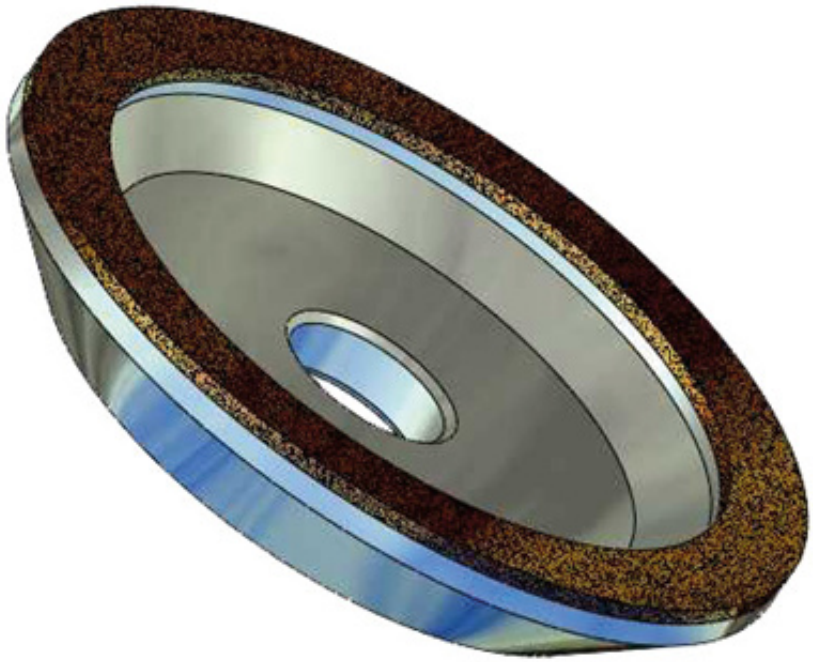
90 YEARS
1929-2019



Diamond / CBN Grinding Wheels and Discs

Catalogue ES05/2019

KRAUS & WINTER 1929
DIAMANT- UND CBN-WERKZEUGE

The QR-Codes lead you directly to our Online-Shop!

Corporate History

Top quality at reasonable prices

Since 1929, this philosophy has determined our range of products and services.
To celebrate our 90th anniversary, we would like to invite you to a journey through time.

During his training in a glass factory, the later co-founder Theodor Felix Kraus came into contact with glazier diamonds for the first time and learned how to repair them. The First World War forced him to interrupt his training, but after his time as a soldier in France and Russia, his way led him first to Sweden and back to France where he acquired further knowledge and techniques in the production of diamond tools. Upon his return to Germany, Theodor Felix Kraus was already considered a specialist in the field.

On October 1st, 1929, Theodor Felix Kraus and the businessman Willy Winter founded the Kraus & Winter company at Lindenstraße 5 in Hamburg. The entry into the commercial register took place only 8 days later on 9th October 1929. The first target groups were glass, laboratory and natural stone companies and supplied with the first diamond tools. In 1935, less than 10 years later, the partner Willy Winter retired and Theodor Felix Kraus continued the company as sole owner.

In 1938, the company moved to Hamburg-Lokstedt Lottestraße 9-11 in order to meet increased customer demands and broadening capacity. Over the years, production was expanded into more and more areas.

In 1956 the office was moved to its present location in Hamburg-Lemsahl, and extended in by an annex.

His son Felix-Gunter Kraus joined the company at a young age during his apprenticeship. As a result, the range of diamond tools for all areas was supplemented by his devices for optical glass processing. Thus the field of ophthalmic optics also became potential customers.

Theodor Felix Kraus died in 1974. His son took over the company in the same year and led it safely into the new age.

After 90 years of experience, our company still relies on sound know-how in the manufacture of diamond and later CBN tools, intensive research and development work, state-of-the-art production methods, as well as a team of motivated and qualified employees and recognizes them as an essential basis for consistently high quality, forward-looking production optimization and innovation in our company.

By using the latest technology in our company, such as CAD workstations, ERP systems for monitoring order, production and delivery processing, as well as careful final inspections, we can guarantee you on-time delivery and the highest quality standard, even for custom-made products.

Armed with these prerequisites, we look forward to a future far beyond 2019.

Be a part of our advancement.
We will be happy to advise you.

KRAUS & WINTER
90 YEARS
DIAMOND TOOLS

Information for use of Diamond and Boron Nitride (CBN) Wheels as well as Discs

Diamant ist eine Form von Kohlenstoff uns ist ein natürliches Element. Die Körnungen werden heute durch Synthese unter hohen Druck und Temperatur künstlich hergestellt. Wegen seiner Eisenaffinität bei hohen Temperaturen ist er nicht zur Stahlbearbeitung geeignet, da die Wärmebeständigkeit bis 700°liegt. Beim Schleifen kommt es an der Kontaktfläche zu starker Wärmeentwicklung welche zu einer chemischen Reaktion führt. Diese hat eine Strukturveränderung zur Folge und erzeugt eine unsaubere Oberfläche.
Daher wird Diamant für hartes und spödes Material wie Hartmetall, Glas , Keramik Stein, etc. eingesetzt.

CBN (cubic boron nitride) is only a synthetic material, produced by high pressure synthesis from hexagonal boron nitride. It has analogous properties as diamond. Diamond has a higher chemical resistance and heat stability up to 1200 ° C. From these proberties it is designed foremost for grinding of heat treated and hardened steels.

RESIN BOND

Diamant- und CBN-Körnungen in Kunstharzbindung sind sehr schleiffreudig. Mit ihnen wird ein kühler, werkstücksschonender Schliff mit hoher Abtragsleistung erreicht.
Dieser Bindungstyp wird hauptsächlich zum Schleifen/Trennen von Hartmetall, hoch legierten Stählen, andere metallische Werkstoffe und teilweise auch für die Glasbearbeitung eingesetzt.

METAL BOND

Diamant- und CBN-Körnungen in Metallbindung sind wesentlich verschleißfester, stoßunempfindlicher als kunstharzgebundene Schleif- und Trennscheiben. Durch die härtere Bindung erreichen sie nicht das Zerspanungsvolumen von kunstharzgebundenen Schleif- und Trennscheiben, jedoch eine erheblich höhere Standzeit.
Dieser Bindungstyp mit Diamantkörnung wird hauptsächlich zum bearbeiten von nichtmetallischen Werkstoffen wie Glas, Keramik und für Hartmetall eingesetzt. CBN-Körnungen kommen bei der Bearbeitung von hochlegierten Stählen über 58HRC zum Einsatz.

ELECTRO PLATED

Galvanische Bindungen sind sehr schleiffreudig und erreichen eine hohe Zerspanungsleistung. Dies Verhalten resultiert aus den weit aus der Bindung herausragenden Diamant- oder CBN-Körnungen. Allerdings sind die Standzeiten durch das einschichtige Verfahren kürzer.
Dieser Bindungstyp mit Diamant wird zum Schleifen von vorgesinterten Hartmetall, Duroplaste, GFK und Graphit eingesetzt.
Die CBN-Körnung kommt hauptsächlich bei der Bearbeitung von hochlegierten Stählen über 58HRC zum Einsatz.

In dieser Bindung sind fast alle Formen herstellbar und wir können auch gestellte Körper Neu-, oder Wiederbelegen. Auch bei abgenutzten Körpern kann eine galvanische Neubeschichtung vorgenommen werden.

CERAMIC BOND

CBN-Werkzeuge in keramischer Bindung sind abricht- und profilierbar. Diese Bindung zeichnet sich durch eine hohe Zerspanungsleistung aus. Durch das Abrichten auf der Schleifspindel im Bearbeitungsbetrieb eignet sich diese Bindung für Hochpräzisionsschleifen.

Diese in diesem Katalog aufgeführen Formen ist nur ein kleiner Teil unserer Möglichkeiten.
Auch anderen Formen sind machbar.

Senden Sie uns die Formbezeichnung/Zeichnung und alle Daten zu und Sie erhalten kurzfristig unser Angebot.

Information for use of Diamond and Boron Nitride (CBN) Wheels

Concentration

The concentration gives information on the volume percent of grit which is used in the rim. The basis for defining concentrations is by diamond 4,4 carat/cm3 rim volume by concentration C100.

Frequently used concentration values are:

Concentration	Diamond Carat/cm³	CBN Carat/cm³
C25	1,1	1,05
C50 / V120	2,2	2,09
C75 / V180	3,3	3,13
C100 / V240	4,4	4,18
C125 / V300	5,5	5,22
C150 / V360	6,6	6,27

High Concentrations of 75-150 are typical for coarse grits or wheels with small contact area or small rim width. Low Concentration 25-50 are used with fine grits for wheels of large rim width.
We guarantee that the diamond and boron nitride grit content of Kraus & Winter diamond and boron nitride wheels corresponds to these concentrations values.

Grit size

For optimum stock removal capability it is generally an advantage to use the largest grit size allowing surface quality requirements.
KRAUS & WINTER diamond and boron nitride grit sizes are conformed to the FEPA-Standard.
This standard prescribes the most precise test sieve specifications for abrasive grits under consideration of the latest technological development.

Grit	Rough grinding	Finish grinding	Fine grinding	Läpping
Diamond	D181-D151	D126-D91	D64-D46	D30-D15
CBN	B151	B126	B91	B46

Surface Roughness Table

Diamond	CBN	Ra Surface Roughness* Electro	Metal/Resin	Grinding Operation
D301		3,2	3,2	Roughing
D251	B251	1,6	2,0	
D181	B181	1,0	1,2	Very Rough Grinding
D151	B151	1,0	0,8	
D126	B126	0,8	0,6	
D107	B107	0,8	0,4	Rough Grinding
D91	B91	0,7	0,3	
D76	B76	0,7	0,2	
D64	B64	0,5	0,2	Finishing Grinding
D54	B54	0,4	0,15	
D46	B46	0,4	0,1	
D35	B35	0,3	0,1	
D25	B25	0,3	0,08	Super Finish Grinding
D15		0,2	0,06	

* It is not possible to define the coherence between the roughness grade and the grit size exact - not even when the use is described accurately.
The following parameter define the result:
Material
Structural status
Cooling medium
Kinematics
Forward Feed and Speed

Furthermore, you have to take into account that normally at the beginning of the use the roughness grade is the maximum. At first this alters quickly and after some time only slowly - whereby the limit result is an asymptotic solution.

Therefore, only rough descriptions can be made, however without any obligation.

Standard Grit Size for Diamond and CBN (Bornitride)

In the following grain table we not only have the FEPA but also the US-mesh designation, mesh opening in micron (µ) and conventionel grain designations listed. You can then perform conversion yourself.

Diamond Standard FEPA		CBN Standard FEPA		US-Standard (US Mesh)		Aperture width µ	Grit Size Siliziumcarbide Corundum
narrow	wide	narror	wide	narrow	wide		
D1181 D1001	D1182	-	-	16/18 18/20	16/20	1180-1000 1000-850	20
D851 D711	D852	-	-	20/25 25/30	20/30	850-710 710-600	24 30
D601 D501	D602	B501	-	30/35 35/40	30/40	600-500 500-425	36 40
D427 D356	D427	B426 B356	B427	40/45 45/50	40/50	425-355 355-300	46 50
D301	-	B301	-	50/60	-	300-250	60
D251 D213	D252	B251 B213	B252	60/70 70/80	-	250-212 212-180	70 80
D181	-	B181	-	80/100	-	180-150	90
D151	-	B151	-	100/120	-	150-125	100
D126	--	B126	-	120/140	-	125-106	120
D107	-	B107	-	140/170	-	106-90	150
D91	-	B91	-	170/200	-	90-75	180
D76	-	B76	-	200/230	-	75-63	200
D64	-	B64	-	230/270	-	63-53	220
D54	-	B54	-	270/325	-	53-45	250
D46	-	B46	-	325/400	-	45-38	280
D35	-	-	-	400/500	-	40-32	320
D30	-	B30	-	450/550	-	32-25	340
D25	-	-	-	600	-	30-20	380
D20	-	-	-	-	-	25-15	-
D15	-	B15	-	1200	-	20-10	600
D10	-	-	-	-	-	15-8	-
D7	-	-	-	2400	-	12-6	1000
D6	-	-	-	-	-	8-4	-
D3	-	-	-	6000	-	4-2	-
D1	-	-	-	8000	-	2-1	-

Wheel peripheral speed for Diamond and Boron Nitride Wheels

Wheel cutting speed is very influential on the performance and life of diamond and boron nitride wheels as well as on the quality aspect of the grinding operation.

We therefore strongly recommend to select wheel diameter and spindles speed in accordance with the correct wheel peripheral speed which is fundamental for the economy of a grinding job.

Underneath we have listed the recommended peripheral speed as well as conversion table of wheel diameter/wheel peripheral speed (m/s) to spindle speed (revs./min).

Diamond wheels for tungsten carbide	Resin bond		Metal bond		Electro plated bond
	wet m/s	dry m/s	wet m/s	dry m/s	wet/dry m/s
Tool grinding	25-30	16-22	12-20	12-20	20-30
Internal circular grinding	10-20	8-15	10-18	8-12	10-20
Surface grinding	25-35	-	20-30	-	20-30
Cylindrical surface grinding	25-35	-	20-30	-	20-30
Deep grinding	20-30	-	80-140	-	20-140

Boron nitride (CBN) wheels for hardened steel	Resin bond		Metal bond		Electro plated bond
	wet m/s	dry m/s	wet m/s	dry m/s	wet/dry m/s
Tool grinding	25-35	16-28	15-25	10-15	20-30
Internal circular grinding	15-25	10-20	12-20	10-15	10-20
Surface grinding	30-40	-	15-20	-	20-30
Cylindrical surface grinding	30-40	-	15-25	-	20-30
Deep grinding	20-30	30-40	80-140	-	20-140

Conversion table of cut speed / diameter (m/s) on rotations by minute (RPM)

D	8 m/s	12 m/s	15 m/s	18 m/s	20 m/s	22 m/s	28 m/s	30 m/s
5	30560	45800	57300	68800	76400	84000	178254	190986
10	15280	22930	28650	34380	38200	42000	53500	57300
15	10170	15300	19100	22900	25500	28000	35650	38200
25	6130	9200	11460	13800	15300	16850	21400	23000
50	3050	4580	5730	6870	7650	8400	10700	11450
75	2040	3060	3820	4580	5100	5600	7150	7650
100	1530	2290	2870	3440	3825	4200	5350	5730
125	1220	1830	2290	2750	3050	3355	4280	4600
150	1020	1530	1910	2290	2550	2800	3570	3800
200	765	1145	1430	1720	1910	2120	2675	2875
250	610	920	1150	1380	1525	1685	2140	2300
300	510	765	950	1145	1275	1400	1780	1900
350	440	655	820	980	1090	1200	1530	1640
400	380	570	715	860	960	1050	1340	1450
450	340	510	635	760	850	930	1190	1270
500	305	460	570	690	765	840	1070	1145
600	255	385	480	575	640	700	890	955

D	40 m/s	50 m/s	60 m/s	70 m/s	80 m/s	90 m/s	100 m/s	110 m/s
5	152789	190986	229183	267380	305577	343775	381972	420169
10	76500	95500	114592	133690	152789	171887	190986	210085
15	50800	63800	76400	89127	101859	114592	127324	140056
25	30600	38200	45840	53520	61120	68730	76400	82000
50	15300	19100	22920	26760	30560	34360	38200	42000
75	10160	15280	15280	17840	20360	22920	25480	28000
100	7620	9550	11460	13380	15280	17180	19100	21000
125	6120	7640	9180	10700	12220	13760	15280	16800
150	5080	6380	7640	8920	10180	11460	12740	14000
200	3820	4775	5730	6690	7640	8590	9550	10510
250	3060	3820	4590	5350	6110	6880	7640	8400
300	2540	3180	3820	4460	5090	5730	6370	7000
350	2180	2730	3270	3820	4370	4910	5460	6000
400	1910	2390	2870	3340	3820	4300	4780	5250
450	1700	2120	2450	2970	3390	3820	4240	4670
500	1530	1910	2290	2670	3060	3440	3820	4200
600	1280	1590	1910	2230	2550	2870	3180	3500

Informations about the coating thickness of electro plated Diamond and CBN-Tools

The advantage of electro plated bond is, that it is possible to coat almost all forms and shapes. Moreover, the tool can be recoated after being worn down.

Disadvantage is that only one grit size thickness exist. Therefore, lifetime is considerably shorter compared with other types of coating.

Naturally all other measurments and grains are suppliable. To this, we ask for consignment of a drawing or exact specifications as well as the desired quantity.

Furthermore, your pieces can be coated. For this we, too need a detailed drawing or specifications as well as quantity for the creation of an offer.

Coating thickness and Tolerance from eletro plated Tools.

Grit Size FEPA	Coating Thickness mm	Coat Tolerance mm	Profil Tolerance mm
601	0,75	+/- 0,05	+/- 0,10
427	0,50	+/- 0,05	+/- 0,10
301	0,35	+/- 0,04	+/- 0,08
251	0,30	+/- 0,04	+/- 0,08
213	0,28	+/- 0,04	+/- 0,08
181	0,25	+/- 0,03	+/- 0,06
151	0,20	+/- 0,03	+/- 0,06
126	0,15	+/- 0,02	+/- 0,04
107	0,14	+/- 0,02	+/- 0,04
91	0,12	+/- 0,02	+/- 0,04
76	0,11	+/- 0,02	+/- 0,04
64	0,10	+/- 0,02	+/- 0,04
54	0,09	+/- 0,02	+/- 0,04
46	0,07	+/- 0,02	+/- 0,04
35	0,05	+/- 0,02	+/- 0,04
25	0,04	+/- 0,02	+/- 0,04
15	0,03	+/- 0,02	+/- 0,04

You should consider this layer thicknesses for the manufacture of blanks, if these tools should later be provided with a electro plated diamant- or CBN-layer.

Survey of Grinding Wheels

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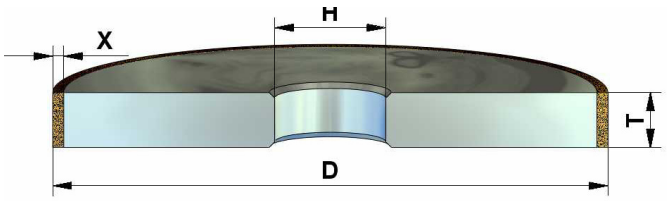

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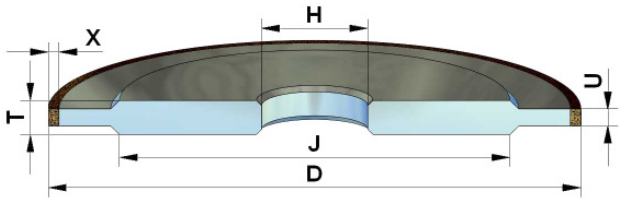

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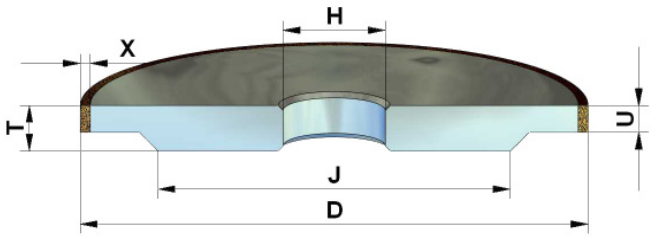

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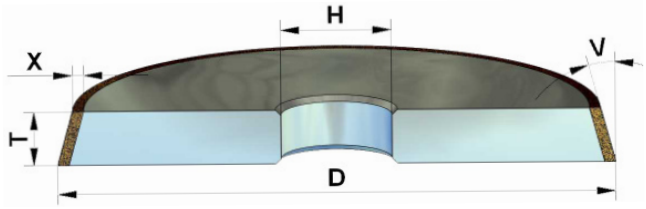

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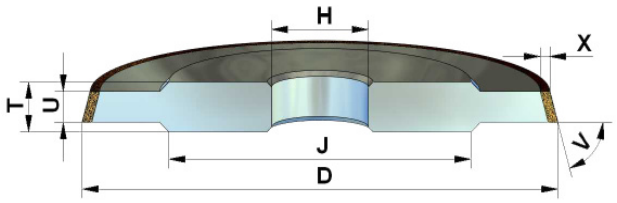

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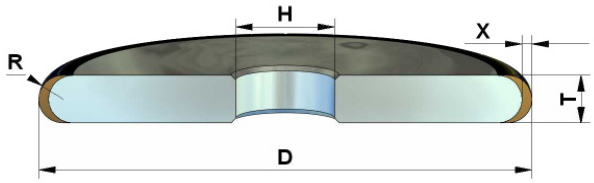

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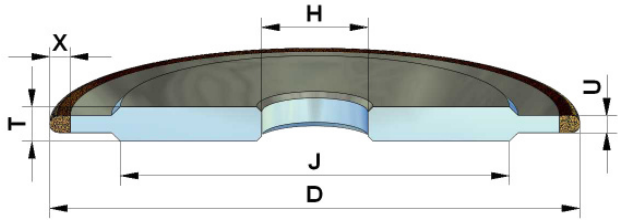

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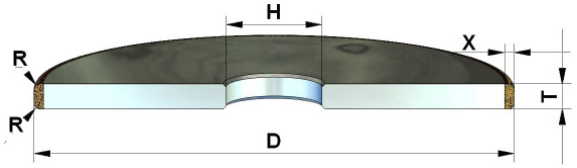

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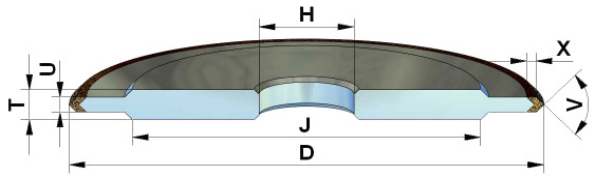

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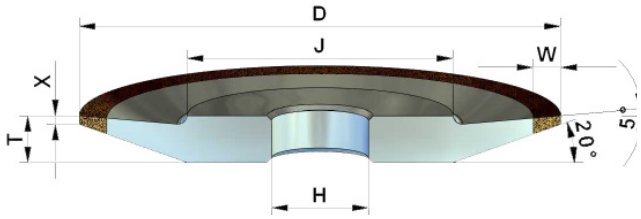

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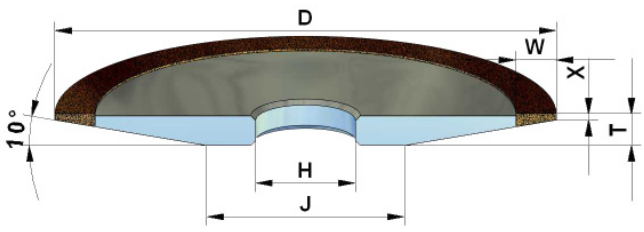

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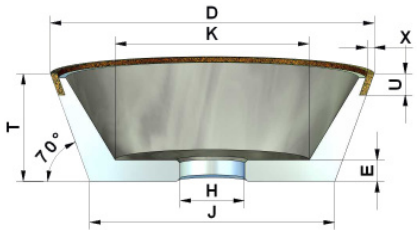

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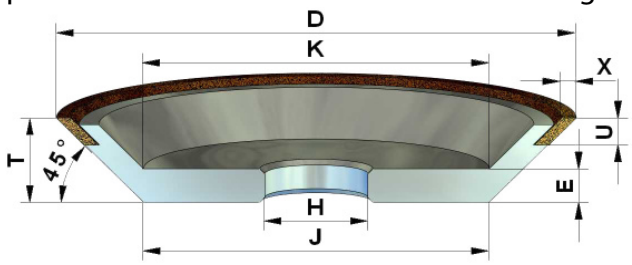

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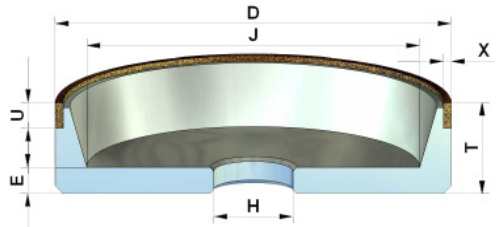

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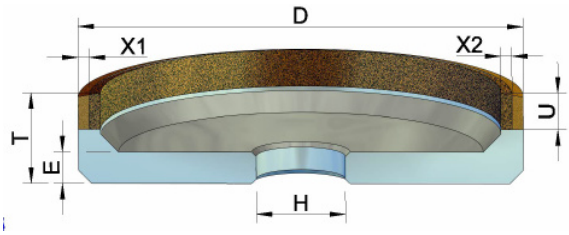

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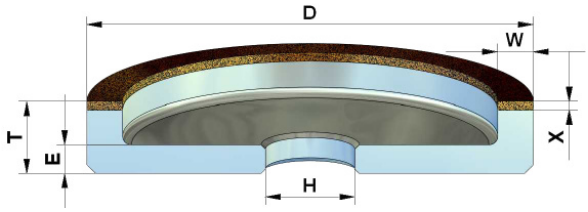

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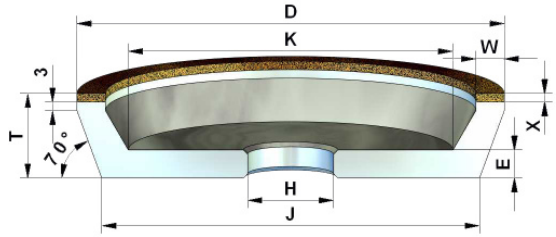

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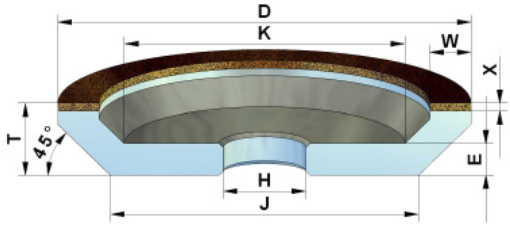
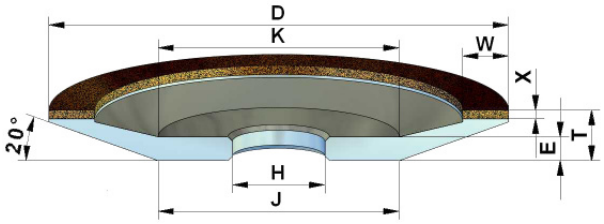
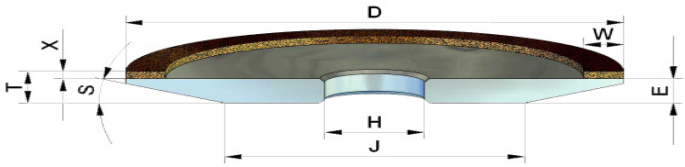


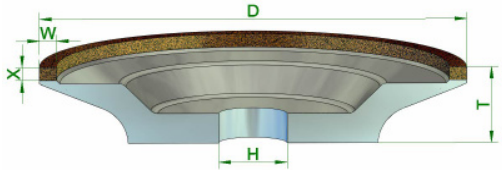
Type 12A2/20° Page 28



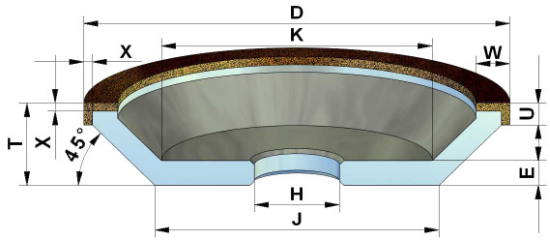
Type 4A2 Page 29



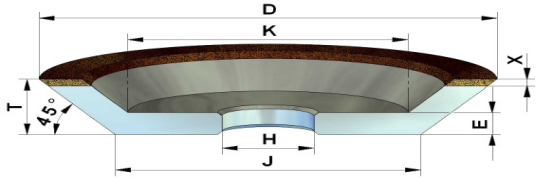
T ype 4A2S Page 29



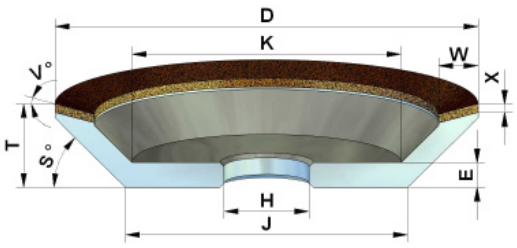
Type 12C9 Page 30



Type 12V2 Page 30

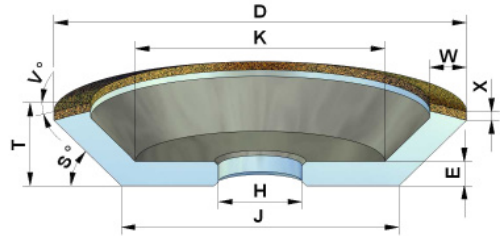


Type 12V4 Page 31

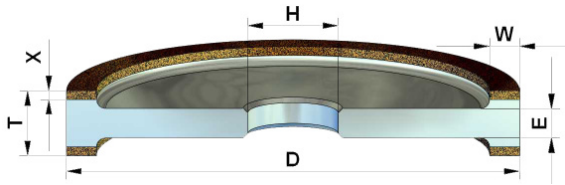


Survey of Grinding Wheels

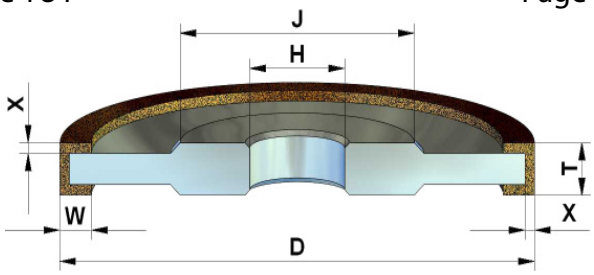
Type 12V5 Page 31



Type 9A3 Page 33

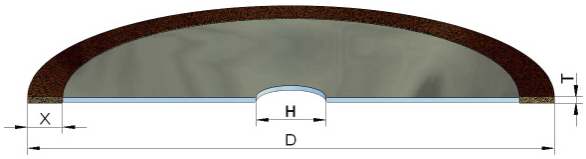


Type 1U1 Page 33

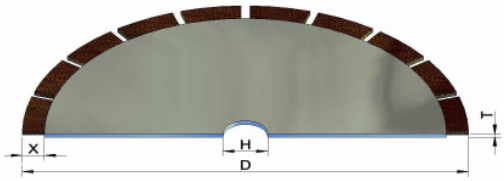


Survey of Cutting Discs

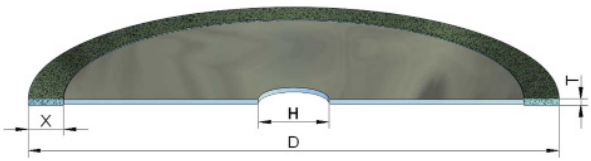
Type 1A1R0 Page 35



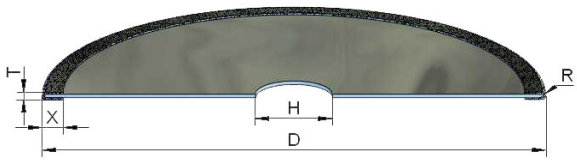
Type 1A1R C2 Page 35



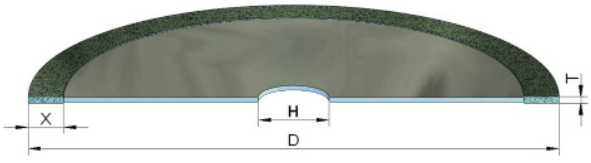
Type 1A1R0K Page 36



Type 1A1R0G Page 36



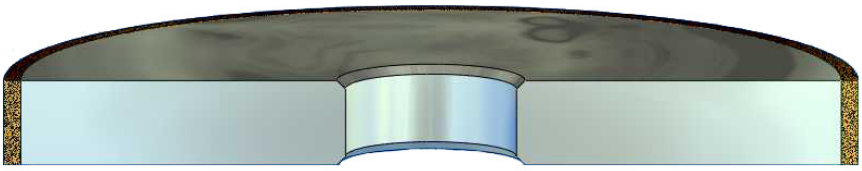
Type 1A1R0GDS Page 37



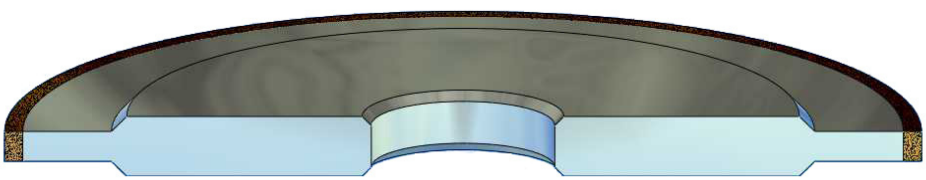
Periphal Grinding Wheels

On ordering please indicate whether diamond- or cbn grit as well as grain size,
Concentration and grinding operation (dry, wet, or CNC-Oel grinding)!

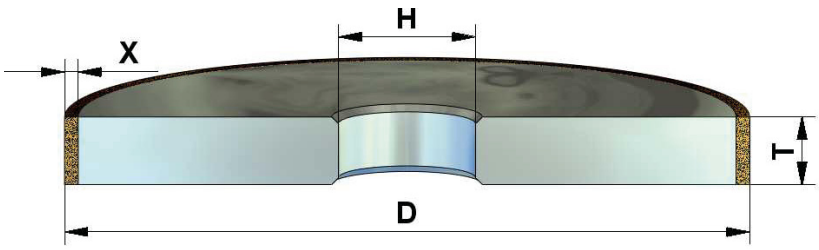
1A1



14A1

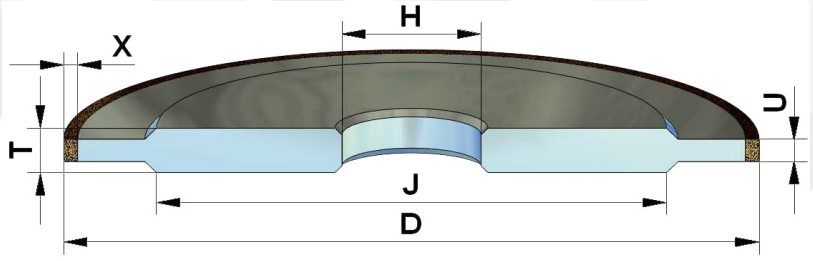


Periphal Grinding Wheel Type 1A1



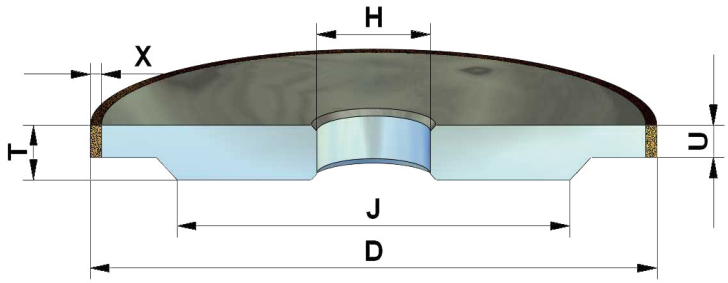
Ø D	Overal Thickness T	Layer Thickness X	Bore H
75	8 10 12 15 20	2 3 4 5 6 7 8 10	Please quote!
100			
125			
150			
175	12 20		
200	10 12 15 20		
250			
300			
350	25 30 40 50		
400		5-10	
500			

Periphal Grinding Wheel Type 14A1



Ø D	Layer width U	Overal Thickness T	Layer Thickness X	Bore H
75	2/4/6	6/8/10	2 3 4 5 6 7 8 10	Please quote!
75	8/10	10		
100	2/4/6/8/10	12		
125				
150				
175	2/4/6/8/10			
200				
250				
300	4/6/8/10/12	20		
350				
400			5 7	
500				

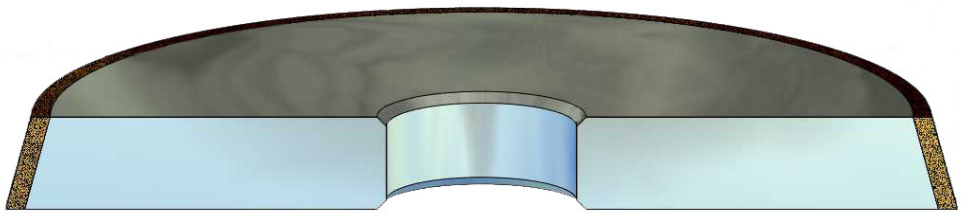
Periphal Grinding Wheel Type 3A1



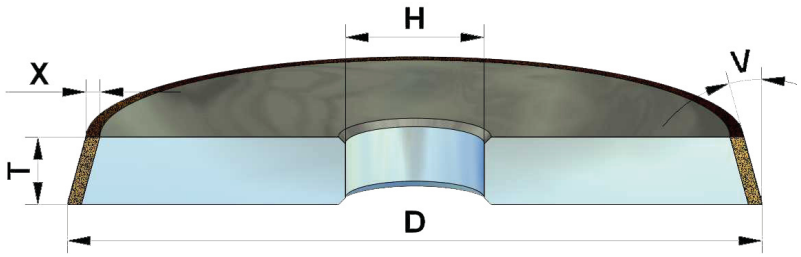
Ø D	Layer width U	Overal Thickness T	Layer Thickness X	Bore H
75	2/4/6	6/8/10	2 3 4 5 6 7 8 10	Please quote!
75	8/10	10		
100	2/4/6/8/10	12		
125				
150				
175	2/4/6/8/10			
200				
250				
300	4/6/8/10/12	20		
350				
400			5 7	
500				

Angle Periphal Wheels

On ordering please indicate whether diamond- or cbn grit as well as grain size,
Concentration and grinding operation (dry, wet, or CNC-Oel grinding)!

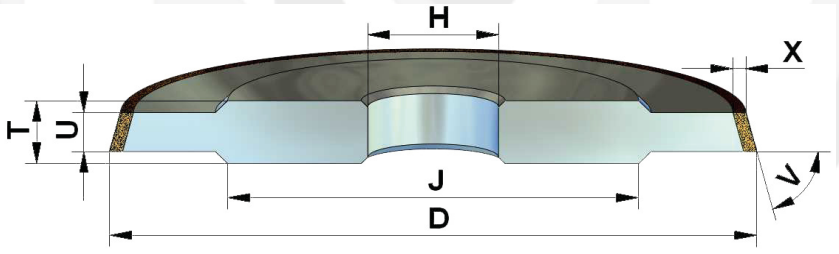


Angle Periphal Grinding Wheel Type 1V1



Ø D	Overal Thickness T	Layer Thickness X	Angle V	Bore H
75	10 12 14 16 20	4 6 8 10	Please quote!	Please quote!
100				
125				
150				
175				
200				

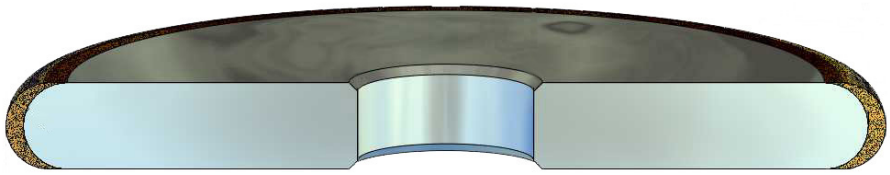
Angle Periphal Grinding Wheel Type 14V1

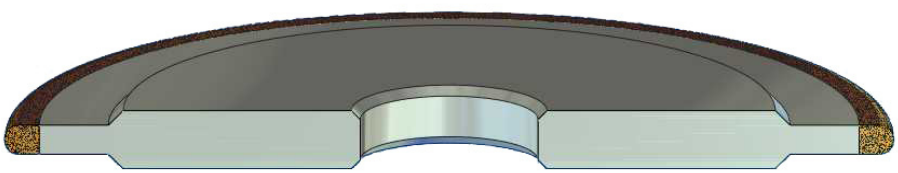


Ø D	Layer width U	Layer Thickness X	Angle V	Overal Thickness T	Bore H
75	4 6 8 10	4 6 8 10	Please quote!	12	Please quote!
100					
125					
150					
175					
200					

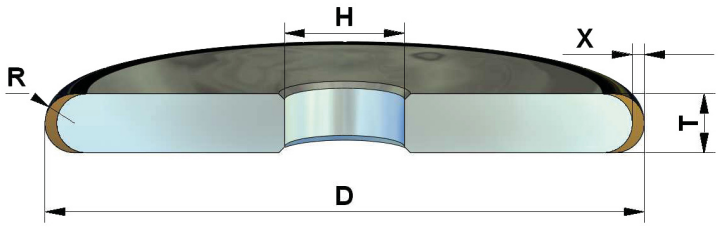
Radius Periphal Grinding Wheels

On ordering please indicate whether diamond- or cbn grit as well as grain size,
Concentration and grinding operation (dry, wet, or CNC-Oel grinding)!



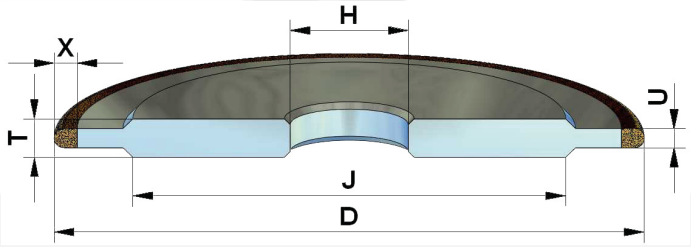


Radius Periphal Grinding Wheel 1FF1



Ø D	Overal Thickness T	Layer Thickness X	Radius R	Bore H
75	12 15 20	6	Please quote!	Please quote!
100				
125				
150				
175	12 20			
200	12 20 30			
250				
300				
350				
400		7		
500				

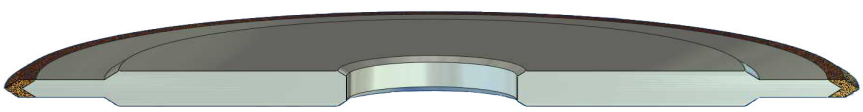
Radius Periphal Grinding Wheel 14F1



Ø D	Layer width U	Layer Thickness X	Radius R	Overal Thickness T	Bore H
75	1,3 1,6 2 3 4 5	4 5 6 7 8 10	0,65 0,8 1,0 1,5 2,0 2,5	8 10 12 15	Please quote!
100					
125					
150					
175	1,5 2 3 4		0,75 1,0 1,5 2,0		
200	1,3 1,6 2 3 4		0,65 0,8 1,0 1,5 2,0		
225	1,5 2 4		0,75 1,0 2,0		
250	1,5 2 4		0,75 1,0 2,0		

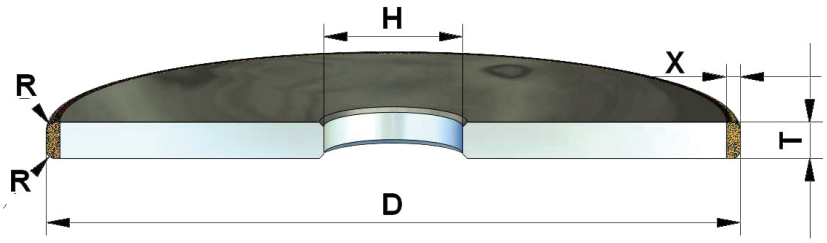
Profil Periphal Grinding Wheels

On ordering please indicate whether diamond- or cbn grit as well as grain size,
Concentration and grinding operation (dry, wet, or CNC-Oel grinding)!



Profil Periphal Grinding Wheel Type 1L1/14L1

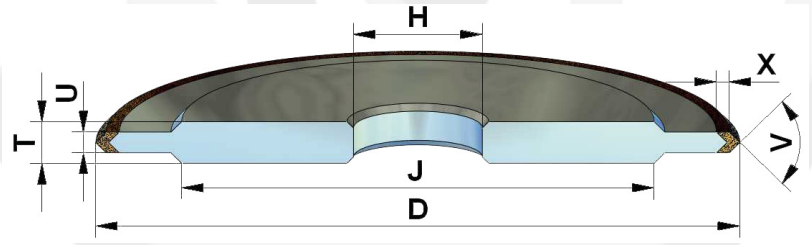
The base body of type 14L1 is wider than the grinding layer (fig. 1L1)



Ø D	Overal Thickness T	Layer Thickness X	Radius R	Bore H
50	4 6 8 10	2 3 4	Please quote!	Please quote!
75				
100				
125				
150				
175				

Bevel Periphal Grinding Wheel Type 1EE1/14EE1

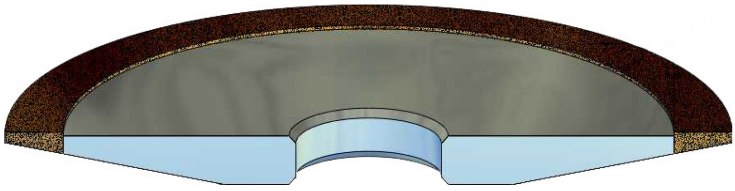
The base body of type 1EE1 has exactly the same width as the grinding layer (fig. 14EE1)



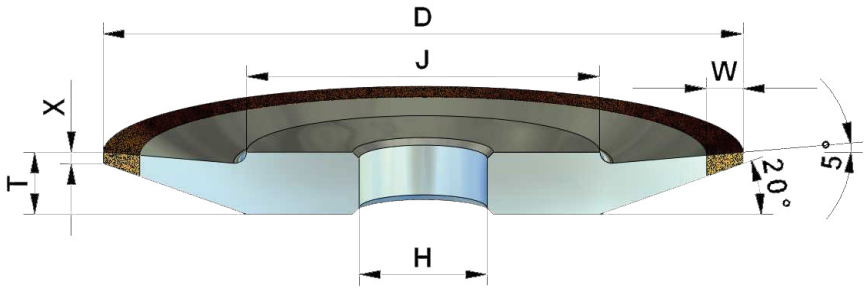
Ø D	Layer width U	Layer Thickness X	Angle V°	Overal Thickness T	Bore H
50	3 4 6 8 10	2 3 4	Please quote!	Please quote!	Please quote!
75					
100					
125					
150					
175					
200					
250					

Flat Plate Grinding Wheels

On ordering please indicate whether diamond- or cbn grit as well as grain size,
Concentration and grinding operation (dry, wet, or CNC-Oel grinding)!

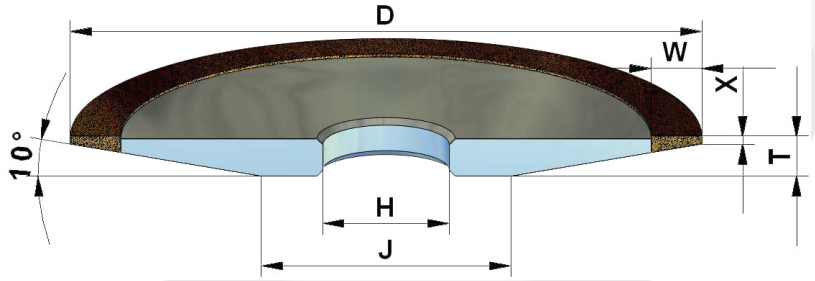


Grinding Wheel Type 4BT9



Ø D	Layer W	Layer Thickness X	Bore H
75	6 10	1 2	Please quote!
100			
125			
150			

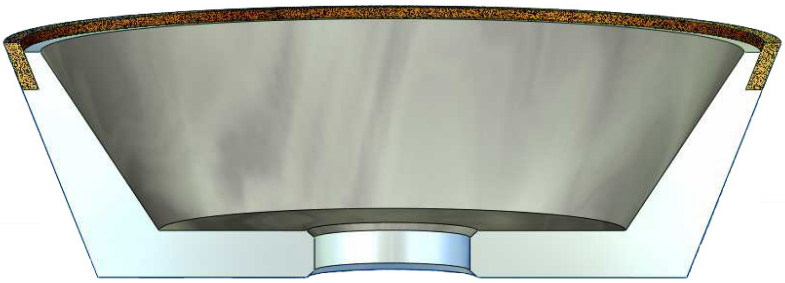
Grinding Wheel Type 4ET9

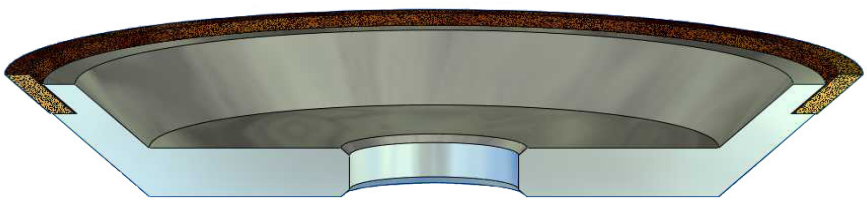


Ø D	Belagbreite W	Layer Thickness X	Bore H
50	5	1 2	Please quote!
75			
100			
125	6 10	1 2 3	
150	6 10		

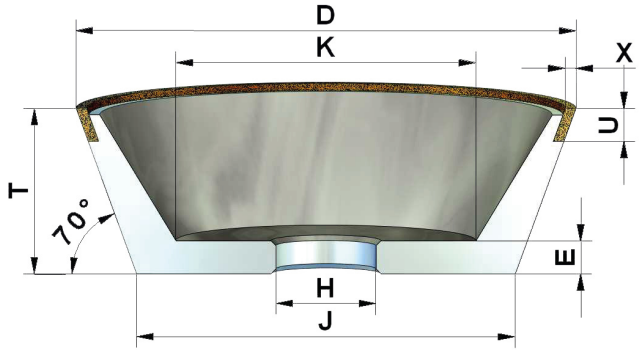
Cup Grinding Wheels

On ordering please indicate whether diamond- or cbn grit as well as grain size,
Concentration and grinding operation (dry, wet, or CNC-Oel grinding)!



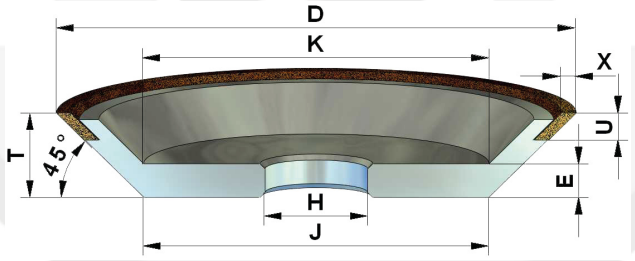


Cup Grinding Wheel Type 11V9/70°



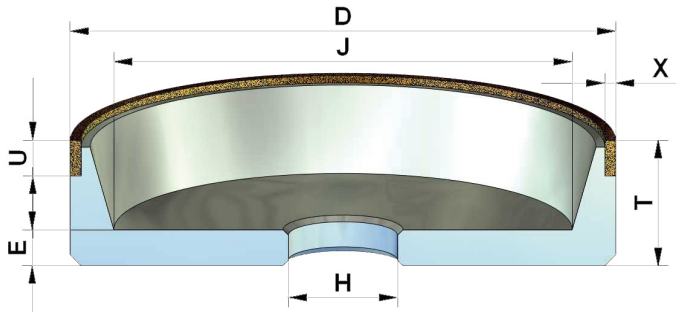
Ø D	Layer Width U	Layer Thickness X	Overal Thickness T	Bore H
75	10	2 3	30	Please quote!
100			32	
125				

Cup Grinding Wheel Type 12V9/45°



Ø D	Layer Width U	Layer Thickness X	Overal Thickness T	Bore H
75	10	2 3	20	Please quote!
100			25	
125				
150			26	

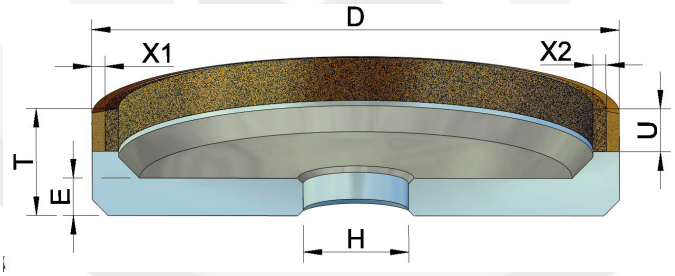
Cup Grinding Wheel Type 6A9



Ø D	Layer Width U	Layer Thickness X	Overal Thickness T	Bore H
75	6 10	3	17	Please quote!
100			20	
125				

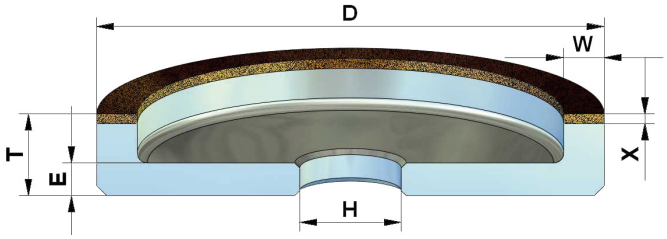
Cup Grinding Wheel Type 6AA9

Wheel with two differend Grit Size



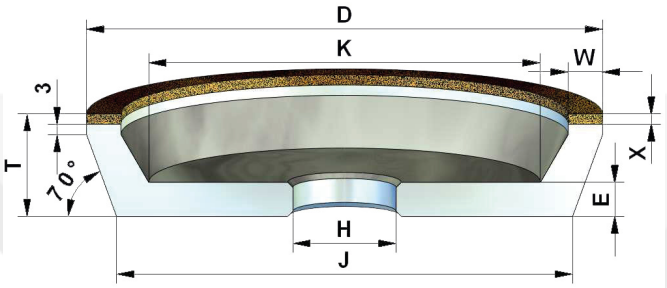
Ø D	Layer Width U	Layer Thickness X	Overal Thickness T	Bore H
75	6	2,5+2,5	17	Please quote!!
100	8		20	
125				

Cup Grinding Wheel Type 6A2



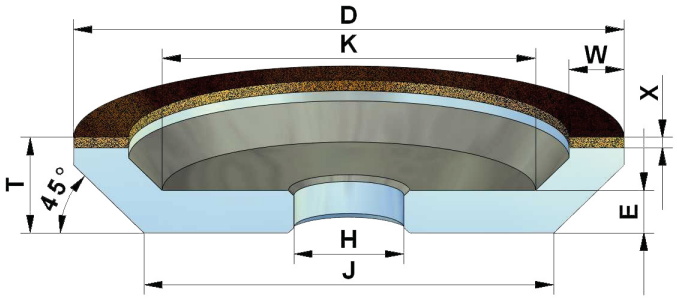
Ø D	Layer Width W	Layer Thickness X	Radius R	Bore H
75	6 8 10 12 15 20	4 5 6 7	Please quote!	Please quote!
100				
125				
150				
175				
200	10 12 15 20 30			
250				
300				
350				
400				
500				

Cup Grinding Wheel Type 11A2/70°



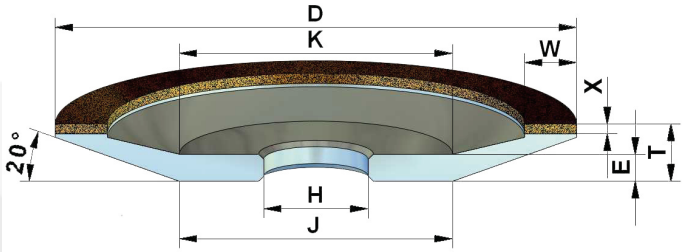
Ø D	Layer Width W	Layer Thickness X	Bore H
50	3 6	2-6	Please quote!
75	3 6 10		
100	6 10		
125	6 10 12		
150	6 10 15		

Cup Grinding Wheel Type 12A2/45°



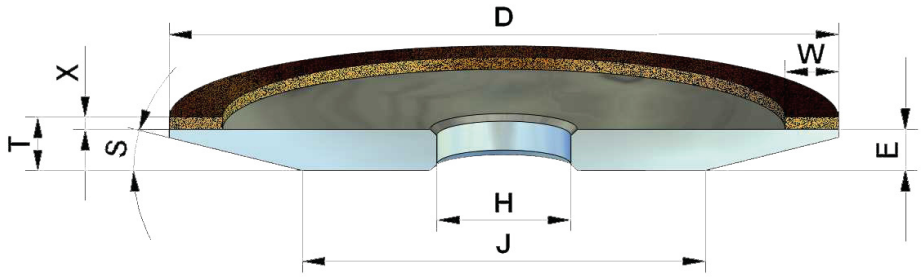
Ø D	Layer Width W	Layer Thickness X	Bore H
75	3 6 10	2 3 4 5 6	Please quote!
100	6 10		
125			
150	6 10 15 20		
175			
200	10 15 20		

Cup Grinding Wheel Type 12A2/20°



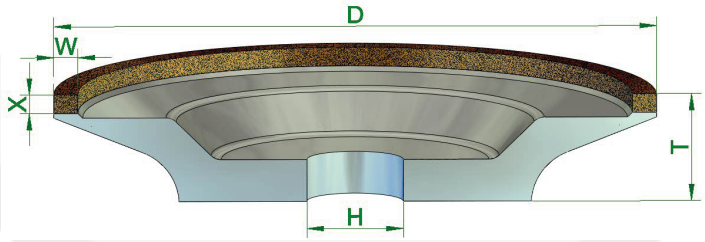
Ø D	Layer Width W	Layer Thickness X	Bore H
50	3 4 5 6 8 10	2 3 4 5	Please quote!
75			
100			
125			
150			
175			
200			

Cup Grinding Wheel Type 4A2



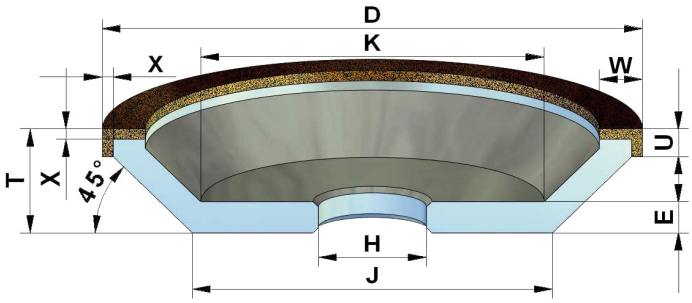
Ø D	Layer Width W	Layer Thickness X	Bore H
75	4 5 6 8	2 3 4	Please quote!
100			
125			
150			
175			
200			

Cup Grinding Wheel Type 4A2S



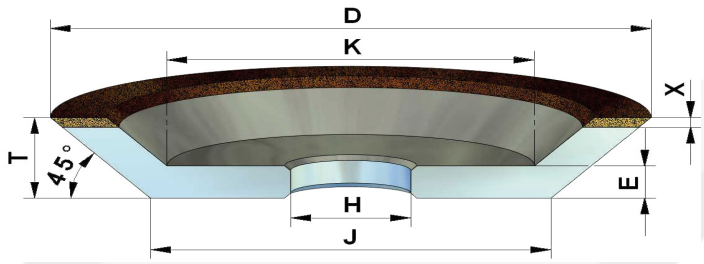
Ø D	Layer Width W	Layer Thickness X	Bore H
125	5	4	Please quote!

Cup Grinding Wheel Type 12C9/45°



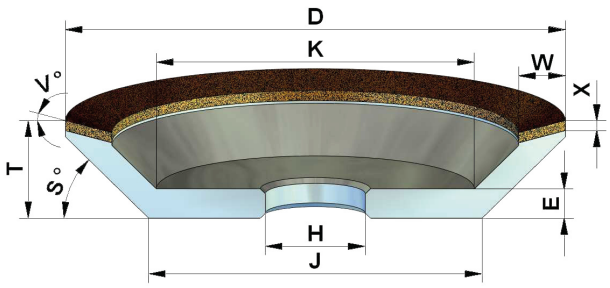
Ø D	Layer Width W	Layer Width U	Layer Thickness X	Overal Thickness T	Thickness E	Bore H
50	4 6	4 6 8	2 3 4	Please quote!	Please quote!	Please quote!
75	6 8 10					
100	4 6 10 15					
125						
150						
175						
200						

Cup Grinding Wheel Type 12V2



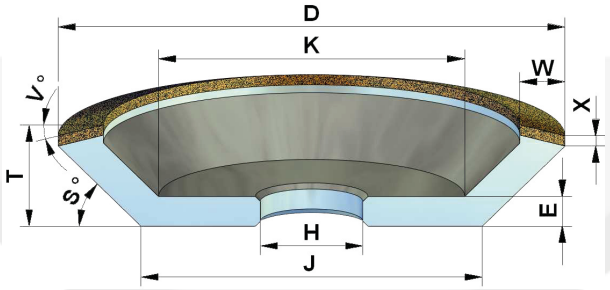
Ø D	Layer Width W	Layer Thickness X	Bore H
75	4 6 8 10	2 3 4	Please quote!
100			
125			
150			

Cup Grinding Wheel Type 12V4



Ø D	Layer Width W	Layer Thickness X	Angle V°	Bore H
50	3 4	2 3 4	Please quote!	Please quote!
75				
100	6 8 10			
125				
150				
175				

Cup Grinding Wheel Type 12V5

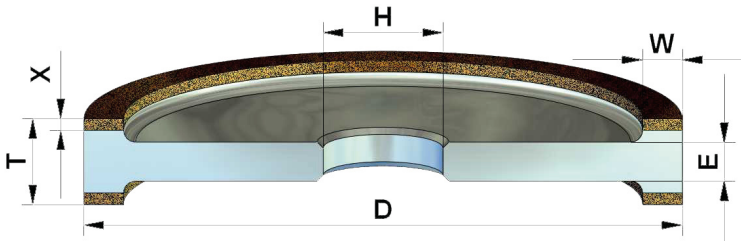


Ø D	Layer Width W	Layer Thickness X	Angle V°	Bore H
50	3 4	2 3 4	Please quote!	Please quote!
75				
100	6 8 10			
125				
150				
175				

Grinding Wheels
Type 9A3 / 1U1

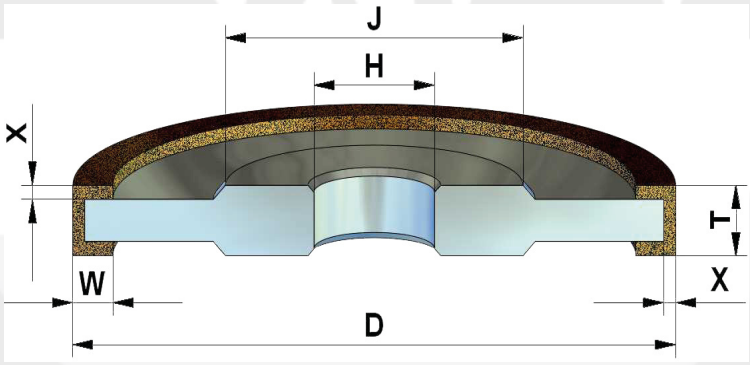
On ordering please indicate whether diamond- or cbn grit as well as grain size,
Concentration and grinding operation (dry, wet, or CNC-Oel grinding)!

Grinding Wheel Type 9A3



Ø D	Layer Width W	Layer Thickness X	Overal Thickness T	Width E	Bore H
100	6 8 10 15	2 3 4	Please quote!	Please quote!	Please quote!
125					
150					
175					
200					

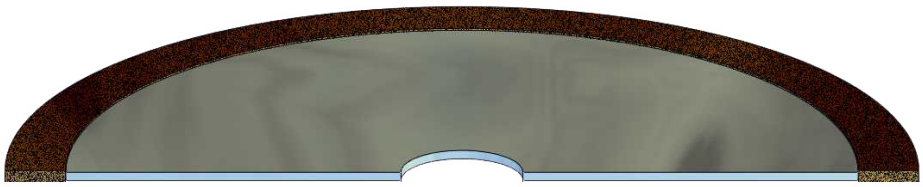
Grinding Wheel Type 1U1

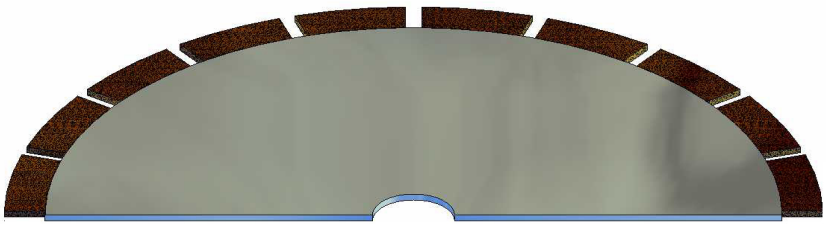


Ø D	Layer Width W	Layer Thickness X	Breite T	Width E	Bore H
100	6 8 10 15	2 3 4	Please quote!	Please quote!	Please quote!
125					
150					
175					
200					

Cutting Discs
Type 1A1R0 / 1A1RSS C2

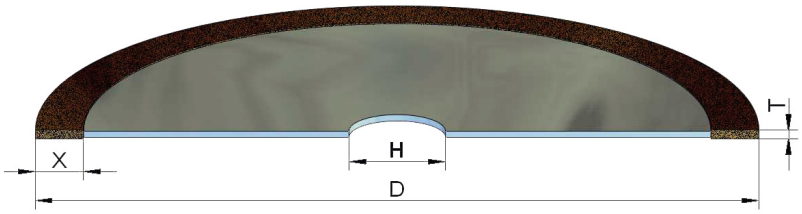
On ordering please indicate whether diamond- or cbn grit as well as grain size,
Concentration and grinding operation (dry, wet, or CNC-Oel grinding)!





Cutting Discs Type 1A1R0 Bronze Bond

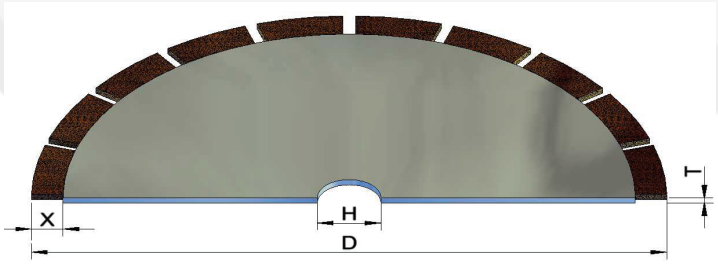
This disc is bronze bonded and suitable for cutting, carbide, hardened steel, glass, ceramiks, etc.. Fast and clean cutting is achieved through the combination of concentration, grit size and bond hardness. It is possible to make a radius on the layer.
It is possible to produce all diametres with the cutting widths listed.



Ø D	Cutting Width T min-max	Layer Thickness X	Bore H	Grit Size	Material
100	0,3 - 3,0	5 / 10	Please quote!	Please quote!	Please quote!
125					
150	0,4 - 3,0				
175	0,6 - 3,0				
200					
250	1,0 - 3,0				
300	1,4 - 3,0				
350					
400	2,0 - 3,0				

Cutting Discs Type 1A1RSS C2 Bronze Bond, with slots

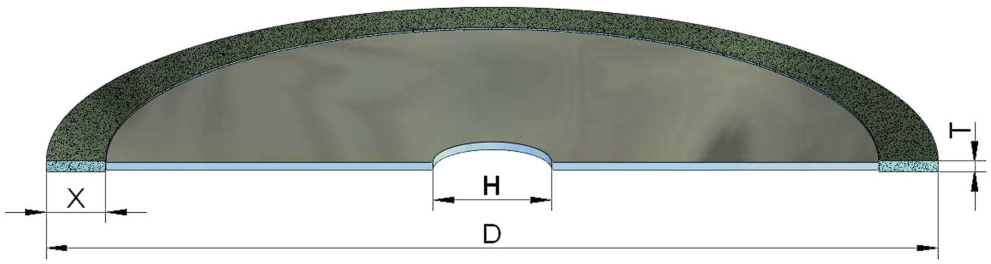
This disc is bronze bonded and with slots, for cutting thick, carbide, hardened steel, glass, ceramiks, etc.. Fast and clean cutting is achieved through the combination of concentration, grit size and bond hardness. It is possible to make a radius on the layer.
It is possible to produce all diametres with the cutting widths listed.



Ø D	Cutting Width T min - max	Layer Thickness X	Bore H	Grit Size	Material
100	0,3 - 3,0	5 / 10	Please quote!	Please quote!	Please quote!
125					
150	0,4 - 3,0				
175	0,6 - 3,0				
200					
250	1,0 - 3,0				
300	1,4 - 3,0				
350					
400	2,0 - 3,0				

Cutting Discs Type 1A1R0 Resin Bond for fine Cutting

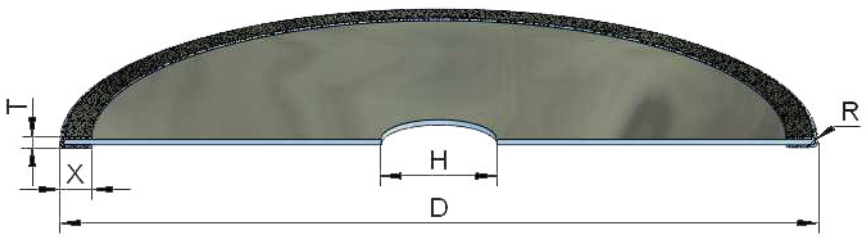
The resin bonded discs are suitable for fine cuts in carbide, hardened steel, glass, ceramics, etc.. The resin bond produces clean and virtually break-out-free cuts. It is possible to make a radius on the layer.
It is possible to produce all diametres with the cutting widths listed .



Ø D	Cutting Width T min - max	Layer Thickness X	Bore H	Grit Size	Material
100	0,3 - 3,0	5	Please quote!	Please quote!	Please quote!
150	0,3 - 3,0	5 / 10			
200	0,4 - 3,0	7			
300	0,6 - 3,0	9			

Cutting Discs 1A1R0 electro plated

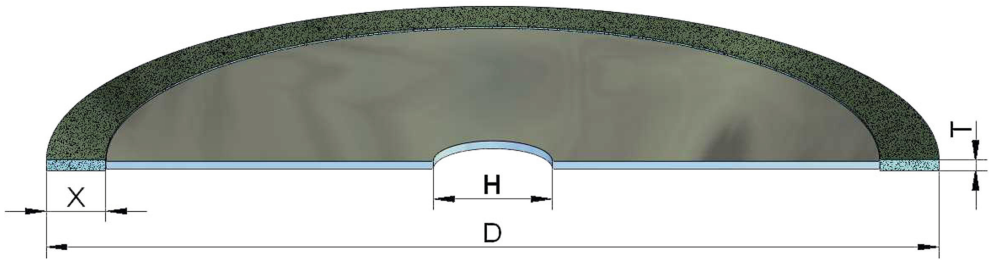
The electro plated discs are suitable cuts fibre reinforced, carbon, rubber, thermoset and themoplaste, etc. It is possible to make a radius on the layer.
It is possible to produce all diametres with the cutting widths listed .



Ø D	Cutting Width T min - max	Seitenbelag SB	Bore H	Grit Size	Material
100	0,3 - 3,0	Please quote!	Please quote!	Please quote!	Please quote!
125	0,3 - 3,0				
150	0,4 - 3,0				
175	0,6 - 3,0				
200	0,8 - 3,5				
250	1,2 - 3,5				
300	2,0 - 3,5				
350	2,2 - 3,5				
400	2,4 - 3,5				

Cutting Discs Type 1A1R0 Nickel Bond and very small Cutting Width

This disc is nickel bonded and suitable for cutting, carbide, hardened steel, glass, ceramiks, etc.
It is possible to produce all diametres with the cutting widths listed.



Cutting Width T Layer Thickness X	0,15 1,00	0,20 2,00	0,25 2,00	0,30 2,00	0,40 2,00	0,50 2,00	0,60 2,00	0,70 2,00	0,80 2,00	1,00 2,00	
Ø D											
30	0	0	0	0	0	0	0	0	0	0	
40	0	0	0	0	0	0	0	0	0	0	
50	0	0	0	0	0	0	0	0	0	0	
60	0	0	0	0	0	0	0	0	0	0	Please quote!
75	0	0	0	0	0	0	0	0	0	0	
100	0	0	0	0	0	0	0	0	0	0	
125				0	0	0	0	0	0	0	
150				0	0	0	0	0	0	0	
200				0	0	0	0	0	0	0	
Grit Size D/B max.	91	126	151	181	252	301	301	301	301	301	

This discs are speziell for very small cutting width and saubere Schnitte entwickelt worden. The maximale grit size, welche bei der entsprechenden Schnittbreite möglich ist, sind in der Tabelle aufgeführt.

Im Gegensatz zu den galvanischen Trennscheiben mit Oberflächenbelag ist dieser mehrschichtig bis 2 mm Belaghöhe und hat somit eine erheblich längere Standzeit.

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KRAUS & WINTER SARENWEG 108-110 22397 HAMBURG GERMANY
Phone +49 (0)40 525917-20 Fax +49 (0)40 525917-38

Internet: www.kraus-und-winter.de Email: info@kraus-und-winter.de

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