



# HERMES COATED ABRASIVES

Program Brochure



for an  
excellent finish



## **SEAM THE SUSTAINABILITY INITIATIVE**

At Hermes, the topics of environmental protection and corporate responsibility have always shaped business policy. Today, we consider them more important than ever. This is why Hermes is a founding member of SEAM (Sustainable European Abrasive Manufacturers), the sustainability project of the European Abrasives Association. Within this framework, Hermes is continuously developing its sustainability standards in the three core areas of environment, society and economy. Further information on SEAM is available at [www.seam.earth](http://www.seam.earth)



## **H.A.I THE OPTIMIZATION INITIATIVE**

Within the framework of the H.A.I. (Hermes Abrasives Institute), we offer you individual optimization programs for your processes.

This ranges from the creation of manuals to a variety of grinding process optimization and lean consulting to individual trainings, so that theory becomes excellent practice.



# HERMES

## YOUR PARTNER AND EXPERT FOR EXCELLENT SURFACES

### WHO WE ARE

The aesthetic and functional finish of surfaces is our strength. That is why we are the first point of contact for a large number of users from a wide range of industries. Founded in Hamburg, Germany, we have grown out into the world. With our comprehensive portfolio of coated abrasives and precision bonded abrasives, we have been one of the world's leading manufacturers since 1927.

### THE PERFECT SOLUTION FOR THEM – WHAT DRIVES US

At Hermes, we work with passion on tailor-made solutions that perfectly match your individual requirements. We are constantly expanding our in-depth knowledge of your processes, applications and associated challenges, because we want to be more than just your service provider: we want to be your partner.

### SERVICE - WHAT CHARACTERIZES US

Wherever and whenever you need our support, we are there for you – internationally, with local contacts at our many locations. For our speed and flexibility we are appreciated by our customers all over the world.

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### A WIDE RANGE OF PRODUCTS HAS PROGRAM WITH US

Find on the following pages from a list of over 170 Hermes basic types the product suitable for your grinding process. The information on the product structure, such as grain material, backing and bonding system as well as the available grit range and delivery forms will help you.









### 3 benefits of webrax non-woven web

#### 1. Backing

Our non-woven web is manufactured from a special fibre web. During this process, the abrasive grit is firmly anchored by a bond and is correspondingly durable. The following designs are available:

Non-woven web // Non-woven web, on X<sub>w</sub>-cloth // Non-woven web, high-density // Non-woven web, reinforced with cloth // Non-woven web, reinforced on vulcanized fiber

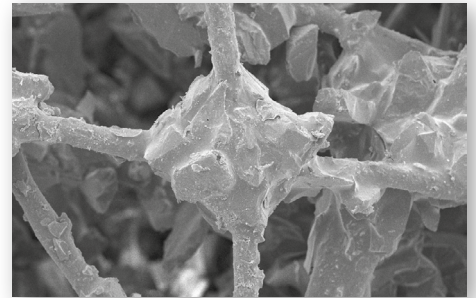
#### 2. Types of grain

We use the following types of grain in grit range 80 to 1500: A/O (Al<sub>2</sub>O<sub>3</sub>) and S/C (SiC).

**Warning:** Information on grit sizes is not comparable with that relating to abrasive paper.

#### 3. The bonding

The resin bond allows the product to be used under both dry and wet conditions.



Open structure of **webrax** non-woven web

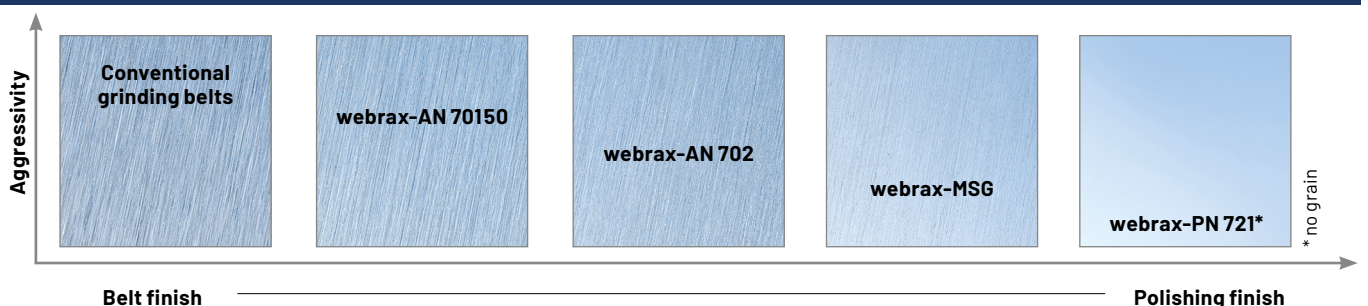
### Comparison of grit sizes for webrax Non-woven web (incl. details of product colours)

Standard-Hermes	+ 80	+ 100	+ 120	+ 150	+ 180	+ 240	+ 280	+ 320	+ 400	+ 500	+ 800	no grain
Grit name	coarse	medium		fine			very fine		super fine		ultra fine	
<b>webrax-MAG</b>	brown	-	brown	-	-		-	-	-	-	-	-
<b>webrax-MSG</b>	black	-	-	black	black		black	-	black	black	-	-
<b>webrax-AN 701 50</b>	brown	red	-	-	red/blue		blue	-	-	-	grey	-
<b>webrax-AN 701 Flex</b>	brown	red			green		blue					
<b>webrax-AN 702</b>	brown	brown	-	-	brown		brown	brown	brown	-	-	-
<b>webrax-PN 721</b>	-	-	-	-	-		-	-	-	-	-	yellow
<b>webrax-CW (Europe)</b>	med				fin							
<b>webrax-CW (Asia)</b>						fin						

### Recommended cutting speeds v<sub>c</sub> (m/s) for dry grinding on metals

	Steel, Stainless steel, Non-ferrous steel		Heat sensitive base material				
	Fine grinding	Structural grinding	Polishing & Cleaning	Deburring	Wood	Lacquer	Plastics
<b>webrax discs</b>							
without center hole	10 - 25 m/s	10 - 25 m/s	10 - 25 m/s	10 - 25 m/s	10 - 15 m/s	6 - 15 m/s	6 - 15 m/s
with center hole	10 - 30 m/s	10 - 30 m/s	10 - 30 m/s	10 - 30 m/s	10 - 15 m/s	6 - 15 m/s	6 - 15 m/s
<b>webrax belts and wide belts</b>							
MAG, MSG	5 - 15 m/s	5 - 15 m/s	-	-	5 - 8 m/s	5 - 8 m/s	5 - 8 m/s
AN 701 50, AN 702	8 - 22 m/s	5 - 15 m/s	-	-	5 - 15 m/s	5 - 15 m/s	5 - 15 m/s
PN 721	-	-	10 - 22 m/s	-	-	-	-
<b>webrax wheels and rollers</b>							
LMO	10 - 25 m/s	8 - 15 m/s	10 - 22 m/s	-	-	5 - 10 m/s	5 - 10 m/s
LMI, -LGG, -GWS	10 - 25 m/s	8 - 15 m/s	10 - 25 m/s	20 - 35 m/s	6 - 15 m/s	-	6 - 15 m/s

### Grinding patterns compared using grinding belts, grit size 180

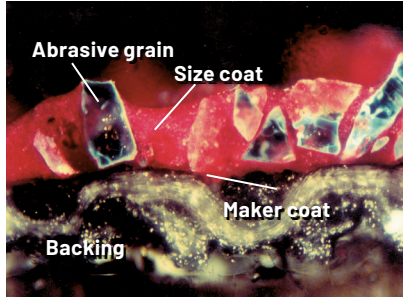




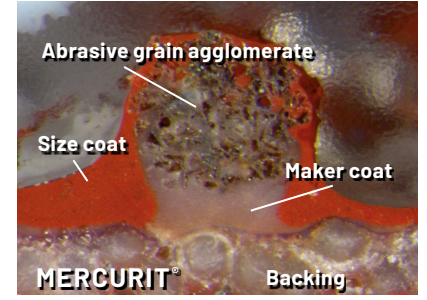
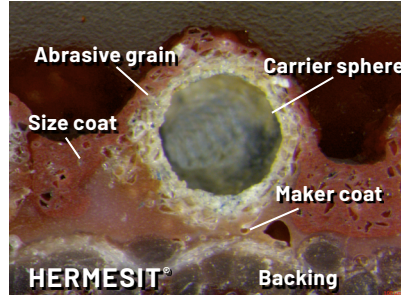
Type	Code	Grain	Backing	Grit range													Delivery forms		
				80	100	120	150	180	220	240	280	320	360	400	500	600		800	1000
<b>webrax non-woven web</b>																			
MAG	70000	A/O	Non-woven web on XX <sub>w</sub> cloth	+															
AN 701 50	70150	A/O	Non-woven web, reinforced with cloth	+															
		S/C	Non-woven web, reinforced with cloth																
AN 701 flex	70170	A/O	Non-woven web, reinforced with cloth	+															
AN 702	70200	A/O	Non-woven web, reinforced with cloth	+															
AN 707	70700	A/O	Non-woven web, reinforced with cloth	+															
OA 708	70800	A/O	Non-woven web	+															
OA 708 flex	70870	A/O	Non-woven web	+															
OA 710	71002	A/O	Non-woven web	+															-LMO -LGG -GWS
OA 713	71300	A/O	Non-woven web, high-density	+															-LMO -GWS
MSG	70500	S/C	Non-woven web on X <sub>w</sub> cloth	+															
OS 709	70900	S/C	Non-woven web	+															
OS 709 flex	70970	S/C	Non-woven web	+															
OS 715	71502	S/C	Non-woven web	+															-LMO -GWS
OS 716	71600	S/C	Non-woven web, high-density	+															-LMO -GWS
<b>webrax non-woven web, velour-backed</b>																			
OA 708 VEL	70807	A/O	Non-woven web	+															
OA 710 VEL	71007	A/O	Non-woven web	+															
OA 713 VEL	71307	A/O	Non-woven web, high-density	+															
OS 709 VEL	70907	S/C	Non-woven web	+															
<b>webrax non-woven web, fiber-backed</b>																			
AN 703 50	70350	A/O	Non-woven web, reinforced on vulcanized fiber	+															
<b>webrax cleaning pads and discs</b>																			
GP 706 White	70600	none	Non-woven web	-															
GP 706 Olive	70602	A/O	Non-woven web	+															
Multiclean	70650	S/C	Non-woven web, high-density	-															
PN 721	72100	none	Non-woven web, reinforced with cloth	-															
FPA 791/792 Black	79100/79200	A/O	Non-woven web, Thinline/Thickline	+															
FPA 791/792 Green	79110/79210	A/O	Non-woven web, Thinline/Thickline	+															
FPO 791/792 Red	79130/79230	none	Non-woven web, Thinline/Thickline	-															
FPO 791/792 Tan	79140/79240	none	Non-woven web, Thinline/Thickline	-															
FPO 791/792 White	79150/79250	none	Non-woven web, Thinline/Thickline	-															
<b>webrax-CW, convolute wheels</b>																			
CW 8A-MED DE	74800	A/O	Non-woven web	+															
CW 9A-MED DA	74905	A/O	Non-woven web	+															
CW 7S-FIN DE	74720	S/C	Non-woven web	+															
CW 8S-FIN DE	74820	S/C	Non-woven web	+															
CW 8S-FIN-X2 DE	74820	S/C	Non-woven web	+															
CW 9S-FIN DE	74920	S/C	Non-woven web	+															
CW 9S-FIN-X2 DE	74921	S/C	Non-woven web	+															
CW 9S-FIN DA	74925	S/C	Non-woven web	+															
CW 9S-FIN-X2 DA	74926	S/C	Non-woven web	+															
CW 9S-MED-X2 DA	74926	S/C	Non-woven web	+															
<b>webrax-UW, unitized wheels</b>																			
UW 2A-MED DF	75200	A/O	Non-woven web	+															
UW 3A-MED DF	75300	A/O	Non-woven web	+															
UW 6A-MED DF	75600	A/O	Non-woven web	+															
UW 8A-CRS DF	75800	A/O	Non-woven web	+															
UW 2S-FIN DF	75220	S/C	Non-woven web	+															
UW 3S-FIN DF	75320	S/C	Non-woven web	+															
UW 6S-FIN DF	75620	S/C	Non-woven web	+															

## Principle construction of coated abrasives

### Single layer



### Spherical



## Key to backings

Cloth			Paper		webrax Non-woven web
Type	Property	Backing material	Type	Weight g/m <sup>2</sup>	Type
J-flex-w	Light, extremely flexible	Cotton cloth	A (Aw)	≤ 85	(Listed in order of flexibility)  Non-woven web Non-woven web, high density Non-woven web, on X <sub>w</sub> -cloth Non-woven web, reinforced with cloth Non-woven web, reinforced with cloth on vulcanized fibre
J-flex	Light, very flexible	Cotton cloth	B (Bw)	> 85 - 110	
J	Light, flexible	Cotton cloth	C (Cw)	> 110 - 135	
EJ	Light, flexible	Synthetic cloth	D	> 135 - 220	
X-flex (X <sub>w</sub> -flex)	Heavy, flexible	Cotton cloth	E	> 220 - 270	
X (X <sub>w</sub> )	Heavy, semi flexible	Cotton cloth	F	> 270 - 350	
Y (Y <sub>w</sub> )	Heavy duty, semi stiff	Synthetic cloth	G	> 350 - 500	
YX	Heavy duty, semi stiff	Polyester/cotton mixed cloth			
Z	Heavy duty, semi stiff	Synthetic cloth			
XX	Heavy duty, stiff	Cotton cloth			
ZZ	Heavy duty, stiff	Synthetic cloth			
Stitch bonded cloth			Fibre		Film
Type	Property	Backing material	Type	Average thickness	Type
Y	Heavy duty, semi stiff	Synthetic stitch bonded cloth	J-flex	0.40 - 0.55 mm	Index <sub>w</sub> = waterproof
YR	Heavy duty, stiff	Synthetic stitch bonded cloth	J	0.60 - 0.65 mm	
ZZ	Heavy, stiff	Synthetic stitch bonded cloth	X	0.80 - 0.85 mm	

## Key to bonding

Type	Bonding	Description
R	Resin	Size coat with active additives
RAS	Resin, antistatic	
RPC	Resin, Procut	
RPL	Resin, Prolub	Applied stearate coat prevents premature loading with sanding dust

## Abrasive grain and grain standards

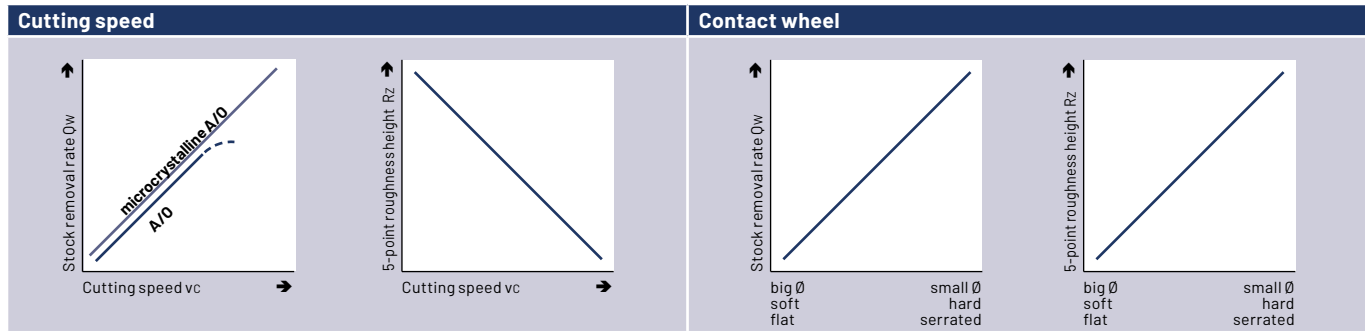
Grain	Grain standard
Aluminum oxide (A/O)	P = FEPA - DIN ISO 6344
Sapphire Blue- (microcrystalline A/O)	P = FEPA - DIN ISO 6344
Silicon carbide (S/C)	P = FEPA - DIN ISO 6344
Zirconia alumina (Z/A)	# = ANSI - B74.18-1996
Ceramic grain (CER)	# = ANSI - B74.18-1996
<b>webrax</b>	+ = Standard Hermes
Aluminum oxide (A/O)	+ = Standard Hermes
Silicon carbide (S/C)	+ = Standard Hermes
<b>Sanding sponges</b>	
Aluminum oxide (A/O)	F = FEPA - DIN ISO 8486
Silicon carbide (S/C)	F = FEPA - DIN ISO 8486

## Grit size comparison (Abrasive paper, film, cloth, stitch bonded cloth and fibre)

d <sub>50</sub> (µm) average grain diameter	750	630	525	400	325	260	200	160	125	93	76	68	58	52	46	39	35	30	26	22	18	14	12	10	8
FEPA 43-D-1984 R 1993 DIN ISO 6344	P 24	P 30	P 36	P 40	P 50	P 60	P 80	P 100	P 120	P 150	P 180	P 220	P 240	P 280	P 320	P 360	P 400	P 500	P 600	P 800	P 1000	P 1200	P 1500	P 2000	P 2500
ANSI B 74.18-1996	24	30	36	40	50	60	80	100	120	150	180	220		240	280		320		360	400	500	600			

The differences of the respective grit size standards are defined in the relevant test standards.

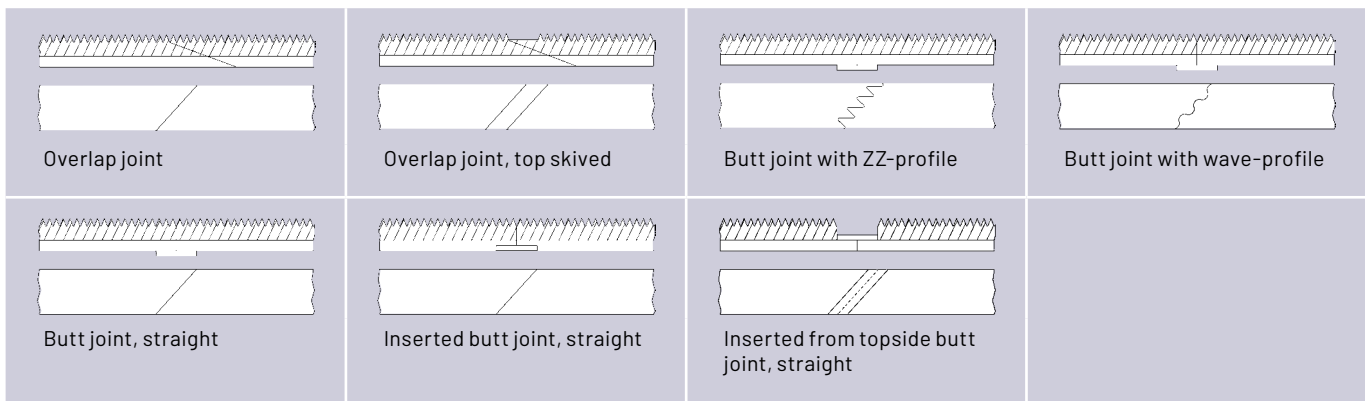
## Parameter of belt grinding








## Recommendations for cutting speed

Metal				Glass, china, ceramics, leather, rubber, cork, felt, plastic				
Narrow belts and Wide belts	Cutting speed $v_c$ (m/s)			Narrow belts and Wide belts	Cutting speed $v_c$ (m/s)			
	min	Recommendation	max		min	Recommendation	max	
Carbon steel	29	35	39	Glass	8	13	18	
Tool steel (forging parts)	20	30	30	Crystal-glass (lead glass)	15	20	25	
Stainless steel	20	30	30	China, ceramics	10	13	17	
Grey cast iron	30	35	40	Leather, rubber, cork, felt	20	25	30	
Brass and bronze	27	35	37	Plastics				
CrNi-base alloy	16	22	28		- Duroplastic	18	22	26
Aluminum, Al-alloy	28	35	40		- Plastic (dry grinding)	6	10	12
Titan (dry grinding)	4	8	12		- Plastic (wet grinding)	8	15	18
Titan (wet grinding)	10	12	15					
Wood, lacquer, processed wood boards, mineral fibre boards and melamine								
Narrow belts	Cutting speed $v_c$ (m/s)			Wide belts	Cutting speed $v_c$ (m/s)			
	min	Recommendation	max		min	Recommendation	max	
Solid wood, hard	10	20	24	Solid wood	12	20	24	
Solid wood, soft	10	12	24	Veneer	10	20	24	
Veneer				Plywood	10	20	24	
- Lever stroke sanders	10	12	20	Filler	6	8	10	
- Edge sanders	6	10	12	Lacquer	2	6	12	
- Profile sanders	6	8	12	Particle board / MDF	12	22	36	
Lacquer, general	4	8	12	Mineral fibre boards	12	22	26	
- Nitro cellulose	2	4	8	Melamine	8	12	20	
- Polyester, clear	6	8	12					
- Polyester, pigmented	6	10	12					
- PU	4	8	12					
- Acrylic, pigmented	8	10	12					
- Acid cure lacquer	6	8	12					

## Joints for narrow and wide belts

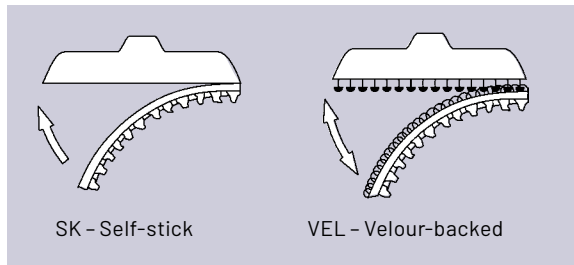


## Triangulars, with holes












EB	System	Dimensions in mm velour-backed
021	 6 x / Ø 52	Black & Decker, Bosch, Makita, Metabo 88 x 93
020	 6 x	Festo 88 x 95
022	 2 x 3 + 1 x	AEG, Atlas Copco 99 x 147
021	 6 x / Ø 52	Kress 100 x 105
023	 2 x 2 + 2 x 1	Flex Porter Cable 68 x 121

Ø = Bolt circle

## Fastening systems


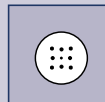

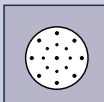
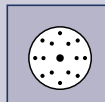


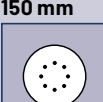
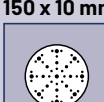
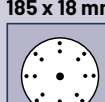



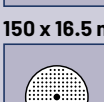




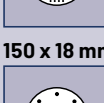




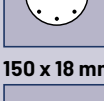



## Strips, with holes

EB	System	Dimensions in mm for clamps	velour-backed	self stick
001	 2 x 5	115 x 280	115 x 230 115 x 240	115 x 230 115 x 240
002	 2 x 5 / 2 x 2	115 x 280	115 x 230 115 x 240	115 x 230 115 x 240
003	 2 x 4	93 x 230	93 x 178 93 x 184 93 x 195	93 x 178 93 x 184 93 x 195
004	 2 x 4	81 x 166	81 x 153 80 x 133	81 x 153 80 x 133
005	 2 x 3 / 2 x 1	93 x 230	—	—
006	 2 x 2 / 1 x 3	93 x 230	—	—
008	 8 x / Ø 87	—	115 x 115	—
009	 2 x 3	115 x 140	100 x 115	—
010	 2 x 5	93 x 230	—	—
011	 4 x 2 / 1 x 2	—	100 x 237	—
012	 2 x 7	—	70 x 420	—

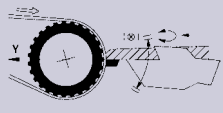
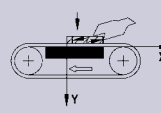
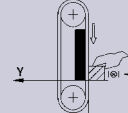
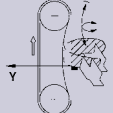
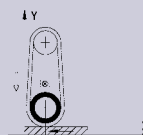
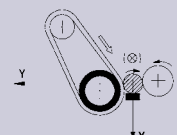
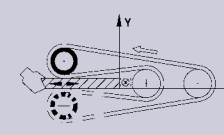
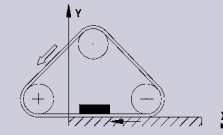
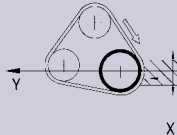
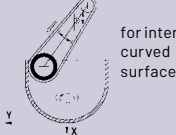
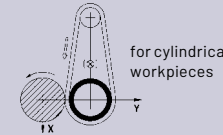
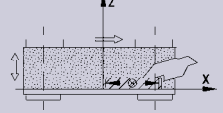

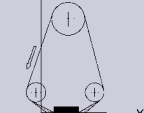
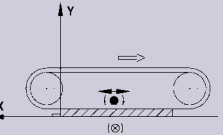
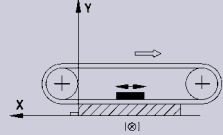
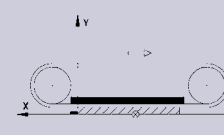
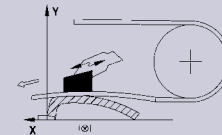
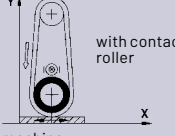
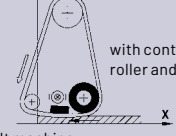
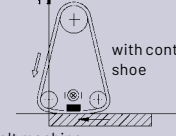
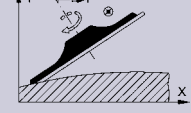
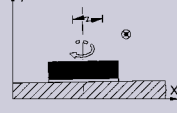

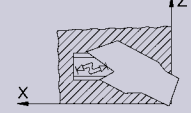
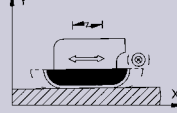
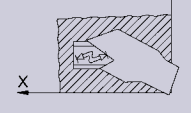
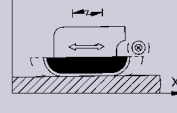
Ø = Bolt circle

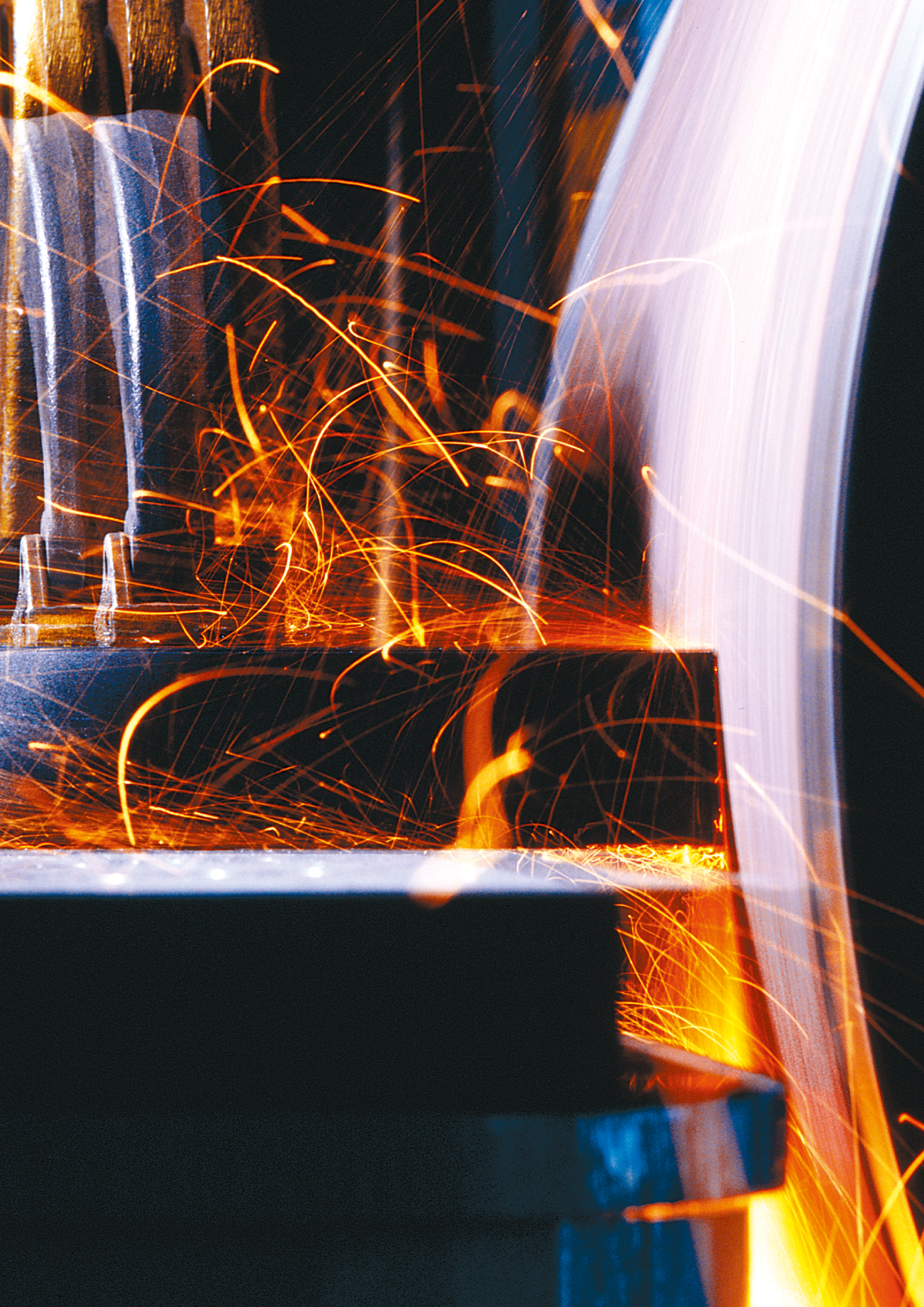
## Discs, with holes

Ø	Hole system	Ø	Hole system	Ø	Hole system	Ø	Hole system	Ø	Hole system
73 mm	 <b>EB 130</b> 6 x / Ø 41 mm	125 mm	 <b>EB 032</b> 3 x / Ø 70 mm + 3 x / Ø 86 mm	125 x 18 mm	 <b>EB 119</b> 8 x / Ø 90 mm with center hole	150 x 10 mm	 <b>EB 137</b> 8 x / Ø 120 mm + 8 x / Ø 65 mm with center hole	150 x 18 mm	 <b>EB 135</b> 8 x / Ø 120 mm + 6 x / Ø 80 mm with center hole
75 mm	 <b>EB 150</b> MULTIHOLE	125 mm	 <b>EB 033</b> 5 x / Ø 72 mm	150 mm	 <b>EB 026</b> 8 x / Ø 65 mm	150 x 10 mm	 <b>EB 237</b> 48 x / Ø 123-39 mm with center hole	185 x 18 mm	 <b>EB 136</b> 8 x / Ø 160 mm + 8 x / Ø 120 mm with center hole
115 mm	 <b>EB 026</b> 8 x / Ø 65 mm	125 mm	 <b>EB 034</b> 4 x / Ø 42 mm + 4 x / Ø 64 mm	150 mm	 <b>EB 027</b> 6 x / Ø 80 mm	150 x 16.5 mm	 <b>EB 151</b> MULTIHOLE with center hole	200 mm	 <b>EB 028</b> 8 x / Ø 127 mm
125 mm	 <b>EB 026</b> 8 x / Ø 65 mm	125 mm	 <b>EB 150</b> MULTIHOLE	150 mm	 <b>EB 037</b> 8 x / Ø 116 mm + 8 x / Ø 65 mm	150 x 18 mm	 <b>EB 036</b> 8 x / Ø 120 mm with center hole	200 mm	 <b>EB 031</b> 8 x / Ø 151 mm + 8 x / Ø 103 mm
125 mm	 <b>EB 030</b> 4 x / Ø 41 mm	125 x 18 mm	 <b>EB 019</b> 8 x / Ø 65 mm with center hole	150 mm	 <b>EB 150</b> MULTIHOLE	150 x 18 mm	 <b>EB 127</b> 6 x / Ø 80 mm with center hole	225 mm	 <b>EB 122</b> 8 x / Ø 70 mm

Ø = Bolt circle

## Kind of tools and grinding methods

<b>Narrow belts</b>				
	Backstand belt grinder	Horizontal platen grinder	Vertical platen grinder	Stack of belt grinder
				
	ConveyORIZED through feed belt grinder	Centerless grinder	Double side flat grinder (single belt)	
				
	Stationary platen grinder	Plunge grinder - heavy stock removal	Swing frame grinding machine for interior curved surface	Swing frame grinding machine for cylindrical workpieces
				
	Edge sander	Drawer sander	Profile sander	
				
	Lever stroke sander with roller	Lever stroke sander with pad	Lever stroke sander with contact bar	Lever stroke sander with hand block
<b>Wide belts</b>				
	Wide belt machine with contact roller	Wide belt machine with contact roller and shoe	Wide belt machine with contact shoe	
<b>Discs</b>				
	Portable disc grinder	Random orbital sander		
<b>Flap discs</b>				
Portable disc grinder				
<b>Sheets, strips</b>				
	Hand sanding	Orbital sander		
<b>Rolls</b>				
	Hand sanding	Orbital sander		



# HERMES REFERENCE

## SAFETY

In order to guarantee the users of our abrasive tools the greatest possible safety at work, corresponding safety pictograms are depicted on the product labels, and we expressly point out that they must be observed.



Further instructions for the correct use of abrasive tools can be found in the leaflets of the FEPA safety recommendations. If you do not have the leaflets, please request them by e-mail at [hsd@hermes-schleifwerkzeuge.com](mailto:hsd@hermes-schleifwerkzeuge.com)

## STORAGE OF ABRASIVES

Hermes abrasives are quality tools and require appropriate storage conditions. Quality can be impaired by incorrect storage. Careful storage ensures maximum benefit.



- Room temperature 18 - 22 °C
- Relative humidity 45 - 65%
- Store in original packaging if at all possible, and on shelves or pallets/racks
- Use deliveries in the order they arrived



- Close to radiators
- Extreme temperature fluctuations (cold/hot)
- Store directly on concrete or stone floors
- Store in unheated rooms in winter



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**Safety first**  
www.abrasivessafety.com