

Consumables 2017

Cutting



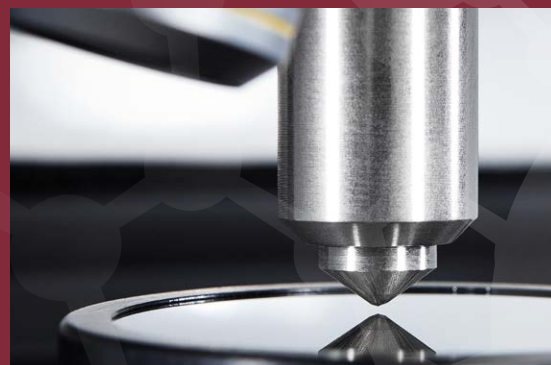
Mounting



Grinding, Polishing, Etching



Analysis





Science for Solids

Materialography
Furnaces & Ovens
Elemental Analysis
Milling & Sieving
Particle Analysis

As part of the VERDER Group, the business division VERDER SCIENTIFIC sets standards in the development, manufacture and sales of laboratory and analytical equipment. The instruments are used in the areas of quality control, research and development for sample preparation and analysis of solids.



ATM – Machines Are Our Passion

Machines and equipment for the materialographic laboratory "Made in Germany"

Whatever you need for quality testing and material analysis, ATM has it all: As a manufacturer of high-quality machines for materialography (metallography), we offer the most comprehensive solution for your needs. We not only supply a wide range of instruments but also accessories, consumables, complete laboratories and tailor-made special-purpose solutions.

Our innovative cut-off machines, mounting presses, grinders, polishers/electrolytic etchers, as well as hardness testers and analysis systems provide maximum reliability and flexibility. Thanks to the most advanced engineering technologies and manufacture of components in our own factory, we are able to fulfill individual customer requirements by adapting our instruments to their needs.

Our R&D department for hard- and software works in close cooperation with our customers to ensure continuous optimization of our products. Customers in more than 30 countries appreciate our comprehensive sales and service network as well as direct communication with our experts.

To provide you with solutions of consistently high quality we rely on the expertise and creativity of our qualified and dedicated long-standing employees.

ATM offers:

- **Modern production engineering and high vertical integration:**
Optimum control of every single component of our machines guarantees unrivaled ATM product quality "made in Germany".
- **Application consultation and end-user seminars with individual focus:**
Our application experts ascertain parameters and instrument configurations best suited for preparation of your sample material.
- **In-house software and hardware development:**
ATM hosts the complete R&D process in-house making customer-specific solutions and adaptations to individual requirements our great strength.





ATM Contact

ATM is a provider of integrated solutions. In addition to our comprehensive product range we offer full application support and technical service.

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PREMIUM QUALITY

MADE IN GERMANY

Exhibitions 2017

Germany

Control Stuttgart

09.-12. May 2017

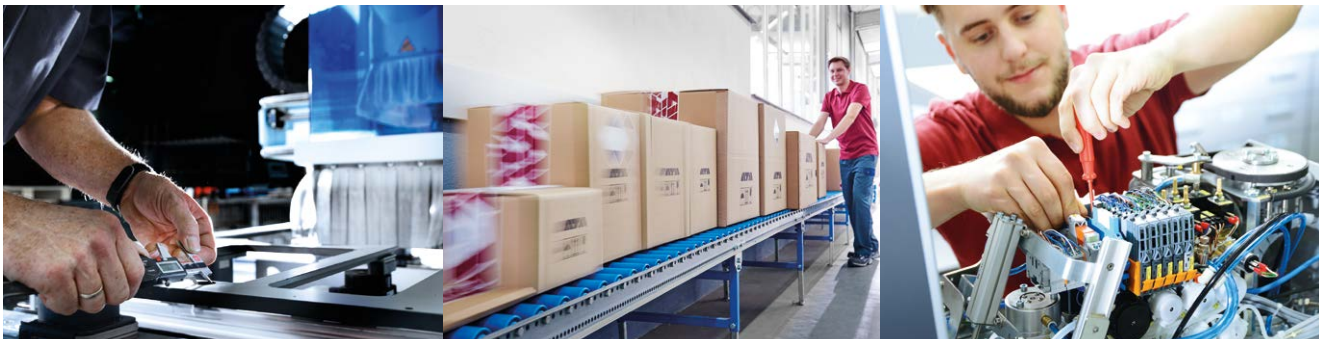
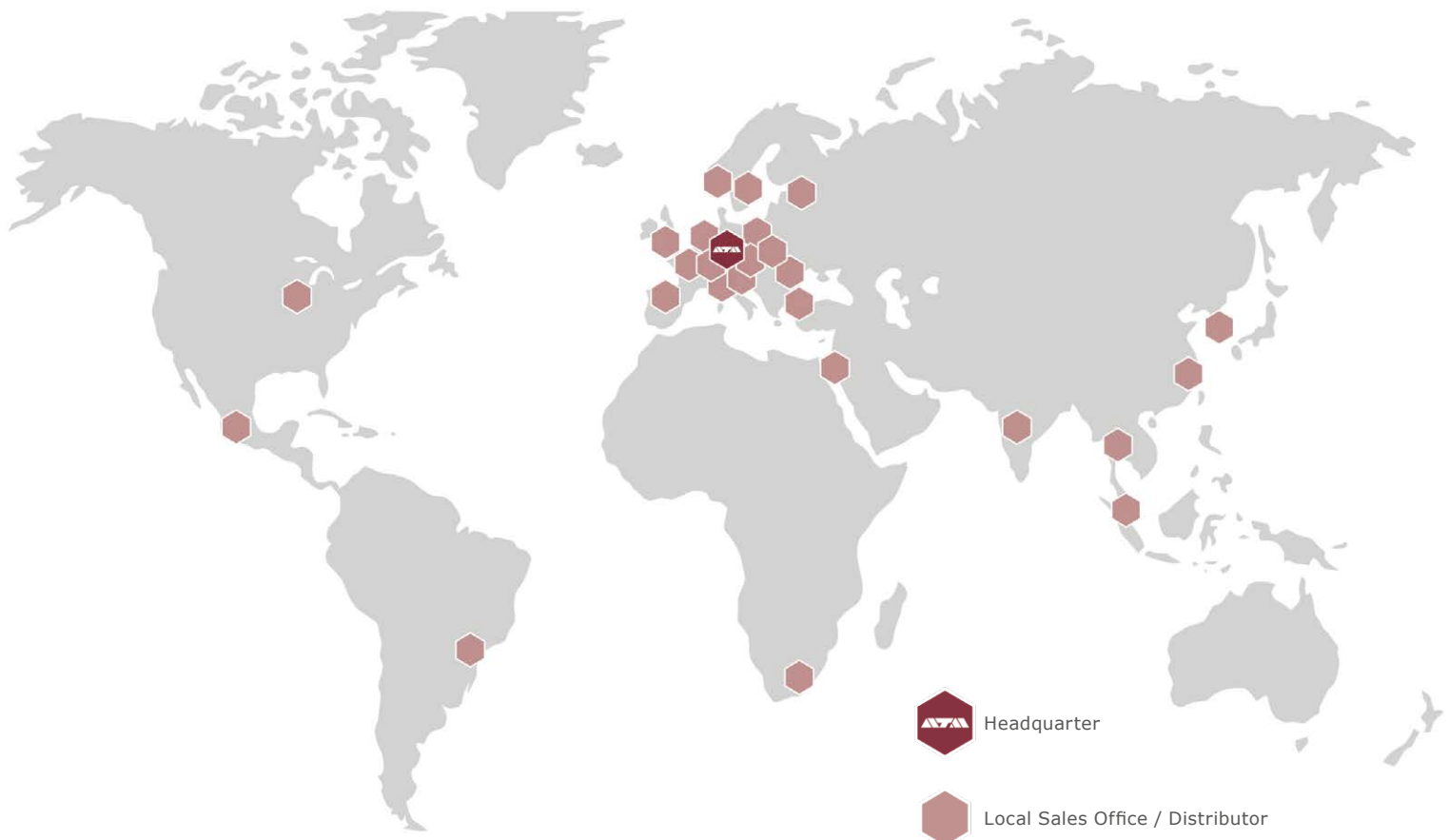
HeatTreatmentCongress Köln

25.-27. October 2017





Excellent sales and service network throughout the world



Our comprehensive network of distributors and agents provides expert advice on products and applications throughout the world as well as technical service. For detailed information please refer to our website www.atm-m.com

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Cutting

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Grinding, Polishing, Etching

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Disclaimer

- We reserve the right to effect technical changes as well as price adjustments due to technical progress. All listings in our price list are based on our General Terms for Delivery and Payment.
- This price list covers only the current versions of products.
- The images may show accessories which may not be part of the standard delivery scope.
- Our warranty period is product related (see page 62).
- All prices are ex works, excluding packaging and insurance. ATM price list 2017/E, as of 1st January 2017

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Cutting

Page

Cut-off wheels for precision cut-off machines

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Corundum and diamond cut-off wheels for precision cut-off machines, diamond cup grinders, sawblade for precision cut-off machines, CBN cut-off wheels for precision cut-off machines

Cut-off wheels for wet abrasive cut-off machines

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Corundum and diamond cut-off wheels for wet abrasive cut-off machines, CBN cut-off wheels for wet-cutting machines, accessories for cut-off wheels

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Accessories for filter systems

17

Filter fleece for belt filter systems, filter fleece mat for recirculation cooling systems, filter inserts



Item No.	Unit	Description		
		Corundum cut-off wheels for precision cut-off machines		
		Ø	Thickness	Arbor Size
		» fine-grained for universal application » for materials of higher hardness		
92002643	5 Pcs.	100 mm	0.25 mm	12.7 mm
92002644	5 Pcs.	125 mm	0.45 mm	12.7 mm
92002769	5 Pcs.	150 mm	0.45 mm	12.7 mm
		» coarse-grained for universal application » for materials of lower hardness and mounted samples		
92002645	5 Pcs.	100 mm	0.4 mm	12.7 mm
92002646	5 Pcs.	125 mm	0.8 mm	12.7 mm
92002770	5 Pcs.	150 mm	0.6 mm	12.7 mm
92002647	5 Pcs.	203 mm	0.8 mm	12.7 mm
92004159	5 Pcs.	150 mm	1 mm	12.7 mm
92004998	5 Pcs.	150 mm	1 mm	20 mm
92006583	5 Pcs.	200 mm	1.5 mm	20 mm
		* 1 Reduction ring 12.7 mm for each order		
		Reduction ring 12.7 mm		
01304330	1 Pcs.	20 mm		

		Diamond cut-off wheels for precision cut-off machines		
		Ø	Thickness	Arbor Size
		» for universal application		
92002397	1 Pcs.	76 mm	0.3 mm	12.7 mm
92002401	1 Pcs.	102 mm	0.3 mm	12.7 mm
92002405	1 Pcs.	127 mm	0.5 mm	12.7 mm
92002409	1 Pcs.	152 mm	0.5 mm	12.7 mm
		» for glass, ceramics, rocks		
92002398	1 Pcs.	76 mm	0.3 mm	12.7 mm
92002402	1 Pcs.	102 mm	0.3 mm	12.7 mm
92002406	1 Pcs.	127 mm	0.5 mm	12.7 mm
92002410	1 Pcs.	152 mm	0.5 mm	12.7 mm
		» for hard metals		
92002400	1 Pcs.	76 mm	0.3 mm	12.7 mm
92002404	1 Pcs.	102 mm	0.3 mm	12.7 mm
92002408	1 Pcs.	127 mm	0.5 mm	12.7 mm
92002412	1 Pcs.	152 mm	0.5 mm	12.7 mm
		» for plastic, rubber on request		



Item No.	Unit	Description				
		Diamond cup grinder				
		Ø	Thickness	Hight	Arbor Size	Bond
		» for glass fiber-reinforced boards				
92008573	1 Pcs.	100 mm	8 mm	35 mm	12.7 mm	galvanic
92006607	1 Pcs.	150 mm	8 mm	35 mm	12.7 mm	galvanic

Saw blade cut-off wheel for precision cut-off machines					
		Ø	Thickness	Arbor Size	
» for plastics					
95009083	1 Pcs.	150 mm	1.4 mm	30 mm	incl. distance ring

CBN cut-off wheels for precision cut-off machines				
		Ø	Thickness	Arbor Size
» for composites and rigid materials				
92002442	1 Pcs.	76 mm	0.9 mm	12.7 mm
92002443	1 Pcs.	102 mm	0.5 mm	12.7 mm
92002444	1 Pcs.	127 mm	0.5 mm	12.7 mm
92002445	1 Pcs.	153 mm	0.65 mm	12.7 mm
92002446	1 Pcs.	178 mm	0.9 mm	12.7 mm
92006419	1 Pcs.	200 mm	0.5 mm	12.7 mm
» other diameters on request				

Machine and blade compatibility

Cut-off machine	Arbor size	Ø (max.)	
Brillant 200	32 mm	254 mm/10"	
Brillant 220	12.7 mm	203 mm/8"	
Brillant 230	32 mm	254mm/10"	305 mm/12"
Brillant 250.3	32 mm	305 mm/12"	356 mm/14"
Brillant 255	32 mm	356 mm/14"	
Brillant 265	32 mm	356 mm/14"	406 mm/16"
Brillant 275	32 mm	432 mm/17"	508 mm/20"
Brillant 3D	32 mm	432 mm/17"	508 mm/20"
Brillant 285	32 mm	508 mm/20"	610 mm/24"
Brillant 2000	32 mm	610 mm/24"	813 mm/32"



12 Cut-off wheels for wet abrasive cut-off machines


Item No.	Unit	Description				
		Corundum cut-off wheels for wet abrasive cut-off machines				
		Ø	Thickness	Arbor Size	Bond	Type
		A - Universal wheel, as well for nickel based alloys				
92002413	10 Pcs.	229 mm	0.8 mm	32 mm	Rubber	A
92002599	10 Pcs.	254 mm	1 mm	32 mm	Rubber	A
92002441	10 Pcs.	305 mm	1 mm	32 mm	Rubber	A
92002436	10 Pcs.	356 mm	1.6 mm	32 mm	Rubber	A
92002439	10 Pcs.	406 mm	1.6 mm	32 mm	Rubber	A
92008537	10 Pcs.	500 mm	2.4 mm	32 mm	Rubber	A
92004007	10 Pcs.	600 mm	4.3 mm	40 mm	Rubber	A
		B - for high-speed steels, heat-treated steels, non-corrosive steels				
92002414	10 Pcs.	229 mm	1.6 mm	32 mm	Rubber	B
92002600	10 Pcs.	254 mm	1.6 mm	32 mm	Rubber	B
92002434	10 Pcs.	305 mm	1.6 mm	32 mm	Rubber	B
92002437	10 Pcs.	356 mm	2.4 mm	32 mm	Rubber	B
92002440	10 Pcs.	406 mm	2.4 mm	32 mm	Rubber	B
92008874	10 Pcs.	500 mm	3 mm	32 mm	Rubber	B
		C -Universal wheel for materials of high to very high hardness				
92001550	10 Pcs.	235 mm	1.5 mm	32 mm	Resin	C
92001554	10 Pcs.	250 mm	1.5 mm	32 mm	Resin	C
92001558	10 Pcs.	300 mm	2 mm	32 mm	Resin	C
92001669	10 Pcs.	350 mm	2 mm	32 mm	Resin	C
92001783	10 Pcs.	400 mm	3 mm	32 mm	Resin	C
95002342	10 Pcs.	600 mm	4.5 mm	32 mm	Resin	C
		D - Universal wheel for medium hard materials, case-hardened steels				
92001551	10 Pcs.	235 mm	1.5 mm	32 mm	Resin	D
92001555	10 Pcs.	250 mm	1.5 mm	32 mm	Resin	D
92001559	10 Pcs.	300 mm	2 mm	32 mm	Resin	D
92001670	10 Pcs.	350 mm	2 mm	32 mm	Resin	D
92001784	10 Pcs.	400 mm	3 mm	32 mm	Resin	D
92005526	10 Pcs.	500 mm	4 mm	32 mm	Resin	D
		E - for soft steels, non-ferrous-materials, plastics				
92001552	10 Pcs.	235 mm	1.5 mm	32 mm	Resin	E
92001556	10 Pcs.	250 mm	1.5 mm	32 mm	Resin	E
92001560	10 Pcs.	300 mm	2 mm	32 mm	Resin	E
92001671	10 Pcs.	350 mm	2.2 mm	32 mm	Resin	E
92001785	10 Pcs.	400 mm	3 mm	32 mm	Resin	E



Item No.	Unit	Description				
		Corundum cut-off wheels for wet abrasive cut-off machines				
		Ø	Thickness	Arbor Size	Bond	Type
F - for titanium and titanium alloys						
92002417	10 Pcs.	230 mm	1.5 mm	32 mm	Resin	F
92002425	10 Pcs.	250 mm	1.5 mm	32 mm	Resin	F
92002426	10 Pcs.	300 mm	2 mm	32 mm	Resin	F
92002427	10 Pcs.	350 mm	2.5 mm	32 mm	Resin	F
92002428	10 Pcs.	400 mm	3 mm	32 mm	Resin	F
H - for case-hardened and medium-hard materials						
92004464	10 Pcs.	225 mm	1.5 mm	32 mm	Resin	H
92004465	10 Pcs.	250 mm	1.5 mm	32 mm	Resin	H
92004431	10 Pcs.	300 mm	2.2 mm	32 mm	Resin	H
92004467	10 Pcs.	350 mm	2 mm	32 mm	Resin	H
92004432	10 Pcs.	400 mm	3 mm	32 mm	Resin	H
92008665	10 Pcs.	500 mm	4 mm	32 mm	Resin	H
I - for construction steels and cast material						
92006066	10 Pcs.	250 mm	1.6 mm	32 mm	Resin	I
92005863	10 Pcs.	300 mm	2 mm	32 mm	Resin	I
92005862	10 Pcs.	350 mm	2.5 mm	32 mm	Resin	I
92008504	10 Pcs.	400 mm	3 mm	32 mm	Resin	I
95000292	10 Pcs.	500 mm	3 mm	32 mm	Resin	I



14 Cut-off wheels
for wet abrasive cut-off machines


Item No.	Unit	Description			
Diamond cut-off wheels for wet abrasive machines					
		Ø	Thickness	Arbor Size	Bond
» for ceramic materials					
92002450	1 Pcs.	230 mm	1.2 mm	32 mm	Bronze
92002452	1 Pcs.	250 mm	1.2 mm	32 mm	Bronze
92002453	1 Pcs.	300 mm	1.6 mm	32 mm	Bronze
» for hard metals, generally for materials of high hardness					
92002451	1 Pcs.	250 mm	1.2 mm	32 mm	Resin
92002454	1 Pcs.	300 mm	1.6 mm	32 mm	Resin
» for composite materials (hard/soft combinations)					
92004719	1 Pcs.	300 mm	1.3 mm	32 mm	Bronze
other diameters on request					

CBN cut-off wheels for wet abrasive machines					
		Ø	Thickness	Arbor Size	
» for Nickel and Cobalt based alloys					
92002456	1 Pcs.	250 mm	1.6 mm	32 mm	
92002457	1 Pcs.	300 mm	1.6 mm	32 mm	

Accessories for cut-off wheels					
Dressing stone					
92002460	1 Pcs.	Dressing stone for diamond cut-off wheels, CBN cut-off wheels and cup wheels			



Item No.	Unit	Description
Anti corrosion coolant for wet abrasive cut-off machines		
» for steel, cast iron, non-ferrous metal		
95012012	1 l	concentrate (ratio 1:35)
95012013	5 l	concentrate (ratio 1:35)
95012014	10 l	concentrate (ratio 1:35)

ATM-CoolCut, environment- and user-friendly**NEW****free of oil, boron, nitride and formaldehyde**

» for steel, cast iron, light and non-ferrous metal, glass and ceramics,
composites
good anti-corrosion protection and cutting properties

95004145	1 l	ATM-CoolCut (mixing ratio 1:25 (4%) – 1:12.5 (8%) / refractometer: 2.0%/°Bx
95004146	5 l	ATM-CoolCut (mixing ratio 1:25 (4%) – 1:12.5 (8%) / refractometer: 2.0%/°Bx
95004147	10 l	ATM-CoolCut (mixing ratio 1:25 (4%) – 1:12.5 (8%) / refractometer: 2.0%/°Bx

Cooling agent additives**ATM-CoolAdd NF**

92006504	1 kg	ATM-CoolAdd, additive for cutting of hard metals, c-steels, copper alloys (prevents dilution of cobalt or chrome)
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ATM-CoolClean F

92008684	1 l	ATM-CoolClean F, fungicide for cooling lubricants (prevents contamination by fungus and yeast fungus)
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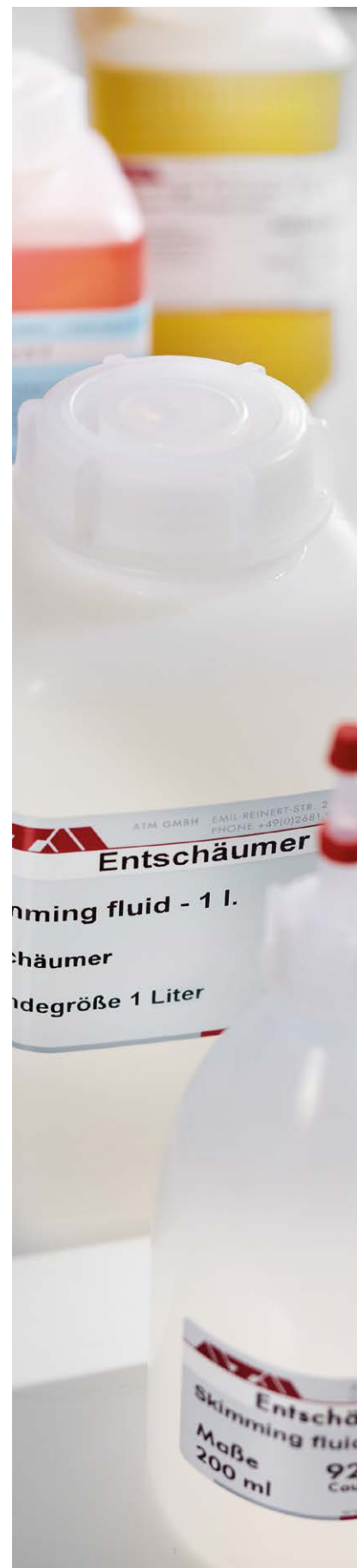
ATM-CoolClean B

95006593	1 kg	ATM-CoolClean B, bactericide for cooling lubricants (prevents contamination by a wide range of bacteria)
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Defoaming agent

92006503	200 m l	Defoaming agent, additive for water-based coolants
92006506	1 l	Defoaming agent, additive for water-based coolants

» Download of Safety Data Sheets at
<http://www.atm-m.com/products/consumables>





Item No.	Unit	Description
Accessories for maintenance and care of coolants		
Maintenance and testing set		
95007866	1 Pcs.	Maintenance and testing set for anti-corrosion coolant (case with handheld refractometer, plastic cup for extraction of sample, test strips, thermometer)
Accessories for maintenance and testing set		
92005616	100 Pcs.	pH test strips
92005613	100 Pcs.	Nitrate test strips
92005614	100 Pcs.	Nitrite test strips
95007865	100 Pcs.	Water hardness test strips
ATM-PreClean		
92006502	1 kg	ATM-PreClean, disinfection system cleaner for cleaning the coolant circulation system before exchanging coolant
Accessories for maintenance and care of cut-off machines		
Corrosion protection- and care spray		
95001749	400 ml	Corrosion protection- and care spray, fully synthetical, silicon-free corrosion protection oil, for metal surfaces (e.g. clamping vices)
Anti-fog spray		
95008900	100 ml	Anti-fog spray (prevents steaming up the viewing window by splash water)
» Download of Safety Data Sheets at http://www.atm-m.com/products/consumables		

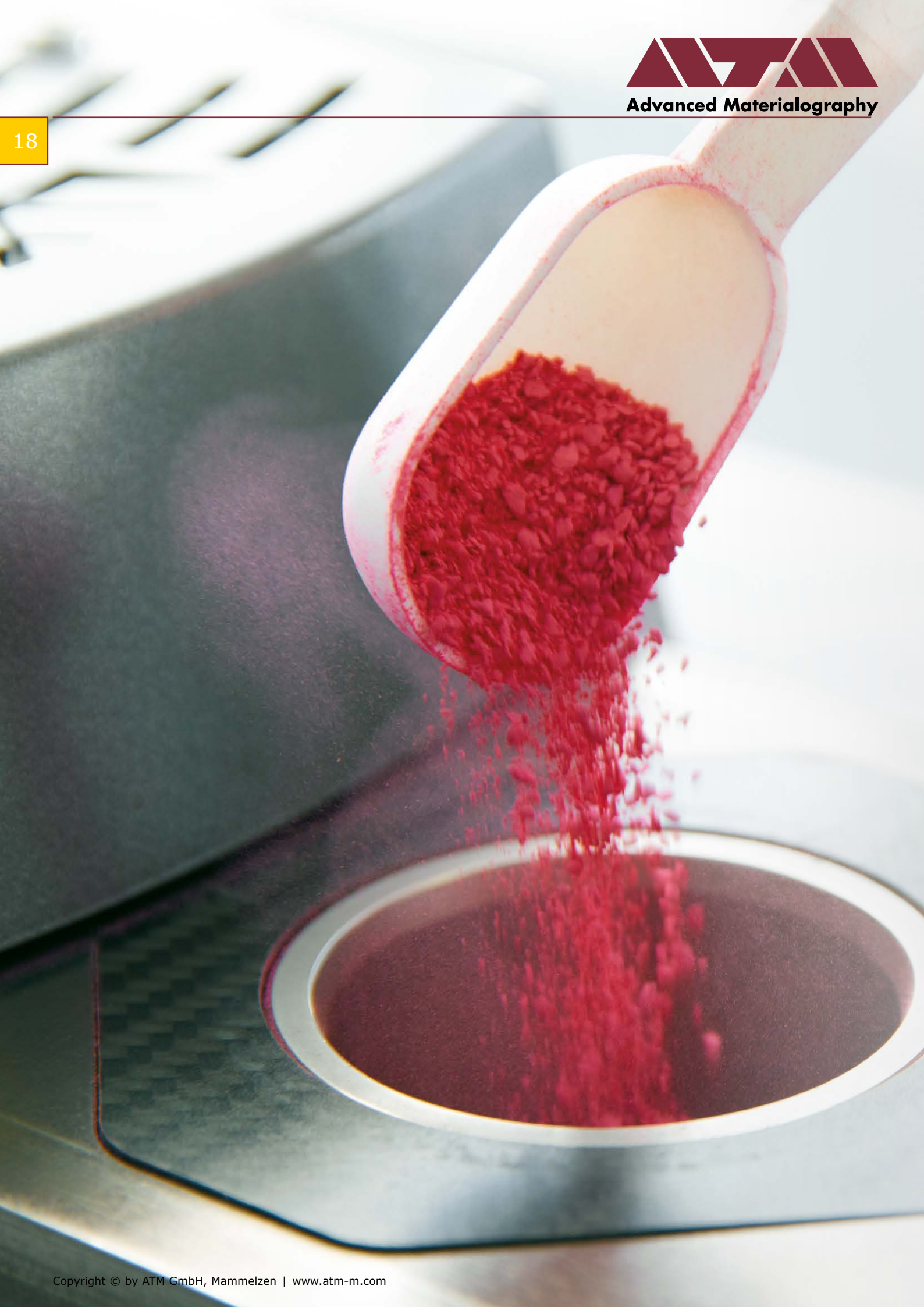


Item No.	Unit	Description
Filter fleece for belt filter systems		
Length x Width		
» for belt filter system BFA 165		
92008745	1 Pcs.	Filter fleece roll, fine, 100 µm 100 m x 450 mm
» for belt filter system BFA 325		
92008744	1 Pcs.	Filter fleece roll, coarse, 150 µm 100 m x 450 mm
» for belt filter system BFA 285		
92008780	1 Pcs.	Filter fleece roll, coarse, 150 µm 100 m x 710 mm
» for belt filter system BFA 100		
95001696	1 Pcs.	Filter fleece roll, coarse, 150 µm 100 m x 420 mm
» other sizes on request		

Filter fleece mat for recirculation cooling systems		
Length x Width		
» for Brillant 2000		
95007753	1 Pcs.	Filter fleece mat 940 x 720 mm
» for Brillant 285		
95007761	1 Pcs.	Filter fleece mat 724 x 720 mm

Filter inserts		
Dimensions		
» for Brillant 255/265/270/275/280		
92008739	1 Pcs.	Filter cloth and fleece 490 x 290 x 190 mm
» for recirculation cooling system 45 Ltr.		
92008741	1 Pcs.	Filter cloth and fleece 290 x 150 x 190 mm (until year of construction 2012)
95007759	1 Pcs.	Filter cloth and fleece 250 x 200 x 155 mm (from year of construction 2013)
» for settling tank		
92005993	1 Pcs.	Fleece 290 x 150 x 190 mm (until year of construction 2012)
95007760	1 Pcs.	Fleece 250 x 200 x 155 mm (from year of construction 2013)







Mounting

Page

Hot mounting material

20

Epo black, Duroplast blue, Duroplast black, Thermoplast, Bakelite black, red, green

Cold mounting material

21

KEM 15plus, KEM 20, KEM 30, KEM 35, KEM 90, Technovit 4000, Technovit 4002 IG, Technovit 4004, Technovit 4071

Accessories for mounting

25

Infiltration set, infiltration unit, pressure appliance aid, cold mounting moulds, accessories for mounting



Item No.	Unit	Description
Hot mounting material		
Epo black, epoxy resin, suppressed gap forming » very high hardness » contains a high proportion of glass and mineral filler		
95011990	1 kg	Epo black
95011991	5 kg	Epo black
95011992	10 kg	Epo black
Duroplast blue, diallylphthalate, suppressed gap forming » general purpose and especially for grinding stones » high hardness » contains a high proportion of glass fiber		
95011999	1 kg	Duroplast blue
95012000	5 kg	Duroplast blue
95012001	10 kg	Duroplast blue
Duroplast black, phenolic resin for SEM examinations and electrolytic polishing » medium hardness » conductive, contains graphite particles		
95011993	1 kg	Duroplast black
95011994	5 kg	Duroplast black
95011995	10 kg	Duroplast black
Thermoplast, acrylic resin for transparent mounts » ideal for targeted preparations » low - medium hardness		
95011996	1 kg	Thermoplast
95011997	5 kg	Thermoplast
95011998	10 kg	Thermoplast
Bakelite black, phenolic resin for general purpose » medium hardness » contains wood powder » very convenient material for filling		
95011981	1 kg	Bakelit black
95011982	5 kg	Bakeliet black
95011983	10 kg	Bakelite black
Bakelite red, phenolic resin for general purpose » medium hardness » contains wood powder		
95011984	1 kg	Bakelite red
95011985	5 kg	Bakelite red
95011986	10 kg	Bakelite red
Bakelite green, phenolic resin for general purpose » medium hardness » contains wood powder		
95011987	1 kg	Bakelite green
95011988	5 kg	Bakelite green
95011989	10 kg	Bakelite green


NEW



Item No.	Unit	Description
Cold mounting material methacrylate		
CT = curing time		
KEM 15 plus blue, opaque, suppressed gap formation 2-component system: powder + liquid (1.5:1 [Vol.-%]) » for gap-free mounting, edge examination, medium-hard to hard materials		
NEW		
95012019	1 Pcs.	KEM 15 plus, SET including 1 kg powder, 500 ml liquid, 40 mixing cups, 40 mixing sticks, 2 dosing spoons
95011628	1 kg	KEM 15 plus, powder, blue, opaque, suppressed gap formation, CT: approx. 15 min
95011630	10 kg	KEM 15 plus, powder, blue, opaque, suppressed gap formation, CT: approx. 15 min
95011629	500 ml	KEM 15 plus, liquid
95011631	5 l	KEM 15 plus, liquid
KEM 20, transparent (pressure appliance) 2-component system: powder + liquid (2:1 [Vol.-%]) » for transparent mounting (pressure vessel), targeted preparation		
95012020	1 Pcs.	KEM 20, SET including 1 kg powder, 500 ml liquid, 40 mixing cups, 40 mixing sticks, 2 dosing spoons
92002467	1 kg	KEM 20, powder, transparent, CT: approx. 12 min
92002469	5 kg	KEM 20, powder, transparent, CT: approx. 12 min
92002468	10 kg	KEM 20, powder, transparent, CT: approx. 12 min
92002470	500 ml	KEM 20, liquid
92002471	1 l	KEM 20, liquid
92002472	2.5 l	KEM 20, liquid
KEM 30, green, transparent 2-component system: powder + liquid (2:1 [Vol.-%]) » for semi-transparent mounting (pressure vessel), routine work, soft to medium-hard materials		
95012021	1 Pcs.	KEM 30, SET including 1 kg powder, 500 ml liquid, 40 mixing cups, 40 mixing sticks, 2 dosing spoons
92004080	1 kg	KEM 30, powder, green, transparent, CT: approx. 5 min
92004082	5 kg	KEM 30, powder, green, transparent, CT: approx. 5 min
92004081	500 ml	KEM 30, liquid
92004083	1 l	KEM 30, liquid
92002540	2.5 l	KEM 30, liquid
KEM 35, light green, opaque, low in gaps 2-component system: powder + liquid (1.5:1 [Vol.-%]) » for minimized gap formation, edge examination, medium-hard to very hard materials		
95012022	1 Pcs.	KEM 35, SET including 1 kg powder, 500 ml liquid, 40 mixing cups, 40 mixing sticks, 2 dosing spoons
92002473	1 kg	KEM 35, powder, light green, opaque, CT: approx. 12 min
92002474	5 kg	KEM 35, powder, light green, opaque, CT: approx. 12 min
92002512	10 kg	KEM 35, powder, light green, opaque, CT: approx. 12 min
92002475	500 ml	KEM 35, liquid
92002476	1 l	KEM 35, liquid
92002477	2.5 l	KEM 35, liquid
» Download of Safety Data Sheets at http://www.atm-m.com/products/consumables		





Item No.	Unit	Description
Cold mounting material epoxy resin		
CT = curing time		
KEM 90, clear, transparent		
2-components-system: resin + hardener (2:1 [weight-%])		
» suitable for vacuum infiltration e.g. porous materials		
92002484	500 ml	KEM 90, resin, clear, transparent, CT: approx. 16 - 24 h
92002485	250 ml	KEM 90, hardener

Cold mounting material methacrylate		
CT = curing time		
Technovit 4000 SET white, opaque		
3-component system: powder + fluid 1 + fluid 2 (3:2:1 [Vol.-%])		
92001683	1 Pcs.	Technovit 4000 SET (750 g / 500 ml / 250 ml), white, opaque, CT: approx. 8 min
92001684	1 Pcs.	Technovit 4000 SET (1.5 kg / 1 Ltr. / 500 ml), white, opaque, CT: approx. 8 min

Technovit 4002 IQ, white or green		
2-component system: powder + liquid (5:4 [Vol.-%])		
95007576	1.3 kg	Technovit 4002 IQ, powder, white, CT: approx. 12-17 min
95007577	13 kg	Technovit 4002 IQ, powder, white, CT: approx. 12-17 min
95007578	1.3 kg	Technovit 4002 IQ, powder, green, CT: approx. 9-15 min
95007579	13 kg	Technovit 4002 IQ, powder, green, CT: approx. 9-15 min
95007572	500 ml	Technovit 4002 IQ, liquid
95007573	1 l	Technovit 4002 IQ, liquid
95007574	5 l	Technovit 4002 IQ, liquid

Alternative: KEM 20		
Technovit 4004, transparent		
2-component system: powder + liquid (2:1 [Vol.-%])		
92001688	1 kg	Technovit 4004, powder, transparent (bubble-free in pressure appliance), CT: approx. 12 min
92001689	2 kg	Technovit 4004, powder, transparent (bubble-free in pressure appliance), CT: approx. 12 min
92001691	500 ml	Technovit 4004, liquid
92001692	1 l	Technovit 4004, liquid

Alternative: KEM 30		
Technovit 4071, green, transparent		
2-component system: powder + liquid (2:1 [Vol.-%])		
92001695	1 kg	Technovit 4071, powder, green, transparent, CT: approx. 4-6 min
92001696	2 kg	Technovit 4071, powder, green, transparent, CT: approx. 4-6 min
92001698	500 ml	Technovit 4071, liquid
92001699	1 l	Technovit 4071, liquid

» Download of Safety Data Sheets at
<http://www.atm-m.com/products/consumables>



Item No.	Unit	Description
Infiltration set		
» for cold mounting and hardening using vacuum, recommended for Epoxy resin		
Z6510000	1 Pcs.	desiccator incl. non-return valve, vacuum pump, hose and pressure gauge

Infiltration unit		
» for cold mounting, pouring and hardening using vacuum		
M6500001	1 Pcs.	infiltration unit, 230 V/50 Hz, vacuum pressure 0.8 bar, W 330 x H 270 x D 300 mm (including desiccator with mechanic dosing and vacuum pump, rotating disc for 8 silicon mounting cups Ø 50 mm or 9 PTFE-mounting cups Ø 40 mm, 10 mixing cups)
110 V/60 Hz on request		

Pressure unit		
Pressure equipment for bubble free hardening of methyldmethacrylates (e.g. for Technovit 4004, KEM 20), compressed air required		
92002281	1 Pcs.	Pressure equipment, dimensions: B340 x W340 x H255 mm

Properties of cold (castable) mounting materials

Mounting material	Recommended Application	Basis/ Filler	Hardness (Shore D)	Removal rate (grindability)
KEM 15 plus	Gap-free mounting, edge examination, medium-hard to hard materials	Methyl-methacrylate/styrole	85	very low
KEM 20	Transparent mounting (pressure vessel), targeted preparation	Methyl-methacrylate	82	medium
KEM 30	Semi-transparent mounting (pressure vessel), routine work, soft to medium-hard materials	Methyl-methacrylate	85	medium
KEM 35	Minimized gap formation, edge examination, medium-hard to hard materials	Methyl-methacrylate/ceramic	87	very low
KEM 90	Mounting using vacuum, sensitive and brittle materials	Epoxy resin	79	high





Item No.	Unit	Description
Cold mounting moulds		
Silicon rubber round, beveled edge reusable, not suitable for light curing		
92002511	1 Pcs.	Silicon rubber round, Ø 25 mm / H 23 mm
92002504	1 Pcs.	Silicon rubber round, Ø 30 mm / H 25 mm
92002505	1 Pcs.	Silicon rubber round, Ø 32 mm / H 25 mm
92002506	1 Pcs.	Silicon rubber round, Ø 38 mm / H 25 mm
92005567	1 Pcs.	Silicon rubber round, Ø 40 mm / H 30 mm
92005568	1 Pcs.	Silicon rubber round, Ø 50 mm / H 30 mm
Silicon rubber square, beveled edge reusable, not suitable for light curing		
92002509	1 Pcs.	Silicon rubber square, 55 x 30 mm / H 22 mm
92002510	1 Pcs.	Silicon rubber square, 70 x 40 mm / H 22 mm
Polypropylen round reusable, for light curing, with exchangeable bottom		
92001719	1 Pcs.	Polypropylen round, Ø 25 mm / H 27 mm
92001710	1 Pcs.	Polypropylen round, Ø 30 mm / H 27 mm
92001711	1 Pcs.	Polypropylen round, Ø 40 mm / H 27 mm
PTFE round, beveled edge reusable, not suitable for light curing, with exchangeable bottom		
92002513	1 Pcs.	PTFE round, Ø 25 mm / H 23 mm
92002514	1 Pcs.	PTFE round, Ø 30 mm / H 25 mm
92002515	1 Pcs.	PTFE round, Ø 32 mm / H 25 mm
92002516	1 Pcs.	PTFE round, Ø 38 mm / H 25 mm
92002517	1 Pcs.	PTFE round, Ø 40 mm / H 30 mm
92002518	1 Pcs.	PTFE round, Ø 50 mm / H 30 mm
92002519	1 Pcs.	PTFE round, Ø 70 mm / H 30 mm
PTFE square, beveled edge reusable, not suitable for light curing, with exchangeable bottom		
92002520	1 Pcs.	PTFE square, 65 x 35 mm / H 30 mm
92002521	1 Pcs.	PTFE square, 85 x 45 mm / H 30 mm
» other dimensions on request		



Item No.	Unit	Description
Accessories for mounting		
Accessories for hot mounting		
92002660	90 ml	Silicon paste, anti-stick agent
92002661	200 ml	Silicon spray, anti-stick agent
92004441	1 Pcs.	Brass brush for cleaning of hot mounting press
Accessories for cold mounting		
92001715	100 Pcs.	Mixing cups, disposable, 180 ml
92004360	1 Pcs.	Silicon mixing cup, reusable
92001717	100 Pcs.	Mixing sticks (wood)
92002623	100 Pcs.	Plastic mounting aid Ø 30 mm, gap 1 mm
92002625	100 Pcs.	Plastic mounting aid Ø 30 mm, gap 2 mm
92002624	100 Pcs.	Plastic mounting aid Ø 30 mm, gap 3 mm
Accessories for hot and cold mounting		
92002658	1 Pcs.	Funnel for hot mounting material
92002715	1 Pcs.	Square bottle with screw-top for approx. 1 ltr. mounting material
92004428	300 ml	Sample protection laquer, spray (conservation of samples)
92002657	100 Pcs.	Angle adapter for angled polishing, 10°
92001716	10 Pcs.	Dosing spoon for hot and cold mounting material, 13 ml
92001779	10 Pcs.	Dosing spoon for cold mounting material, 20 ml
92001781	10 Pcs.	Dosing spoon for cold mounting material, 13 ml
92002662	100 Pcs.	Steel clip for for aligning thin samples in mould
92002663	100 Pcs.	Plastic clip for aligning thin samples in mould, transparent
92002707	100 Pcs.	Plastic clip for aligning thin samples in mould, black
92002708	100 Pcs.	Plastic clip for aligning thin samples in mould, red
92002709	100 Pcs.	Plastic clip for aligning thin samples in mould, grey

NEW
Properties of hot mounting materials

Mounting material	Recommended Application	Basis/ Filler	Hardness (Shore D)	Removal rate (grindability)
Bakelite (black, red, green)	Routine work, soft to medium-hard materials, good for padding	Phenolic resin/ wood flour	92	medium
Epo black	Gap-free mounting, edge examination, medium-hard to hard materials	Epoxy resin/ minerals and glass fiber	93	very low
Duroplast black	Conductive, SEM-analysis, electrolytic polishing	Phenolic resin/ graphite	89	medium
Duroplast blue	Gap-free mounting, edge examination, soft to medium-hard materials, recommended for grinding stones	Phenolic resin/ glass fiber	92	low
Thermoplast	Transparent mounting, targeted preparation, good for padding, marking	Acrylic resin	86	medium







Grinding, Polishing, Etching

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Planar grinding

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Grinding wheels

Grinding

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Diamond grinding foils, zirconia aluminum grinding papers, Galaxy diamond grinding discs, silicon carbide grinding foils, adhesive carrier, zirconia aluminum grinding foils, silicon carbide wet grinding papers, silicon carbide grinding papers, double-side adhesive foils, wet grinding papers for Saphir 300, grinding belts

Polishing

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Dia-COMplete All-In-One diamond suspension (water-based)
Diamond suspension (alcohol-based), diamond suspension (oil-based),
diamond spray, diamond paste, diamond lubricant, alumina suspension, fine
polishing suspension, GALAXY polishing cloths with metal carrier, polishing
cloths, polishing cloth carrier discs, magnetic foil (self-adhesive)

Etching

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Electrolyte, accessories Kristall, etchants



Item No.	Unit	Description				
Planar grinding stone for Saphir 375						
		Usable Thickness	Arbor Size	Grain Size FEPA-standard	Ø	Inner Ø
SIC grinding stone » for sintered materials (low- and unalloyed), aluminum, chilled cast iron, copper						
95002223	1 Pcs.	30 mm	40 mm	80	350 mm	90 mm
White corundum grinding stone » for tool steel (hardened and not hardened), stainless steel, steel and cast iron						
95000180	1 Pcs.	30 mm	40 mm	100	350 mm	90 mm
95000210	1 Pcs.	30 mm	40 mm	150	350 mm	90 mm
95002034	1 Pcs.	30 mm	40 mm	180	350 mm	90 mm
» inner diameter 120 mm on request						
Multi point dressing diamond » for dressing face grinding stones						
92008759	1 Pcs.	Multi point dressing diamond				

Information about grinding stones for planar grinding / practically useable grinding layer thickness

All ATM grinding stones for planar grinding have a metal back, which enlarges the practically useable grinding layer thickness of the grinding stones.
Common grinding stones have a practically useable grinding layer thickness of 20 mm, whereas the ATM grinding stones have 32 mm (60% more!).

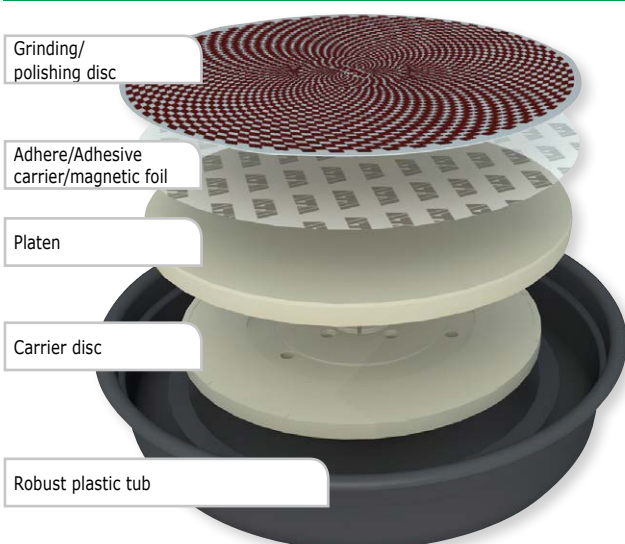


Item No.	Unit	Description		
GALAXY diamond grinding discs				
		Description	Ø	Fixation
considerably reduced grinding time compared to conventional grinding systems				
» for medium to hard steels				
» planar grinding: grey (P80-100) / red (P100-120)				
» fine grinding: green (P180-320) / blue (P400-600)				
» fine grinding: yellow (P800-1000)				
95005505	1 Pcs.	Galaxy Diamond Disc Grey	200 mm	Adhesion carrier/Magnet carrier
95005521	1 Pcs.	Galaxy Diamond Disc Red	200 mm	Adhesion carrier/Magnet carrier
95005522	1 Pcs.	Galaxy Diamond Disc Green	200 mm	Adhesion carrier/Magnet carrier
95005523	1 Pcs.	Galaxy Diamond Disc Blue	200 mm	Adhesion carrier/Magnet carrier
95005524	1 Pcs.	Galaxy Diamond Disc Yellow	200 mm	Adhesion carrier/Magnet carrier
95004279	1 Pcs.	Galaxy Diamond Disc Grey	250 mm	Adhesion carrier/Magnet carrier
95004310	1 Pcs.	Galaxy Diamond Disc Red	250 mm	Adhesion carrier/Magnet carrier
95004311	1 Pcs.	Galaxy Diamond Disc Green	250 mm	Adhesion carrier/Magnet carrier
95004312	1 Pcs.	Galaxy Diamond Disc Blue	250 mm	Adhesion carrier/Magnet carrier
95004313	1 Pcs.	Galaxy Diamond Disc Yellow	250 mm	Adhesion carrier/Magnet carrier
95004280	1 Pcs.	Galaxy Diamond Disc Grey	300 mm	Adhesion carrier/Magnet carrier
95004314	1 Pcs.	Galaxy Diamond Disc Red	300 mm	Adhesion carrier/Magnet carrier
95004315	1 Pcs.	Galaxy Diamond Disc Green	300 mm	Adhesion carrier/Magnet carrier
95004316	1 Pcs.	Galaxy Diamond Disc Blue	300 mm	Adhesion carrier/Magnet carrier
95004317	1 Pcs.	Galaxy Diamond Disc Yellow	300 mm	Adhesion carrier/Magnet carrier
» incl. Dressing stone No. 95006603				

Range of GALAXY grinding and polishing systems

µm	125			46			26			15
FEPA	P80-100	P100-120	P180	P240	P320	P400	P500	P600	P800	P1000
Galaxy	GREY	RED	GREEN			BLUE			YELLOW	

Carrier systems for grinding tools



The ATM Galaxy system consist of five different grinding discs, which are optimal tuned to each other. They can be used for planar -grinding, polishing, for various materials, for manual, semi-automated, and full-automated preparation.





Item No.	Unit	Description		
		Diamond grinding foils, metal bond		
		Ø	Grain Size	
very long lifetime » for planar and fine grinding of samples with medium to very high hardness, esp. rocks, glass, ceramics, silicon				
92002289	1 Pcs.	200 mm	20 µm	self-adhesive
92002292	1 Pcs.	200 mm	40 µm	self-adhesive
92002293	1 Pcs.	200 mm	74 µm	self-adhesive
92002294	1 Pcs.	200 mm	125 µm	self-adhesive
92002301	1 Pcs.	250 mm	20 µm	self-adhesive
92002299	1 Pcs.	250 mm	40 µm	self-adhesive
92002298	1 Pcs.	250 mm	74 µm	self-adhesive
92002297	1 Pcs.	250 mm	125 µm	self-adhesive
92002296	1 Pcs.	250 mm	250 µm	self-adhesive
92002308	1 Pcs.	300 mm	20 µm	self-adhesive
92002306	1 Pcs.	300 mm	40 µm	self-adhesive
92002305	1 Pcs.	300 mm	74 µm	self-adhesive
92002304	1 Pcs.	300 mm	125 µm	self-adhesive
92002303	1 Pcs.	300 mm	250 µm	self-adhesive
		Zirconia aluminum oxid grinding papers for coarse grinding		
		Ø	Grain FEPA-Standard	Fixation
very high removal rate, long lifetime » for planar grinding of larger sample cross sections, spectral analysis				
92002374	25 Pcs.	200 mm	P60	self-adhesive
92002375	25 Pcs.	200 mm	P120	self-adhesive
92002376	25 Pcs.	200 mm	P180	self-adhesive
92002382	25 Pcs.	250 mm	P60	self-adhesive
92002383	25 Pcs.	250 mm	P120	self-adhesive
92002384	25 Pcs.	250 mm	P180	self-adhesive
92002386	25 Pcs.	300 mm	P60	self-adhesive
92002387	25 Pcs.	300 mm	P120	self-adhesive
92002388	25 Pcs.	300 mm	P180	self-adhesive



Item No.	Unit	Description		
		Silicon carbide grinding foils		
		Ø	Grain FEPA-standard	
		very plane, no rolling up » multiple use, tear-resistant, approved foil thickness » fixation without clamping ring		
92008594	100 Pcs.	200 mm	P120	Adhesion carrier/Vacuum system
92008595	100 Pcs.	200 mm	P180	Adhesion carrier/Vacuum system
95007925	100 Pcs.	200 mm	P240	Adhesion carrier/Vacuum system
92008592	100 Pcs.	200 mm	P320	Adhesion carrier/Vacuum system
92008591	100 Pcs.	200 mm	P600	Adhesion carrier/Vacuum system
95000870	100 Pcs.	200 mm	P800	Adhesion carrier/Vacuum system
92008596	100 Pcs.	200 mm	P1200	Adhesion carrier/Vacuum system
95008558	100 Pcs.	200 mm	P2500	Adhesion carrier/Vacuum system
92008557	100 Pcs.	250 mm	P120	Adhesion carrier/Vacuum system
92008558	100 Pcs.	250 mm	P180	Adhesion carrier/Vacuum system
95000899	100 Pcs.	250 mm	P240	Adhesion carrier/Vacuum system
92006305	100 Pcs.	250 mm	P320	Adhesion carrier/Vacuum system
92006304	100 Pcs.	250 mm	P600	Adhesion carrier/Vacuum system
95000900	100 Pcs.	250 mm	P800	Adhesion carrier/Vacuum system
92008559	100 Pcs.	250 mm	P1200	Adhesion carrier/Vacuum system
92008639	100 Pcs.	250 mm	P2500	Adhesion carrier/Vacuum system
92008561	100 Pcs.	300 mm	P120	Adhesion carrier/Vacuum system
92008658	100 Pcs.	300 mm	P180	Adhesion carrier/Vacuum system
95000902	100 Pcs.	300 mm	P240	Adhesion carrier/Vacuum system
92006303	100 Pcs.	300 mm	P320	Adhesion carrier/Vacuum system
92006302	100 Pcs.	300 mm	P600	Adhesion carrier/Vacuum system
95000903	100 Pcs.	300 mm	P800	Adhesion carrier/Vacuum system
92008562	100 Pcs.	300 mm	P1200	Adhesion carrier/Vacuum system
92008621	100 Pcs.	300 mm	P2500	Adhesion carrier/Vacuum system

Information adhesion carrier

The ATM adhere carrier is a universal adapter with nano-active surface. Consequently, a good adhesion combined with easy disassembling of the grinding and polishing discs are guaranteed.

The adhesion carrier is compatible with:

Galaxy grinding and polishing discs, SiC foils, SiC paper (with foiled back), polishing cloths with carrier disc.





Item No.	Unit	Description		
		Alumina grinding foils		
		Ø Grain Size FEPA-standard		
		» for all applications, spectral analysis		
		» very plane grinding		
		» multiple use		
		» fixation without clamping ring		
95002894	100 Pcs.	250 mm	P120	Adhesion carrier/Vacuum system
95002895	100 Pcs.	250 mm	P240	Adhesion carrier/Vacuum system
95002897	100 Pcs.	250 mm	P400	Adhesion carrier/Vacuum system
95002898	100 Pcs.	250 mm	P600	Adhesion carrier/Vacuum system
95002903	100 Pcs.	250 mm	P800	Adhesion carrier/Vacuum system
95002899	100 Pcs.	250 mm	P1200	Adhesion carrier/Vacuum system
95003680	100 Pcs.	250 mm	P2500	Adhesion carrier/Vacuum system
92008672	100 Pcs.	300 mm	P120	Adhesion carrier/Vacuum system
92008673	100 Pcs.	300 mm	P240	Adhesion carrier/Vacuum system
92008674	100 Pcs.	300 mm	P400	Adhesion carrier/Vacuum system
92008675	100 Pcs.	300 mm	P600	Adhesion carrier/Vacuum system
95003258	100 Pcs.	300 mm	P800	Adhesion carrier/Vacuum system
92008676	100 Pcs.	300 mm	P1200	Adhesion carrier/Vacuum system
95003259	100 Pcs.	300 mm	P2500	Adhesion carrier/Vacuum system

Especially suitable for adhere carrier disc (page 31)



Item No.	Unit	Description		
		Silicon carbide grinding paper, with foil backing		
		Ø Grain FEPA-standard		
		» for all adhesive systems e.g. adhesion carrier disc		
		» fixation without clamping ring		
95011898	100 Pcs.	200 mm	P80	Adhesion carrier/Vacuum system
95011899	100 Pcs.	200 mm	P120	Adhesion carrier/Vacuum system
95011900	100 Pcs.	200 mm	P180	Adhesion carrier/Vacuum system
95011901	100 Pcs.	200 mm	P240	Adhesion carrier/Vacuum system
95011902	100 Pcs.	200 mm	P320	Adhesion carrier/Vacuum system
95011903	100 Pcs.	200 mm	P400	Adhesion carrier/Vacuum system
95011904	100 Pcs.	200 mm	P500	Adhesion carrier/Vacuum system
95011905	100 Pcs.	200 mm	P600	Adhesion carrier/Vacuum system
95011906	100 Pcs.	200 mm	P800	Adhesion carrier/Vacuum system
95011907	100 Pcs.	200 mm	P1000	Adhesion carrier/Vacuum system
95011908	100 Pcs.	200 mm	P1200	Adhesion carrier/Vacuum system
95011909	100 Pcs.	200 mm	P2500	Adhesion carrier/Vacuum system
95011928	100 Pcs.	250 mm	P80	Adhesion carrier/Vacuum system
95011929	100 Pcs.	250 mm	P120	Adhesion carrier/Vacuum system
95011930	100 Pcs.	250 mm	P180	Adhesion carrier/Vacuum system
95011931	100 Pcs.	250 mm	P240	Adhesion carrier/Vacuum system
95011932	100 Pcs.	250 mm	P320	Adhesion carrier/Vacuum system
95011933	100 Pcs.	250 mm	P400	Adhesion carrier/Vacuum system
95011934	100 Pcs.	250 mm	P500	Adhesion carrier/Vacuum system
95011935	100 Pcs.	250 mm	P600	Adhesion carrier/Vacuum system
95011936	100 Pcs.	250 mm	P800	Adhesion carrier/Vacuum system
95011937	100 Pcs.	250 mm	P1000	Adhesion carrier/Vacuum system
95011938	100 Pcs.	250 mm	P1200	Adhesion carrier/Vacuum system
95011939	100 Pcs.	250 mm	P2500	Adhesion carrier/Vacuum system
95011943	100 Pcs.	300 mm	P80	Adhesion carrier/Vacuum system
95011944	100 Pcs.	300 mm	P120	Adhesion carrier/Vacuum system
95011945	100 Pcs.	300 mm	P180	Adhesion carrier/Vacuum system
95011946	100 Pcs.	300 mm	P240	Adhesion carrier/Vacuum system
95011947	100 Pcs.	300 mm	P320	Adhesion carrier/Vacuum system
95011948	100 Pcs.	300 mm	P400	Adhesion carrier/Vacuum system
95011949	100 Pcs.	300 mm	P500	Adhesion carrier/Vacuum system
95011950	100 Pcs.	300 mm	P600	Adhesion carrier/Vacuum system
95011951	100 Pcs.	300 mm	P800	Adhesion carrier/Vacuum system
95011952	100 Pcs.	300 mm	P1000	Adhesion carrier/Vacuum system
95011953	100 Pcs.	300 mm	P1200	Adhesion carrier/Vacuum system
95011954	100 Pcs.	300 mm	P2500	Adhesion carrier/Vacuum system

Especially suitable for adhere carrier disc (page 31)





Item No.	Unit	Description		
		Silicon carbide grinding papers		
		Ø	Grain FEPA-Standard	Fixation
		» for all kinds of conventional surfaces		
92002544	100 Pcs.	200 mm	P80	self-adhesive
92002545	100 Pcs.	200 mm	P120	self-adhesive
92002546	100 Pcs.	200 mm	P180	self-adhesive
92002547	100 Pcs.	200 mm	P240	self-adhesive
92002548	100 Pcs.	200 mm	P320	self-adhesive
92002549	100 Pcs.	200 mm	P400	self-adhesive
92004516	100 Pcs.	200 mm	P600	self-adhesive
92002550	100 Pcs.	200 mm	P800	self-adhesive
92002551	100 Pcs.	200 mm	P1000	self-adhesive
92002638	100 Pcs.	200 mm	P1200	self-adhesive
92002761	100 Pcs.	200 mm	P2400	self-adhesive
92004561	100 Pcs.	200 mm	P2500	self-adhesive
92002762	100 Pcs.	200 mm	P4000	self-adhesive
92001633	100 Pcs.	230 mm	P80	self-adhesive
92001634	100 Pcs.	230 mm	P120	self-adhesive
92001635	100 Pcs.	230 mm	P180	self-adhesive
92001636	100 Pcs.	230 mm	P240	self-adhesive
92001637	100 Pcs.	230 mm	P320	self-adhesive
92001638	100 Pcs.	230 mm	P400	self-adhesive
92004517	100 Pcs.	230 mm	P600	self-adhesive
92001639	100 Pcs.	230 mm	P800	self-adhesive
92001640	100 Pcs.	230 mm	P1000	self-adhesive
92001641	100 Pcs.	230 mm	P1200	self-adhesive
92002862	100 Pcs.	230 mm	P2400	self-adhesive
92004562	100 Pcs.	230 mm	P2500	self-adhesive
92002863	100 Pcs.	230 mm	P4000	self-adhesive
92001643	100 Pcs.	250 mm	P80	self-adhesive
92001644	100 Pcs.	250 mm	P120	self-adhesive
92001645	100 Pcs.	250 mm	P180	self-adhesive
92004953	100 Pcs.	250 mm	P240	self-adhesive
92001647	100 Pcs.	250 mm	P320	self-adhesive
92001648	100 Pcs.	250 mm	P400	self-adhesive
92001649	100 Pcs.	250 mm	P600	self-adhesive
92001650	100 Pcs.	250 mm	P800	self-adhesive
92001651	100 Pcs.	250 mm	P1000	self-adhesive
92001652	100 Pcs.	250 mm	P1200	self-adhesive
92002763	100 Pcs.	250 mm	P2400	self-adhesive
92004563	100 Pcs.	250 mm	P2500	self-adhesive
92002764	100 Pcs.	250 mm	P4000	self-adhesive

NEW



Item No.	Unit	Description		
		Silicon carbide grinding papers, self-adhesive		
		Ø	Grain FEPA-Standard	Fixation
		» for all kinds of conventional surfaces		
92001654	100 Pcs.	300 mm	P80	self-adhesive
92001655	100 Pcs.	300 mm	P120	self-adhesive
92001657	100 Pcs.	300 mm	P180	self-adhesive
92001658	100 Pcs.	300 mm	P240	self-adhesive
92001659	100 Pcs.	300 mm	P320	self-adhesive
92001660	100 Pcs.	300 mm	P400	self-adhesive
92001661	100 Pcs.	300 mm	P600	self-adhesive
92001662	100 Pcs.	300 mm	P800	self-adhesive
92001663	100 Pcs.	300 mm	P1000	self-adhesive
92001664	100 Pcs.	300 mm	P1200	self-adhesive
92002765	100 Pcs.	300 mm	P2400	self-adhesive
92004564	100 Pcs.	300 mm	P2500	self-adhesive
92002766	100 Pcs.	300 mm	P4000	self-adhesive





Item No.	Unit	Description		
		Silicon carbide grinding papers		
		Ø	Grain FEPA-Standard	Fixation
		» without adhesive backing		
		» suitable with clamping ring, adhesive foil or spray glue		
92001810	100 Pcs.	200 mm	P60	Clamping Ring/Adhesive Foil
92001811	100 Pcs.	200 mm	P80	Clamping Ring/Adhesive Foil
92001812	100 Pcs.	200 mm	P120	Clamping Ring/Adhesive Foil
92001813	100 Pcs.	200 mm	P180	Clamping Ring/Adhesive Foil
92001814	100 Pcs.	200 mm	P240	Clamping Ring/Adhesive Foil
92001815	100 Pcs.	200 mm	P320	Clamping Ring/Adhesive Foil
92001816	100 Pcs.	200 mm	P400	Clamping Ring/Adhesive Foil
92001817	100 Pcs.	200 mm	P500	Clamping Ring/Adhesive Foil
92001818	100 Pcs.	200 mm	P600	Clamping Ring/Adhesive Foil
92001819	100 Pcs.	200 mm	P800	Clamping Ring/Adhesive Foil
92001820	100 Pcs.	200 mm	P1000	Clamping Ring/Adhesive Foil
92001821	100 Pcs.	200 mm	P1200	Clamping Ring/Adhesive Foil
92002634	100 Pcs.	200 mm	P2400	Clamping Ring/Adhesive Foil
92004557	100 Pcs.	200 mm	P2500	Clamping Ring/Adhesive Foil
92002640	100 Pcs.	200 mm	P4000	Clamping Ring/Adhesive Foil
92001567	100 Pcs.	230 mm	P60	Clamping Ring/Adhesive Foil
92001568	100 Pcs.	230 mm	P80	Clamping Ring/Adhesive Foil
92001569	100 Pcs.	230 mm	P120	Clamping Ring/Adhesive Foil
92001570	100 Pcs.	230 mm	P180	Clamping Ring/Adhesive Foil
92001571	100 Pcs.	230 mm	P240	Clamping Ring/Adhesive Foil
92001572	100 Pcs.	230 mm	P320	Clamping Ring/Adhesive Foil
92001573	100 Pcs.	230 mm	P400	Clamping Ring/Adhesive Foil
92001574	100 Pcs.	230 mm	P500	Clamping Ring/Adhesive Foil
92001575	100 Pcs.	230 mm	P600	Clamping Ring/Adhesive Foil
92001576	100 Pcs.	230 mm	P800	Clamping Ring/Adhesive Foil
92001577	100 Pcs.	230 mm	P1000	Clamping Ring/Adhesive Foil
92001578	100 Pcs.	230 mm	P1200	Clamping Ring/Adhesive Foil
92002635	100 Pcs.	230 mm	P2400	Clamping Ring/Adhesive Foil
92004558	100 Pcs.	230 mm	P2500	Clamping Ring/Adhesive Foil
92001579	100 Pcs.	230 mm	P4000	Clamping Ring/Adhesive Foil

Clamping Ring

Ø

» made from plastic

05610228	1 Pcs.	200 mm
05610227	1 Pcs.	230 mm
05610226	1 Pcs.	250 mm
05610225	1 Pcs.	300 mm



Item No.	Unit	Description		
		Silicon carbide grinding papers		
		Ø	Grain FEPA-Standard	Fixation
		» without adhesive backing		
		» suitable with clamping ring, adhesive foil or spray glue		
92001580	100 Pcs.	250 mm	P60	Clamping Ring/Adhesive Foil
92001581	100 Pcs.	250 mm	P80	Clamping Ring/Adhesive Foil
92001582	100 Pcs.	250 mm	P120	Clamping Ring/Adhesive Foil
92001583	100 Pcs.	250 mm	P180	Clamping Ring/Adhesive Foil
92002369	100 Pcs.	250 mm	P240	Clamping Ring/Adhesive Foil
92001585	100 Pcs.	250 mm	P320	Clamping Ring/Adhesive Foil
92001586	100 Pcs.	250 mm	P400	Clamping Ring/Adhesive Foil
92001587	100 Pcs.	250 mm	P500	Clamping Ring/Adhesive Foil
92001588	100 Pcs.	250 mm	P600	Clamping Ring/Adhesive Foil
92001589	100 Pcs.	250 mm	P800	Clamping Ring/Adhesive Foil
92001590	100 Pcs.	250 mm	P1000	Clamping Ring/Adhesive Foil
92001591	100 Pcs.	250 mm	P1200	Clamping Ring/Adhesive Foil
92002636	100 Pcs.	250 mm	P2400	Clamping Ring/Adhesive Foil
92004559	100 Pcs.	250 mm	P2500	Clamping Ring/Adhesive Foil
92001592	100 Pcs.	250 mm	P4000	Clamping Ring/Adhesive Foil
92001593	100 Pcs.	300 mm	P60	Clamping Ring/Adhesive Foil
92001594	100 Pcs.	300 mm	P80	Clamping Ring/Adhesive Foil
92001595	100 Pcs.	300 mm	P120	Clamping Ring/Adhesive Foil
92001596	100 Pcs.	300 mm	P180	Clamping Ring/Adhesive Foil
92001597	100 Pcs.	300 mm	P240	Clamping Ring/Adhesive Foil
92001598	100 Pcs.	300 mm	P320	Clamping Ring/Adhesive Foil
92001599	100 Pcs.	300 mm	P400	Clamping Ring/Adhesive Foil
92001600	100 Pcs.	300 mm	P500	Clamping Ring/Adhesive Foil
92001601	100 Pcs.	300 mm	P600	Clamping Ring/Adhesive Foil
92001602	100 Pcs.	300 mm	P800	Clamping Ring/Adhesive Foil
92001603	100 Pcs.	300 mm	P1000	Clamping Ring/Adhesive Foil
92001604	100 Pcs.	300 mm	P1200	Clamping Ring/Adhesive Foil
92002637	100 Pcs.	300 mm	P2400	Clamping Ring/Adhesive Foil
92004560	100 Pcs.	300 mm	P2500	Clamping Ring/Adhesive Foil
92002154	100 Pcs.	300 mm	P4000	Clamping Ring/Adhesive Foil

Double-sided adhesive foils**Ø**

» for grinding papers

92002522	5 Pcs.	200 mm
92002524	5 Pcs.	250 mm
92002525	5 Pcs.	300 mm





Item No.	Unit	Description	
Grinding papers for Saphir 300 (mobile grinder and polisher)			
Ø Grain FEPA-Standard			
Corundum grinding papers with hook-and-loop fastener backing			
92004285	100 Pcs.	30 mm	P60
92004286	100 Pcs.	30 mm	P180
92004288	100 Pcs.	30 mm	P240
92004287	100 Pcs.	30 mm	P320
Silicon grinding papers with adhesive backing			
92004498	100 Pcs.	30 mm	P400
92004499	100 Pcs.	30 mm	P600
92004631	100 Pcs.	30 mm	P1000
» all polishing cloths also available with Ø 30 mm			

Silicon carbide grinding belts			
Dimensions Grain FEPA-standard			
Corundum grinding belts, water resistant			
92002528	5 Pcs.	100 x 920 mm	P80
92002529	5 Pcs.	100 x 920 mm	P120
92002530	5 Pcs.	100 x 920 mm	P180
92002531	5 Pcs.	100 x 920 mm	P240
92004505	5 Pcs.	100 x 920 mm	P320
92002953	5 Pcs.	100 x 915 mm	P80
92002954	5 Pcs.	100 x 915 mm	P120
Silicon carbide grinding belts, water-resistant			
92002664	5 Pcs.	100 x 915 mm	P80
92002665	5 Pcs.	100 x 915 mm	P120
92002666	5 Pcs.	100 x 915 mm	P180
92002667	5 Pcs.	100 x 915 mm	P240
92004613	5 Pcs.	100 x 915 mm	P320
92002394	5 Pcs.	100 x 915 mm	P400



Item No.	Unit	Description	
Dia-COMPLETE Poly, All-In-One Diamond suspension, water-based			
Grain Size (µm)			
Combined product of diamond suspension including lubricant			
» water-based (ecologically friendly)			
» closely tolerated grain size			
» high diamond concentration			
» very high stock removal rate and repeatable results			
95011833	500 ml	0.25	polycrystalline
95011839	1 l	0.25	polycrystalline
95011845	2.5 l	0.25	polycrystalline
95011834	500 ml	1	polycrystalline
95011840	1 l	1	polycrystalline
95011846	2.5 l	1	polycrystalline
95011835	500 ml	3	polycrystalline
95011841	1 l	3	polycrystalline
95011847	2.5 l	3	polycrystalline
95011836	500 ml	6	polycrystalline
95011842	1 l	6	polycrystalline
95011848	2.5 l	6	polycrystalline
95011837	500 ml	9	polycrystalline
95011843	1 l	9	polycrystalline
95011849	2.5 l	9	polycrystalline
95011838	500 ml	15	polycrystalline
95011844	1 l	15	polycrystalline
95011850	2.5 l	15	polycrystalline

NEW

Dia-COMPLETE Mono, All-In-One Diamond suspension, water-based			
Grain Size (µm)			
Combined product of diamond suspension including lubricant » water-based (ecologically friendly) » closely tolerated grain size » high diamond concentration » very high stock removal rate and repeatable results			
95011815	500 ml	1	monocrystalline
95011820	1 l	1	monocrystalline
95011825	2.5 l	1	monocrystalline
95011816	500 ml	3	monocrystalline
95011821	1 l	3	monocrystalline
95011826	2.5 l	3	monocrystalline
95011817	500 ml	6	monocrystalline
95011822	1 l	6	monocrystalline
95011827	2.5 l	6	monocrystalline
95011818	500 ml	9	monocrystalline
95011823	1 l	9	monocrystalline
95011828	2.5 l	9	monocrystalline
95011819	500 ml	15	monocrystalline
95011824	1 l	15	monocrystalline
95011829	2.5 l	15	monocrystalline

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Item No.	Unit	Description	
Diamond suspension polycrystalline			
Grain Size (µm)			
» water-based (ecologically friendly)			
» closely tolerated grain size			
» high diamond concentration			
» very high stock removal			
92002353	250 ml	1	polycrystalline
92002592	400 ml	1	polycrystalline
92004798	1 l	1	polycrystalline
95002761	2.5 l	1	polycrystalline
92002354	250 ml	3	polycrystalline
92002593	400 ml	3	polycrystalline
92004799	1 l	3	polycrystalline
95002762	2.5 l	3	polycrystalline
92002355	250 ml	6	polycrystalline
92002594	400 ml	6	polycrystalline
92004800	1 l	6	polycrystalline
95002763	2.5 l	6	polycrystalline
92002356	250 ml	9	polycrystalline
92002595	400 ml	9	polycrystalline
92004801	1 l	9	polycrystalline
95002764	2.5 l	9	polycrystalline
92002357	250 ml	15	polycrystalline
92002670	400 ml	15	polycrystalline
95005738	1 l	15	polycrystalline
95002765	2.5 l	15	polycrystalline
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Item No.	Unit	Description	
		Diamond suspension monocrystalline	
		Grain Size (µm)	
		» water-based (ecologically friendly)	
		» closely tolerated grain size	
		» high diamond concentration	
		» very high stock removal rate	
92002346	250 ml	1	monocrystalline
92001725	400 ml	1	monocrystalline
92004791	1 l	1	monocrystalline
95002755	2.5 l	1	monocrystalline
92002347	250 ml	3	monocrystalline
92001727	400 ml	3	monocrystalline
92004792	1 l	3	monocrystalline
95002756	2.5 l	3	monocrystalline
92002348	250 ml	6	monocrystalline
92001728	400 ml	6	monocrystalline
92004793	1 l	6	monocrystalline
95002757	2.5 l	6	monocrystalline
92002349	250 ml	9	monocrystalline
92001733	400 ml	9	monocrystalline
92004794	1 l	9	monocrystalline
95002758	2.5 l	9	monocrystalline
92002350	250 ml	15	monocrystalline
92002589	400 ml	15	monocrystalline
92004795	1 l	15	monocrystalline
95002759	2.5 l	15	monocrystalline
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Color code diamond suspension monocrystalline

Grain size µm	Color
1 µm	Blue
3 µm	Green
6 µm	Yellow
9 µm	Red





Item No.	Unit	Description	
Diamond suspension (alcohol-based) polycrystalline			
Grain Size (µm)			
alcohol-based (ecologically friendly)			
» for water-free preparation			
» closely tolerated grain size, high diamond concentration			
» very high stock removal rate			
95003494	1 l	1	polycrystalline
95003495	1 l	3	polycrystalline
95003496	1 l	6	polycrystalline
95003497	1 l	9	polycrystalline
95007978	1 l	15	polycrystalline

Diamond suspension (alcohol-based) monocrystalline			
Grain Size (µm)			
alcohol-based (ecologically friendly)			
» for water-free preparation			
» closely tolerated grain size, high diamond concentration			
» high stock removal rate			
95003490	1 l	1	monocrystalline
95003491	1 l	3	monocrystalline
95003492	1 l	6	monocrystalline
95003493	1 l	9	monocrystalline
95007977	1 l	15	monocrystalline

Diamond suspension (oil-based) polycrystalline			
Grain Size (µm)			
oil-based			
» for water-free preparation			
» closely tolerated grain size, high diamond concentration			
» very high stock removal rate			
95002792	1 l	1	monocrystalline
95002793	1 l	3	monocrystalline
95002794	1 l	6	monocrystalline
95002795	1 l	9	monocrystalline
95002976	1 l	15	monocrystalline

Diamond suspension (oil-based) monocrystalline			
Grain Size (µm)			
oil-based			
» for water-free preparation			
» closely tolerated grain size, high diamond concentration			
» high stock removal rate			
95002767	1 l	1	monocrystalline
95002768	1 l	3	monocrystalline
95002769	1 l	6	monocrystalline
95002770	1 l	9	monocrystalline
95002771	1 l	15	monocrystalline



Item No.	Unit	Description
Diamond spray polycrystalline		
Grain Size (µm)		
CFC-free » very high diamond concentration » closely tolerated grain size » very high stock removal rate		
95005380	150 ml	1 polycrystalline
95005381	150 ml	3 polycrystalline
95005382	150 ml	6 polycrystalline
95005383	150 ml	9 polycrystalline

Diamond spray monocrystalline		
Grain Size (µm)		
CFC-free » very high diamond concentration » closely tolerated grain size » high stock removal rate		
95010491	150 ml	1 monocrystalline
95010492	150 ml	3 monocrystalline
95010493	150 ml	6 monocrystalline
95010494	150 ml	9 monocrystalline

Diamond paste polycrystalline		
Grain Size (µm)		
Diamond paste, 10 g syringe » closely tolerated grain size » very high diamond concentration » very high stock removal rate		
92002340	10 g	1 polycrystalline
92002341	10 g	3 polycrystalline
92002342	10 g	6 polycrystalline
92002343	10 g	9 polycrystalline
92002344	10 g	15 polycrystalline

Diamond paste monocrystalline		
Grain Size (µm)		
Diamond paste, 10 g syringe » closely tolerated grain size » very high diamond concentration » high stock removal rate		
92002333	10 g	1 monocrystalline
92002316	10 g	3 monocrystalline
92002335	10 g	6 monocrystalline
92002336	10 g	9 monocrystalline
92002337	10 g	15 monocrystalline

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Item No.	Unit	Description		
		Diamond lubricant		
		Description	Characteristics	
		additive for diamond suspension/paste		
92005509	1 l	Diamond lubricant	- water-based -	ecologically friendly
92004925	2.5 l	Diamond lubricant	- water-based -	ecologically friendly
92005510	5 l	Diamond lubricant	- water-based -	ecologically friendly
95000901	1 l	Diamond lubricant	- alcohol-based -	for water-free preparation
95000911	2.5 l	Diamond lubricant	- alcohol-based -	for water-free preparation
95001194	5 l	Diamond lubricant	- alcohol-based -	for water-free preparation
95001759	1 l	Diamond lubricant	- oil-based -	for water-free preparation
95001772	2.5 l	Diamond lubricant	- oil-based -	for water-free preparation
95001784	5 l	Diamond lubricant	- oil-based -	for water-free preparation

Information Diamond lubricant

Diamond lubricant can be applied for lubrication and dilution of concentrated diamond suspensions and diamond pastes on a polishing cloth. Additionally, they act as coolant during the polishing process.
When using Dia-Complete-Suspension no additional lubricant is needed.



Item No.	Unit	Description
Alumina suspension, calcinated		
		Description Grain Size
aqueous concentrate, to dilute, 3-5 part of dest. water		
92002533	1 l	Alumina suspension 0.3 µm
92002532	1 l	Alumina suspension 0.6 µm
92004950	1 l	Alumina suspension 1 µm

Fine polishing suspensions

Description Grain Size

Fine polishing suspension (Al₂O₃, Sol-Gel suspension)

» does not crystallize

» for ferrous materials, polymers, composites, PCB, rocks and minerals

92002534	1 l	Eposil, pH≈8.0 0.06 µm
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Colloidal silica

» for polishing, also mixable with diluted etchant

» for ferrous and non-ferrous materials, especially soft materials like Al,Cu,Ti and solder joints

92002536	1 l	Eposil F, pH≈9.5 0.1 µm
92002541	1 l	Eposil M, pH≈9.5 0.06 µm

Colloidal silica

» for titanium, nickel, zinc and its alloys

95001206	1 l	Eposil M11, pH≈11 0.06 µm
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Water-free fine polishing suspension

» e.g. for magnesium, tin

95005033	1 l	Etosil E, pH≈7.0 0.06 µm
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Item No.	Unit	Description		
GALAXY Polishing cloth with metal back for diamond polishing				
		Description	Ø	Fixation
GALAXY Polishing cloth ALPHA very hard, perforated chemotextile cloth » long lifetime and stock removal » for ceramics, hard metal, steel, cast iron, aluminum, plastic » for pre-polishing » diamond 15/9 µm				
95001407	5 Pcs.	Alpha	200 mm	magnetic/adhesive carrier
95001408	5 Pcs.	Alpha	250 mm	magnetic/adhesive carrier
95001409	5 Pcs.	Alpha	300 mm	magnetic/adhesive carrier
GALAXY Polishing cloth BETA hard synthetic cloth » material with high hardness » steel, cast, iron, hard metal, ceramics » for pre- polishing » diamond 15/9/6 µm				
95001410	5 Pcs.	Beta	200 mm	magnetic/adhesive carrier
95001411	5 Pcs.	Beta	250 mm	magnetic/adhesive carrier
95001412	5 Pcs.	Beta	300 mm	magnetic/adhesive carrier
GALAXY Polishing cloth DELTA medium hard silk cloth » C-steels, precious metals, coatings, plastics, aluminum » for pre- and intermediate polishing » diamond 9/6/3 µm				
95001413	5 Pcs.	Delta	200 mm	magnetic/adhesive carrier
95001414	5 Pcs.	Delta	250 mm	magnetic/adhesive carrier
95001415	5 Pcs.	Delta	300 mm	magnetic/adhesive carrier
GALAXY Polishing cloth SIGMA soft wool cloth » for all materials » for intermediate and final polishing » diamond 9/6/3 µm				
95001416	5 Pcs.	Sigma	200 mm	magnetic/adhesive carrier
95001417	5 Pcs.	Sigma	250 mm	magnetic/adhesive carrier
95001418	5 Pcs.	Sigma	300 mm	magnetic/adhesive carrier
GALAXY Polishing cloth IOTA short-napped, soft synthetic cloth » for all materials, especially hard steels » for intermediate and final polishing » diamond 3/1 µm				
95001419	5 Pcs.	Iota	200 mm	magnetic/adhesive carrier
95001420	5 Pcs.	Iota	250 mm	magnetic/adhesive carrier
95001421	5 Pcs.	Iota	300 mm	magnetic/adhesive carrier

NEW

Especially suitable for adhere carrier disc (page 31)



Item No.	Unit	Description		
GALAXY Polishing cloth with metal back for diamond polishing				
		Description	Ø	Fixation
GALAXY Polishing cloth ZETA short-napped, soft synthetic cloth » for all materials » for final polishing » Alumina & oxide suspension » diamond 3/1 µm				
95005776	5 Pcs.	Zeta	200 mm	magnetic/adhesive carrier
95005777	5 Pcs.	Zeta	250 mm	magnetic/adhesive carrier
95005778	5 Pcs.	Zeta	300 mm	magnetic/adhesive carrier
GALAXY Polishing cloth OMEGA soft synthetic cloth (chemically resistant) » for all materials » for final polishing » oxide suspension				
95005779	5 Pcs.	Omega	200 mm	magnetic
95005780	5 Pcs.	Omega	250 mm	magnetic
95005781	5 Pcs.	Omega	300 mm	magnetic
GALAXY Polishing cloth LAMBDA short-napped, structured synthetic cloth » for all materials » no suction of large samples » for final polishing » oxide suspension				
95005782	5 Pcs.	Lambda	200 mm	magnetic/adhesive carrier
95005783	5 Pcs.	Lambda	250 mm	magnetic/adhesive carrier
95005784	5 Pcs.	Lambda	300 mm	magnetic/adhesive carrier

NEW

Especially suitable for adhere carrier disc (page 31)

Information about GALAXY Polishing cloths

Ready-to-use as polishing cloths are glued onto the metal (stainless steel) carrier.

The rigid back ensures optimal edge retention and enhanced reproducibility of the preparation results and prolongs the life time.

The lugs support easy handling when putting the Galaxy discs on or off the magnetic adhesive carrier.





Item No.	Unit	Description		
Polishing cloths				
		Description	Ø	Fixation
Polishing cloth ALPHA very hard, perforated chemotextile cloth » long lifetime and stock removal » for ceramics, hard metal, steel, cast iron, aluminum, plastic » for pre-polishing » diamond 15/9 µm				
92002555	5 Pcs.	Alpha	200 mm	self-adhesive
92002564	5 Pcs.	Alpha	250 mm	self-adhesive
92002573	5 Pcs.	Alpha	300 mm	self-adhesive
Polishing cloth BETA hard synthetic cloth » for material with high hardness » for steel, cast, iron, hard metal, ceramics » for pre- polishing » diamond 15/9/6 µm				
95006571	5 Pcs.	Beta	200 mm	self-adhesive
95006572	5 Pcs.	Beta	250 mm	self-adhesive
95006573	5 Pcs.	Beta	300 mm	self-adhesive
Polishing cloth GAMMA medium hard silk cloth » for c-steels, non-ferrous metals, coatings, plastics (GRP, CFC) » for pre- and intermediate polishing » diamond 9/6/3 µm				
92002558	5 Pcs.	Gamma	200 mm	self-adhesive
92002567	5 Pcs.	Gamma	250 mm	self-adhesive
92002576	5 Pcs.	Gamma	300 mm	self-adhesive
Polishing cloth SIGMA soft wool cloth » for all materials » for pre- and intermediate polishing » diamond 9/6/3 µm				
92008810	5 Pcs.	Sigma	200 mm	self-adhesive
92008811	5 Pcs.	Sigma	250 mm	self-adhesive
92008812	5 Pcs.	Sigma	300 mm	self-adhesive
Polishing cloth DELTA medium hard silk cloth » for C-steels, precious metals, coatings, plastics, aluminum » for pre- and intermediate polishing » diamond 9/6/3 µm				
92008801	5 Pcs.	Delta	200 mm	self-adhesive
92008802	5 Pcs.	Delta	250 mm	self-adhesive
92008803	5 Pcs.	Delta	300 mm	self-adhesive
Polishing cloth EPSILON, short-nap, medium hard synthetic cloth » for all materials and very hard materials » for final polishing				
92004411	5 Pcs.	Epsilon	200 mm	self-adhesive
92004412	5 Pcs.	Epsilon	250 mm	self-adhesive
92004413	5 Pcs.	Epsilon	300 mm	self-adhesive



Item No.	Unit	Description		
Polishing cloths				
		Description	Ø	Fixation
Polishing cloth IOTA short-nap, soft synthetic cloth » for all materials, especially hard steels » for intermediate and final polishing » diamond 3/1 µm				
95002393	5 Pcs.	Iota	200 mm	self-adhesive
95002394	5 Pcs.	Iota	250 mm	self-adhesive
95002395	5 Pcs.	Iota	300 mm	self-adhesive
Polishing cloth ZETA short-nap, soft synthetic cloth » for all materials » for final polishing » for Alumina & oxide suspension » diamond 3/1 µm				
92005681	5 Pcs.	Zeta	200 mm	self-adhesive
92005683	5 Pcs.	Zeta	250 mm	self-adhesive
92005684	5 Pcs.	Zeta	300 mm	self-adhesive
Polishing cloth KAPPA soft felt cloth » for final polishing » for Alumina suspension				
92002563	5 Pcs.	Kappa	200 mm	self-adhesive
92002572	5 Pcs.	Kappa	250 mm	self-adhesive
92002581	5 Pcs.	Kappa	300 mm	self-adhesive
Polishing cloth OMEGA soft synthetic cloth (chemical resistant) » for all materials » for final polishing » for oxide suspension				
92002562	5 Pcs.	Omega	200 mm	self-adhesive
92002571	5 Pcs.	Omega	250 mm	self-adhesive
92002580	5 Pcs.	Omega	300 mm	self-adhesive
Polishing cloth LAMBDA short-nap, structured synthetic cloth » for all materials » no suction of large samples » for final polishing » oxide suspension				
95003597	5 Pcs.	Lambda	200 mm	self-adhesive
95003598	5 Pcs.	Lambda	250 mm	self-adhesive
95003599	5 Pcs.	Lambda	300 mm	self-adhesive
» all polishing cloths also available for Saphir 300 (Ø 30 mm)				





Item No.	Unit	Description
Polishing cloth carrier discs		
Ø		
» for adhere discs		
05610121	1 Pcs.	200 mm
05610123	1 Pcs.	250 mm
05610124	1 Pcs.	300 mm
» for magnetic system		
05610206	1 Pcs.	200 mm
05610208	1 Pcs.	250 mm
05610209	1 Pcs.	300 mm
» other diameter on request		
Carrier Plate		
Ø		
» for grinding and polishing robot SAPHIR X-Change		
95005867	1 Pcs.	250 mm
Magnetic foil (self-adhesive)		
Ø		
» to apply on working wheel		
92008528	1 Pcs.	200 mm
92005820	1 Pcs.	250 mm
92005822	1 Pcs.	300 mm
» other diameter on request		
Electrolytes (consisting of two components; total volume 1 litre)		
Description		
Electrolyte for stainless steel, aluminum, aluminum alloys and special materials		
» for electrolytic etching/polishing – Kristall 620		
92002680	1 Pcs.	K1 - Part A, equals 1 litre in combination with Part B
92002980	1 Pcs.	K1 - Part B (perchloric acid), equals 1 litre in combination with Part A
Electrolyte for copper and copper alloys (brass)		
92003007	1 Pcs.	C1 - Part A, equals 1 litre in combination with Part B
92003008	1 Pcs.	C1 - Part B (nitric acid), equals 1 litre in combination with Part A
Electrolyte for titanium		
92003011	1 Pcs.	T1 - Part A, equals 1 litre in combination with Part B
92003012	1 Pcs.	T1 - Part B (perchloric acid), equals 1 litre in combination with Part A
Electrolyte for grey iron		
92003014	1 Pcs.	F1 - Part A, equals 1 litre in combination with Part B
92003015	1 Pcs.	F1 - Part B (perchloric acid), equals 1 litre in combination with Part A
» shipping of hazardous materials will be charged extra		
» Download of Safety Data Sheets at http://www.atm-m.com/products/consumables		

NEW

NEW

NEW



Item No.	Unit	Description
Accessories for Kristall 650		
Description		
Electrolyte-bottle with screw top		
95003955	1 Pcs.	Volume 1 litre

Accessories set for Kristall 650 in suitcase

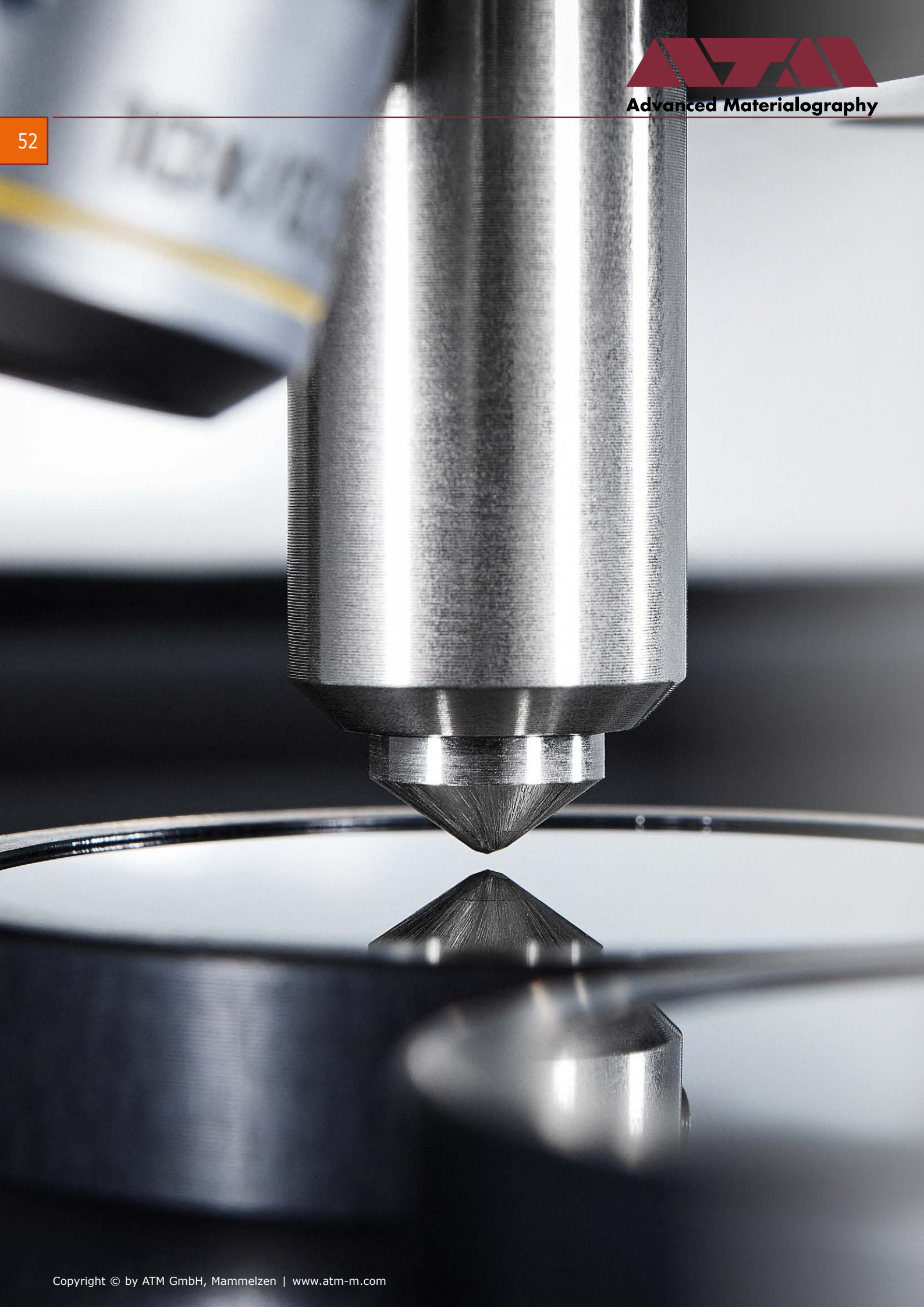
Z6201001	1 Pcs.	Suitcase (single-order No.): » 5 pcs V-ring (Order No.: 95003606) » 1 pc profile ring material, appr. 150 mm (Order No.: 06201052) » 1 pc flexible end piece for profile ring (Order No.: 06201051) » 1 pc tube cutter (Order No.: 95004030) » 10 pcs filter pads Ø 40.5 mm (Order No.: 95003985) » 1 pc dolphin clamp (Order No.: 82000374)
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Etchants
Description

95006393	1 l	Barker reagent (for Aluminum grain boundaries)	NEW
92002601	1 l	Heyn Etchant (for steel, phosphorous segregations, macro etching, copper alloys, brass)	
92002602	1 l	Adler Etchant (for steel, weldings, macro etching)	
92002603	1 l	Alcoholic picric acid, 5% Picral (for steel, martensite)	
92002597	1 l	Alcoholic nitric acid, 3% Nital (for unalloyed and low alloyed steels)	
92002596	1 l	Alcoholic nitric acid, 1% Nital (for unalloyed and low alloyed steels)	
92002605	1 l	V2A Etchant (for austenitic steels), application with approx. 60°	
92002606	250 ml	Additive for V2A-etchant	
92002678	1 l	Sodium hydroxide solution (for aluminum alloys)	
92004240	1 l	Oberhoffer Etchant (for steel, segregations, flow-lines, macro/micro etching)	
92004492	1 l	Kroll Etchant (for aluminum alloys)	
92004493	1 l	Fry Etchant (for steel, macro/micro etching, flow lines)	
92004222	1 l	Ferronitrate 10% aqueous (copper, copper alloys)	
92002750	1 l	Sodium picrate (for cementite detection in steel)	
95002313	1 l	Kalling 1 Etchant (for martensitic stainless steel)	
95002347	1 l	Kalling 2 Etchant (for nickel, nickel alloys, stainless steels, nickel-copper alloys)	
95002434	1 l	Color etching according to Klemm 1 (for low carbon steels), stock solution and potassium bisulphite	NEW
95002435	1 l	Color etching according to Klemm 2 (copper, solder joints), stock solution and potassium bisulphite	NEW
95002436	1 l	Bechet-Beaujard Etchant, prior austenite grain boundaries	NEW
95002408	1 l	Murakami Etchant (for hard metals, molybdenum/molybdenum alloys, chromium alloys, tungsten and tungsten alloys)	

» **shipping of hazardous materials will be charged extra**
» **Download of Safety Data Sheets at**
<http://www.atm-m.com/products/consumables>







Analysis

Page

Microscopy/Analysis

54

Accessories for microscopy, Iron-Carbide-Diagram, cleaning agents, cleaning spray

Various

56

Accessories, sample storage systems, safety equipment etching, pane cleaning set for lab fume cupboard, replication set, precision replication material



Item No.	Unit	Description
Accessories for microscopy		
Description		
Supporting accessories		
92004109	1 kg	Plasticine
92002943	5 Pcs.	Microscope slides, metal, 76x26 mm
92004243	100 Pcs.	Microscope slides, glas, 32x24 mm
92004256	100 Pcs.	Microscope slides, glas, 40x24 mm
M1321000	1 Pcs.	Specimen press » for parallel fixation of specimen on microscope slide » comfortable operation with minimal effort » compact, robust and durable » made of aluminum with anodised surface

Iron-carbon-diagram			
Description			
Iron-carbon-diagram			
92008881	1 Pcs.	Standard format	700 x 700 mm
92008882	1 Pcs.	Heavy format	700 x 700 mm



Item No.	Unit	Description
Cleaning agents for ultrasonic cleaner		
Description		
Cleaning concentrate, alkaline » for universal use and intensive cleaning » use 1 – 5%, pH 10 at 2%, removes oils, fats, silicon oil residues, pigments, ink and proteins		
92002614	1 l	Tickopur R 33
Cleaning concentrate with ammonia, mildly alkaline, phosphate free » use 5 – 10%, removes oils, fats, waxes, pigments, silicon fats and grime (not suitable for aluminum)		
92002615	1 l	Tickopur RW 77
Cleaning aids		
Description		
95004662	1 l	Ethanol, 99.9%
95004663	5 l	Ethanol, 99.9%
95004664	10 l	Ethanol, 99.9%
92004510	1 l	Aceton, chemically pure
Assembly cleaner		
Description		
» for sample preparation, for replication set, in spray can		
92004376	500 ml	Assembly cleaner spray
» additional fees can be necessary by shipping of hazardous materials » Download of Safety Data Sheets at http://www.atm-m.com/products/consumables		

NEW





Item No.	Unit	Description
Accessories		
Description		
92002779	1 Pcs.	Mounting adhesive 100g, excellent bonding for metals and ceramics
92002630	200 g	Cotton wool
92008773	100 Pcs.	Specimen cleaning wipes
92002629	1 Pcs.	Etching bowl, DURAN® glass with cover, heat-resistant, Ø 60/H 40 mm
92002628	1 Pcs.	Etching bowl, DURAN® glass with cover, heat-resistant, Ø 80/H 50 mm
92002430	1 Pcs.	Etching bowl, DURAN® glass with cover, heat-resistant, Ø 100/H 60 mm
92002626	1 Pcs.	Etching bowl, DURAN® glass with cover, heat-resistant, Ø 150/H 80 mm
95012078	1 Pcs.	Etching bowl, polyethylene (PE), Ø90 /H 40 mm
95012079	1 Pcs.	Etching bowl, polyethylene (PE), Ø 110/H 55mm
95012080	1 Pcs.	Etching bowl, polyethylene (PE), Ø 110/H 75mm
95012081	1 Pcs.	Etching bowl, polypropylene (PP), Ø 60/H 60mm
95012082	1 Pcs.	Etching bowl, polypropylene (PP), Ø 115/H 70mm
92008770	1 Pcs.	Spray bottle, 250ml
92002432	1 Pcs.	Spray bottle, 500 ml
92004302	1 Pcs.	Measuring cylinder, 50ml
92004303	1 Pcs.	Measuring cylinder, 100ml
92002431	1 Pcs.	Crucible Tong, stainless
95008097	1 Pcs.	Crucible Tong, stainless with insulated handle
92004265	1 Pcs.	Specimen dryer, wall fastening model, with proximity sensor
A5810355	1 Pcs.	Specimen drying unit for set up on table

NEW

NEW

Storage of samples**Description****Storage systems for readily prepared samples**

92002898	1 Pcs.	Disc cabinet 320 x 320 mm, for discs Ø 300 mm with 6 drawers
92002717	1 Pcs.	Disc cabinet, 290 x 290 mm, for discs Ø 200 and 250 mm with 5 drawers
95012025	1 Pcs.	Desiccator cabinet 310 x 525 x 375mm
95012026	1 Pcs.	Shelf for desiccator cabinet
92002684	1 Pcs.	Desiccator, DM 250, with cover and basket, DURAN® clear glass
95002659	1 Pcs.	Desiccator, DM 150, with cover and basket, DURAN® clear glass
92002868	1 kg	KC-drying pearls, for use with desiccator
A7500417	1 Pcs.	Sample box, 320 x 320 x 58 mm for 56 Samples Ø 25-32 mm
A7500418	1 Pcs.	Sample box, 320 x 320 x 58 mm for 25 Samples Ø 38-50 mm



Item No.	Unit	Description
Safety equipment for etching		
Description		
Face protection shield according to DIN EN 166 13 - S complete protection of face, unlimited field of view, acids and bases » resistant, robust plastic material, shatterproof, scratch-resistant		
95002951	1 Pcs.	Face protection shield
Protective laboratory apron » made of PVC, with neck and side bonds, clean edges, without fabrics		
95004848	1 Pcs.	Protective Laboratory Apron, 900 x 1100 x 0.5 mm
Nitrile gloves (single use), conforms to EN 420, EN 388, EN 374-3		
95008893	100 Stk	Nitrile gloves, conforms to EN 420, EN 388, EN 374-3, size M
95007658	100 Stk	Nitrile gloves, conforms to EN 420, EN 388, EN 374-3, size L
95008208	100 Stk	Nitrile gloves, conforms to EN 420, EN 388, EN 374-3, size XL
Safety goggles conforms to EN 166 FT, length-adjustable		
92005963	1 Pcs.	Safety goggles conforms to EN 166 FT
Pane cleaning for fume cupboard		
Description		
Pane cleaning set in suitcase		
Z7510002	1 Pcs.	» Pane wiper magnet » 2x 30 pcs. cleaning cloths
95006797	1 Pcs.	Pane wiper magnet
95006798	30 Pcs.	Cleaning cloths for glass
Replication set		
Description		
Replica system for non-destructive analyzing of microstructures quick cured 2 components compound for applying to surfaces; the cured replica can be removed easily and analysed directly		
92006498	2x50 ml	2-components-compound
92006609	1 St.	Dosing gun
92008692	48 St.	Mixing tube
Precision replication material		
Description		
Replica system for surface structures (metallic or mineral), for surface roughness inspection (R, Ra)		
95001664	900 ml	2-components-compound standard
95001665	900 ml	2-components-compound soft

NEW


ATM GmbH, Germany, General Terms and Conditions of Business and Delivery

1. General remarks

- 1.1 Deliveries and services are performed exclusively on the basis of the following General Terms and Conditions of Delivery. They form a component of all contracts entered into and also apply to all future business relationships, even if they are not expressly agreed again.
- 1.2 The Customer acknowledges these General Terms and Conditions when it places an order, and no later than upon acceptance of the delivery or service.
- 1.3 Any contrary terms and conditions or divergent counter-confirmations from the Customer will have no binding effect on us, even if we do not expressly object to them. They require our express written acknowledgement to take legal effect.
- 1.4 Any addenda, amendments or ancillary agreements require our written confirmation to take legal effect. The same applies to the revocation of the written form requirement.

2. Offer and conclusion of contract

- 2.1 Catalogues, promotional brochures, price lists, cost estimates and offers are subject to confirmation and non-binding. All documents in this respect, such as drawings, typical analyses, dimensional data etc. are to be treated as approximate unless expressly designated as binding. We reserve our right of ownership and copyright to catalogues, drawings, cost estimates and other documents; and they may not be made available to third parties.
- 2.2 The Customer is liable for the correctness and completeness of specified dimensions and Customer samples as well as the correctness of documents to be provided by it, which include drawings, instructions, samples and the like as well as other information that affects the suitability of the items ordered for the intended application. The Customer is further liable for any infringement of third-party patent rights or intellectual property rights arising from the use of these documents. In that respect the Customer will indemnify us against any liability claims brought by third parties. We are not obliged to check whether the execution of any documents provided to us in this capacity infringes any third-party rights.
- 2.3 Material samples or Customer samples are to be delivered to us by the Customer free of charge. We may destroy any material samples submitted unless an express request for their return is made at the time of their delivery or within four weeks of us receiving them. The party submitting the material samples is liable for all risks associated with their transportation, storage and processing. This applies in particular to any damage that the material sample causes itself or in combination with any substances with which it comes into contact (toxic, corrosive, explosive materials), unless liability under clause 10.1 applies. We will invoice the analysis of material samples on the basis of the effective applicable hourly rates. If the analysis leads to a sale, the analysis costs will be offset against the purchase price.
- 2.4 The contract will only come into force when we provide written confirmation of the order and in accordance with the content of this confirmation, or upon acceptance of the delivery by the Customer. If no written confirmation is made, our delivery notes or invoices will additionally serve as order confirmations.
- 2.5 We reserve the right to make technical modifications to the subject matter of the contract during the delivery period, including after issue of the order confirmation, provided this is reasonable for the Customer balanced against our interests in the modification. The same applies to standard industry variations in weights and measures.
- 2.6 Spoken promises by and arrangements with our employees shall only bind us to the extent that these have been confirmed by us.

3. Deliveries

- 3.1 The delivery times set out in the order confirmations are non-binding, approximate information. They are only binding if we have expressly designated them as binding.
- 3.2 The delivery period commences with the date of the written order confirmation; if, at this time, there are any outstanding issues requiring clarification, the delivery period only commences after all such issues have been clarified. If advance payments have been agreed, the delivery period does not start until receipt of the first payment.
- 3.3 The delivery period will be deemed to have been complied with if the item to be delivered has left our plant or readiness for dispatch has been communicated before or on the date of expiry of the agreed delivery period.
- 3.4 In justified exceptional cases, and in particular for operational reasons, part deliveries and part services may be performed subject to advance notice. These will be invoiced separately.
- 3.5 We will not be liable for any delays to deliveries and services due to force majeure or other events over which we have no influence and for which evidence that they affect the completion or delivery of the subject matter of the delivery can be adduced – these include strike, lock-out, official directives, material shortages, non-availability or non-deliverability of goods etc. – including such circumstances affecting our own suppliers, even where binding periods and dates have been agreed and also during any period of default. We will notify the Customer of the commencement and termination of such hindrances without undue delay. In the event of temporary impairments, we are entitled to postpone the deliveries or services for the duration of the hindrance plus a reasonable lead time. Should performance become permanently impossible, we have the right to withdraw from unfulfilled part of the contract in full or part. The Customer may demand a declaration from us as to whether we intend to withdraw from the contract or deliver within a reasonable period. If we do not provide such a declaration and the Customer feels that it is unreasonable to expect it to accept delivery due to the delay, the Customer may withdraw from the contract.
- 3.6 The Customer bears sole responsibility for the suitability of the installation location for the supplied goods, for procurement of all necessary permits and for compliance with all planning, building and company regulations as well as for the preparation of the installation location, including the erection of any necessary foundations and the performance of all preliminary work necessary for the delivery and assembly or installation of the goods. The Customer also bears sole responsibility for the availability of the installation location with the necessary lifting and installation tools.
- 3.7 Our performance is subject to correct and timely delivery to us by our suppliers at all times. This reservation regarding correct and timely delivery by our suppliers is subject to the proviso that we entered into a corresponding covering transaction in good time and/or we are not responsible for the delayed delivery by our suppliers.
- 3.8 If we are responsible for not meeting agreed binding deadlines or dates, or we are in default of delivery/service, the Customer is entitled to withdraw from the contract after the expiry of an appropriate grace period; any further obligation to pay compensation is governed under clause 10 of these General Terms and Conditions.
- 3.9 If the Customer is in default in acceptance, we are entitled to demand compensation for non-performance in the amount of 15% of the agreed order value, without prejudice to the option to prove a greater loss. This is subject to an appropriate grace period being set along with a notice of potential rejection and subsequent withdrawal from the contract. For its part, the Customer reserves the right to provide evidence that no loss was sustained, or that the loss was substantially lower. In the case of Customer-specific products and/or systems, the loss is in principle the contract value less any advance payments made. The option to provide evidence of a higher or lower loss is reserved.

4. Shipping and transfer of risk

- 4.1 The place of performance for delivery is the location of our respective dispatching plant (INCO terms as amended from time to time: FCA dispatching plant).
- 4.2 Shipping is always performed at the Customer's own risk, including where partial shipments are made or we are rendering other services such as payment of shipping costs or carriage.
- 4.3 In the absence of any specific instructions, packaging and the selection of the transport route and means of transport is at our discretion. If the goods are accepted by the rail company, postal service, freight carrier or other transport company with no objections, this serves as a

confirmation that the packaging is in a flawless condition on dispatch and excludes any liability on our part for any damage or loss incurred en route due to improper packaging or loading, unless we are subject to strict liability for intentional misconduct or gross negligence.

- 4.4 The risk of accidental destruction or accidental deterioration of the goods passes to the Customer no later than at the point of handover of the goods to the haulier, the railways or other freight carrier, and no later than on dispatch from our warehouse or, in the case of direct delivery, on dispatch from our dispatching plant – e.g. also for CPT and CIP transactions. If the goods are to be collected by the Customer, the risk passes to the Customer on issue of the notification informing the Customer that the goods are ready for collection.
- 4.5 Any goods accepted prior to dispatch are deemed delivered pursuant to the agreed terms.
- 4.6 If dispatch or acceptance is delayed at the Customer's request or for reasons for which it is at fault, the risk of accidental destruction or accidental deterioration passes to the Customer on the date when we communicate the first and initial notification of readiness for dispatch or notification of acceptance in writing or verbally. In this case we are entitled to charge storage costs of 1.0% of the invoice amount for each month of the delivery delay, starting one month after notification of readiness for dispatch. The Customer reserves the right to furnish proof that no costs were sustained, or that the costs were substantially lower.
- 4.7 In the event of a delay in acceptance by the Customer, we may assert our right under clause 3.9 or freely dispose of the item or items for delivery and supply an equivalent item or items at the contract terms instead.
- 4.8 We are entitled to insure the transport risk and invoice these costs to the Customer unless the Customer instructs otherwise in writing.

5. Prices and payment terms

- 5.1 Prices are quoted on a strictly net basis ex works or ex warehouse – also net of the costs of packaging, insurance, export/import or other supplementary costs – and exclusive of VAT at the applicable rate.
- 5.2 If the conclusion of the contract and the date of delivery are more than four months apart, we may invoice the prices applicable on the date of delivery, unless otherwise agreed. If this is more than a minimal price increase, the Customer may withdraw from the contract.
- 5.3 Increase of wages, procurement prices, freight costs, taxes, charges or other costs that result in price increases between the conclusion of the contract and delivery, or the emergence of equivalent new, unforeseen costs, entitle us to adjust the purchase price accordingly to the extent permissible by law.
- 5.4 After conclusion of the contract we are entitled to request a deposit of a reasonable amount. In the case of Customer-specific systems/apparatus, this will be at least 50% of the contract value.
- 5.5 In the absence of any other express agreement, payment will fall due on receipt of the invoice. Payments are to be made strictly net no later than 30 days after the invoice date. For Customer-specific systems/apparatus at least 50% of the order value will fall due with the request for a deposit. The rest will be invoiced on issue of the notification of readiness for delivery and is payable immediately.
- 5.6 In the case of default we are entitled to charge interest at the level of interest for commercial loans calculated by our company bank, and no less than interest of 5 percentage points above the base rate applicable on the day on which the event of default commenced (EURIBOR). The Customer reserves the right to provide evidence that no loss was sustained, or that the loss was substantially lower. We reserve the right to assert further claims for damages resulting from delayed payment.
- 5.7 All of our receivables are payable immediately including where bills of exchange or cheques have been presented, if the terms of payment are breached without justification or we become aware of a substantial deterioration in the Customer's asset position after the contract is concluded. We are entitled to perform any deliveries and services outstanding at that point only against advance payment(s) or security deposit(s) or to reduce or cancel any assured commercial loans. If no advance payment(s) or security deposit(s) have been made on expiry of a reasonable grace period, we are entitled to withdraw fully or partly from the contract. In such a case we expressly reserve the right to assert claims for any expenditure incurred unnecessarily, loss of profits and other losses.
- 5.8 The Customer is only entitled to assert a right of set-off or retention, including in claims for defects or counterclaims, if the counterclaims are undisputed or established at law.

6. Commissioning Customer-specific systems/apparatus

- 6.1 Compliance with the agreed service features is always inspected at the place of manufacture.
- 6.2 If our services include assembly and commissioning, the Customer is required to prepare all installations, facilities and/or other factors necessary for the assembly of the system and its proper commissioning in full and in good time unless these preparatory tasks are included in our scope of services under an express written agreement. In this respect the duties set out at clause 3.6 also apply.
- 6.3 The provision at 6.2 notwithstanding, the Customer will be liable for the following during assembly and commissioning:
 - a) that our employees can commence their work as soon after their arrival as possible and can perform their tasks expeditiously during regular working hours and, if we deem such to be necessary, also outside regular working hours;
 - b) all statutory stipulations and safety regulations are complied with and the necessary facilities for the performance of the installation work are available;
 - c) the access routes to the installation location are suitable for deliveries to be performed;
 - d) the planned location for the assembly and operation of the system is suitable;
 - e) the necessary lockable storage facilities for material, tools and other accessories are available and accessible;
 - f) other auxiliary personnel, additional standard tools, industrial auxiliary materials (e.g. fuel, oils and lubricants, cleaning and other incidentals, gas, water, electricity, compressed air, heating, light etc.) and the Customer's standard measuring and test equipment are available promptly and at no charge;
 - g) the goods and products delivered by us for the assembly are at the correct location at the beginning of and during the assembly work.
- 6.4 The Customer bears sole liability for the risk of a breach of the duties set out at clause 6.3.

7. Retention of title

- 7.1 We reserve title to all goods supplied by us until the Customer has settled all claims arising under the business relationship, including any future claims from contracts entered into at the same time or subsequently, from any current account balance as well as until the absolute release from any contingent liabilities entered into in the Customer's interest.
- 7.2 The Customer must handle and store any goods subject to the retention of title with care and perform any standard inspection, servicing and maintenance work required at its own expense. The Customer may neither pledge the goods subject to the retention of title nor transfer them by way of security during the period of retention of title. Any access to the goods subject to the retention of title by third parties, for example by way of pledging or confiscation, as well as any damage or destruction must be reported to us in writing without undue delay.
- 7.3 If the Customer acts in a manner that is in breach of contract, in particular in the case of delayed payment of securitised claims, we are entitled to repossess the goods subject to the retention of title. Such repossession only represents a withdrawal from the contract if we confirm this in writing. Following repossession we are entitled to sell the goods and the proceeds will be set off against the Customer's liabilities after deduction of reasonable sales expenses.
- 7.4 a) The Customer is entitled and authorised to sell the goods subject to the retention of title in the course of ordinary business, which does not include what is known as the cheque-bill-of-exchange procedure. If the Customer is in default in respect of payments arising under the

business relationship with us, we may forbid that the goods be sold on. If the Customer allows its purchaser delayed payment of the purchase price, it may only sell the goods on if it, too, retains title to the goods sold.

- b) The Customer hereby assigns to us the purchase price claims or other claims for consideration accruing to it against its purchaser under the selling-on of the goods or other selling business including all ancillary rights. These serve as security to the same extent as the goods subject to the retention of title. The Customer is only entitled and authorised to sell on or otherwise dispose over the goods subject to the retention of title if it has been established that the claims arising thereunder are transferred to us, and in particular that no prohibition on assignment exists between the Customer and its purchaser.
 - c) If the Customer sells the goods subject to the retention of title along with other goods not supplied by us, the assignment of the claim from the sale only applies to the level of the invoice value of the respective goods subject to the retention of title sold. Where goods in which we have a co-ownership share are sold, the claim will be assigned to the value of this co-ownership share. If the assigned claim is included in a current account, the Customer hereby assigns to us a proportion of the balance corresponding to this claim – including a corresponding share of the closing balance – from the current account. If an interim balance is drawn up and it is agreed for this to be carried forward, the claim accruing to us per se under the foregoing provision is to be treated as if assigned to us for the purposes of the next balance.
 - d) The Customer is authorised to collect the claims assigned to us until we revoke such authorisation. We may not exercise this right of revocation as long as the Customer fulfils its payment obligations under the business relationship with us and provided we do not become aware of any circumstances which might substantially reduce the Customer's creditworthiness. If the prerequisites for exercising the right of revocation apply, we may request that the Customer assign to us any claims for surrender vis-à-vis its purchaser or notify us of the assigned claims and their debtors, provide all information necessary for collecting these claims, hand to us the associated paperwork and notify the debtors of the assignment. Additionally, we are authorised to give notice of the assignment to the debtors.
- 7.5 The Customer is entitled to process the goods subject to the retention of title in the ordinary course of its business, provided it is not in default of payment. Where the goods subject to the retention of title are processed or remodelled, we will be deemed the manufacturer of the newly created goods without being subject to any obligations. The processed or remodelled goods are deemed goods subject to the retention of title as set out at clause 7.1. Where the Customer processes the goods subject to the retention of title in combination with other items not belonging to us, we acquire co-ownership in the new item in the proportion of the value of the goods subject to the retention of title to the total value of the other items used; the time of processing is authoritative. If the goods subject to the retention of title are mixed, blended or combined with other items, and as a consequence our ownership of the goods subject to the retention of title is extinguished, the Customer hereby transfers to us the rights of ownership of the mixed or combined items accruing to it, or of the unified item in the proportion of the value of the goods subject to the retention of title to the total values of the other mixed, blended or combined items; the time at which the event occurs is authoritative. The Customer will also store the items co-owned by us under the foregoing provisions at no cost to us. The co-ownership shares arising under this clause are subject to the provisions of the whole of clause 7. in the context of goods subject to the retention of title.
- 7.6 At our request the Customer is obliged to provide information on the whereabouts of the goods subject to the retention of title at any time and on any claims arising from the selling-on of the goods or other further disposal.
- 7.7 Should the value of the existing security assigned to us exceed the secured claims by a total of more than 10%, we are obliged, if requested by the Customer, to release securities of our choosing to the same level.
- 7.8 If the retention of title set out in the foregoing provisions is not legally valid under the law of the country in which the goods subject to the retention of title are located, such security as most closely resembles this and is allowed under the law of this country will be deemed agreed. If the Customer is required to act in this context, the Customer is required to perform such acts at our request.
- ## 8. Warranty
- 8.1 The Customer must inspect the delivered goods upon receipt, and no later than within ten working days, for defects and, if agreed, to examine any guaranteed characteristics and report any identified defects without undue delay, and no later than within a further five working days. Where goods are delivered, the goods must be inspected immediately on receipt in respect of transport and packaging damage as well as variations in terms of quantity and dimensions. Any variations must be noted on the bill of lading or delivery note. Concealed defects must be reported in writing as soon as they are discovered. If the Customer fails to report defects within the stipulated time, the goods will be deemed defect-free and contractually compliant. In terms of quality, only our description of services in the order confirmation or the manufacturer's product description is deemed agreed. Public statements, testimonials or advertisements do not count as contractually binding information about the quality of the goods. Any deviations from an instruction manual, specification or other functionality described in the contract will only be recognised as a defect if they result in a substantial impairment of use. We must be notified of any returns in advance. The rectification of defects caused by normal wear and tear, other influences or operator error are excluded from the warranty unless covered by binding statutory claims. The same applies to any defects arising that are attributable to a modification of the goods not performed by us. We provide no warranty that the products supplied correspond to the Customer's specific application scenarios, or work together with other of the Customer's goods, or other manufacturers' goods, without failure or impairment. We accept no liability for advisory obligations. Consequently, any liability for assisted calculations, recommendations, suggested solutions etc. which are dependent on the Customer's systems or relate thereto is excluded.
- 8.2 The Customer has a right to subsequent performance for defective products by way of rectification of the defect or delivery of a defect-free replacement item at our discretion. If subsequent performance is unsuccessful, the Customer may choose to demand either a reduction in the consideration or the rescission of the contract. In the event of a minor contractual breach, in particular minor defects, the Customer will have no right of rescission. If the Customer exercises its right to rescission following unsuccessful subsequent performance, it has no additional claim to compensation due to the defect. If the Customer brings any claims for compensation following unsuccessful subsequent performance, the Customer will retain the goods if it is reasonable for it to do so. The claim for compensation is limited to the difference between the purchase price and the value of the defective goods. This does not apply if we breached the contract in bad faith. We may choose whether to render the subsequent performance at the place of installation or at our head office. If the subsequent performance is rendered at the place of installation, the Customer must provide our representative with unrestricted access to the purchased item both as regards time and place of access. Clause 6.3 applies in this respect. The Customer may further demand that warranty work is only performed during the regular business hours for the respective location. If the Customer requests that we perform warranty work outside our regular business hours, the Customer must pay any additional costs.
- 8.3 In the event of third party products, our liability is limited to the assignment of the warranty claims against our own supplier accruing to us. The warranty period is limited accordingly to the term that we are granted by our own supplier.
- 8.4 Warranty claims will expire within 24 months from the transfer of risk or the acceptance of the service. The warranty period relates to goods deployed in a laboratory that operates a single shift. If multiple shifts are worked, this period will be reduced accordingly to a minimum of twelve months. For repairs and spare parts the warranty period is limited to twelve months.
- 8.5 The foregoing paragraphs contain the full extent of the warranty for our products and goods. Any

further liability is governed solely by the provisions in clause 10. of these General Terms and Conditions.

- 8.6 The Customer is liable for the proper disposal of the supplied goods after the cessation of use in accordance with statutory provisions and at its own expense. The Customer will relieve the supplier of the statutory duties to take back old appliances and associated third party claims. If the Customer passes the supplied goods on to commercial third parties, it must impose on that party a contractual duty to properly dispose of the goods after the cessation of use in accordance with the statutory provisions and at that party's expense and to impose a corresponding obligation on any further parties to which the goods pass. If the Customer fails to do so when passing goods to a third party, it is obliged to take back the goods at its expense after the cessation of use and to properly dispose of them in accordance with the statutory provisions. The manufacturer's claim for the Customer to take on the goods and relieve it from its obligations will not expire until two years after the Customer ultimately ceases to use the appliance. The two-year period during which expiry is postponed begins no earlier than upon written notification by the Customer to the manufacturer regarding the cessation of use.

9. Software

- 9.1 The warranty for software is based on the above provisions in clause 8 with the following modifications: We will provide a warranty for the compliance of the software provided to the purchaser with our program specifications provided the software was installed on the systems envisaged by us in accordance with our stipulations. The warranty only covers software defects that can be readily reproduced. We undertake to rectify all non-insubstantial defects affecting usage in accordance with the contract; however, we reserve the right to select the method of rectification (installation of an improved software version or instructions on working around the defect).
- 9.2 The Customer is granted a non-exclusive and non-transferrable usage right over programs and associated documentation that are required for proper and internal use of the delivered product. The purchaser will accrue no further rights to programs and documentation, and in particular we will remain the copyright holder. The Customer is not permitted to provide third parties with access to programs, documentation and any subsequent amendments, or to copy, otherwise reproduce, decompile, disassemble or reverse-engineer such without our prior written consent.

10. Liability

- 10.1 We accept liability for any losses attributable to wilful misconduct or gross negligence on the part of our statutory representatives or vicarious agents or where contractually assured warranties or qualities of the goods that are intended to safeguard the Customer against atypical risks of loss are missing. In the case of ordinary negligence, we will only accept liability if material contractual duties are breached or if insurance cover is in place, and this will be limited to loss that was foreseeable at the time when the contract was entered into. No liability will be accepted for any further consequential losses. In particular, liability for any direct or indirect loss of any kind other than that set out here, including consequential loss, loss of use, income or profits and futile expenditure, additional expenditure and third-party claims is expressly ruled out, including in cases of negligence.
- 10.2 Liability is excluded in the case of defects caused by external factors such voltage fluctuations, improper installation, wear and tear, operation and use/ maintenance/ changes to the goods by the Customer or third parties commissioned by the Customer, irrespective of the legal grounds.
- 10.3 In the absence of agreements to the contrary, any fixed compensation claims will be limited to a maximum of 5% of the purchase price.
- 10.4 The above limitations of liability have no bearing on any claims brought by the Customer under product liability legislation. Furthermore, the limitations on liability do not apply to personal injury, damage to health or death of the Customer or its vicarious agents and other third parties attributable to us.

11. Intellectual property rights and copyright

- 11.1 The products, all specifications, drawings, descriptions and illustrations are protected by intellectual property rights by the seller and subject to an obligation of confidentiality, unless they have been or will be published by the seller. The buyer will not disclose this information to anyone, except for the purpose of using the products in the course of its business.
- 11.2 The sale of the products does not bestow on the purchaser any rights or licences under any patent, industrial design or copyright, except for non-exclusive use of the product in the course of its own business.
- 11.3 If a third party brings a justified claim against the Customer due to the breach of an intellectual property right or copyright (hereinafter referred to as Protective Rights) due to the goods supplied by us or the contractually compliant use thereof, we will only be liable to the Customer subject to the following conditions:
- We will choose, at our expense, either to obtain a usage right for the goods, to modify the goods such that the Protective Right is not infringed or replace the goods. If this is not possible at reasonable terms, we will take the goods back and refund the purchase price.
 - The obligations set out above shall only apply if the Customer notifies us of any claims brought by third parties in writing and without undue delay, does not acknowledge a breach of the Protective Rights to the third party and reserves all defensive measures and settlement negotiations for us. Should the Customer cease to utilise the product owing to loss mitigation or other significant reasons, the Customer will point out to the third party that the cessation of utilisation is no acknowledgement of any infringement of any Protective Rights.
- 11.4 If the use of the product causes a breach of a patent, industrial design or copyright and if this breach is based on designs, specifications or instructions made by the purchaser, on the operation of the system by the purchaser in which the products are included, or manufacturing processes applied thereto, the purchaser will defend the claim, which must be notified to it without undue delay, at its own expense or to settle the claim by mutual agreement and to reimburse all losses and costs incurred by the seller as a result of such breach. This also applies if the infringement of the Protective Right is caused by an unforeseeable application on the part of the buyer or due to the products being modified or deployed with products not supplied by us. Any further claims against us will not be acknowledged. This does not apply e.g. where mandatory liability exists due to product liability, wilful misconduct, gross negligence or the infringement of material contractual obligations. The Customer also retains the right to withdraw from the contract under the foregoing provisions.

12. Closing provisions

- 12.1 The place of jurisdiction for deliveries and payments (including actions on cheques and bills of exchange) as well as all disputes arising between the parties is the competent court for Altenkirchen, Germany. However, we reserve the right to bring a claim against the Customer at any other place of jurisdiction permitted by law. The relationship between the contracting parties is governed solely by the law applicable in the Federal Republic of Germany. The UN Convention on Contracts for the International Sale of Goods (CISG) does not apply.
- 12.2 The Customer may only transfer the rights and obligations arising under this contract to third parties with our written consent. Such consent is not required if the assignment is made in the course of an effective extended retention of title that the Customer has agreed with a third party under the provisions of clause 7.
- 12.3 If individual provisions of these terms and conditions or parts thereof become invalid, this will have no bearing on the validity of the remaining provisions. An invalid provision of these terms and conditions will be replaced by a valid provision that most closely corresponds to the commercial intent of the invalid provision.

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Expiry date of consumables

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		Year(s)
Cutting	Abrasive cut-off wheels	2
	CBN cut-off wheels	2
	Diamond blades	2
	Cup grinder	2
	Coolant	2
	Additives for coolants	2
	Filter fleece & filter bags	2
Hot Mounting	Bakelite	2
	Epo black	2
	Duroplast	2
	Thermoplast	2
Cold Mounting	Methacrylate z.B. KEM 15+, 20, 30, 35	2
	Epoxy resin KEM 90	1
	Mounting moulds	2
	Releasing agent	2
Grinding/Polishing	Grinding wheels	2
	GALAXY Diamond grinding discs	2
	SiC grinding foils	1
	SiC grinding paper without self-adhesive back/with foil back	2
	SiC grinding paper self-adhesive	1
	SiC grinding belts	1
	Adhesive foil double-side	1
	Adhesive carrier	2
	Diamond suspensions	2
	Diamond paste	2
	Diamond spray	2
	Aluminum oxide suspensions (Alumina, Eposal)	2
	Colloidal silica	2
	Polishing cloths	2
	Polishing cloth carrier discs	2
	Magnetic foil	2
Etching	Etchants & electrolytes	1
Miscellaneous	Ethanol & Aceton	2
	Ultrasonic cleaning agents (Tickopur)	2
	Replication material Provil Novo	1

Remarks

„The listed expiry dates represent the minimum shelf life of the ATM consumables. Within this period the complete functionality of the products are guaranteed. Reaching the expiry date does not cause a loss of the functionality of the products. Consequently, they can be used further more. To ensure full functionality of the products, an adequate storage is essential. The products need to be reliably protected against humidity and temperature fluctuation. The consumables and their packaging should not be opened unless for imminent use e.g. cut-off wheels are hygroscopic and cold mounting materials might react with oxygen). This might influence the functionality over time. The expiry date starts from shipping date. Complaints are checked by our quality management and application team. Our general terms and conditions remain unaffected from these notes.“





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