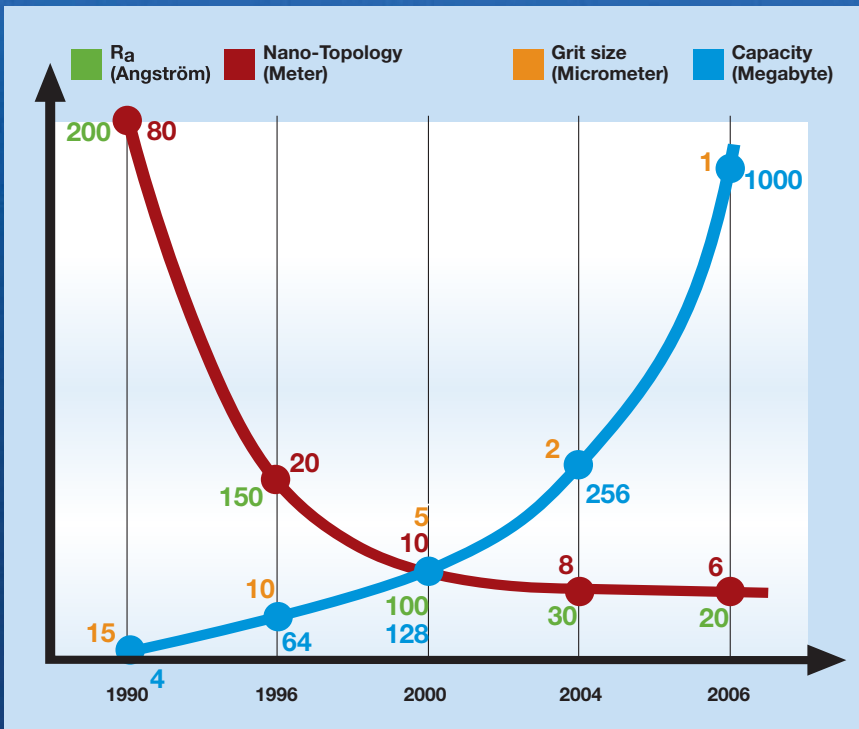


ELECTRONIC

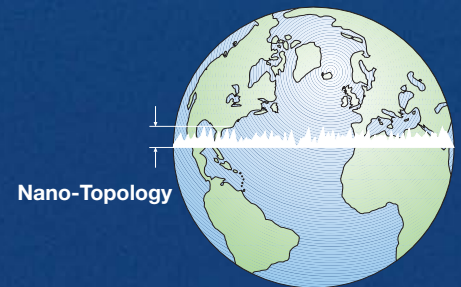
GRINDING - CUTTING - POLISHING - TOOLS
FOR ELECTRONICS-COMPONENTS

TYROLIT

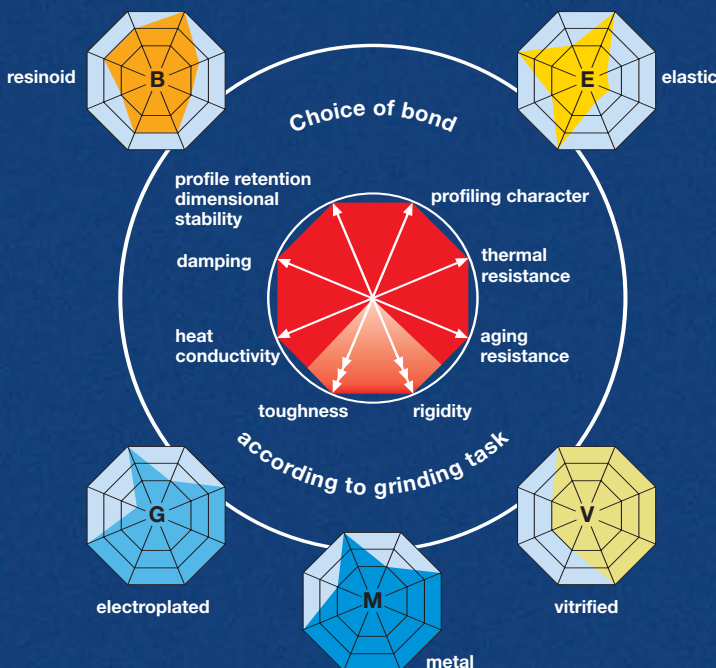
Innovation



As today's innovations become tomorrow's standards our customers are permanently facing new challenges. Via intensive R&D we deliver optimum solutions to complex problems. So choose TYROLIT for today and tomorrow.



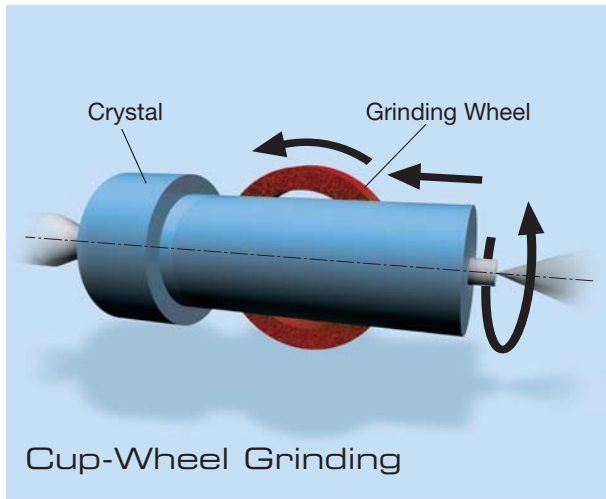
Choice of bond



The bond and core are decisive in obtaining the optimum use of the grain.

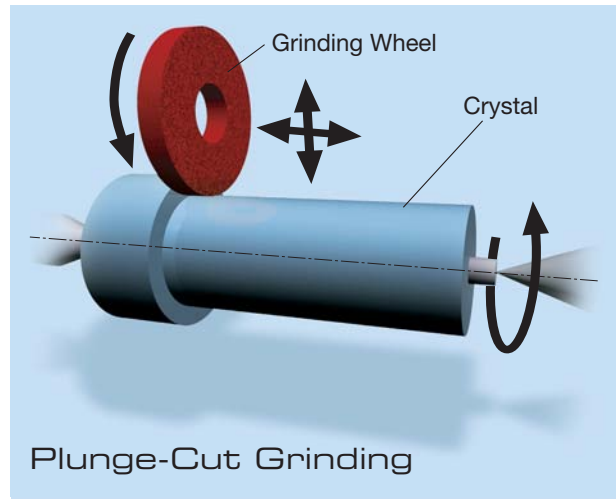
Wafer-Manufacturing

Ingot Grinding Principle (1)



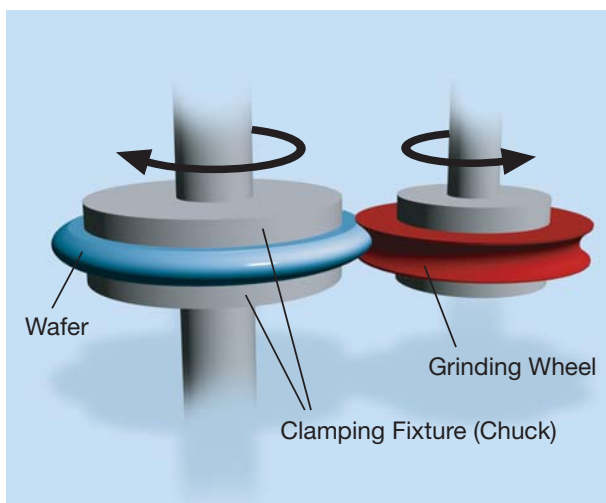
SPECIFICATION	D 76 C 75 B Resinoid Bond
SHAPE	6M2 03226B 150 x 30 x 76 7,5 - 5 x V 39,8

Ingot Grinding Principle (2)



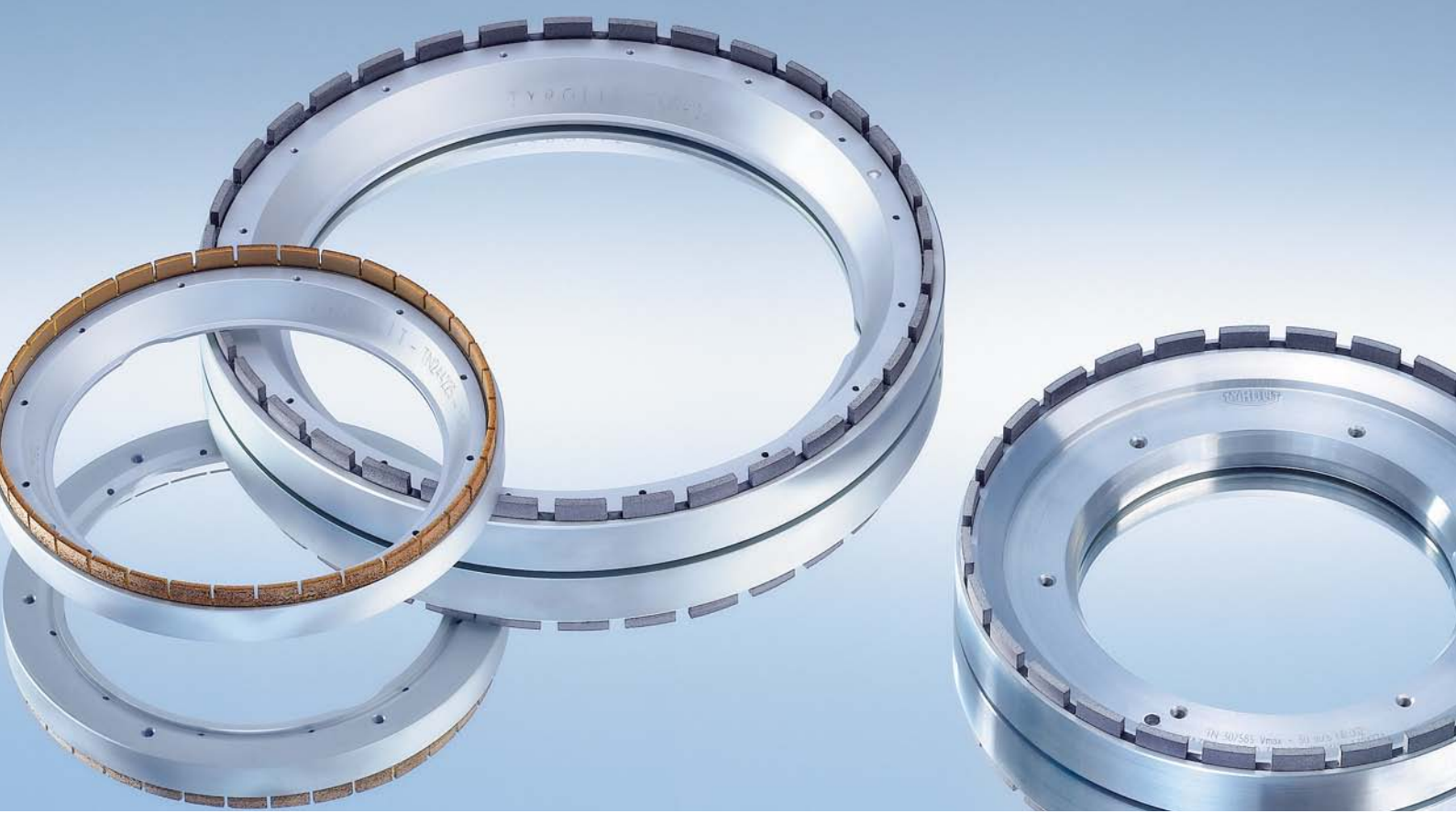
SPECIFICATION	D 181 C100 B Resinoid Bond
SHAPE	1A1 500 x 40 x 203,2 40 - 4

Edge Grinding Principle

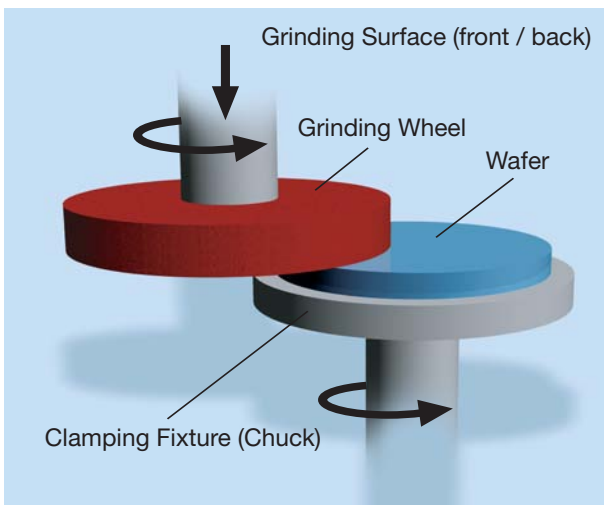


SPECIFICATION	D 20 C100 M Metal Bond
SHAPE	1S1 (07833A) Ø 50 mm – 200 mm





Single Side Grinding (SSG)

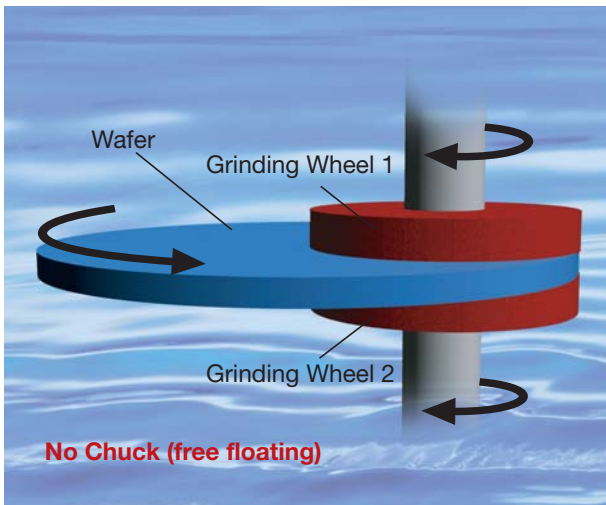


SHAPE	2 A 7 SM	
WHEEL SIZE	208,7 x 26,5 x 158,1 / 203 - 4 - 8,5 313 x 31 x 237 / 302 - 4 - 8,5 254 x 36,5 x 155 / 250 - 4 - 8,5 254 x 31 x 210 / 250 - 3 - 6 370 x 31,5 x 320 / 331,5 - 3 - 7	Disco (82IF / 800 Serie) Disco (8000 Serie) Okamoto (VG502 / GNX200) G + N (Multinano) Supfina (MWG)

D	33	V	C	1
Grit Type Diamond	Grit Size 1 mm 60 mm	Bond Vitrified (V) Resin (B)	Application Chip Maker (C) Wafer Maker (W)	Bond Type 1 soft 5 hard

Note: SSG grinding wheels are produced in clean rooms and metal free; different dimensions on request

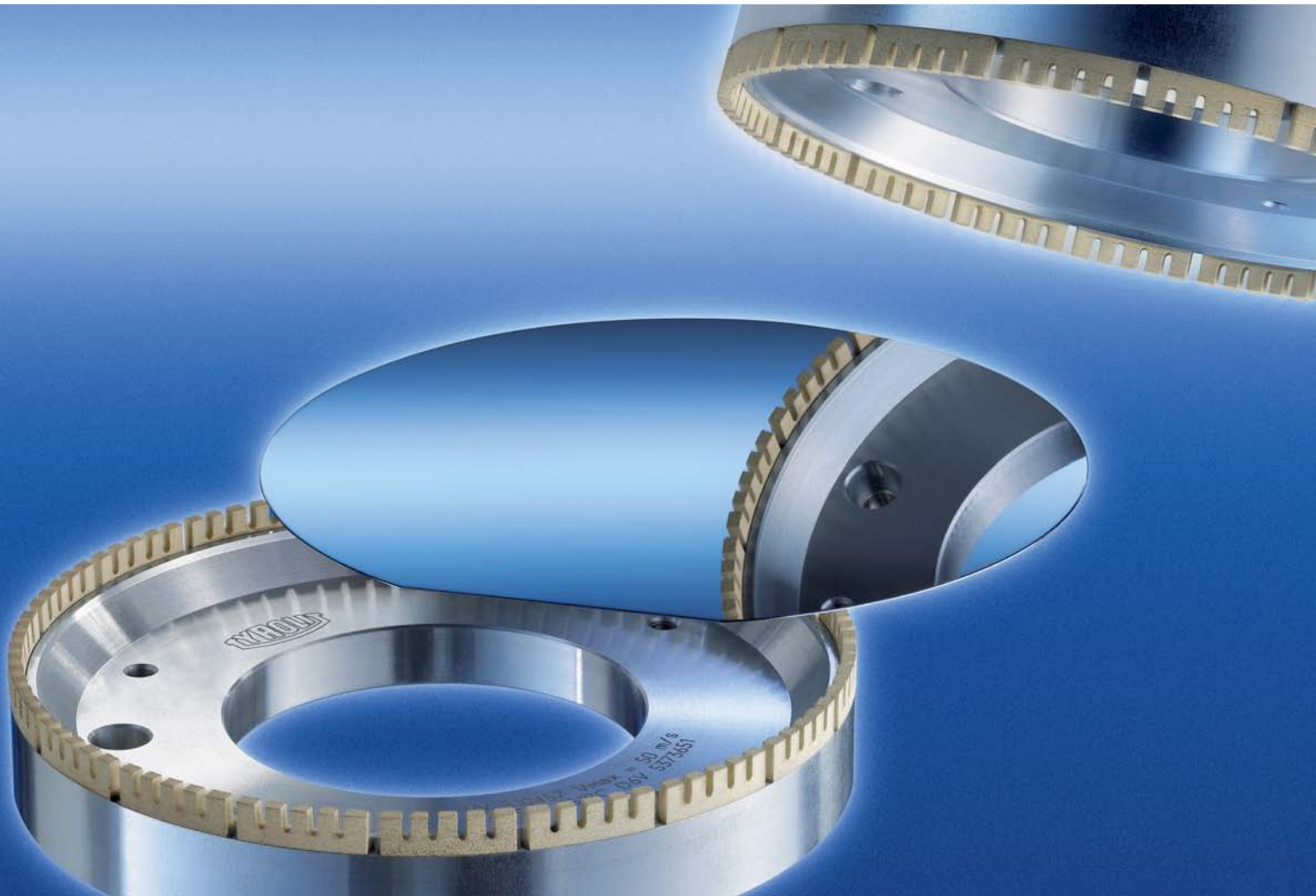
Double Disc Grinding (DDG)



SHAPE	6A 2 SM – (07519E) Ø 160 mm KOYO-Machine
--------------	--

D	5	V	W	1
Grit Type Diamond	Grit Size 1 mm ∴ 60 mm ∴	Bond Vitrified (V) Resin (B)	Application Wafer Maker (W)	Bond Type 1 soft ∴ 5 hard ∴

Note: SSG grinding wheels are produced in clean rooms and metal free; different dimensions on request



Electronics-Components

Cutting of Electronics-Components

Standard Cutting Blades

Diamond tools for the cutting of: ceramics, porcelain, minerals etc ...

1A1R	D 126 - B	D 126 - M	D 151 - B
D x T x H			
100 x 0,4 x 12,7		169213	
100 x 1,0 x 20	100660		
125 x 0,4 x 12,7		165653	
125 x 0,5 x 12,7	164256		
125 x 0,8 x 20	149205		
125 x 1,0 x 20	101000		
150 x 0,5 x 12,7		169199	
150 x 0,8 x 12,7	169200		
150 x 1,0 x 20	317532		278979
175 x 0,8 x 12,7	169202		
175 x 1,0 x 22			497731
200 x 0,8 x 22			17881
200 x 1,0 x 22		169204	
200 x 1,1 x 22	169206		
200 x 1,2 x 30			876231
200 x 1,2 x 32			853809
200 x 1,2 x 40			625721
250 x 1,1 x 32	169208	169209	
250 x 1,2 x 30	26227		
300 x 1,2 x 30	48013		
300 x 1,8 x 32	169210		
350 x 1,8 x 32			169211

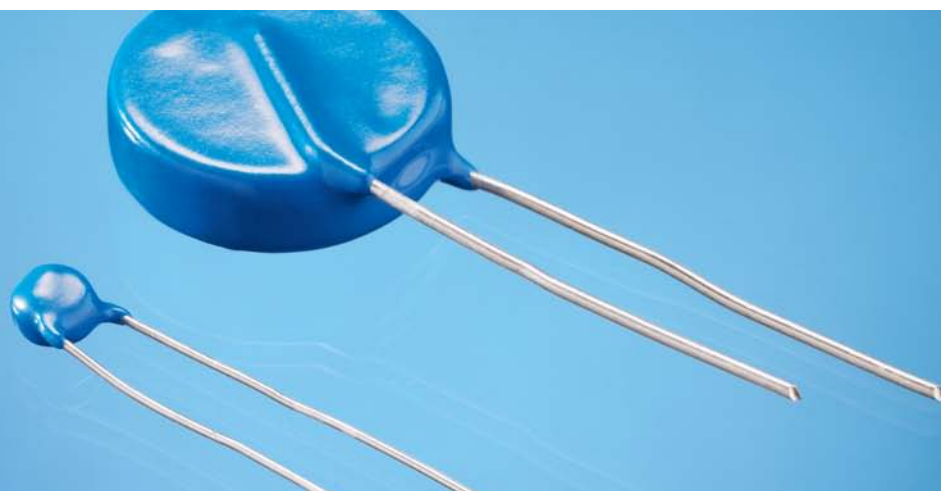
B ... (resin) easy cutting for hard materials

M ... (metal) high lifetime

Macro Cutting Blades

Shape	Grit Type	Grit Size	Concentration	Bond Type	O.D.	Thickness	I.D.
1 A 8	D B	2 - 100 µm	20 - 200	Res B (B) Metal (M)	50 mm 100 mm	0,100 mm 0,400 mm	20 mm 50 mm

Example: 1A8 76,2 x 0,2 x 40,05 D34C100B Type 186395



Slot Cutting of Electronics-Components

Tools for cutting and slot-cutting

Type	Shape	Dimensions	Specification	Application
		D x T x H		
108019	1A8	10 x 0,3 x 3	D 64 C 50 M	Ceramicfilter
916831	1A8	10 x 0,4 x 3		
68922	1A8	10 x 0,5 x 3		
106836	1A8	10 x 0,6 x 3		
106837	1A8	10 x 0,8 x 3		
913365	1A8	10 x 1 x 3		
108017	1A8	10 x 3 x 3		
190303	1A8	25 x 0,5 x 6	D 64 C 50 M	Ceramicfilter
23794	1A8	40 x 0,3 x 6	D 64 C 50 M	Ceramicfilter
802766	1A8	40 x 0,4 x 6		
34144	1A8	40 x 0,6 x 6		
94139	1A8	40 x 0,8 x 6		
913365	1A8	40 x 1,0 x 6		
94148	1A8	40 x 1,2 x 6		
913370	1A8	40 x 1,4 x 6		
923572	1A8	40 x 1,6 x 6		
935615	1A8	40 x 2,0 x 6		
749004	1A8	80 x 1 x 60	D 64 C 50 M	Ceramicfilter
859942	1A1R	100 x 0,4 x 20	D 64 GST	Ceramicfilter
859943	1A1R	100 x 0,6 x 20	D 64 GST	
787079	1A8	125 x 0,5 x 105	D 64 C 50 M	Ceramicfilter
794700	1A8	125 x 0,6 x 105	D 64 C 50 M	
794702	1A8	125 x 0,7 x 105	D 64 C 50 M	

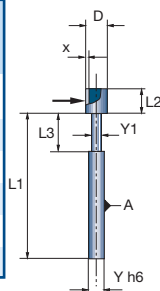


Grinding of Electronics-Components

Mounted points for the machining of ceramic components in the electronics industry

Type	Shape	Dimensions	Specification
869935	1S1W	0,94 x 4 x 1,595	D 76 GST
477346	1A1W	3 x 5 5 x Y7	D 91 GST
861867	1A1W	6 x 7 7 x Y6	D 91 GST
108016	1A1W	12 x 5 12 x Y4 x 16	D 91 GST
28430	1A1W	12 x 10 12 x Y4 x 16	D 91 GST
169506	1A1W	12 x 5 5 x Y4 x 21	D 76 GST

Different dimensions on request!



Removal of metal coating with TYROLIT - Elastic Wheels

Type	Shape	Dimensions	Specification
920254	35	130 x 8 x 50	C 240 - BE 03
875087	35	130 x 30 x 50	C 240 - BE 03
938962	35	310 x 50 x 170	C 240 - BE 03

Different dimensions on request!



ISO 9001:2000
VDA 6.4
ISO 14001

Nr. 265/1
Nr. 004/1
Nr. 162/1

TYROLIT SCHLEIFMITTELWERKE SWAROVSKI K.G.
Swarovskistraße 33, A-6130 Schwaz/Austria
Telephone +43/5242/606-0, Fax +43/5242/633 98
Internet: www.tyrolit.com