinding wheels

14B1

D x U x X x H x V°



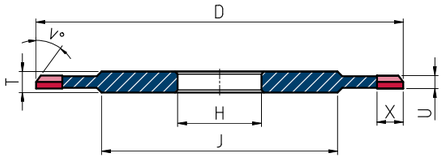
Machine: AKEMAT U

For grinding tooth tops with normal pitch.

D	U	X	H	V°	T	J
127	4/5	7	32	15	8	100
150	4/5	8	32	15	8	120

14M1-DV

D x U x X x H x V°



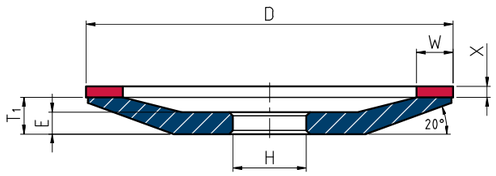
Machine: AKEMAT U6 / U10

For grinding tooth tops with normal pitch.

D	U	X	H	V°	T	J
127	4	7	32	5	8	100
127	5	7	32	5	8	100
127	5	7	32	15	8	100
150	5	7	32	8	8	120
150	5	8	32	5	8	120
200	5	10	32	8	10	160

12A2/20°

D x W x X x H



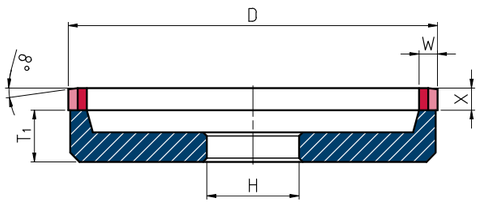
Machine: SATURN HKSC 600 / HKS 600

For grinding tooth tops.

D	W	X	H	T_1	E
125	5	1,5/3	20	14	8

6A2-DV

D x W x X x H



Machine: UT.MA AL 800 / AL800E

For grinding tooth tops.

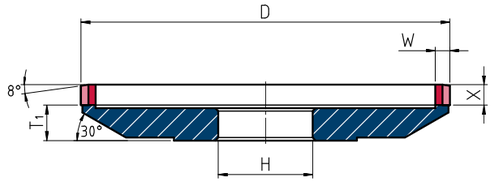
D	W	X	H	T_1
100	5	6/10	25	12

RESIN BONDED

grinding wheels

4A2-DV

D x W x X x H



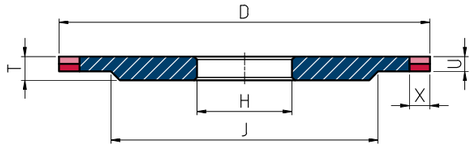
Machine: UT.MA AL 800 / AL800E / AL 805

For grinding tooth tops.

Machine type	D	W	X	H	T_1
AL 800 / Al 800E	125	5	6/10	25	12
AL 805	125	5	6	32	14

3A1-DV

D x U x X x H



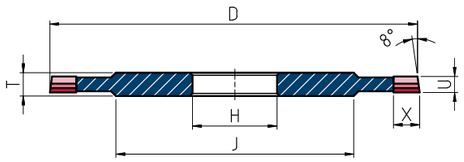
Machine: UT.MA AL 802 / AL 804

For grinding tooth tops.

D	U	X	H	T	J
125	5	5	32	8	100

14A1-TR

D x U x X x H



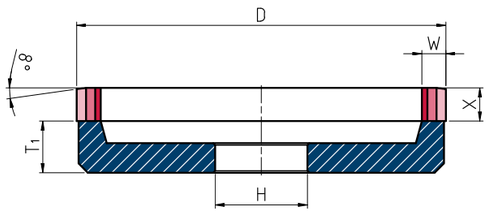
Machine: UT.MA AL 802 / AL 804

For grinding tooth tops.

D	U	X	H	T	J
125	2,5+1,5+1,5	5	32	6	100
125	2,5+2+1,5	8	32	6	100

6A2-TR

D x W x X x H



Machine: UT.MA AL 805

For grinding tooth tops.

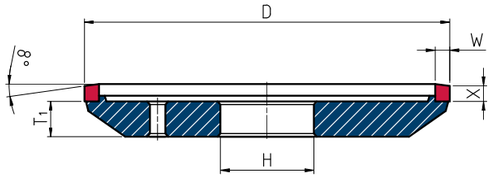
D	W	X	H	T_1
125	6,5	9	32	14

RESIN BONDED

grinding wheels

12A9H

D x W x X x H



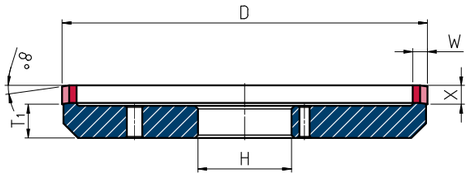
Machine: VOLLMER BIBERACH

For grinding tooth tops.

D	W	X	H	T_1
75	5	6	32	12
125	5	6	32	12

VB-6A2-DV

D x W x X x H



Machine: VOLLMER BIBERACH CC / CB / CE / CHC / CHP / CEP / CEN / CHM / CHT / CHTS / CHHT / CHD / CX

For grinding tooth tops with normal pitch.

D	W	X	H	T_1
125	5	6	32	12

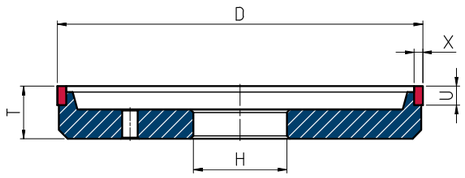
Machine: VOLLMER BIBERACH CC / CHC / CHP / CEP / CEN / CHT / CHTS / CHHT / CHD / CX

For grinding tooth tops with normal pitch.

D	W	X	H	T_1
125	5	10	32	12

6A9H

D x X x U x H



Machine: VOLLMER BIBERACH CC / CB / CE / CHC / CHP / CEP / CEN / CHM / CHT / CHTS / CHHT / CHD / CX

For grinding tooth tops with normal pitch.

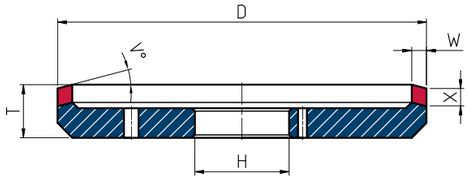
D	X	U	H	T
125	3	6,5	32	18

RESIN BONDED

grinding wheels

6V5H

D x W x X x H x V°



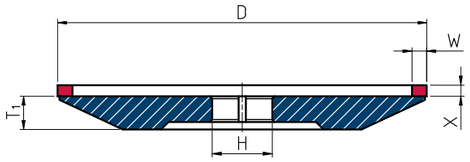
Machine: VOLLMER BIBERACH CC / CHC / CHP / CEP / CEN / CHT / CHTS / CHHT / CHD

For grinding tooth tops and faces of sawblades for metal working.

D	W	X	H	T	V°
125	5	6	32	18	8°

4A2-S

D x W x X x H



Machine: VOLLMER-DORNHAN FINIMAT

Diamond grinding wheels for automatic circular sawblade grinding machines

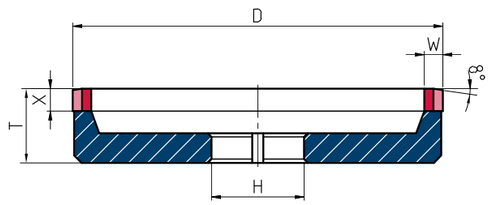
For grinding tooth tops and faces with normal pitch.

This wheel type should be used whenever pitch allows.

D	W	X	H	T_1
100	4	3	25	9

VD-6A2-DV

D x W x X x H



Machine: VOLLMER-DORNHAN HKS 700 / HKS 700/H-I / HKS 700/H-III / HKS 750 / HKS 800 /

Grinding centre / Optimat / Supermat

Diamond grinding wheels for automatic circular sawblade grinding machines

For grinding tooth tops

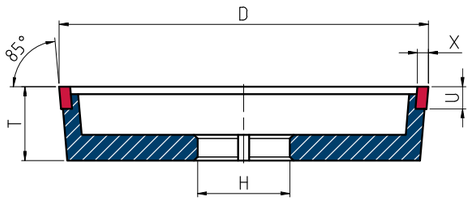
D	W	X	H	T
100	5/6	6	25	20
100	5/6	10	25	24
125	5/6	6	25	20

RESIN BONDED

grinding wheels

11V9-S

D x X x U x H



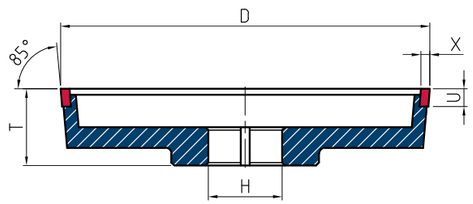
Machine: VOLLMER-DORNHAN Finimat

For grinding tooth tops with narrow pitch and / or allowance > 0,2 mm.

D	X	U	H	T
100	3	6	25	20

11V9-S

D x X x U x H



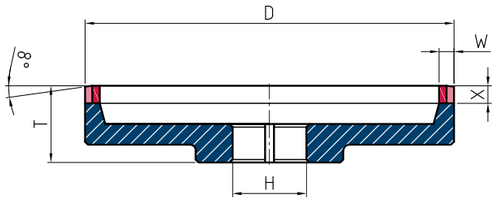
Machine: VOLLMER-DORNHAN Uniläpp

For grinding tooth tops with close pitch and/or allowance ≤ 0.2 mm

D	X	U	H	T
125	3	5	25	26

6A2-DVS

D x W x X x H



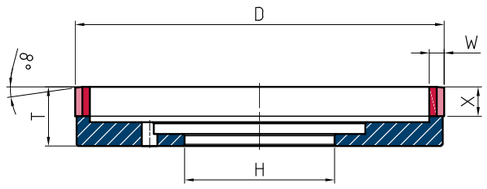
Machine: VOLLMER-DORNHAN Uniläpp

For grinding tooth tops. Allowance > 0.2 mm.

D	W	X	H	T
125	5	6	25	26

6A2-DVS

D x W x X x H



Machine: VOLLMER-DORNHAN: Finimat Gamma / Beta / Alpha

For grinding tooth tops.

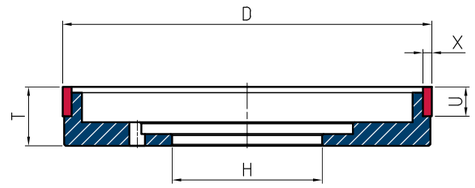
D	W	X	H	T
125	5	6	50,8	20

RESIN BONDED

grinding wheels

6A9-S

D x X x U x H



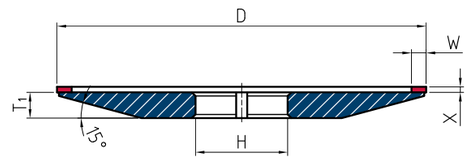
Machine: VOLLMER-DORNHAN: Finimat Gamma / Beta / Alpha

For grinding tooth tops.

D	X	U	H	T
125	3	6	50,8	20

4A2-S

D x W x X x H



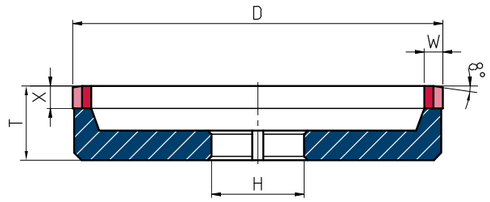
Machine: VOLLMER-DORNHAN

For grinding tooth tops and faces with narrow pitch

D	W	X	H	T_1
100	4	1	25	8

6A2-DV

D x W x X x H



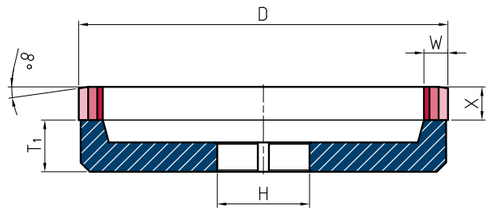
Machine: WIDMA Type: HKS 700 / HKS 700-H1 / HKS 700/H-111 / HKS 750 / HKS 800

For grinding tooth tops.

D	W	X	H	T
100	5	6	25	20
125	5	6/10	25	20

6A2-TR

D x W x X x H



Machine: WIDMA Type: HKS700 HKS700-H1 125 / HKS700-H111 HKS750 / HKS800 GRINDING CENTRE OPTIMAT

For grinding tooth tops.

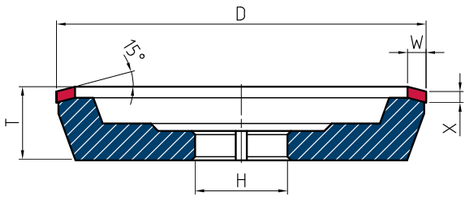
D	W	X	H	T_1
125	6,5	6	25	14

RESIN BONDED

grinding wheels

6V5

D x W x X x H x V°



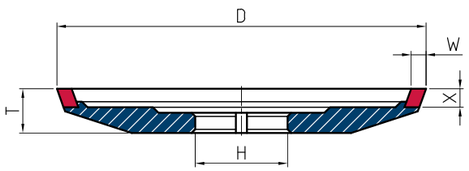
Machine: WIDMA Type: UNIMAT

For grinding tooth tops.

D	W	X	H	T	V°
100	6/10	3/4/5	25	20	15

12V2-S

D x W x X x H



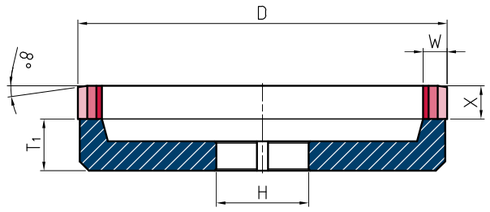
Machine: WIDMA Type: UNIMAT

For grinding tooth tops.

D	W	X	H	T
100	4	5	25	10

6A2-TR

D x W x X x H



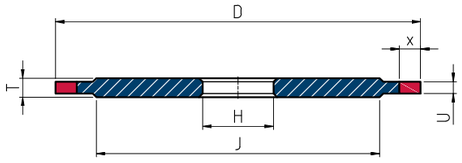
Machine: WIDMA Type: SUPERMAT

For grinding tooth tops.

D	W	X	H	T_1
125	6,5	6	25	12

14A1

D x U x X x H



Machine: WALTER AG

For grinding tooth tops.

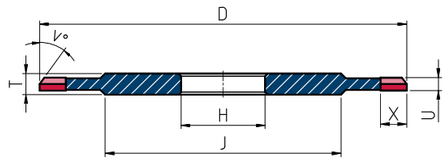
D	U	X	H	T	J
150	5	8	32	10	120

RESIN BONDED

grinding wheels

14M1-DV

D x U x X x H



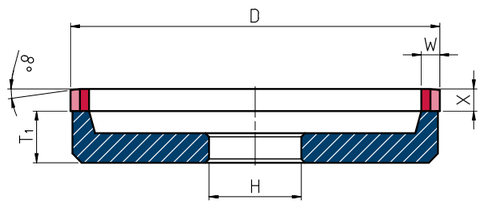
Machine: WALTER AG

For grinding tooth tops.

D	U	X	H	V°	T	J
150	5	8	32	5/8	8	120
175	5	8	32	8	8	140
200	5	8	32	8	8	160
Machine type: WOODTRONIC NC5						
200	5	6	32	5	12	160

6A2-DV

D x W x X x H



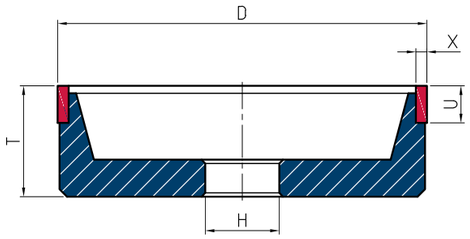
Machine: WALTER AG Type: WOODTRONIC NC5

For grinding tooth tops.

D	W	X	H	T_1
100	5	6	32	10

6A9

D x X x U x H



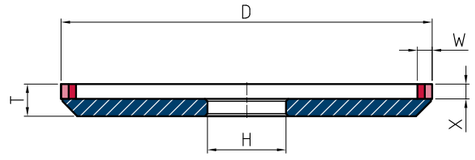
Machine: SCHNEEBERGER CENTROMAT / LEDINEK MACHINES

For grinding tooth tops.

D	X	U	H	T
80	3	10	20	30
100	2/3	10	20	30
125	2	10	20	30

4A2-DV

D x W x X x H



Machine: WRIGHT

For grinding tooth tops.

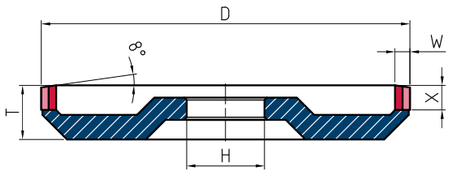
D	W	X	H	T
150	6	6	31,75	13

RESIN BONDED

grinding wheels

4A2-DVS

D x W x X x H



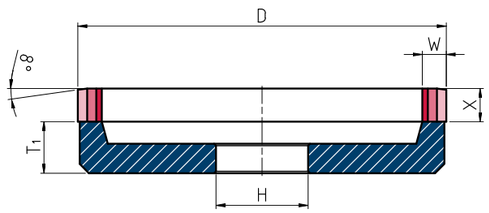
Machine: WRIGHT Type: TALON

For grinding tooth tops.

D	W	X	H	T
150	6	6	31,75	16

6A2-TR

D x W x X x H



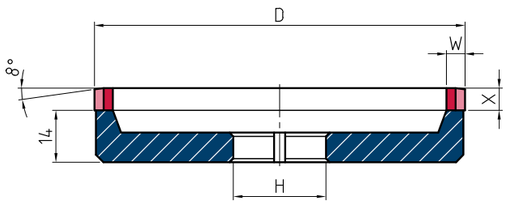
Machine: WRIGHT Type: TALON

For grinding tooth tops.

D	W	X	H	T_1
150	6	6	31,75	14

VD-6A2-DV

D x W x X x H



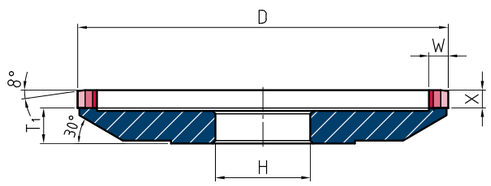
Machine: UNIVERSAL GRINDING MACHINES

For grinding tooth tops.

D	W	X	H
75	5	3 - 6	25
100	5/6	3 - 12	25
125	5/6	3 - 12	25
150	5/6	3 - 10	25
175	5	10	25

6A2-TR

D x W x X x H



Machine: UNIVERSAL GRINDING MACHINES

For grinding tooth tops.

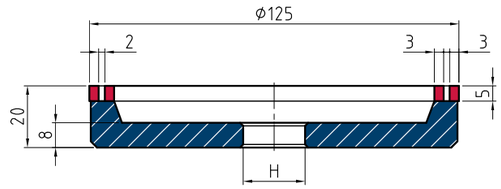
D	W	X	H	T_1
100	5,5	6	Custom-made	12
125	6,5	6		12
150	6	8		12
200	6	10		12

RESIN BONDED

grinding wheels

6A2-DVU

D x W x X x H



Machine: UNIVERSAL GRINDING MACHINES

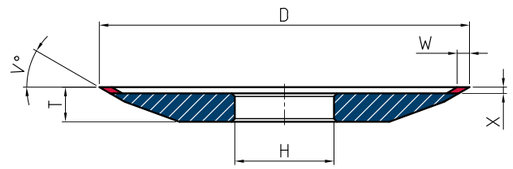
For grinding tooth tops.

D	W	X	H	T
125	8	5	Custom-made	20

1.5.2 FACE GRINDING

4V2

D x W x X x H x V°



Machine: VOLLMER DORNHAN Type: FINIMAT

For grinding tooth faces.

D	W	X	H	V°	T
100	4	2	25	30	10
125	4	2	25	30	12

Machine: VOLLMER Type: GAMMA / BETA

For grinding tooth faces.

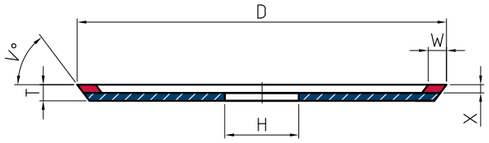
D	W	X	H	V°	T
175	4	2	50,8	30	13

RESIN BONDED

grinding wheels

1V2

D x W x X x H x V°



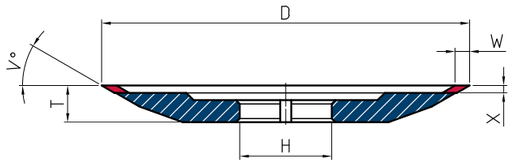
Machine: VOLLMER DORNHAN Type: FINIMAT

For grinding tooth faces.

D	W	X	H	T	V°
100	4	2	25	4	55

12V2

D x W x X x H x V°



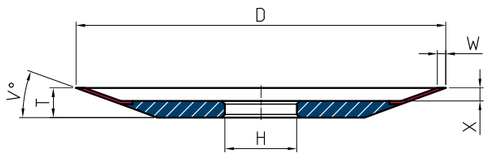
Machine: VOLLMER DORNHAN

For grinding tooth faces.

Machine Type:	D	W	X	H	T	V°
FINIMAT	100	4	2	25	10	30
	125	4	2	25	11	30
	150	4	2	25	13	30
HKS 700/H-I / HKS 750 / grinding centre / Optimat	125	4	2	25	11	20

4V2-SX

D x W x X x H x V°



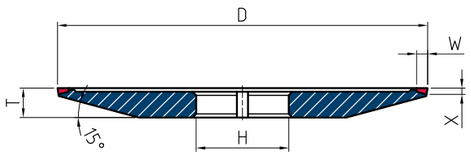
Machine: VOLLMER DORNHAN

For grinding tooth faces.

Machine Type:	D	W	X	H	T	V°
FINIMAT	125	2,3	4	25	14	20
CHC, CX	125	2,3	4	32	12	25
CL	150	2,5	4	32	12	25
CHD	200	2,5	5,5	32	13	25

4A2-S

D x W x X x H



Machine: VOLLMER DORNHAN Type: FINIMAT

For grinding tooth faces.

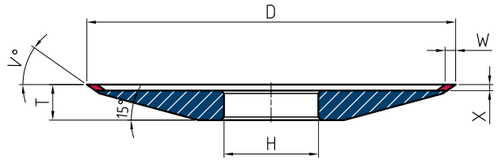
D	W	X	H	T
100	3	1,8	25	8
100	3	3,3	25	8

RESIN BONDED

grinding wheels

4V2

D x W x X x H x V°



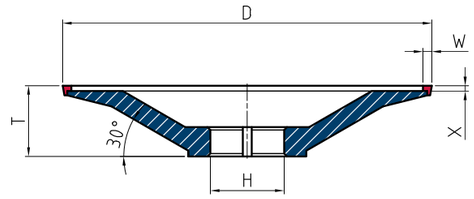
Machine: VOLLMER Type: CX, CHD, CL

For grinding tooth faces.

Machine Type:	D	W	X	H	T	V°
CX / CHD	125	3,5	2	32	12	35
CL	200	3,5	2	32	13	35

12A2-S

D x W x X x H



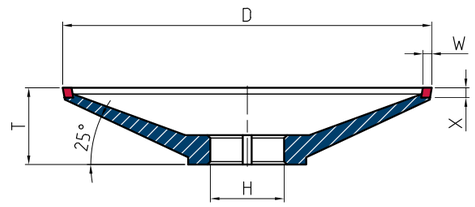
Machine: VOLLMER - DORNHAN Type: UNILÄPP

For narrow space between the teeth.

D	W	X	H	T
125	3	1,8	25	24

12A2-S

D x W x X x H



Machine: VOLLMER - DORNHAN Type: UNILÄPP

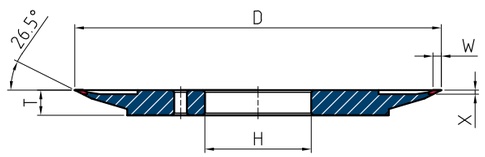
For narrow space between the teeth.

This wheel type should be used whenever pitch allows.

D	W	X	H	T
125	3	3,3	25	26

12V2H

D x W x X x H



Machine: VOLLMER - DORNHAN

Type: FINIMAT GAMMA, BETA, ALPHA

For grinding tooth faces.

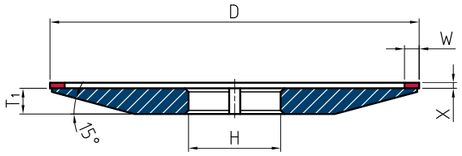
D	W	X	H	T
175	4	2	50,8	12

RESIN BONDED

grinding wheels

4A2-S

D x W x X x H



Machine: VOLLMER - DORNHAN

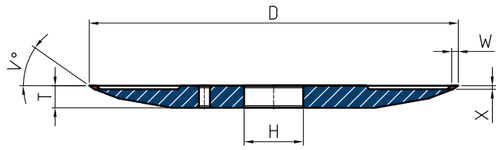
Type: FINIMAT GAMMA, BETA, ALPHA

For grinding tooth faces.

D	W	X	H	T_1
100	4	1	25	7
100	4	3	25	9

4V2H

D x W x X x H x V°



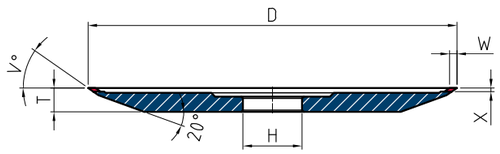
Machine: VOLLMER - BIBERACH

For grinding tooth faces.

Machine Type:	D	W	X	H	T	V°
CHD	200	3,5	2	32	12	35
CHC, CHCB, CHP, CE, CEP, CEN, CHM, CB, CC, CHHT, CHT, CHTS, CNHB, CX	125	4	2	32	12	30

4V2-S

D x W x X x H x V°



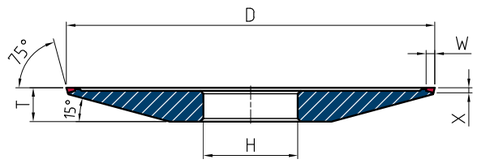
Machine: VOLLMER - BIBERACH Type: CHD

For a very narrow space between the teeth.

D	W	X	H	T	V°
200	4	2	32	13	35

4A2-S

D x W x X x H



Machine: VOLLMER - BIBERACH Type: CHC, CHCB, CHP, CE, CEP, CEN, CHM, CB, CC, CHHT, CHT, CHTS, CNHB

For grinding tooth faces.

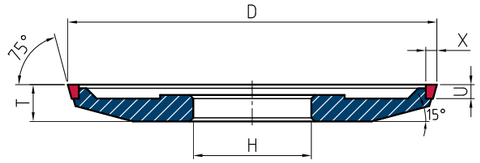
D	W	X	H	T
125	2,5	1,2	32	11,5
125	2,5	1,8	32	12
125	3	3,8	32	12

RESIN BONDED

grinding wheels

VB-4B9

D x X x U x H



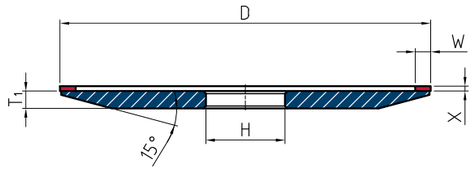
Machine: VOLLMER - BIBERACH Type: CHT / CHTS / CHHT

For grinding tooth faces.

D	X	U	H	T
75	3	3	32	10
100	3	1,8	32	9
100	3	3,0/3,8/4,0	32	10
125	4,5	1,8	32	12
125	3	3,8	32	14
150	3	1,8	32	12
150	3	3,8	32	14

4A2

D x W x X x H



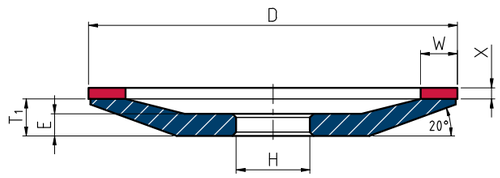
VOLLMER - BIBERACH Type: CHA, CANA

For narrow space between the teeth.

D	W	X	H	T_1
150	4	2	32	7

12A2/20°

D x W x X x H



VOLLMER - BIBERACH Type CHH, CHHT

For normal space between the teeth.

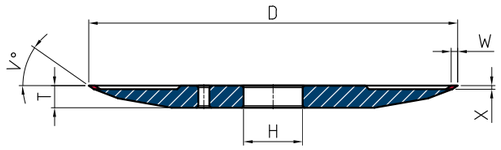
D	W	X	H	T_1	E
125	5	3	32	16	10

RESIN BONDED

grinding wheels

4V2H

D x W x X x H x V°



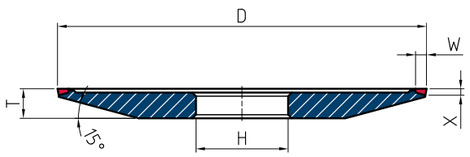
Machine: AKEMAT Type: B

For grinding tooth faces.

D	W	X	H	T	V°
150	4	2	32	12	30
200	3,5	2	32	12	35

4A2-S

D x W x X x H



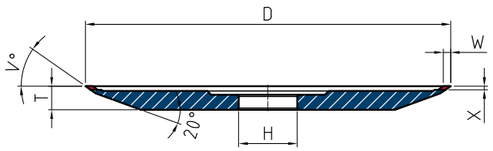
Machine: AKEMAT Type: B

For a very narrow space between the teeth.

D	W	X	H	T
150	3	1,5	32	11,5
150	3	2	32	12

12V2

D x W x X x H x V°



Machine: AKEMAT Type: B, U6, U10

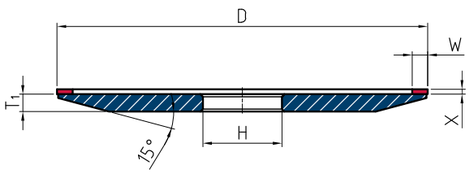
Machine: WALTER AG Type: WOODTRONIC NC 2, NC 3, NC 4, NC5

For grinding tooth faces.

D	W	X	H	T	V°
150	4	2	32	13	30
200	3	2	32	13	30
200	4	2	32	13	30

4A2

D x W x X x H



Machine: GRIFO Type: AC66

For grinding tooth faces.

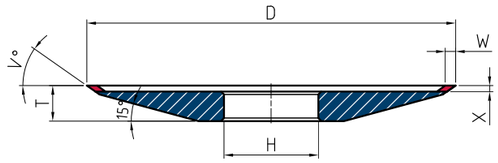
D	W	X	H	T
75	6	1,5	25	11

RESIN BONDED

grinding wheels

4V2

D x W x X x H x V°



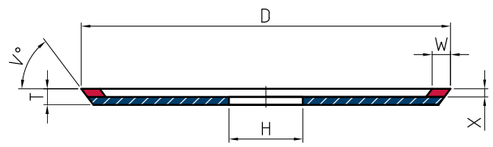
Machine: GRIFO Type: AC66, AC90

For grinding tooth faces.

Machine Type:	D	W	X	H	T	V°
AC66	75	2,4	1,5	25	9	35
AC90	100	3,5	2	25	10	35

1V2

D x W x X x H x V°



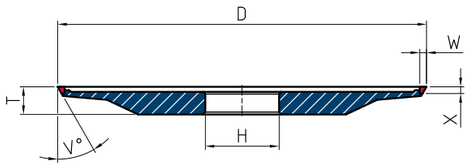
Machine: GRIFO Type: AC90

For grinding tooth faces.

D	W	X	H	T	V°
100	4	2	25	2,9	55

4A2-S

D x W x X x H



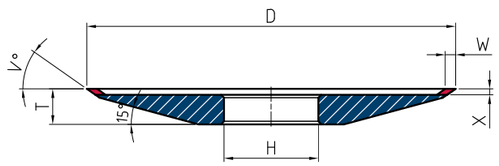
Machine: WALTER AG

For grinding tooth faces.

D	W	X	H	T	V°
160	3	3	32	12	30

4V2

D x W x X x H x V°



Machine: UT.MA Type: AL 805

For grinding tooth faces.

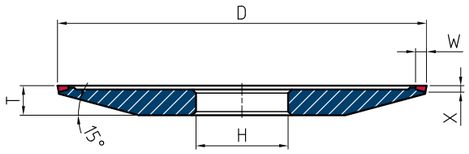
D	W	X	H	T	V°
175	3,5	2	32	12	35

RESIN BONDED

grinding wheels

4A2-S

D x W x X x H



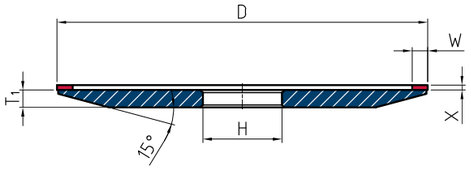
Machine: UT.MA Type: AL 800 / AL800E

For grinding tooth faces.

D	W	X	H	T
100	3	1,6	25	8

4A2

D x W x X x H



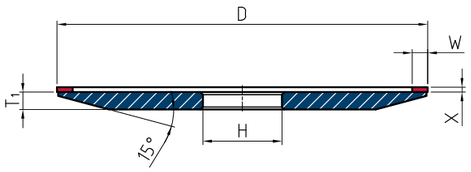
Machine: UT.MA

For grinding tooth faces.

Machine Type:	D	W	X	H	T_1
AL 800 / AL800E	100	4	1/1,6	25	8
	100	5	1/1,6	25	8
AL800A	100	3	1,6	25	6
	125	4	1	25	6
	125	5	1	25	6

4A2

D x W x X x H



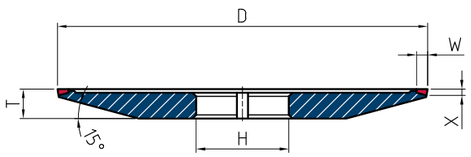
Machine: SATURN Type: HKSC 600 / HKS 600

For grinding tooth faces.

D	W	X	H	T_1
125	3	1,5	20	6
125	5	1/2	20	6

4A2-S

D x W x X x H



Machine: WIDMA

Type: BS 700 / HKS 700 / HKS 700 H-I / HKS 800 / UNIMAT

For grinding tooth faces.

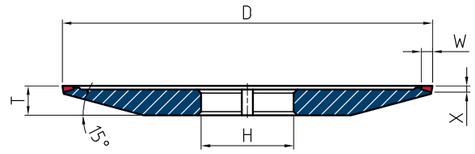
D	W	X	H	T
100	2	1,6	25	8

RESIN BONDED

grinding wheels

4A2-S

D x W x X x H



Machine: WIDMA

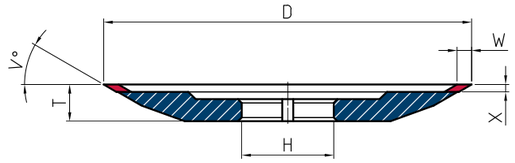
Type: HKS 700/H-III / HKS 750 / GRINDING CENTRE / OPTIMAT

For grinding tooth faces.

D	W	X	H	T
125	3	1,8	25	8

12V2

D x W x X x H x V°



Machine: WIDMA

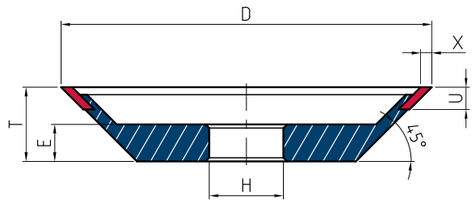
Type: BS 700 / HKS 700 / HKS 700/H-I / HKS 800 / UNIMAT

For grinding tooth faces.

D	W	X	H	T	V°
100	4	2	25	10	30
150	4	2	25	13	30

12V9

D x X x U x H



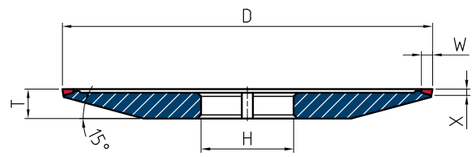
Machine: WIDMA Type: UNIMAT /SUPERMAT

For grinding tooth faces.

Machine Type:	D	X	U	H	T	E
UNIMAT	100	2	10	25	20	10
SUPERMAT	150	2	10	25	25	10
	150	3	10	25	25	10

4A2-S

D x W x X x H



WIDMA Type: SUPERMAT

For grinding tooth faces.

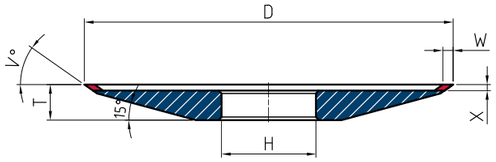
D	W	X	H	T
150	3	1,5	25	8

RESIN BONDED

grinding wheels

4V2

D x W x X x H x V°



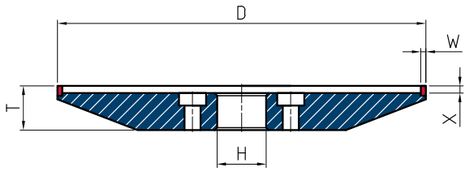
Machine: WIDMA Type: HKS700 / HKS700 H-I / HKS700 H-III / HKS750 / HKS800 / GRINDING CENTRE OPTIMAT

For grinding tooth faces.

D	W	X	H	T	V°
150	4	2	25	12	35

4A2B

D x W x X x H



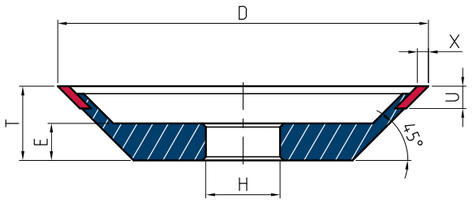
Machine: WEINIG RONDAMAT Type: 912

For grinding of the chip surface of milling cutters made of HSS

D	W	X	H	T
150	2	3,3	20	18

12V9

D x X x U x H

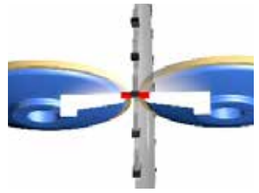


Machine: WRIGHT

For grinding tooth faces.

D	X	U	H	T	E
150	1,5	10	31,75	25	10
150	3	10	31,75	25	10

1.5.3 SIDE GRINDING

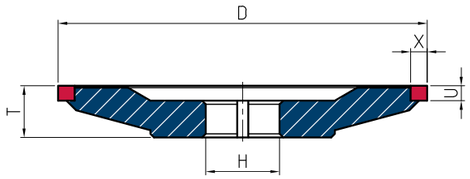


RESIN BONDED

grinding wheels

VD-12B9

D x X x U x H



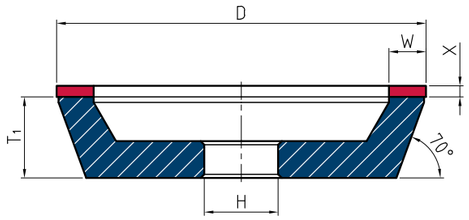
Machine: AKEMAT Type: F

For grinding tooth flanks.

D	X	U	H	T
75	4,5	4	20	14
100	4,5	4	20	14

11A2

D x W x X x H



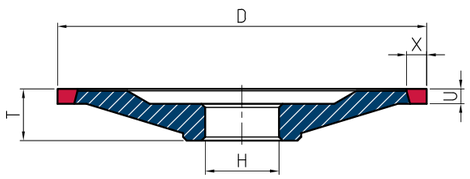
Machine: SATURN Type: HKSC 600 / HKS 600

For grinding tooth flanks.

D	W	X	H	T_1
50	3	1,5	20	13

12A1

D x U x X x H



Machine: UT.MA Type: AF800 / AF600 / AF801

For grinding tooth flanks (cutting width).

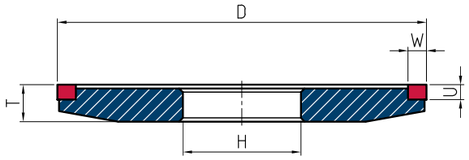
Machine Type:	D	U	X	H	T
AF800 / AF600	100	4	5	20	10
AF801	125	4	5	20	10

RESIN BONDED

grinding wheels

VB-12B9

D x U x W x H



Machine: VOLLMER-BIBERACH

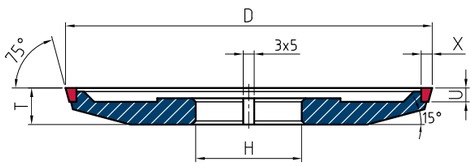
Type: CC / CEF / CFL / CHAFT / CHAFTE / CHHF / CHTF / CH

For grinding tooth flanks.

D	U	W	H	T
100	4	5	32	10

VD-4B9

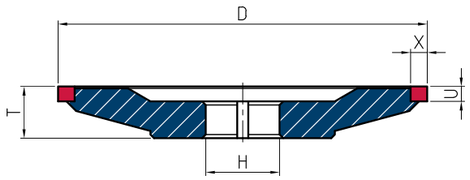
D x X x U x H



D	X	U	H	T
75	3	3	25	10
100	3	1,8	25	9
100	3	3,0/3,8	25	10
100	4,5	4,0	25	10
125	3	1,8	25	12
125	3	3,8	25	14
150	3	1,8	25	12
150	3	3,8	25	14

VD-12B9

D x X x U x H



Machine: VOLLMER-DORNHAN

For grinding tooth flanks.

Machine Type:	D	X	U	H	T
DUO TS / Uniläpp II-450 TS / MF 600	75	4,5	4	20	14
DUO TS / MF 600 /HKS 400 / FS 600 / FS 1000/H / FS 1001/H / grinding centre	100	4,5	4	20	14
HKS 400 / FS 600 / FS 1000-H / FS 1001-H / grinding centre	100	6,5	4	20	14

Machine: WIDMA

Type: HKS400 FS600/FS100/H FS1001 GRINDING CENTR

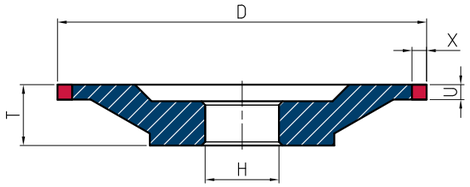
D	X	U	H	T
75	4,5	4	20	14
100	4,5	4	20	14

RESIN BONDED

grinding wheels

VD-12A1

D x X x U x H



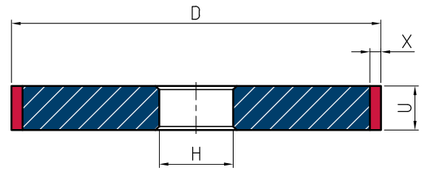
Machine: VOLLMER-DORNHAN Type: DUO S

For grinding tooth flanks.

D	X	U	H	T
100	4	4	20	16,5

1A1

D x U x X x H



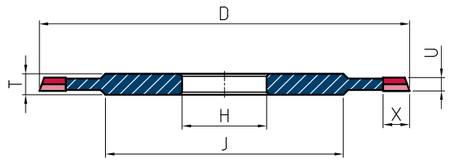
Machine: WRIGHT

For grinding tooth flanks.

D	U	X	H
100	6,5	3	31,75

14B1-DV

D x U x X x H

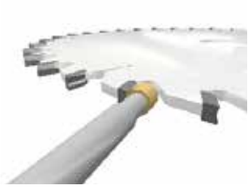


Machine: WRIGHT

For grinding tooth flanks.

D	U	X	H	T	J
100	2/2	6	31,75	6	70

1.5.4 GRINDING WHEELS FOR UNIVERSAL TOOL AND CUTTER GRINDING MACHINE

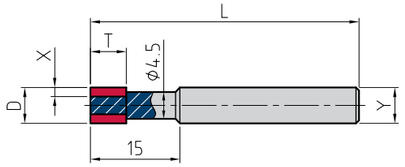


RESIN BONDED

grinding pins

US-1A1W

D x T x X x Y x L



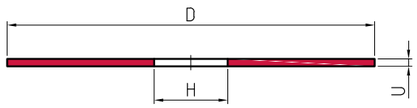
Diamond grinding pins for all automatic circular sawblade grinding machines

For grinding faces of hollow-tooth sawblades (creep-feed).

D	T	X	Y	L
6	6 / 3	1,5	6	45
6,5	6 / 3	1,75	6	45
7	6 / 3	2	6	45
8	6 / 3	2	6	45
100	4	4,5	20	14

1A1R-0

D x U x X x H



Diamond grinding wheels for grinding of chip breaking flutes in carbide saws

D	U	H
30	0,3	8
30	0,4	8

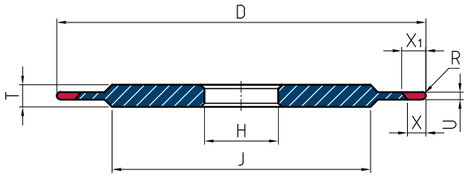
1.5.5 PROFILE GRINDING

RESIN BONDED

grinding wheels

14F1-S

D x U x X/X1 x H



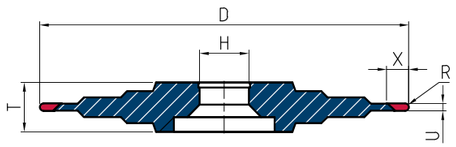
Machines: LOROCH, REKORD, SCHMID-TEMPO

For teeth grinding of HSS saw blades on CNC grinding machines

D	U	X	X_1	H	R	T	J
200	1	6	9	32	0,5	8	160
200	1,3	6	9	32	0,65	8	160
200	1,6	6	9	32	0,8	8	160
200	2	6	9	32	1	8	160
200	2,5	6	9	32	1,25	8	160
200	3	6	9	32	1,5	8	160
200	4	6	9	32	2	8	160
200	5	6	9	32	2,5	8	160
200	6	6	9	32	3	8	160

14F1-ST

D x U x X x H



SCHMIDT-TEMPO Type: ECE

For teeth grinding of HSS saw blades on CNC grinding machines.

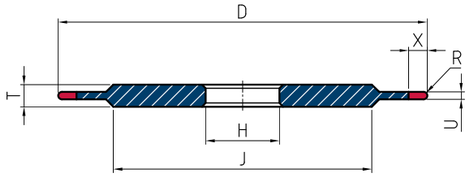
D	U	X	H	R	T
150	1	8	20	0,5	20
150	1,3	8	20	0,65	20
150	1,6	8	20	0,8	20
150	2	8	20	1	20
150	2,5	8	20	1,25	20
150	3	8	20	1,5	20

RESIN BONDED

grinding wheels

14F1

D x U x X/R x H

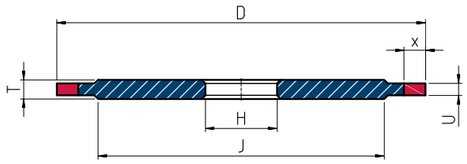


Machines: STEHLE Type: VARIO 92-1

D	U	X	H	R	T	J
175	1.4	5	32	0,7	6	140
175	4	5	32	2	6	140
200	1	5	32	0,5	8	160
200	4	5	32	2	8	160

14A1

D x U x X x H



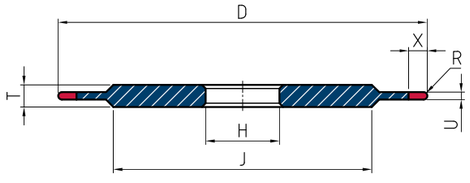
Machine: WEINIG RONDAMAT

For profile grinding in blanketts and milling cutters made of solid carbide and HSS

D	U	X	H	T	J
200	4	10	60	5	160

14F1

D x U x X x H



Machine: WEINIG RONDAMAT

For profile grinding.

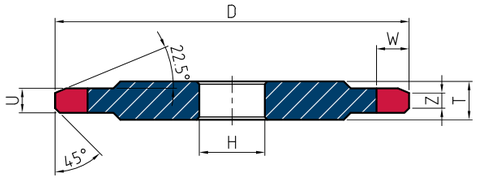
D	U	X	H	R	T	J
200	2	6	60	1	5	160
200	3	6	60	1,5	5	160
200	4	6	60	2	5	160

RESIN BONDED

grinding wheels

1SM

D x W x U/Z x H

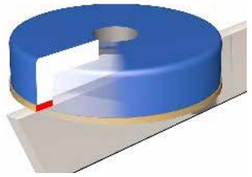


Machine: UNIVERSAL PROFILE GRINDING MACHINES

For profile grinding and center grinding of pin drills.
Woodworking drills top grinding with profiled wheel

Drill ød [mm]	D	W	U	Z	H	T
4	75/100	6	4,5	0,9	Custom-made	8
6	75/100	6	4,5	1,9		8
8	75/100	6	5,0	2,8		8
10	75/100	6	6,4	3,7		10
12	75/100	6	7,4	4,7		10
14	75/100	6	8,4	5,7		10

1.5.6 REGRINDING OF CUTTER KNIFES

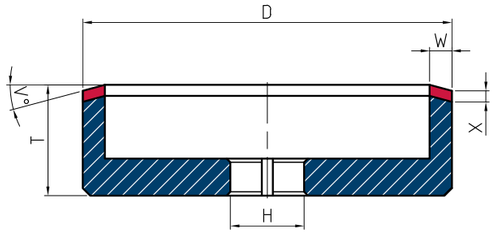


RESIN BONDED

grinding wheels

6V5

D x W x X x H x V°



Machine: WEINIG RONDAMAT

For regrinding of HSS cutter knifes mounted in the tool holder

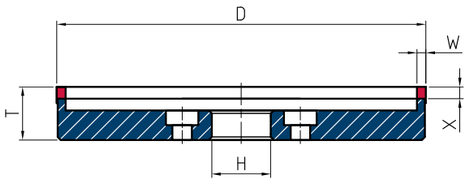
D	W	X	H	V°	T
100	6	3	20	15	30

RESIN BONDED

grinding wheels

6A2B

D x W x X x H



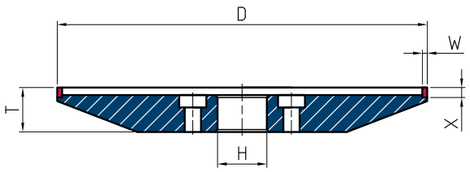
Machine: WEINIG RONDAMAT

For regrinding of HSS cutter knifes mounted in the tool holder

D	W	X	H	T
125	3	4	20	18

4A2B

D x W x X x H



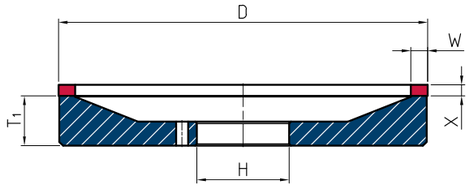
Machine: WEINIG RONDAMAT

For regrinding of HSS cutter knifes mounted in the tool holder

D	W	X	H	T
150	2	4	20	18

6A2G

D x W x X x H



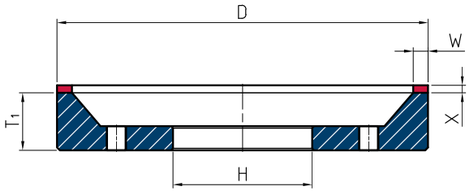
Machine: GÖCKEL

For grinding of tipped cutter knifes and paper knifes.
Also for circular knifes.

D	W	X	H	T_1
200	6	2	50	26
200	8	4	50	26

6A2T

D x W x X x H

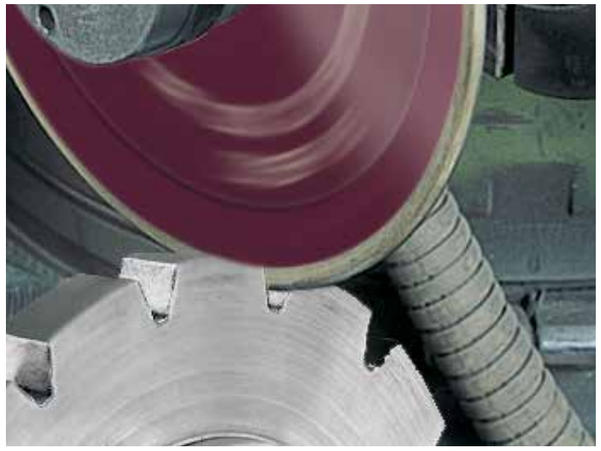


Machine: REFORM

For grinding of tipped cutter knifes and paper knifes.
Also for circular knifes.

D	W	X	H	T_1
200	8	4	75	31

1.6 PROFILE GRINDING

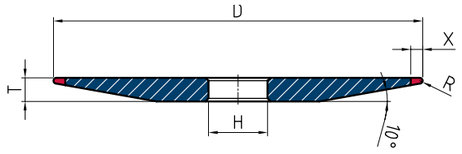


RESIN BONDED

grinding wheels

3F1

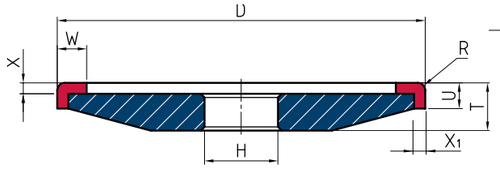
D x X x H x R x V°



D	X	H	R	V°	T
100	4	Custom-made	1	10	6
125	4		1	10	8
150	4		1	10	10

4C2R

D x W x X/X1 x U x H x R



D	W	X	X_1	U	H	R	T
100	5	2	3	4,4	Custom-made	2,5	10
125	5	2	3	4,4		2,5	10

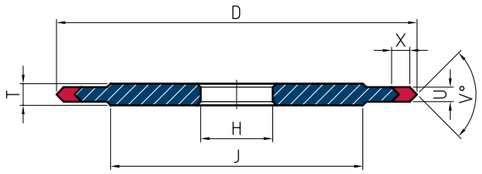
Order printout sample:
4C2R 125 x 5 x 2/3 x 4,4 x 20 x 2,5
D15 BMR C75

RESIN BONDED

grinding wheels

14EE1

D x U x X/V° x H



D	U	X	V°	H	T	J
75	3	3	35	Custom-made	6	50
75	3	3	60		6	50
75	4	3	35		6	50
75	4	3	45		6	50
75	4	3	60		6	50
75	4	3	90		6	50
100	3	3	35		6	70
100	3	3	45		6	70
100	3	3	60		6	70
100	3	3	90		6	70
100	4	3	35		6	70
100	4	3	45		6	70
100	4	3	60		6	70
100	4	3	90		6	70
125	3	3	35		6	100
125	3	3	45		6	100
125	3	3	60		6	100
125	3	3	90		6	100
125	4	3	35		6	100
125	4	3	45		6	100
125	4	3	60		6	100
125	4	3	90		6	100
150	3	3	35		6	120
150	3	3	45		6	120
150	3	3	60		6	120
150	3	3	90		6	120
150	4	3	35		6	120
150	4	3	45		6	120
150	4	3	60		6	120
150	4	3	90		6	120

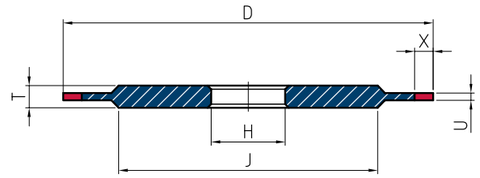
Order printout sample:
14EE1 100 x 3 x 3/45° x 20
D64 CX100 C100

RESIN BONDED

grinding wheels

14A1

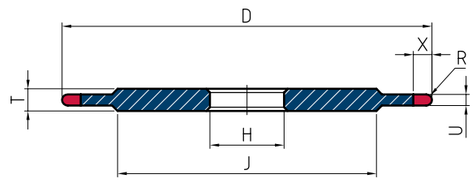
D x U x X x H



D	U	X	H	T	J
50	1,0 - 5,0	5	Custom-made	6	30
75	1,0 - 5,0	3/5		6	50
100	1,0 - 5,0	5		6	70
125	1,0 - 5,0	5		6	95
150	1,0 - 5,0	5/8		5/8/10	120
175	1,0 - 5,0	5/8		5/8/10	140
200	1,0 - 5,0	5/8		5/8/10	160
250	1,0 - 5,0	8		5/8/10	200

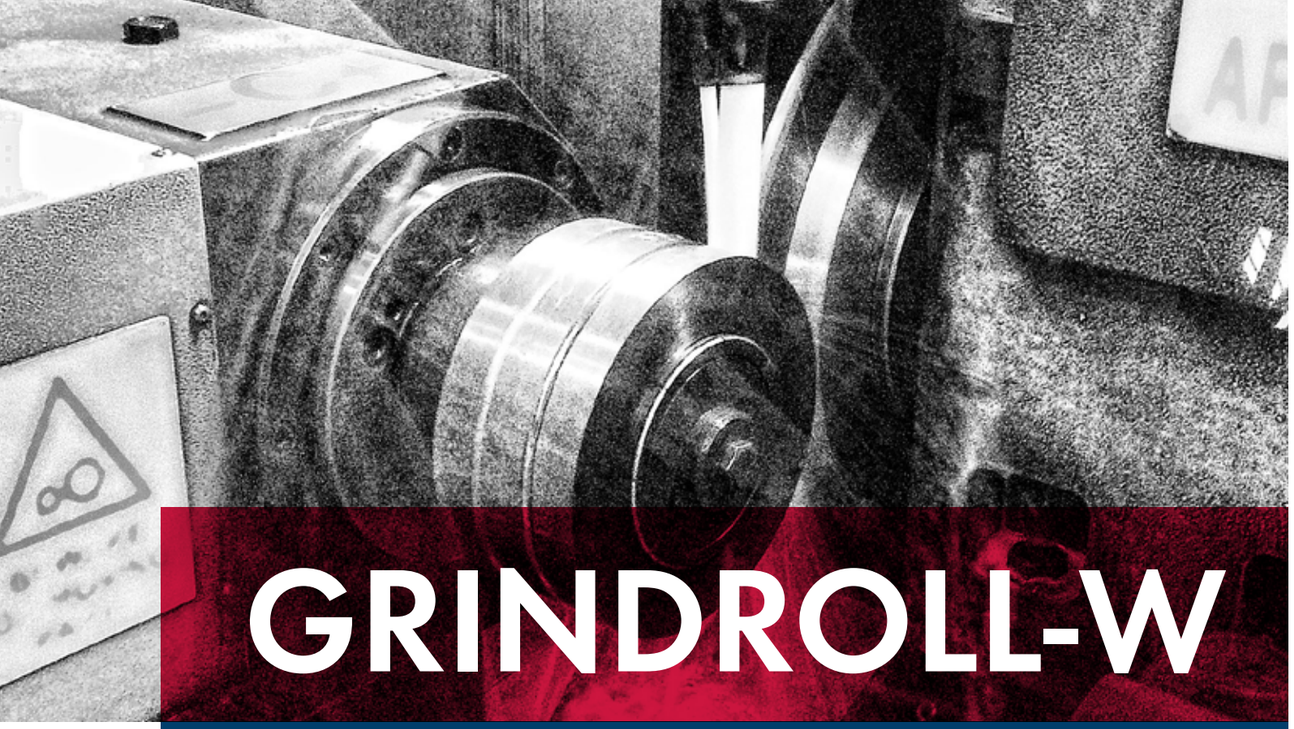
14F1

D x U x X/R x H



D	U	X	R	H	T_{min}	J
50	1,0 - 5,0	5	U/2	Custom-made	6	30
75	1,0 - 5,0	3/5	U/2		6	50
100	1,0 - 5,0	5	U/2		6	70
125	1,0 - 5,0	5	U/2		6	95
150	1,0 - 5,0	5/8	U/2		5/8/10	120
175	1,0 - 5,0	5/8	U/2		5/8/10	140
200	1,0 - 5,0	5/8	U/2		5/8/10	160
250	1,0 - 5,0	8	U/2		5/8/10	200

Order printout sample:
14F1 150 x 2 x 5/1 x 20
D126 V80T C100



GRINDROLL-W

SUPERABRASIVE GRINDING TOOLS

These grinding tools are used for manufacturing and renewing roll rings for wire rolling.

Superabrasive grinding tools for the machining of roll rings made from a wide range of tungsten carbides.

GRINDROLL-W

GRINDING OF TOOLS FOR WIRE ROLLING

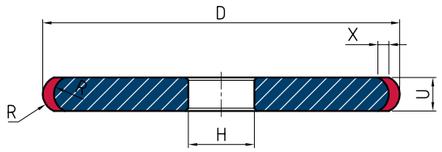
Superabrasive grinding tools in metal and resin bond for grinding tungsten carbide rolls for hot rolling of wires and rods.

Features:

- high grinding speeds for higher productivity
- excellent surface finish after grinding
- high profile stability and lifetime
- very low machine load

All types of tungsten carbide material.

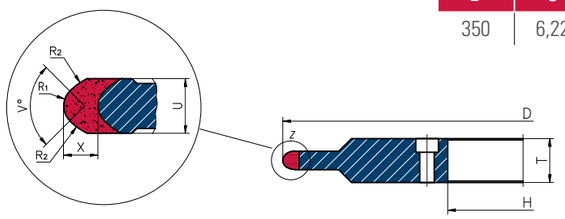
1FF1



Order printout sample:

D	U	X	R	H
300	22,3	3,2	15,5	127

14FE1B



D	U	X	R1	R2	V°	H	T
350	6,22	5	2,95	5,9	103	110	32

Grinding tools are produced according to the specification (depending on the dimensions of tools for rolling wires and grinding machine). Radius R1 can be made from 2,5mm to 20,5mm.

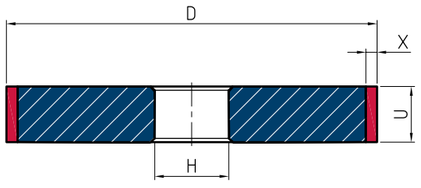
1.7 CNC TOOL GRINDING

RESIN BONDED and HYBRID BONDED

grinding wheels

1A1

D x U x X x H



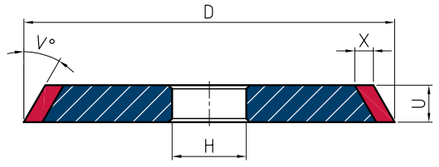
D	U	X	H
50	4 - 12	4/5	Custom-made
75	4 - 12	6/10	
100	6 - 15	6/10	
125	6 - 15	6/10	
150	5 - 10	6/10	

RESIN BONDED and HYBRID BONDED

grinding wheels

1V1/V°

D x U x X x H

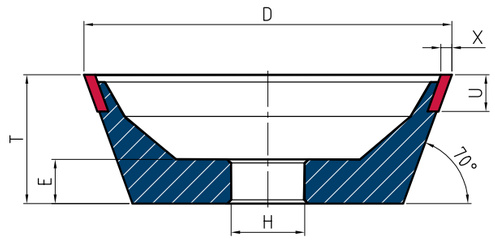


D	U	X	H	V°
75	6 - 10	6/10	Custom-made	≤45
100	6 - 12	6/10		≤45
125	6 - 12	6/10		≤45
150	8 - 12	6/10		≤45

Order printout sample:
1V1/15° 100 x 12 x 6 x 20
D64 HYB4 C100

11V9

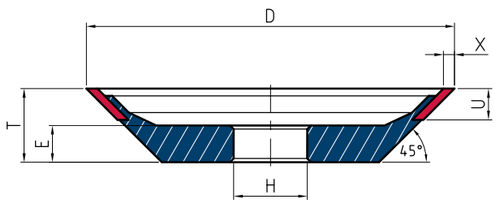
D x X x U x H



D	X	U	H	T	E
75	2/3/5	6/10	Custom-made	30	12
100	2/3/5	6/10		35	12
125	2/3/5	6/10		35	12

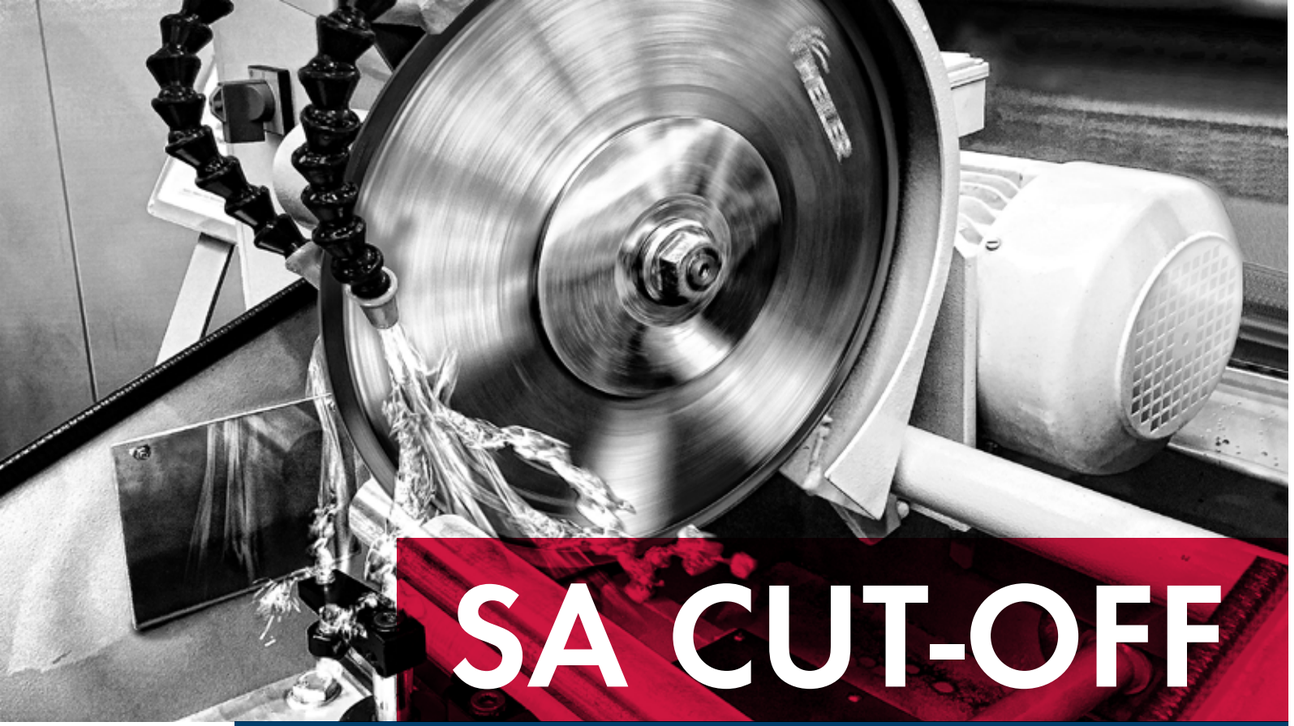
12V9

D x X x U x H



D	X	U	H	T	E
75	2/3	6/10	Custom-made	20	10
100	2/3	6/10		20	10
125	2/3	6/10		25	10

Order printout sample:
112V9 125 x 3 x 10 x 20
B107 PIMR C100



SA CUT-OFF

SUPERABRASIVE CUT-OFF TOOLS

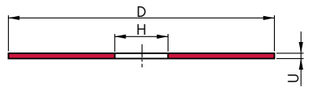
WEILER ABRASIVES offers
a wide range of excellent
diamond and CBN cut-off tools

The best cut-off tools for fast cutting and making narrow grooves or slots.

SA CUT-OFF

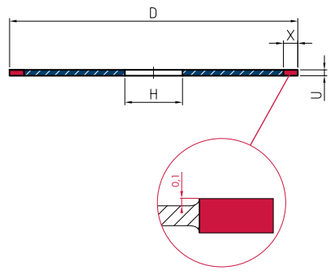
CORELESS CUTTING-OFF TOOLS

Thin coreless cutting-off tools 1A1R-O are mainly intended for cutting narrow grooves or slots. These cutting-off tools also enable precise cutting of special materials.



D	U	H
22	0,3 - 1,0	10
25	0,3 - 1,0	6
30	0,3 - 1,0	6 / 8
40	0,3 - 1,0	6 / 10
45	0,3 - 1,0	10
50	0,3 - 1,0	10
75	0,3 - 1,0	20 / 32
100	0,3 - 1,0	20 / 32

CUTTING-OFF TOOLS WITH BASE DISC



D	U	X	H
50	0,8 - 2,0	5	Custom-made
75	0,8 - 2,0	3 / 5	
100	0,8 - 2,0	5	
125	0,8 - 2,0	5	
150	0,8 - 2,0	5 / 8	
175	1,0 - 2,0	5 / 8	
200	1,0 - 2,0	5 / 8	
250	1,3 - 2,0	8	
300	1,3 - 2,0	8	
350	2,0 - 3,0	8	
500	3,2	6,4	

*The standard hole diameter (H) is ø20 H7; other hole diameters and grinding tools of other dimensions are manufactured to order.

RECOMMENDED QUALITY OF CUTTING TOOLS

	Ground material	Grit type	Grit size	Bond / (hardnes)	Concentration	Type
Steels	Steels	B	35 - 151	BMRG (medium) PIMR (hard) GK (harder)	100 - 125	Coreless wheel
	Non-hardened steels	B	107 - 181	BM1R	100 - 125	Disc with core
	Tool steel			BMEG		
	High speed steel (HSS)			V80 (medium) PIMR (hard)		
Hard metals	Tungsten carbides	D	35 - 151	BM1EG (medium) MB01(harder)	50 - 100	Coreless wheel
			91 - 181	BM1EG	75 - 100	Disc with core

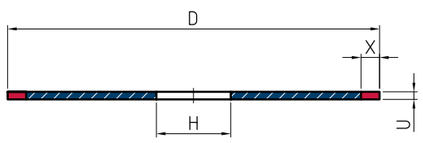
1.8 CUTTING-OFF

RESIN BONDED

cutting-off wheels

1A1R

D x U x X x H



D	U	X	H
50	0,8 - 2,0	5	Custom-made
75	0,8 - 2,0	3/5	
100	0,8 - 2,0	5	
125	0,8 - 2,0	5	
150	0,8 - 2,0	5/8	
175	1,0 - 2,0	5/8	
200	1,0 - 2,0	5/8	
250	1,5 - 2,0	8	
300	1,0 - 2,0	8	
350	2,0 - 3,0	8	
500	3,2	6,4	

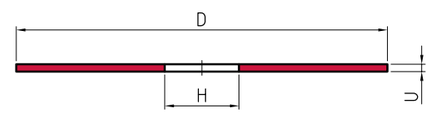
Order printout sample:
1A1R 200 x 1,5 x 5 x 20
D151 BMEG C100

RESIN BONDED

cutting-off wheels

1A1R-O (Coreless cutting-off tools)

D x U x H



D	U	H
22	0,3 - 1,0	10
25	0,3 - 1,0	10
30	0,3 - 1,0	10
40	0,3 - 1,0	10
45	0,3 - 1,0	10
50	0,3 - 1,0	10
75	0,3 - 1,0	20
100	0,3 - 1,0	20

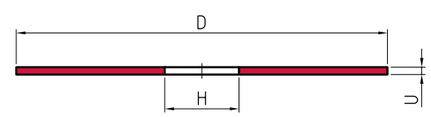
Order printout sample:
1A1R-O 50 x 1 x 10
B107 PIMR C100

METAL BONDED

cutting wheels

1A1R-O

D x U x H



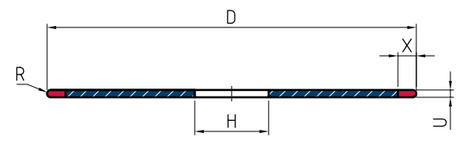
D	U	H
22	0,33	10
30	0,30	6
30	0,30	8

RESIN BONDED

grinding wheels

1F1R

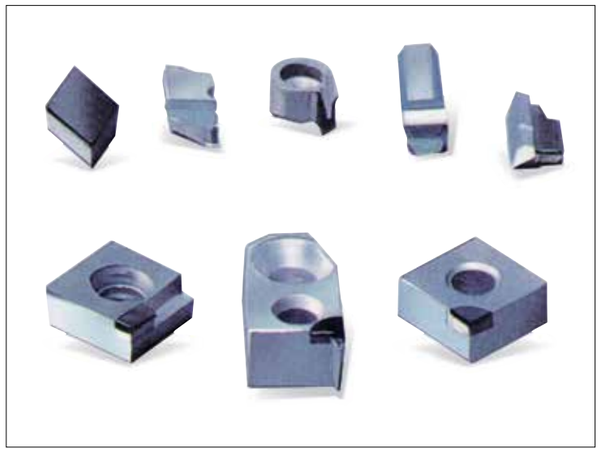
D x U x X x H



D	U	X	H	R
50	0,8 - 2,0	5	Custom-made	U/2
75	0,8 - 2,0	3/5		
100	0,8 - 2,0	5		
125	0,8 - 2,0	5		
150	0,8 - 2,0	5/8		
175	1,0 - 2,0	5/8		
200	1,0 - 2,0	5/8		
250	1,5 - 2,0	8		
300	1,0 - 2,0	8		
350	1,2 - 2,5	8		
500	3,2	6,4		

Order printout sample:
1F1R 150 x 1,5 x 5 x 20
B126 BM1R C100

1.9 GRINDING PCD AND PCBN

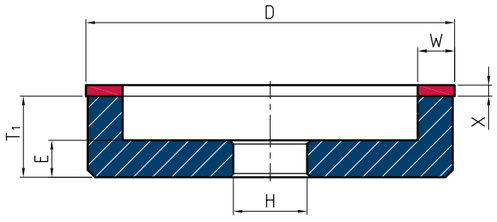


VITRIFIED BONDED

grinding wheels

6A2

D x W x X x H



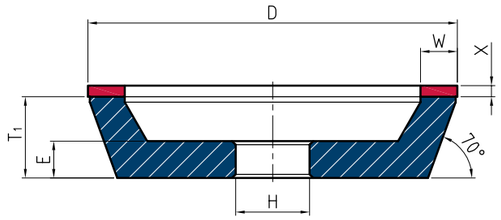
D	W	X	H	T_1	E
100	6/8/10/12,5/15	4 - 6	25	22	10
125	6/8/10/12,5/15	4 - 6	25	22	10
150	6/8/10/12,5/15	4 - 6	25/40	22	10
175	6/8/10/12,5/15	4 - 6	25/40	25	13
200	6/8/10/12/15	4 - 6	25/40	25	13

VITRIFIED BONDED

grinding wheels

11A2

D x W x X x H

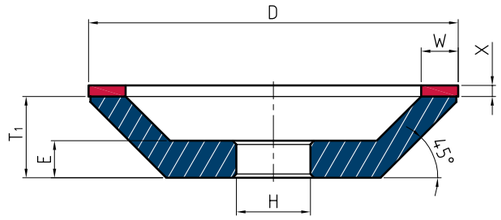


D	W	X	H	T_1	E
100	6/8/10/12,5/15	4 - 6	25	22	10
125	6/8/10/12,5/15	4 - 6	25	22	10
150	6/8/10/12,5/15	4 - 6	25/40	22	10

Order printout sample:
14A2 150 x 10 x 5 x 20
B126 O4V3 C100

12A2/45°

D x W x X x H



D	W	X	H	T_1	E
100	6/8/10/12,5/15/20	4 - 6	25	22	10
125	6/8/10/12,5/15/20	4 - 6	25	22	10
150	6/8/10/12,5/15/20/25	4 - 6	25/40	22	10

Order printout sample:
12A2/45° 125 x 10 x 5 x 40
D46 P3V C125

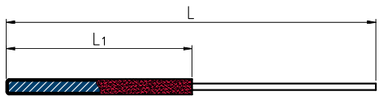
1.10 MANUAL GRINDING

ELECTROPLATED

grinding tools

DIA FILES

DIA FILES - description



RP	Description	L_1	L	Cross-section dimensions
	Flat	70	140	5,1 x 1,4
	Triangle			3,9
	Square			2,5
	Semi-circular			5,4 x 1,9
	Circular			3,0
	Set			/

Order printout sample:
RP - flat 126

1.11 METALOGRAPHY

DIAMOND

polishing compounds

DIA COMPOUND

DIA COMPOUND - type

Type	Average grit size µm	Application
1/10 MIC.	0 - 1/4	Super finish
1/4 MIC.	0 - 1/2	Super finish
1 MIC.	0 - 2	Fine polishing
2 MIC.	1/2 - 3	Fine polishing
3 MIC.	1 - 4	Fine polishing
4 MIC.	2 - 6	Fine polishing
6 MIC.	4 - 8	Pre-polishing
8 MIC.	5 - 10	Pre-polishing
14 MIC.	9 - 18	Pre-polishing
25 MIC.	18 - 40	Coarse polishing
45 MIC.	40 - 60	Coarse polishing
60 MIC.	50 - 80	Coarse polishing
80 MIC.	60 - 100	Coarse polishing

Order printout sample:
DIA COMPOUND 1/10 MIC.

2. DIAMOND DRESSING TOOLS

2.1 . . . . . SINGLE POINT DIAMOND DRESSING TOOLS *87*

2.2 . . . . . .SURFACE DRESSING *88 - 89*

2.3 . . . . . DIAMOND ROLLS *90*

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DIAMOND DRESSING TOOLS

Constant cooling of the diamond tip is necessary during surface dressing and profiling in order to prevent changes of the diamond properties.

Once the sharp edges of the grinding wheel cutting surface are worn out (as indicated by an increase in the normal force Fn, and an inefficient and loud grinding wheel), they need to be restored, i.e. surface dressed.

Various surface dressing tools are used for dressing of grinding wheels:

Manual surface dressing:

Depending on the required accuracy, surface dressing may be performed with:

- vitrified bonded dressing tools,
- little metal wheels,
- single grit diamond dressing tools,
- multigrit diamond dressing tools.

Machine surface dressing:

Single point dressing tools (with bases of different shapes),

Multipoint dressing tools (with bases of different shapes),

Dressing plates (attached to holders of different shapes),

Diamond rolls (attached to holders of different shapes)

When a grinding wheel is mounted onto the machine spindle, it needs to be dressed for as long as it takes to level the entire grinding surface. If surface dressing is done during grinding, correct selection of the dressing parameters is important.

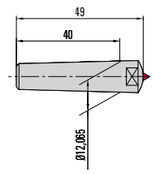
Dressing depth depends on the grit size in the grinding wheel, and is the same for all types of dressing tools.

Grit size according to FEPA	Dressing depth a (mm)
46	0,35
60	0,30
80	0,25
120	0,10
150	0,08
220	0,06
320	0,03
400	0,02

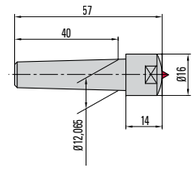
The other parameters are determined with respect to the dressing tool type.

2.1 SINGLE POINT DIAMOND DRESSING TOOLS

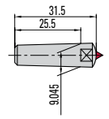
EP MK1 K101



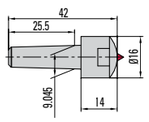
EP MK1-G K102



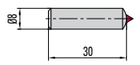
EP MK0 K103



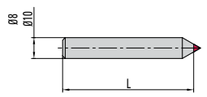
EP MK0- G K104



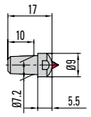
EP DECKEL K105



EP-CIL K106 (ZYLINDER)



EP YUNG K107



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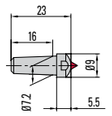

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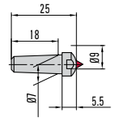
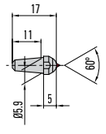
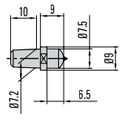


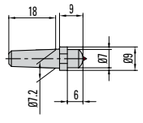
EP YUNG K110



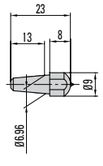
EP YUNG K111



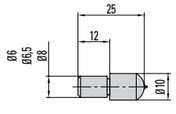
EP YUNG K112



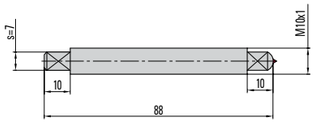
EP KOLB K113



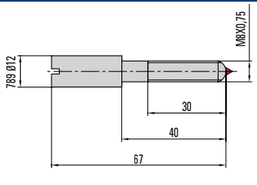
EP LANDIS K114



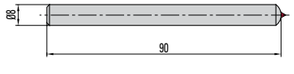
EP NILES K115



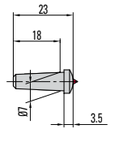
EP NILES K116



EP DECKEL K117



EP K119

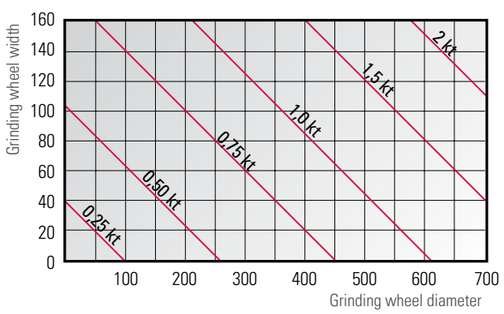


Order printout sample:
EP MK1-2,5kt - standard K101

2.2 SURFACE DRESSING

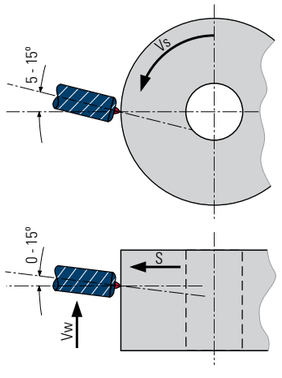
WITH SINGLE POINT DIAMOND DRESSING TOOLS

Selection of diamond grit size:
The grit size of a single grit surface dressing tool depends on the grinding wheel size, and is determined using an equation or a diagram.

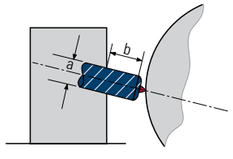


Depending on the shape, diamond grits for dressing tools are classified into three basic types.

No. of tips	Quality class
1	NORMAL
1 to 2	STANDARD
2 to 3	EXTRA



b = max(2 · a)



Dressing tool's transverse stroke:

Transverse stroke during dressing (mm/min) with single grit surface dressing tools depends on the type of grinding and the external grinding wheel diameter. The recommendations are as follows:

	Operating speed of 35 m/s					Operating speed of 50 m/s				
	Grinding wheel diameter (mm)									
Type of grinding	Ø200	Ø300	Ø400	Ø500	Ø600	Ø200	Ø300	Ø400	Ø500	Ø600
Coarse grinding	780	520	400	300	260	1000	730	560	420	360
Normal grinding	380	260	200	150	130	530	360	280	210	180
Fine grinding	280	150	120	100	80	390	210	170	140	110

Restoration of single grit diamond dressing tools

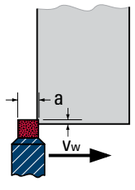
Once the surface dressing tip has become worn out (i.e. when the contact surface area exceeds 1mm²) , the dressing tool needs to be restored. Restoration turns the grit around or grinds it and turns it around.

New dressing tool

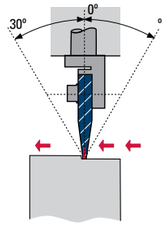
Worn out dressing tool

Useless dressing tool

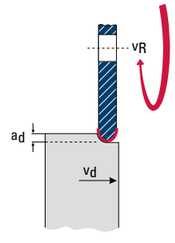
WITH MULTIPOINT DIAMOND DRESSING TOOLS



Multipoint dressing tools

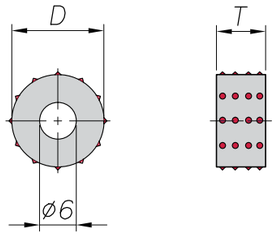


Dialettes



Diamond rolls

2.3 DIAMOND ROLLS

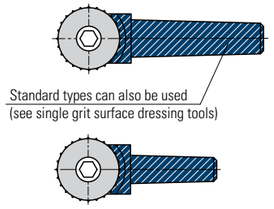


D	T	H	KT
15	6	6	1
20	8	6	2
20	8	6	3
20	10	16	5

Order printout sample:
ROLETA DxTxH 2KT

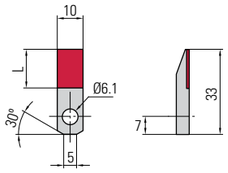
Diamond roll clamping

HOLDER MK1, MK0, ...



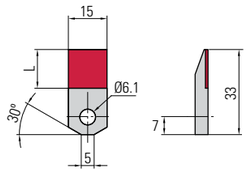
2.4 DIAMOND GRAIN DRESSING PLATES

DIALETA 10xL



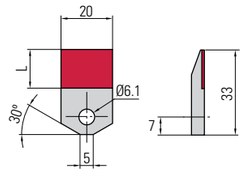
For grinding wheels
D ≤ 500mm T ≤ 100mm

DIALETA 15xL



For grinding wheels
300 ≤ D ≤ 800mm 50 ≤ T ≤ 250mm

DIALETA 20xL



For grinding wheels
500 ≤ D ≤1 500mm 100 ≤ T ≤ 600mm

Grinding wheel grit size (mesh)	Dressing plates thickness (mm)	Diamond grid size (µm)
36 - 54	3	1181
54 - 80	3	852
80 - 150	3	602

Order printout sample:
DIALETA VP 10x33/10x15x3

2.5 INTEGRATED MONOCRYSTALLINE DRESSING BLADES

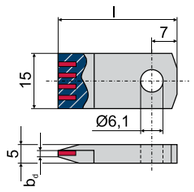
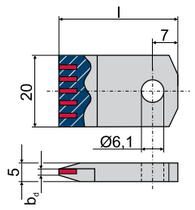
FLAT DIAMOND DRESSING TOOLS-DIALETTES:

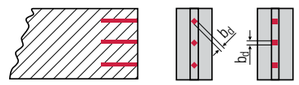
These are classified according to the shape and quality of the integrated monocrystalline dimond.

- Determine the number of MCD (multi cross diamond) and width »b_d« (see table)

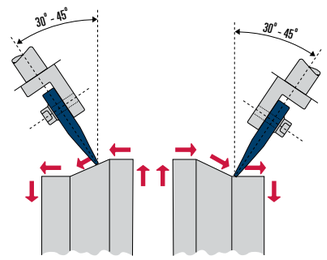
Diameter of Grinding wheel	No. of MCD
up to 100 mm	2
up to 500 mm	3
up to 750 mm	4

Grinding wheel grit size (mesh)	Diamond dimension » b_d «
150 - 300	0,6
80 - 150	0,8
60 - 80	1,0
46 - 60	1,5

Tile dimension	Grinding wheel thickness	Grinding wheel diameter
	50 ≤ T ≤ 250mm	300 ≤ D ≤ 800mm
	100 ≤ T ≤ 600mm	500 ≤ D ≤ 1500mm

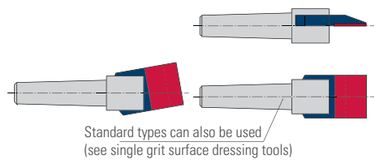


Dialette with MCD
(monocrystalline diamond) pins.

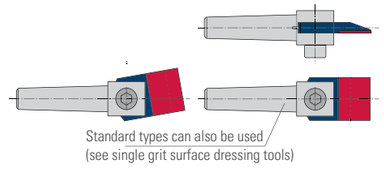


Dialette position in relation to the grinding wheel during dressing.

Fixed clamping into a holder

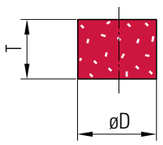


Clamping into screw holders



Order printout sample:
DIALETA MC 10x30/3x0,8x0,8

2.6 DIAMOND INSERTS FOR MULTIGRIT SURFACE DRESSING TOOLS

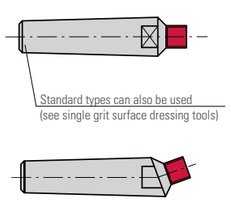


Grinding wheel diameter (mm)	300	500	>500
Diameter of insert D (mm)	6	8 - 10	10 - 12
The height of the insert T (mm)	8	8	10

Grinding wheel grit size (mesh)	Diamond grit size (µm)
46 - 60	711
60 - 80	602
80 - 120	427
120 - 200	181
200 - 300	91

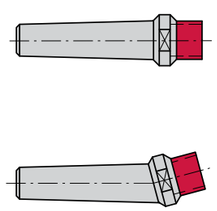
TYPES OF MULTIPOINT DRESSING TOOLS

HOLDER: MK0, MK1, ...

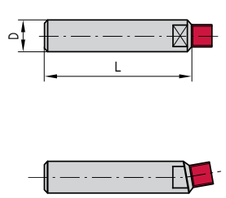


Order printout sample:
VP MK1/DxT D602

MK0-G, MK1-G, ...



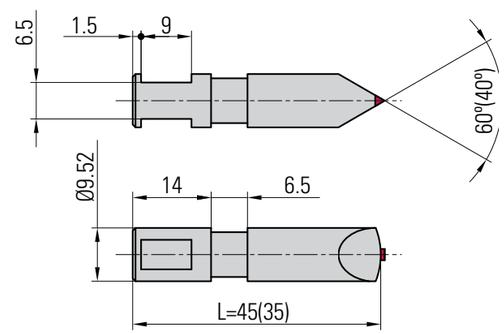
CYLINDRIC HOLDER



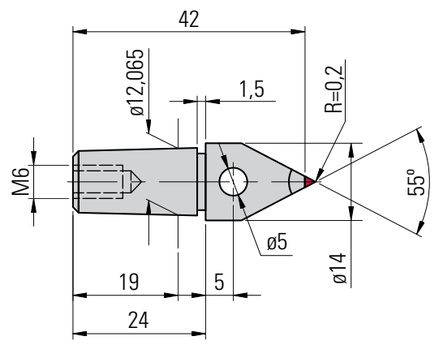
Order printout sample:
VP-CIL DxL/DxT D602

2.7 PROFILE DIAMOND DRESSING TOOLS

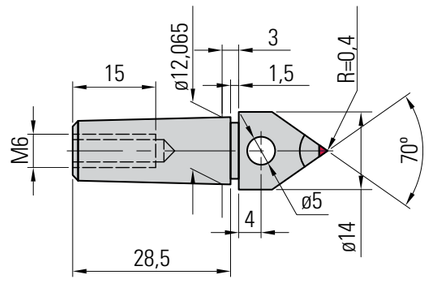
DIAFORM K201 (0,25 - 0,33KT)



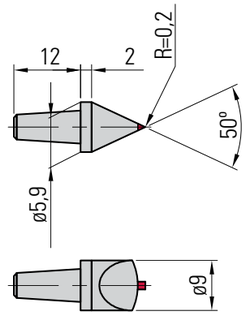
FORTUNA K202 (1 - 1,5KT)



SCHAUDT K203 (0,25 - 0,33KT)



YOUNG K204 (0,25 - 0,33KT)

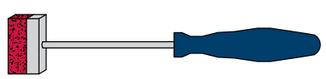


2.8 HAND MULTI-GRAIN DRESSERS

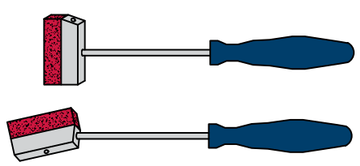
Used for manual, front and side grinding.

DRESSER

A

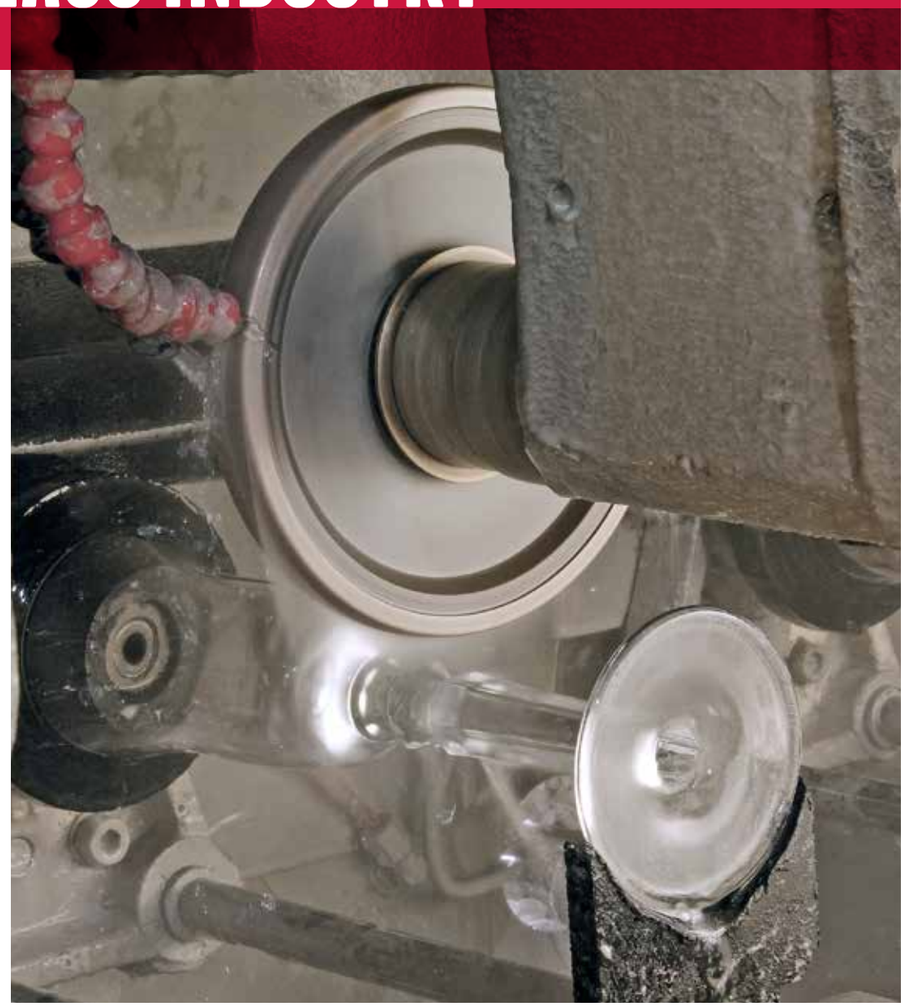


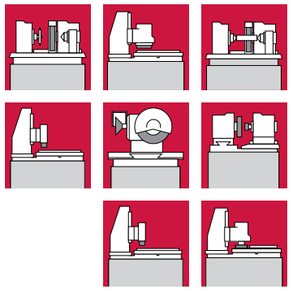
B



Order printout sample:
DRESSER TYPE A D602

3. GLASS INDUSTRY





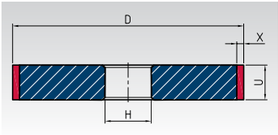
3.1 ..... DECORATIVE GLASS GRINDING *93 - 97*

3.2 ..... FLAT GLASS GRINDING AND CUTTING-OFF *98 - 101*

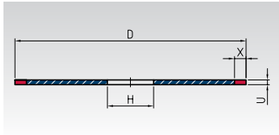
3.3 ..... LABORATORY GLASS GRINDING AND CUTTING OUT *102 - 103*

STANDARD SHAPES OF GRINDING TOOLS

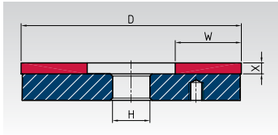
1A1 97,115



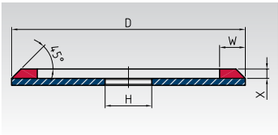
1A1R 104



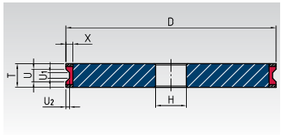
1A2M 100



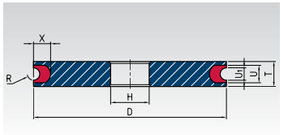
1M2 101



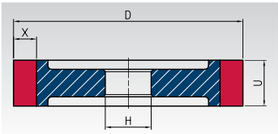
1DAD1 103



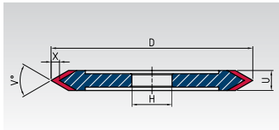
1FF6Y 104



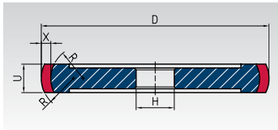
9A1 97



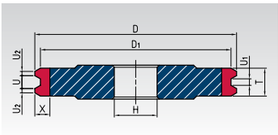
9EE1 99



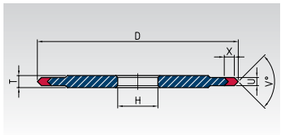
9FF1 99



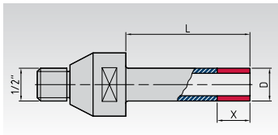
14DAD1 102



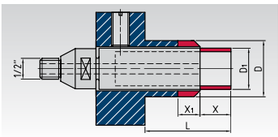
14EE1 100



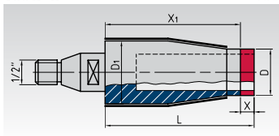
100G 105



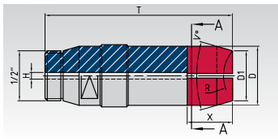
100GG 107



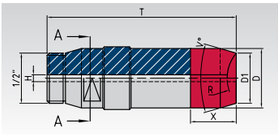
100G-G 106



100GRF 101



100GRG 101



RB=resin bond **VB=vitrified bond** **EP=electroplated** **HB=hybrid bond** **MB=metal bond**

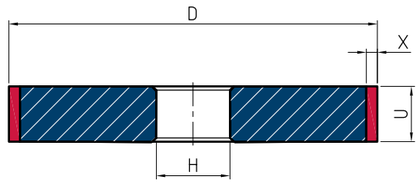
3.1 DECORATIVE GLASS GRINDING

METAL BONDED

grinding wheels

1A1

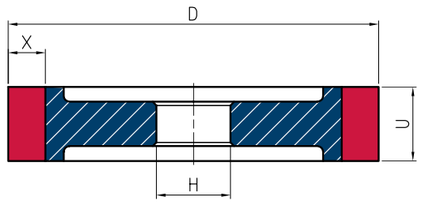
D x U x X x H



D	U	X	H
80	20	10/20	Custom-made
80	35	10	
80	40	5	
90	35	10/15	
100	35	10/15	
100	50	10	
110	35/40	10	
150	50	10/20	
200	15	20	
200	16	10	
200	20	10	
200	50	5/10	
200	18	20	
250	30	10	
250	35	20	
300	30	10	

9A1

D x U x X x H



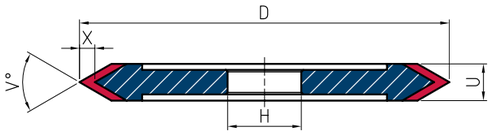
Order printout sample:
1A1 150 x 50 x 20 x 42
D181 MB17 C50

METAL BONDED

grinding wheels

9EE1

D x U x X x H x V°



D	U	X	H	V°
100	10	10	Custom-made	110
100	13	10		100/110/115/130
100	16	10		115
100	20	10		110
100	25	10		115/140
110	10	10		100/110/115
110	15	20		110/120
110	20	10		115
110	25	8		100
110	25	10		100/130
120	10	20		110
120	13	10		130
120	15	20		100/110/115/120/130
120	20	10		140
120	25	10		65/100/110
150	10	10		90
150	13	10		90/110
150	13	20		110
150	13	30		110/115
150	15	10		65/90/95/110/115
150	15	20		100/115/130
150	20	10		85/90/105/120
150	25	20		85/90/115
150	30	20		90
150	32	10		110
150	35	10		90/115/140
150	40	10		90/115
150	45	10		110/120
150	50	10		110

D	U	X	H	V°
40	10	6	Custom-made	100
40	25	5		135
50	10	5		140
50	10	10		90/140
50	15	5		115
50	20	5		85/110
50	25	5		90
50	25	10		110/115/140
60	15	10		115
70	10	10		115/130
70	10	20		110
70	15	10		120
70	20	10		85/100/110/135
70	25	10		115
80	10	10		100

D	U	X	H	V°
200	15	10	Custom-made	115/140
200	15	20		115
200	16,5/21	2		90
200	20	10		90
200	25	10		120/140
200	35	10		100
200	8	10		120/135
250	15	10		115
250	20	10		90/110

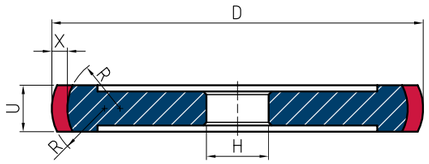
Order printout sample:
9EE1 100 x 20 x 10 x 60 x 110
D46 MB02 C42

METAL BONDED

grinding wheels

9FF1

D x U x X x H x R



D	U	X	H	R
30	10	8.5	Custom-made	10
50	20	10		20
60	10	10		40
60	20	15		20
60	25	10		20
70	20	10		40
90	20	10		10
100	15/16	10		40
100	20	10		30
100	25	10		20
100	35	10		50
110	25	10		10/20
120	15	5		8
120	20	10		15
120	25	20		20/25/30
120	30	10		50
120	35	10		60
120	35	20		50
150	10	10		12
150	13	10		8
150	16	10		8/40
150	20	10		10
150	25	10		40
150	30	10		15
150	40	10		60
180	20	10		50
180	30	10		60
200	13	10		13
200	20	10		10/20
200	25	10		15
200	35	10		50
250	20	10		10/21/50/90
250	30	10		30
250	35	10		20/50/60/90

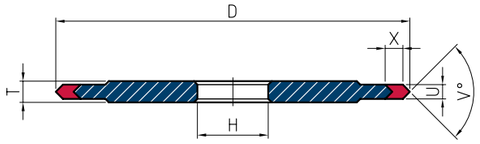
Order printout sample:
9FF1 120 x 20 x 10 x 42 x R15
D181 MB17 C50

METAL BONDED

grinding wheels

14EE1

D x U x X x H x V°



D	U	X	H	V°	T
45	13	5	Custom-made	120	U+4
50	8	10		115	
70	6	10		65	
70	10	20		110	
75	10	10		100	
100	6	10		115	
100	8	10		80/100/130	
110	10	10		115	
120	6	10		100	
120	8	5/10		110	
120	10	10		115	
120	10	20		110	
140	8	10		80/90/110	
150	10	10		110/115	
150	10	20		110	
150	10	30		115	
200	6	10		100	
200	8	10		100/120	

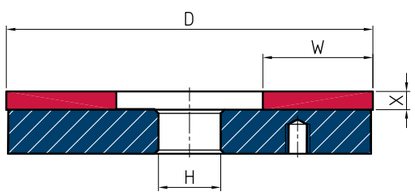
Order printout sample:
14EE1 120 x 10 x 10 x 40 x 115
D39 MB02 C42

RESIN BONDED

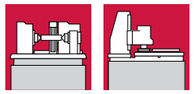
grinding wheels

1A2M

D x W x X x H



D	W	X	H
300	140	5	Custom-made
400	130/150/175	5	
500	180	5	
600	150/230	6/10	

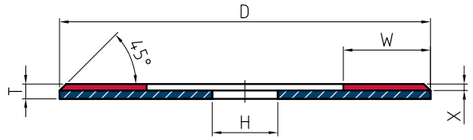


METAL BONDED

grinding wheels

1M2

D x W x X x H



D	W	X	H	T
200	30/40	0,5	24	1,3

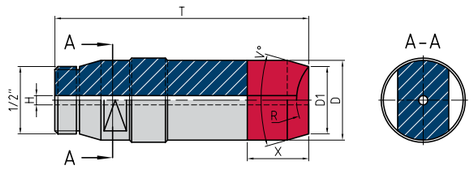
Order printout sample:
1M2 200 x 30 x 0,5 x 24
D54 MB01 C50

METAL BONDED

grinding tools

100GRG

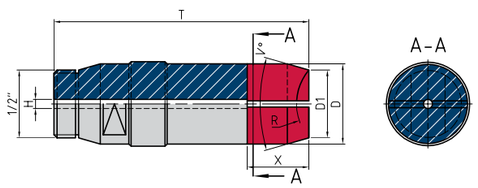
D/D1 x T x X x R x V°



D	D1	T	X	R	V°
26	22	83	20	17	40

100GRF

D/D1 x T x X x R x V°



D	D1	T	X	R	V°
26	22	83	20	17	40

Order printout sample:
100GRF 26/22 x 83 x 20 x R17 x V40
D181 MB17 C60

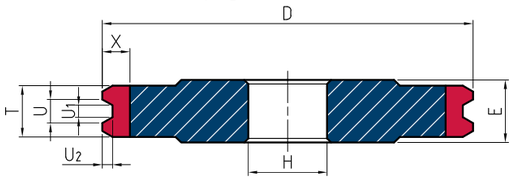
3.2 FLAT GLASS GRINDING AND CUTTING-OFF

METAL BONDED

grinding wheels

14DAD1

D x E x U/U_1/U_2 x X x H



D	E	U/U1/U2	X	H	T	Thickness Of Glass
200	20	5/2,5/2	5	Custom-made	15	5
200	20	8/3/2	5		16	6
200	20	9/4/2	5		16	6
200	20	10/5/2	5		18	8
200	20	10/6/2	5		18	8
200	20	12/7/2	5		20	10
200	20	13/8/2	5		20	10
200	20	15/10/2	5		20	12

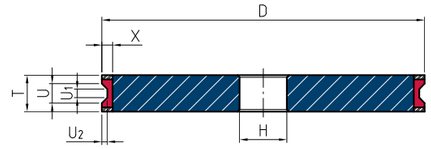
Order printout sample:
14DAD1 200 x 20x 8/3/2 x 5 x 90
D151 MB02 C25

METAL BONDED

grinding wheels

1DAD1

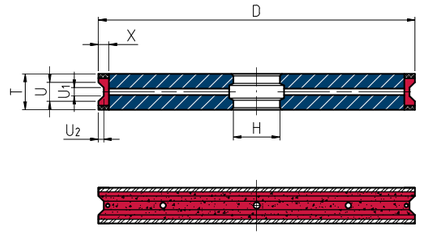
D x T x U/U_1/U_2 x X x H



D	T	U/U_1/U_2	X	H	Thickness Of Glass
100	20	8/3/2	5	Custom-made	6
100	20	10/5/2	5		8
100	20	12/7/2,5	5		10
150	17	9/4/2	5		6
150	18	10/5/2	5		8
150	20	12/7/2	5		10

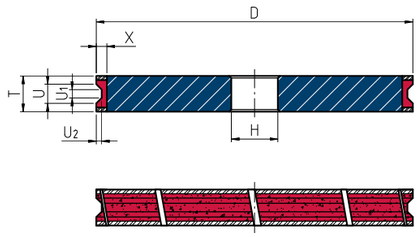
1DAD1H

D x T x U/U_1/U_2 x X x H



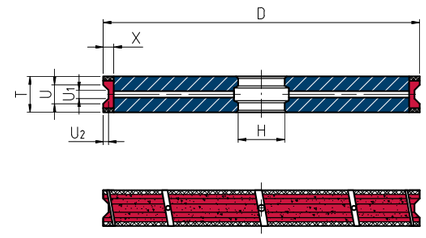
1DAD1S

D x T x U/U_1/U_2 x X x H



1DAD1HS

D x T x U/U_1/U_2 x X x H

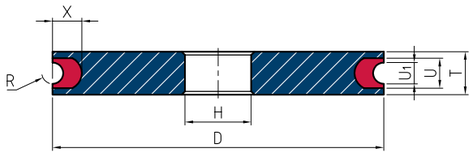


METAL BONDED

grinding wheels

1FF6Y

D x U/U_1 x X x H x R

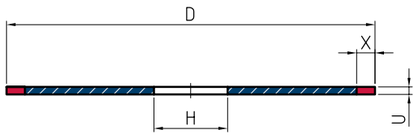


D	U/U_1	X	H	R	T
100	5/3,7	5	Custom-made	1,8 - 2.2	U+4
100	6/3,6	5		1.1 - 1,8	
100	9/7	5		3	
100	10/8	10		4	
100	12/8	10		4.2	
100	15/13	10		6,5	
100	18/16	10		8	
100	22/20	10		10.2	
150	9/5	5		2,5	
175	5/3,2	5		4	
175	10/9	5		5	
175	13/11	5		6	
200	5,7/2,9	5		1,5	
200	5,7/3,6	5		1,8	
200	5/3,2	5		1,6	
200	6/3,7	5		1,9	

Order printout sample:
1FF6Y 200 x 5,7/3,7 x 5 x 64 x R 1,9
D126 MB02 C25

1A1R

D x U x X x H



D	U	X	H
100	1,2/1,5/2	5	Custom-made
115	1,2/1,5/2	5	
125	1,2/1,5/2	5	
150	1,2/1,5/2	5	
175	1,5/2,2	5	
200	1,5/2,2/2,5	5	
250	2/2,2/3	5	
300	2/2,5/3,2	5	
350	2/3	5	
375	2,2	5	
400	2,5	5	

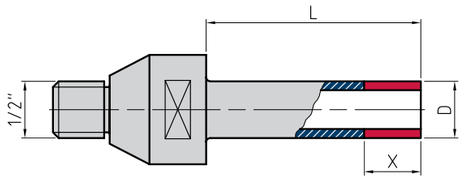
Order printout sample:
1A1R 300 x 2 x 5 x 20
D107 MB01 C30

METAL BONDED

grinding tools

100G

D x X x L



D	X	L
3	10	30
4	10	
5	10	
6,5	10	
7	10	
8	10	
9	10	
11	10	
12	10	
13	10	
14,5	10	
15	10	
16	10	
17	10	
18	10	
19	10	40
20	10	
21	10	
22	10	
23	10	
24	10	
25	10	
26	10	
27	10	
28	10	
29	10	
30	10	
32	10	
34	10	
35	10	
36	10	
37	10	
38	10	
39	10	
40	10	
41	10	
42	10	
43	10	
44	10	
45	10	
46	10	

D	X	L
48	10	40
50	10	
52	10	
53	10	
54	10	
55	10	
56	10	
57	10	
58	10	
60	10	
61	10	
62	10	
63	10	
64	10	
65	10	
67	10	
68	10	
70	10	
73	10	
75	10	
78	10	
80	10	
83	10	
84	10	
85	10	
90	10	
95	10	
97	10	
98	10	
100	10	
107	10	
109	10	
110	10	
110	10	
120	10	
122	10	
125	10	
127	10	
130	10	
140	10	

Order printout sample:
100G 15 x 10 x 30
D151 MB01 C50

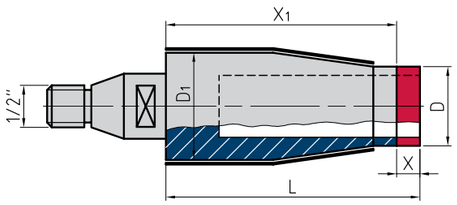
3.3 LABORATORY GLASS GRINDING AND CUTTING OUT

METAL BONDED and ELECTROPLATED

grinding tools

100G-G

D/D1 x X/X_1 x L



D	D_1	X	X_1	L
4	6	10	45	Custom-made
4	7	10	43	
4,5	6	10	45	
4,5	8	10	45	
5	7	10	45	
5	9	10	45	
7	10	10	45	
7	11	10	45	
10	15	10	45	
10	17	10	40	
10	19	10	50	
12	14	10	51	
50	60	10	44	
65	76	10	51	
65	78	10	51	
65	79	10	51	
66	79	10	51	
68	78	10	27	
69	79	10	27	

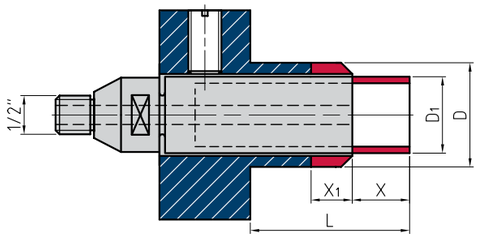
Order printout sample:
100G-G 65/79 x 10/59 x 72
D151 MB01 C50

METAL BONDED

grinding tools

100GG

D/D1 x X/X_1 x L



D	D_1	X	X_1	L
7	5	5	10	X + X_1 + 12
8	6	5	10	
9	7	5	10	
10	8	5	10	
11	9	5	10	
11,5	9,5	5	10	
12	10	5	10	
13	6,8	10	8	
13	7	5	10	
15	12	10	5	
17	14,5	11	4	
19	13	10	5	
19,5	13,5	10	5	
21	19	5	3	
23	21	5	3	
24	22	10	5	
25	19	10	6	
26	18	10	5	
26	18	10	10	
33	24	10	3	
42	35	10	5	
42	37	10	5	
42	38	10	5	
45	33	12	10	
45	42	10	10	
45	43	12	10	
45,2	42,6	21,1	18,1	
47	33	12	10	
60	56	10	10	
61	57	10	10	
64	59	10	10	
100	96	10	5	
110	104	10	10	
115	110	10	10	
117,5	113,5	10	10	
120	116	10	10	

Order printout sample:
100GG 7/5 x 5/10 x 30
D181 MB17 C60

4. CONSTRUCTION AND STONE CUTTING

OVERVIEW OF ABRASIVES BY THEIR INTENDED USE

4.1 ..... CUTTING *106 - 107*

4.2 ..... CUTTING OUT *108*

4.3 ..... GRINDING *109*

4.1 CUTTING

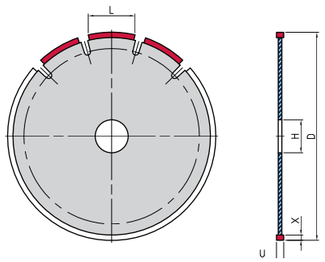
METAL BONDED

saw blades

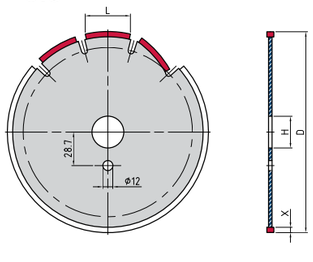
C1, C1S, C2, C2-S, C3

D x X x H

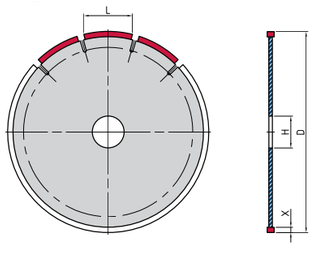
C1



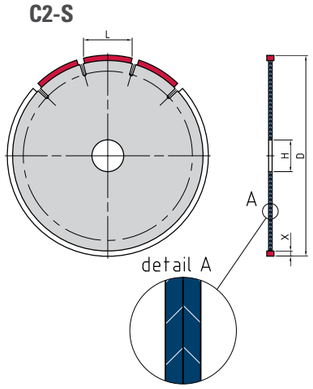
C1S



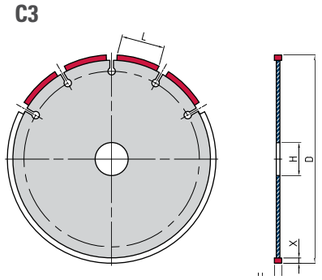
C2

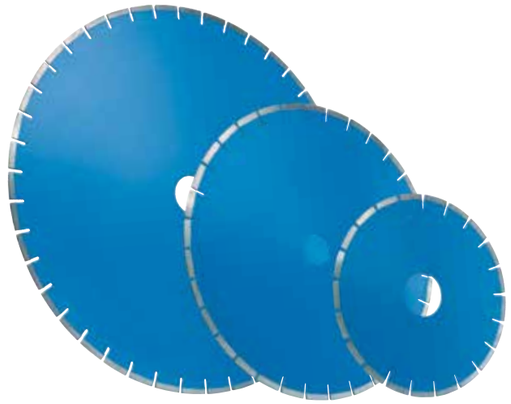


C2-S



C3





WORKPIECE	CUTTING TOOL SHAPE
Concrete	C1, C2, C3
Reinforced concrete	C1, C2
Asphalt	C1S
Fire clay	C1S
Marble	C2, C2-S
Granite	C2, C2-S

D	C1	C1S	C2	C2-S	C3	X	H
300	•	•	•	•	•	10	Custom-made
350	•	•	•	•	•		
400	•	•	•	•	•		
450	•	•	•	•	•		
500	•	•	•	•	•		
550	•	•	•	•			
600	•	•	•	•			
625	•		•	•			
650	•		•	•			
700	•		•	•			
750	•		•	•			
800	•		•	•			
850	•		•	•			
900	•		•	•			
1000	•		•	•			
1100			•	•			
1200	•		•				
1300			•				
1600	•						

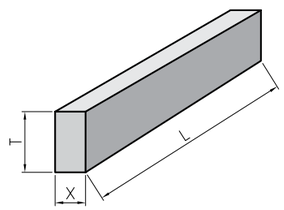
Order printout sample:
Saw blade C1 - concrete
300 x 10 x 30

METAL BONDED

cutting tools

SEGMENT

L x X x T



L	X	T
24	3,2 - 10.0	10
40	3,2 - 10.0	10

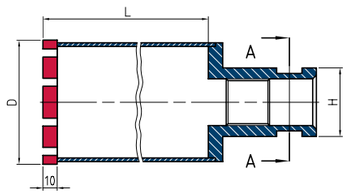
4.2 CUTTING OUT

METAL BONDED

cutting out tools

CD (CORE DRILL)

D x L x H



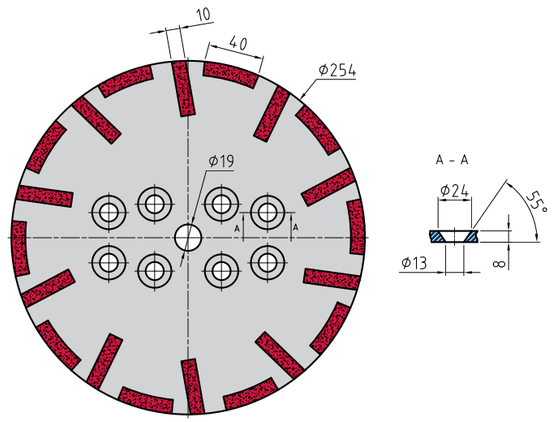
D	L	H
19	300 - 500	R1/2 or M31.7mm
20/24/28		
31/35/38		
40		
50/52		
60/65		
70/73/75		
80		
90/91/95		
100/105/110/120/130		
140/150/170/185/186		
220/225/226/250/280		
300/350		
400		
550		
600		

4.3 GRINDING

METAL BONDED

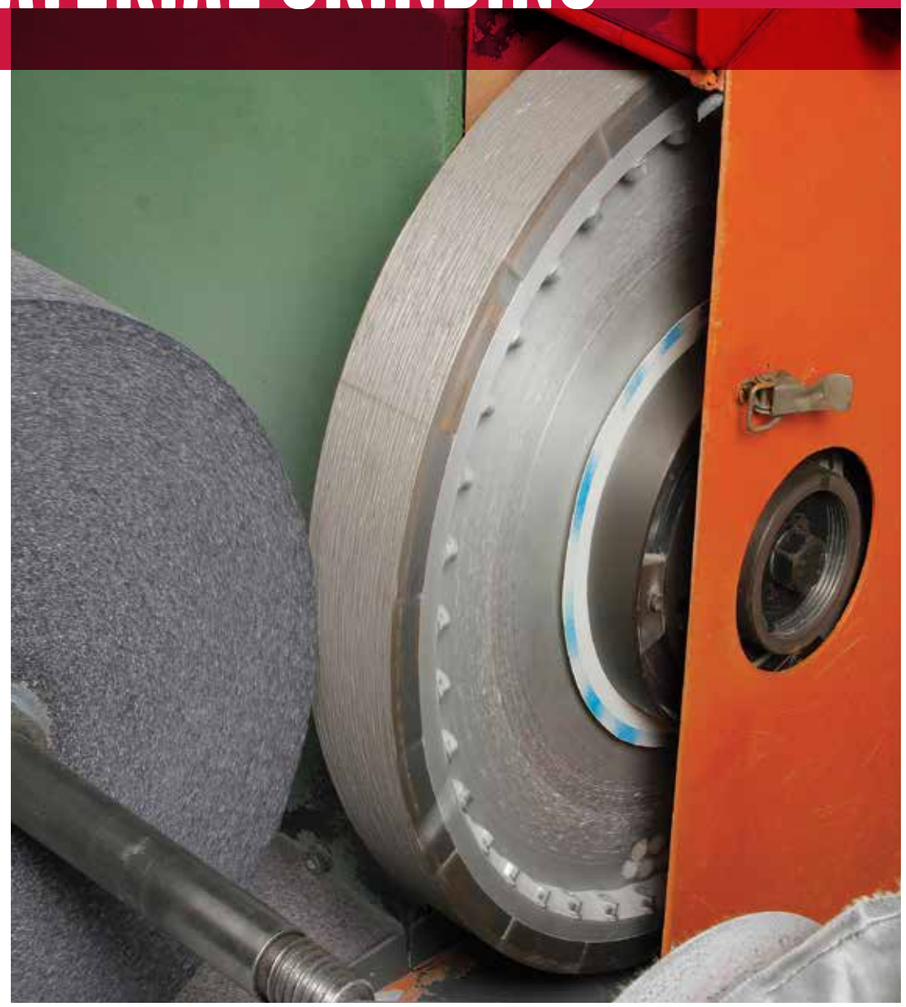
grinding wheels

1A2C



Order printout sample:
1A2C
254 x 8 x 19

5. COMPOSITE MATERIAL GRINDING

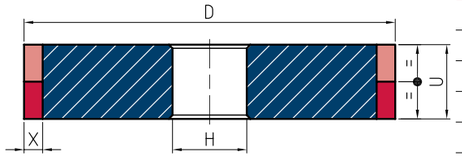


METAL BONDED

grinding wheels

1A1

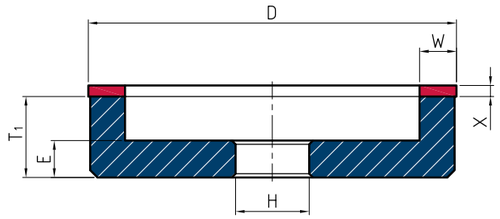
D x U x X x H



D	U	X	H
60	15	5	Custom-made
75	15	5	
100	15	5	
150	14	5	
200	15	5	
270	50	8	
400	40	8	
420	40	8	
450	150	8	
550	70	8	

6A2

D x W x X x H



D	W	X	H	T_1	E
60	15	40	Custom-made	Custom-made	Custom-made
75	15	40			
115	15	50			

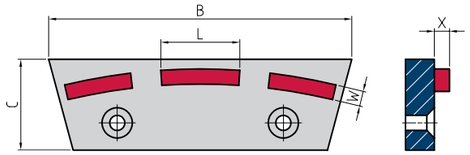
Order printout sample:
6A2
60 x 15 x 40 x H

METAL BONDED

grinding tools

NOSKAL 1

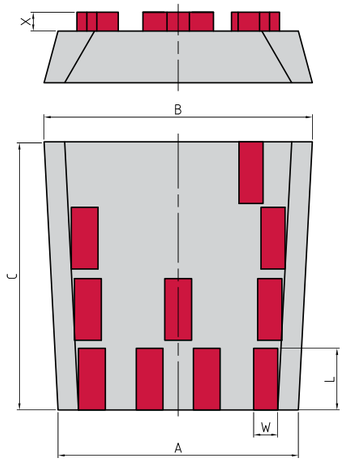
B x C x L x W x X



B	C	L	W	X
100	30	24	10,5	7
112	46	40	10	7
150	35	24	10,5	7

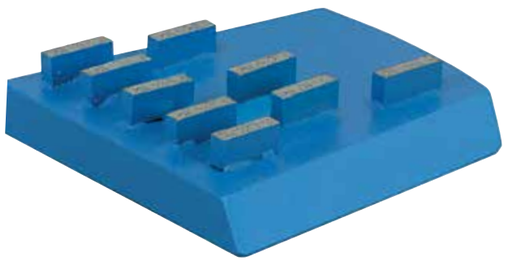
NOSKAL 2

A x B x C x L x W x X



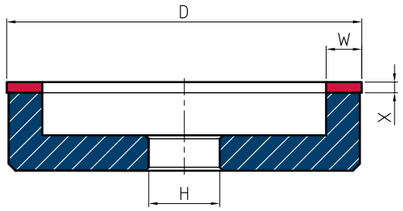
A	B	C	L	W	X
70	80	108	20	10	10
95	101	37,5	20	10	10
80	110	108	24	10	10
80	110	108	24	10	10
85	110	108	24	10	10

Order printout sample:
Noskal 2
85 x 110 x 108 x 24 x10 x 10



PRODUCT INFORMATION MANAGER

DESIGNATION OF GRINDING TOOLS



DESIGNATION OF SUPPORTING BODY MATERIAL
(only for resin and vitrified bond)

ABRASIVE LAYER WIDTH **W**

BORE DIAMETER **H**

GRINDING GRIT
Diamond **D** / CBN **B**

BOND TYPE
Based on the grinding process

6A2 - A 150 x 10 x 3 x 20 D 151 BMR C100

SHAPE

DIAMETER **D**

THICKNESS OF ABRASIVE LAYER **X**

CONCENTRATION

Very low	C25
Low	C50
Medium	C75
High	C100, C125
Very high	C150

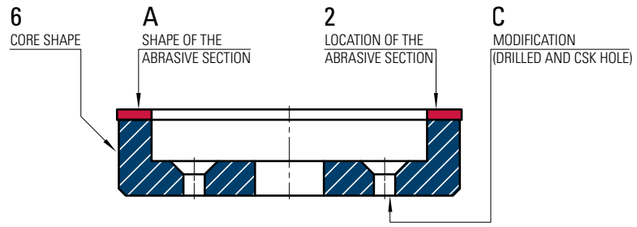
GRIT SIZES

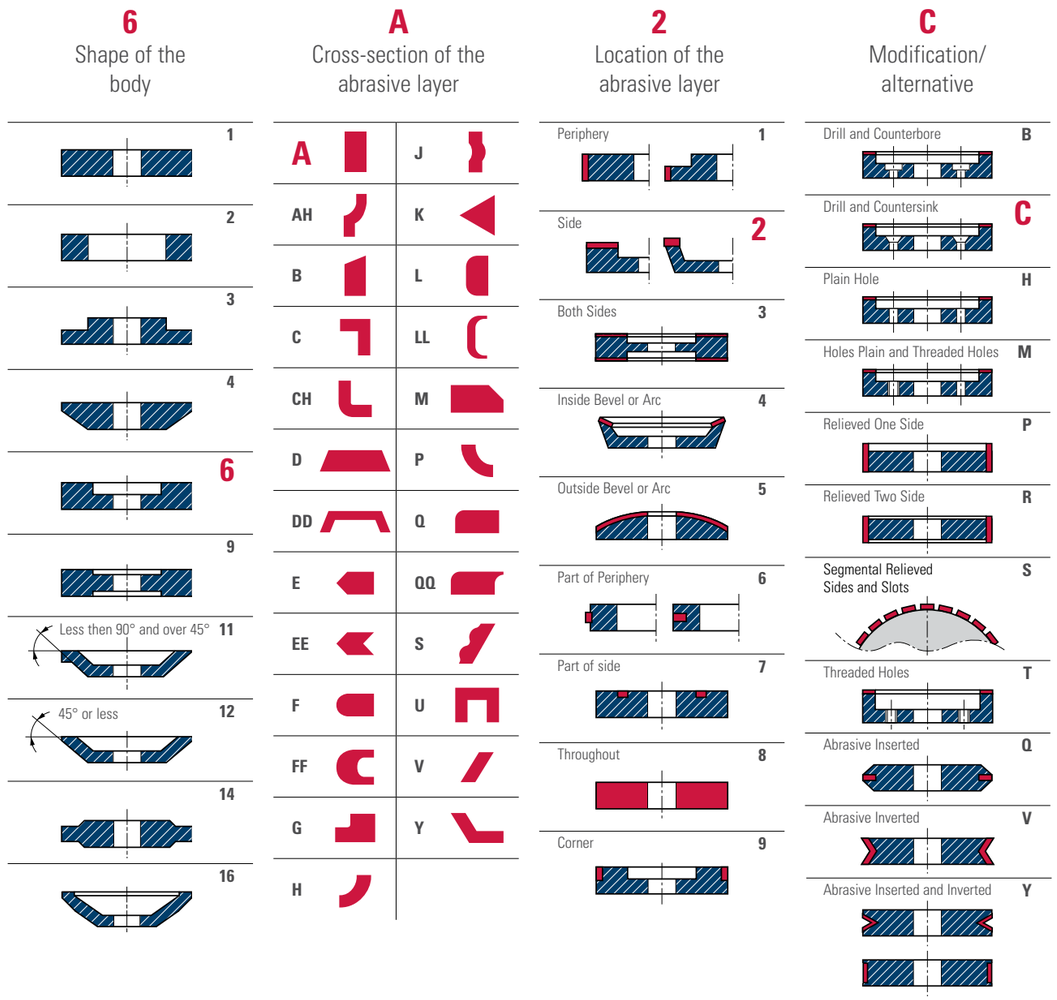
Very coarse	1181	1001	852	711	601	427	356	301
Coarse	252	213	181	151	126			
Medium	107	91	76	64				
Fine	54	46						
Very fine	15	7						

Necessary data for ordering:
- shape (plan for non-standard shapes)
- type of body (special requirements)
- dimensions
- abrasive type (special requirements)
- intended use of grinding wheel.

STANDARD SHAPES OF GRINDING TOOLS

Tool shapes are standardized, but they can also be custom-made according to the needs of the users.





SUPPORTING BODY MATERIAL

The body material is adapted to the shape and properties of the grinding tool bond.

Usually the following materials are used:

Material	DESIGNATION	VIBRATION DAMPING	HEAT TRANSFER ABILITY	MECHANICAL STRENGTH
ALUMINIUM COMPOSITE	/	■■■	■■■	■■■
ALUMINIUM ALLOY	A	■■	■■■■	■■■■
BAKELITE	B	■■■■■	■	■■
STEEL	J	■	■■■■	■■■■■
ABRASIVE COMPOSITE	N	■■■	■■■	■■■
VITRIFIED	K	■	■■	■■

Less pronounced property ■
Well pronounced property ■■■

ALUMINIUM COMPOSITE is used for more rigid supporting bodies in softer bond systems. It adequately dampens vibrations, transfers heat and provides good mechanical strength. It is a medium-weight material.

ALUMINIUM ALLOY is used when a more stable supporting body is needed. The supporting body material provides good mechanical strength and a better heat transfer than sinter-aluminium. It is one of the heavier materials.

BAKELITE is a lighter material with very good vibration dampening properties. It is suitable primarily for wide resin bonded abrasive rings that are used for surface or external circular grinding (e.g. for the 1A1 shape).

STEEL - steel supporting bodies are significantly heavier than the other four types of materials. They are used whenever good mechanical properties need to be ensured for thin abrasives, for example cutting tools (1A1R).

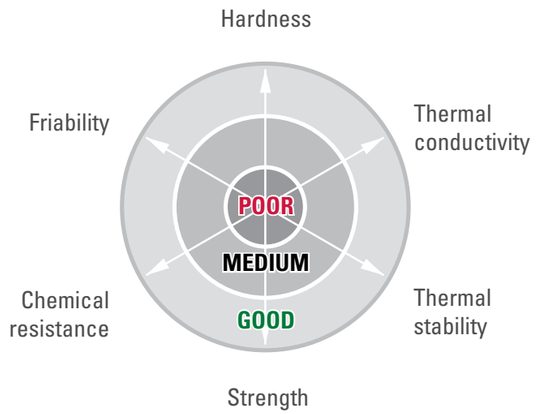
ABRASIVE COMPOSITE - has the same mechanical properties as sinter-aluminium. It is primarily suitable for the simple use of resin bonded grinding wheels. It represents a suitable choice when the abrasive ring is planned to be used completely. It is available only after prior consultation with the manufacturer of grinding wheel.

VITRIFIED are only used for vitrified bonded grinding wheels. They are rigid and hard, but allow full use of the abrasive ring.

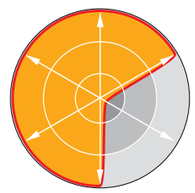
SUPERABRASIVE GRITS AND THEIR USE

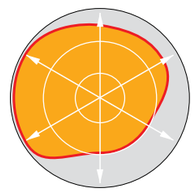
Various types of superabrasive grits are used in grinding tools.

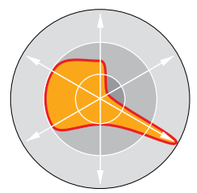
DIAMOND	DIAMOND or CBN	CBN
Super hardened Alloys	Aluminium Alloys	Carbon Steels
Titanium Alloys	Cast Iron	High-Speed Steels
Glass	Tungsten	Tool Steels
Chrystal	Flame-Sprayed Metals	Alloy Steels
Ceramics	Magnetic Materials	Hardened Steels
Cermets		Die Steels
Silicon		Stainless Steels
Ferrites		Heat-resistant Alloys
PCD/PCBN		Super Heat-Resistant Alloys
Quartz		Sintered Metals (Ferrous and others)
Stone		Copper Alloys
Concrete		
Asphalt		

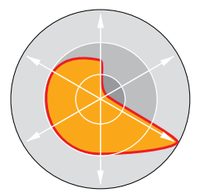


Compared to classic abrasives, superabrasive grits have excellent mechanical properties. However, they have less thermal stability, therefore they need to be cooled during grinding.


Diamond grit


CBN grit


SiC grit


Aluminium Oxide grit

SUPERABRASIVE GRIT SIZE

The size of the abrasive grits determines the effect of grinding and the quality of the grinding surface.

The most cost-effective choice is the coarsest granulation that still achieves the required surface finish.
If a greater amount of material needs to be removed during grinding, a combination of coarse grinding and finish grinding is recommended.

For precise grinding and polishing, the following table applies which shows the granulations according to the different standards determining the abrasive grit size. To simplify, one can view the sizes according to the FEPA standard as approximately corresponding to the mean grit size in microns (D126 is approx. 0.126mm).

GRIT COMPARISON CHART

FEPA	International Standard ISO 6106-2005	USA Standard ANSI B74.6-2002		Japanese Standard JIS 4130-1982		Chinese Standard GB/T 6406-1996		Russian Standard GOST 6206-80
[µm]	[Mesh]	Mesh	[µm]	Mesh	[µm]	Mesh	[µm]	[µm]
1182	16/20	16/20	1280/840			16/20	1180/840	
1181	16/18	16/18	1280/1010	16/18	1180/1000	16/18	1180/1000	1250/1000
1001	18/20	18/20	1080/840	18/20	1000/850	18/20	1000/850	1000/800
852	20/30	20/30	915/600	20/30	850600	20/30	850/600	
851	20/25	25/30	915/710			20/25	850/710	
711	25/30	25/30	770/600			25/30	710/600	800/630
602	30/40	30/40	645/425	30/40	600/425	30/40	600/425	630/400
601	30/35	30/35	645/505			30/35	600/500	630/500
502	35/45	35/45	541/360					
501	35/40	35/40	541/425			35/40	500/425	500/425
427	40/50	40/50	455/302	40/50	425/300	40/50	425/300	
426	40/45	40/45	455/360			40/45	425/355	
356	45/50	45/50	384/302			45/50	355/300	400/315
301	50/60	50/60	322/255	50/60	300/250	50/60	300/250	315/250
252	60/80	60/80	271/181	60/80	250/180	60/80	250/180	250/160
251	60/70	60/70	271/213			60/70	250/212	250/200
213	70/80	70/80	227/181			70/80	212/180	
181	80/100	80/100	197/151	80/100	180/150	80/100	180/150	200/160
151	100/120	100/120	165/127	100/120	150/125	100/120	150/125	160/125
126	120/140	120/140	139/107	120/140	125/106	120/140	125/106	125/100
107	140/170	140/170	116/90	140/170	106/90	140/170	106/90	
91	170/200	170/200	97/75	170/200	90/75	170/200	90/75	100/80
76	200/230	200/230	85/65	200/230	75/63	200/230	75/63	80/63
64	230/270	230/270	75/57	230/270	65/53	230/270	63/53	63/50
54	270/325	270/325	53/45	270/235	53/45	270/325	53/45	50/40
46	325/400	325/400	45/38	235/400	45/38	325/400	45/38	
35	400/500							

MICRON SIZES

Size Range [µm]	2-4	2-6	4-8	6-12	8-16	10-20	15-25	20-30	25-35	30-40	40-50	40-60	40-70
Minimum [µm]	2,0	2,0	4,0	6,0	8,0	10,0	15,0	20,0	25,0	30,0	40,0	40,0	50,0
Maximum [µm]	4,0	6,0	8,0	12,0	16,0	20,0	25,0	30,0	40,0	40,0	50,0	60,0	70,0

ROUGHNESS OF THE GROUND WORKPIECE SURFACE

The shape and material of the workpiece, the method of grinding and the machine for grinding determine the quality of the grinding wheels. The abrasive grit size is chosen based on the desired depth of grinding and the required surface quality.

The roughness of the ground workpiece surface is measured primarily in the precision grinding of the metal materials, subject to:

SURFACE FINISH RECOMMENDATION

Grinding Process	Grit size according to the FEPA		Mean Roughness [Ra]		Surface quality
	Diamond	CBN	Diamond	CBN	N
Very rough grinding	-	B301	-	2.10	N8
	-	B251	-	1.77	N8-N7
	-	B213	-	1.41	N7
	-	B181	-	1.12	N7-N6
	-	B151	-	0,75	N6
	D213	B126	-	0.66	N6
Rough grinding	D181	B107	0,53	0,53	N6-N5
	D151	B91	0,50	0,50	N6-N5
	D126	B76	0,45	0,45	N6-N5
	D107	B64	0,40	0,40	N5
Semi-finish grinding	D91	B54	0,33	0,33	N5-N4
	D76	B46	0,25	0,25	N5-N4
	D64	B35	0,18	0,18	N4
Fine grinding	D54	-	0,16	-	N4-N3
	D46	-	0,15	-	N4-N3
	D25	-	0,12	-	N3
Ultra-fine grinding (Polishing)	D20	-	0,05	-	N3-N2
	D10	-	0,025	-	N2-N1

SURFACE COMPARISON

	N1	N2	N3	N4	N5	N6	N7	N8
Ra [µm]	0,025	0,05	0,10	0,2	0,4	0,8	1,6	3,2
Rt [µm]	0,500	0,80	1,25	2,5	5,0	8,0	16,0	32,0
Rz [µm]	0,400	0,63	1,00	2,0	4,0	6,3	10,0	16,0

BASIC BOND TYPES

RESIN BOND

METALWORKING INDUSTRY

			Various types of steel		Tungsten carbides (WIDIA)	Steel and tungsten carbide	Technical ceramics	Stellite
			Tool	High-speed				
Peripheral surface grinding and external cylindrical grinding	Harder	Wet		V80	BMRT	V80	BMR/B40SR	
	Standard	Wet	BMR	BMRT	BMR	BM3N		
		Dry	BMR	BMRT	B40SR			
	Softer grinding	Wet/soft	BM75	BMN	B40SN			
Internal cylindrical grinding	Standard	Wet	BMK		V80	BMK		
	Harder	Wet	CXB	CXB	B245		BMR/B40SR	
Surface grinding on the face	Standard	Wet	BMR	BMRT	BMR			
		Dry	BM75	BMN	B40S			
Tool grinding and sharpening for the metal industry	Standard	Wet		BMRT	BMR			
		Dry	B47SR/BME	B47SR	B40SR			BMR/V80T
Tool grinding and sharpening for the wood programme	Standard	Wet		BP2	BP2			
		Dry		BMR	B40SR			
Profile grinding	Standard	Wet	V80T	CXB	CX100			
CNC tool grinding	Creep feed grinding	Wet		PIMR	HYB4			
	Edge sharpening	Wet		PIMR	HYB2	CX100		
Cutting	Standard	Wet	BM1R	BM1R	BM1EG/V80T			
		Dry	BM1R	BM1R	BM1EG			
	Thin cutting	Wet	PIMR	PIMR	BMRG			
Polishing	Standard	Wet			BR			

VITRIFIED BOND

METALWORKING INDUSTRY

02B	126	P	4	V	C100
Abrasive grain quality	Abrasive grit size	Hardness	Structure/Porosity	Bond	Concentration
02B	427 Coarse	J Soft	3 Closed	**V** - Vitrified	50
03B	301	K	**4**		75
05B	252	L	5	B - Resin	**100**
06B	181	M	6		125
01D	151	N	7 Open		150
121B	**126**	O			175
	107	**P**			
	91	R Hard			
	76				
	64				
	54				
	46 Fine				

			Various types of steel		Tungsten carbides (WIDIA)	Grinding PCD
			Hardened steel (low alloy up to 60Hrc)	Hardened steel (over 62Hrc), matrix, OCR		
Peripheral surface grinding and external cylindrical grinding	Harder	Wet	B126 P4V3 C100	B107 P3V3 C100	D181 P3V C100 COARSE	D46 P3V C125 COARSE
	Standard	Wet	B126 O6V3 C100	B126 O5V3 C100	D107 P4V C100 MEDIUM	D25 P3V C125 FINE
		Wet			D64 P4V C100 FINE	
	Softer grinding	Wet	B126 M6V3 C100			
Internal cylindrical grinding - plugs	Standard	Wet	B126 K6V3 C100			
	Harder	Wet	B126 M6V3 C100	B107 O5V3 C100	D46 P4V C100	
Surface grinding on the face	Standard	Wet			D64 P4V C100	

METAL BOND

GLASS INDUSTRY

		Glass
Surface grinding and drilling	Basic	MB 16
	Harder	MB 01
Manual grinding and cutting	Basic	MB 01
	Harder	MB 02
CNC grinding	Harder	MB 17

BOND TYPE SELECTION

The bond type selection is based on the properties of the workpiece and the grinding process. In general, softer materials are treated with coarser grinding wheels and harder workpieces with softer ones.

The hardness of the grinding wheel is also dependent on the concentration of the superabrasive grits - the higher it is, the harder the grinding wheel.

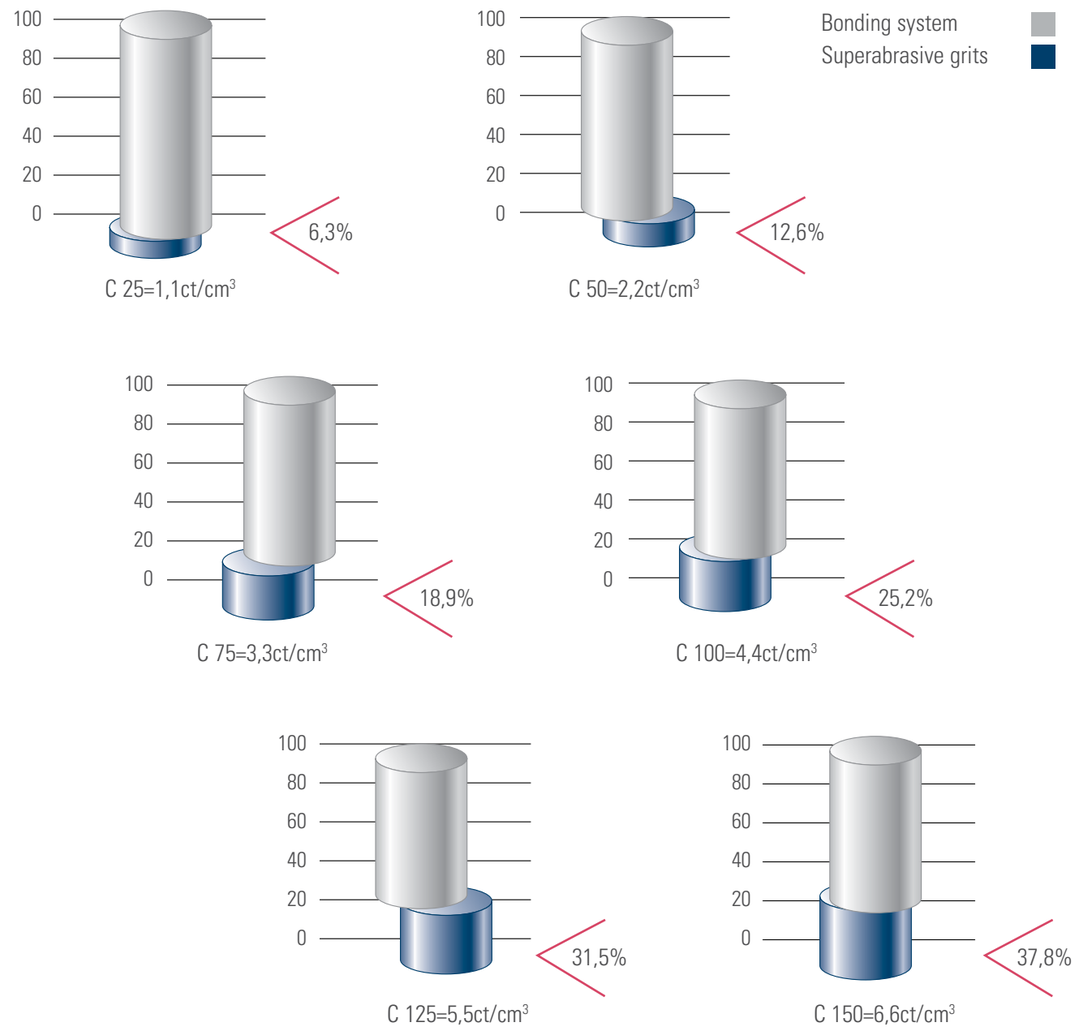
	SOFTER BONDS	HARDER BONDS
Cutting capacity	Greater	Smaller
Relative stock removal	Greater	Smaller
Pressure/force on spindle	Smaller	Greater
G grinding factor	Smaller	Greater
Lifespan of grinding wheel	Shorter	Longer
Temperature on the contact surface	Lower	Higher

SUPERABRASIVE GRIT CONCENTRATION

The concentration should be selected with respect to the grinding procedure. Low concentrations are recommended for fine abrasive grits, large contact surfaces between the abrasive and workpiece and in manual grinding; high concentrations are more suitable for coarse grits, small contact surfaces and whenever large profile stability of the grinding tool is required.

This is expressed as the quantity of diamond or cubic boron nitride grits in carats/cm³ of the abrasive layer (1ct=0.2g).

The diagrams show the volume percentage of superabrasive grits in the abrasive ring.



INSTRUCTIONS FOR THE SAFE USE OF GRINDING TOOLS

Superabrasive tools are manufactured in accordance with EN 13236 and OSA provisions which determine the safety requirements for their production and use.

Therefore, products usually indicate the following (when possible):
- EN 13236,
- OSA,
- maximum peripheral speed,
- maximum revolutions (min^{-1}),
- symbol for limited use.

Restriction to use	Description	Safety sign
Do not use with hand-held machine	Abrasive product only for use on stationary and mobile machines NOTE: This restriction only applies to abrasive products not for use on hand-held machines but capable of being mounted on such machines.	
Do not use for grinding	Abrasive product only for cutting-off NOTE: This restriction only applies to abrasive products for use on hand-held machines.	
Only permitted for totally enclosed working area	Abrasive product only for use on stationary machines the guarding of which is accepted as TOTALLY ENCLOSED WORKING AREA.	
Only permitted for wet grinding and cutting-off	Abrasive product only suitable for wet grinding and cutting-off	

THE FOLLOWING SUBJECTS ARE RESPONSIBLE FOR SAFETY DURING GRINDING:

GRINDING TOOL MANUFACTURER

The grinding tool manufacturer must manufacture a safe tool, which is achieved through the correct selection of raw materials, a correct technological manufacturing procedure and the required product control.

The control methods are prescribed by the SIST EN 13236 and the FEPA international standards as well as our internal standards.

MACHINE MANUFACTURER

The grinding machine manufacturer must ensure a stable machine installation and the strength of the protective housings. The strokes and displacements must be set so that the required product accuracy can be achieved. Instructions for the correct and safe use of the machine must also be prepared.

MACHINE/TOOL USER

Follow the manufacturer's instructions for the machine and the tool:
- Take care to store the grinding tools properly.
- Check the grinding tool before mounting (in case of damage, contact the grinding tool manufacturer).
- If necessary, balance and properly mount the grinding tool.
- Prepare the grinding machine correctly.
- Test the grinding tool without any load.

Description	Safety sign
Refer to instruction manual/booklet	
Wear ear protection	
Wear eye protection	

Description	Safety sign
Wear a mask	
Wear protective gloves	
Wear a face shield	

GENERAL INSTRUCTIONS

THE MACHINE/TOOL USER SHOULD CONSIDER THE FOLLOWING:

MOUNTING THE GRINDING TOOLS

High-quality grinding requires grinding machines with a rigid construction, a powerful drive and high-quality spindle bearings. During mounting, it is recommended that the grinding tool is first partially tightened and that the run out is minimized using a measuring device. All contact surfaces must be clean. Once mounted, the grinding tools should not be removed from the spindle until they are worn out.

COOLING

Cooling should be performed whenever the grinding procedure allows for it, since the coolant takes away the heat and the chips and enables a finer surface finish to the workpiece. We recommend the use of a water solution with up to 2% oil, and oil with additives.

Feeding the coolant at the contact area is significantly better than feeding it to the grinding tool core or workpiece.

DRESSING GRINDING TOOLS AND OPENING THE STRUCTURE

Vitrified bonded grinding tools are used for dressing. Their grit size must be one grade coarser than that of the superabrasive grits which are dressed. Both grinding tools here revolve in the same direction, whereby the peripheral speed of the vitrified bonded grinding tool is 15 - 25m/s, and that of the superabrasive grinding tool is lower by half. Grinding tools with abrasive rings on the face can also be dressed by rubbing them against abrasive grits, which are applied onto a flat metal or glass surface.

This reopens the surface of a dulled grinding tool, even though the grinding tools are already self-sharpening when correctly used.

The structure of dulled grinding tools can also be opened using a vitrified bonded tool, which is enclosed with the grinding tool (only for resin and hybrid bonded tools). Resin bonded CBN grinding tools for flat surface grinding hardened steels are sometimes also dressed by grinding into soft steels at a peripheral speed of 15m/s.

Dressing and profiling of vitrified bonded superabrasive grinding tools is also possible with diamond systems.

STORAGE OF GRINDING TOOLS

Grinding tools are sensitive to atmospheric influences and impacts which cause cracks that are invisible to the human eye but may cause the tool to break when the machine is started. Grinding tools must be stored well-protected, preferably in the original packaging. The storage area should not be damp and the temperature not below freezing.

The lifespan of resin and hybrid bonded grinding wheels is three years from the date of manufacture. Vitrified, metal and electroplated grinding wheels do not have limited durability if stored properly.
All grinding wheels have a 3-year warranty.

INSPECTION OF GRINDING TOOLS

Even though the packaging protects the product during transport, the boxes or crates should be moved carefully. After admission to the warehouse and prior to mounting the grinding wheel on the grinding machine, be sure to make a visual inspection.

If the grinding wheel is inadequate, consult the manufacturer about its suitability for use prior to mounting.

INCORRECT HANDLING

DON'T ever handle the grinding tools roughly.

STORAGE

DON'T store the grinding wheels and tools in a damp atmosphere or in extreme temperatures.

TOOL SELECTION

DON'T ever use a grinding tool without first checking its intended application.

VISUAL INSPECTION

DON'T ever use a damaged or incorrectly used grinding tool.

MOUNTING

DON'T ever mount a damaged grinding tool.
DON'T use mounting flanges that are inappropriate, damaged, dirty or worn out.
DON'T tighten the mounting flange excessively, as this could damage it.
DON'T exceed the maximum permitted operating circumferential speed marked on the wheel.

FURTHER INFORMATION

DON'T ever grind without using a safety guard which must cover at least one half of the grinding tool.
DON'T ever use a machine not in a good mechanical condition or not maintained regularly.
DON'T apply excessive force to grinding tools as this may slow down the machine.
DON'T ever use a machine without an appropriate dust removal system.
DON'T apply side pressure to thin grinding wheels.
DON'T stop the grinding tool after use by applying pressure to the tool edge or side.
Always switch the machine off and allow the tool to stop revolving.
DON'T use the machine in a position where you do not have full control of its operation.
DON'T force a wheel onto a machine spindle.
DON'T grind on the side of cutting-off wheels.

CORRECT HANDLING

DO always handle the grinding tools with extreme caution, especially those which have already been used.

STORAGE

DO always protect the grinding tools from mechanical damage and adverse environmental influences during storage.

TOOL SELECTION

DO always follow the information on the label or tool when selecting a grinding tool, as well as the information on the limitations of use from the catalogue.
DO always request additional information from the manufacturer or supplier when in doubt concerning tool selection.

VISUAL INSPECTION

DO always visually inspect grinding tools before mounting and eliminate damaged ones.

MOUNTING

DO always mount the grinding tool onto the machine in accordance with the tool and machine manufacturer's instructions.
DO always use the original tools supplied by the machine manufacturer to change the grinding tool.
DO always use correct mounting flanges for grinding tools and check that they are undamaged and free of burrs.
DO always check to see that the workpiece is firmly secured before beginning grinding.
DO always run newly mounted grinding tools at the maximum operating speed first, then reduce the rpm to the operating speed and allow the tool to run at least 60 seconds before you begin grinding.

FURTHER INFORMATION

DO always install a safety guard on the machine before grinding.
DO regularly check the operating speed of the machine, and always after maintenance and repairs.
DO always check the driving belt tension to achieve optimum power transmission.
DO always wear personal protective gear, depending on the machine type and application: protective wear for the eyes and face, protective footwear, gloves, ear protection, respiratory protection and other safety gear.
DO always use the grinding tools for the applications they were designed for.
DO always place the machine in an appropriate place where there is no possibility of mechanical damage.
DO always keep the workplace tidy to prevent slips or falls during grinding operations.
DO store portable machines appropriately when not being used, to avoid accidental physical damage to the wheel.
DO always use portable machines in a comfortable position, where the body is well balanced and the machine is well supported.

TECHNICAL ORDER FORM

Customer: _____

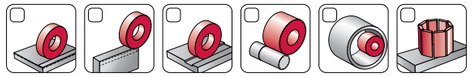
Address: _____

Contact person: _____

Phone: _____

e-mail: _____

APPLICATION DATA

GRINDING METHOD: 

other methods: _____

Application type: _____

Machine type: _____

Cooling: ☐ YES ☐ NO

Coolant type (designation): _____

Flow rate (l/min): _____

Pressure (bar): _____

WORKPIECE DATA

Workpiece description (shape, dimensions etc.): _____

Workpiece material: _____ Hardness: _____

Machine type: _____

WORKPIECE REQUIREMENTS

Required surface finish (N/Ra/Rt/Rz): _____

Other: _____

TECHNOLOGY DATA

Grinding wheel peripheral speed (m/s or RPM): _____

Workpiece speed (m/min or RPM): _____

Infeed rate (mm): _____

Transverse speed (m/min): _____

Grinding allowance (mm): _____

Cycle time: _____

Other process parameters: _____

DRESSING DATA

Dresser type: _____

Infeed rate: _____

Dressing frequency: _____

Dressing trav. speed: _____

Dressing ratio: _____

CURRENTLY USED TOOL

Type and dimensions: _____

Quality: _____

Producer: _____

Annual demand: _____

TARGET: _____

_____

Signature, date:

APPLICATION PICTURES/SKETCH

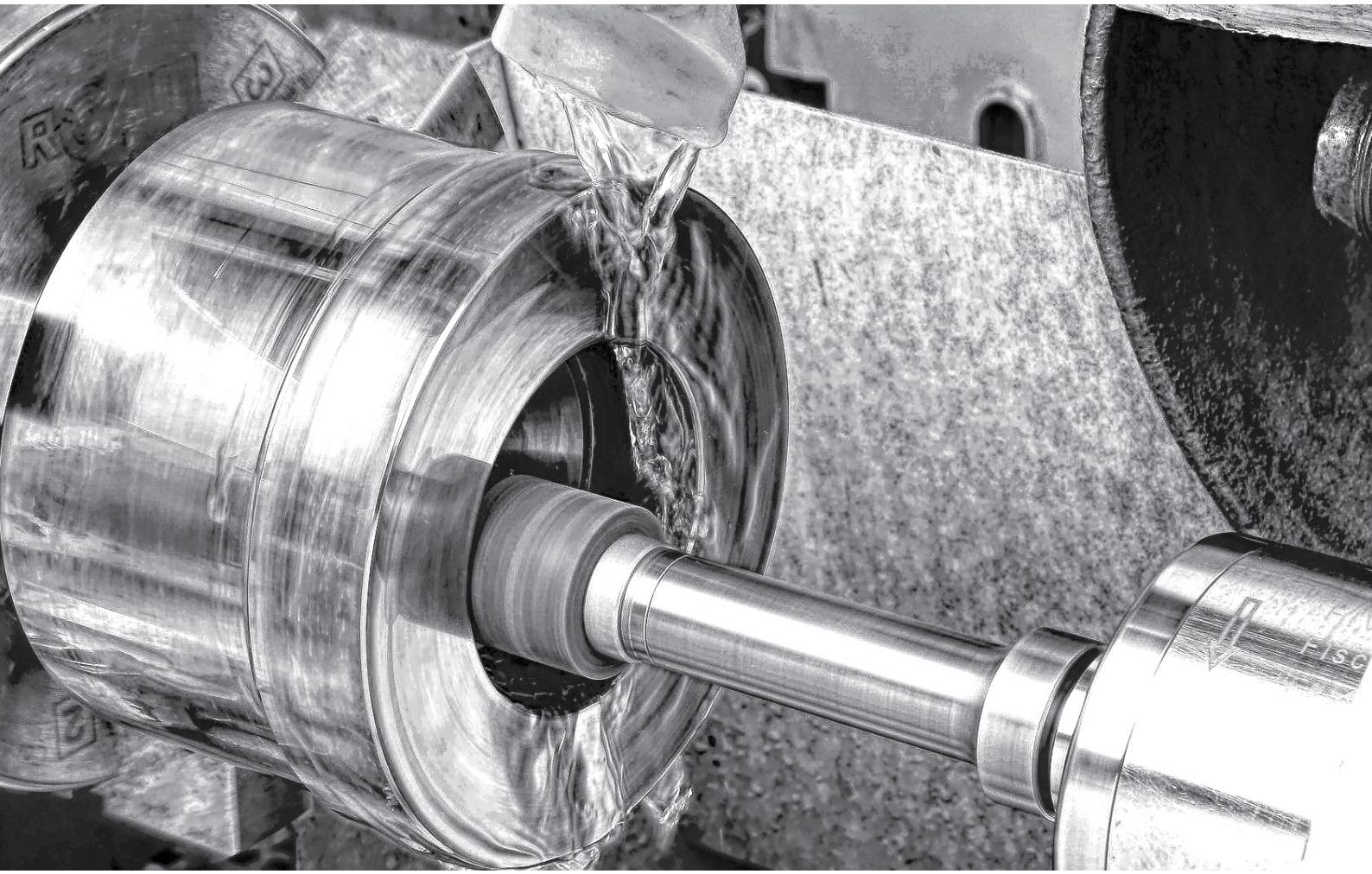
Grinding tool:

Workpiece:

NOTES

THE WEILER PROMISE

At Weiler, we passionately embrace change to improve our products and our processes to move the company and our customers forward. By bringing new ideas and creative problem solving together in an open, collaborative environment, we will improve our customers' productivity and create profitable growth.



WEILER ABRASIVES GROUP

Weiler Global HQ
One Weiler Drive
Cresco, PA 18326 USA

Weiler de México
Querétaro, México

Weiler do Brasil
São Paulo, Brasil

Weiler EMEA HQ
Maribor, Slovenia

Zreče, Slovenia

Loče, Slovenia

Oplotnica, Slovenia

Bindlach, Germany

Catalog # TBD

Phone: +386 3 7575000 / weilerabrasives.com

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