

Akasel

Consumables for Metallography

Catalogue
2024



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New New product

HG Hazardous goods. Extra charges for packing and documentation apply for shipping. Please enquire before placing your order.



Demo Kits

The Akasel Demo Kits are a unique way for testing the latest consumables in metallographic sample preparation.

We have created 21 different Demo Kits for the preparation of either specific materials or material groups.

A Demo Kit contains all necessary consumables and user guides for grinding and polishing and will allow you to prepare at least 50 samples.


The included grinding discs Aka-Piatto, Aka-Allegran or Aka-Largan have a long lifetime and can replace at least 100 - 200 pcs. of grinding paper.


It also contains the Aka-Brief, a detailed overview of the preparation method with pictures of the sample after each preparation step, and comprehensive tips and tricks.


Additionally, a dressing stick for dressing the included grinding discs, and a diamond stick for priming the polishing cloth are included.

With a Demo Kit you will be able to test the Akasel way of sample preparation at your convenience.



Product no.	 Product name	Contents	GRWT kg
Demo Kits, 200 mm dia.			
61200110	Demo Kit Copper and Copper Alloys 200 mm dia.	1 pc.	1.00
61200210	Demo Kit Ceramic Capacitors 200 mm dia.	1 pc.	1.00
61200310	Demo Kit Pure Titanium 200 mm dia.	1 pc.	1.00
61200410	Demo Kit Aluminium Alloys 200 mm dia.	1 pc.	1.00
61200510	NEW Demo Kit Metallic/Composite Thermal Spray Coated Parts 200 mm dia.	1 pc.	1.00
61200610	Demo Kit Coated Sintered Carbides 200 mm dia.	1 pc.	1.00
61200710	Demo Kit Stainless and Duplex Steels 200 mm dia.	1 pc.	1.00
61200810	Demo Kit Titanium Alloys 200 mm dia.	1 pc.	1.00
61200910	Demo Kit Carbon Fibres Composites 200 mm dia.	1 pc.	1.00
61201010	Demo Kit Materials of Hardness 50-150 HV 200 mm dia.	1 pc.	1.00
61201110	Demo Kit Materials of Hardness 400-700 HV 200 mm dia.	1 pc.	1.00
61201210	Demo Kit 3 Step Hard Materials 700-2000 HV 200 mm dia.	1 pc.	1.00
61201310	Demo Kit Electronic Components 200 mm dia.	1 pc.	1.00
61201410	Demo Kit Cast Iron 200 mm dia.	1 pc.	1.00
61201510	Demo Kit Zinc Coated Steel 200 mm dia.	1 pc.	1.00
61201610	Demo Kit Materials of Hardness 150-400 HV 200 mm dia.	1 pc.	1.00
61201710	Demo Kit Nitrided and Nitrocarburized Steels 200 mm dia.	1 pc.	1.00
61201810	Demo Kit Surface Hardened Steel 200 mm dia.	1 pc.	1.00
61201910	Demo Kit Superalloys with Diffusion Coatings 200 mm dia.	1 pc.	1.00
61202010	Demo Kit Superalloys 200 mm dia.	1 pc.	1.00
61202110	NEW Demo Kit Ceramic Thermal Spray Coated Parts 200 mm dia.	1 pc.	1.00

Product no.	 Product name	Contents	GRWT kg
Demo Kits, 250 mm dia.			
61250110	Demo Kit Copper and Copper Alloys 250 mm dia.	1 pc.	1.00
61250210	Demo Kit Ceramic Capacitors 250 mm dia.	1 pc.	1.00
61250310	Demo Kit Pure Titanium 250 mm dia.	1 pc.	1.00
61250410	Demo Kit Aluminium Alloys 250 mm dia.	1 pc.	1.00
61250510	NEW Demo Kit Metallic/Composite Thermal Spray Coated Parts 250 mm dia.	1 pc.	1.00
61250610	Demo Kit Coated Sintered Carbides 250 mm dia.	1 pc.	1.00
61250710	Demo Kit Stainless and Duplex Steels 250 mm dia.	1 pc.	1.00
61250810	Demo Kit Titanium Alloys 250 mm dia.	1 pc.	1.00
61250910	Demo Kit Carbon Fibres Composites 250 mm dia.	1 pc.	1.00
61251010	Demo Kit Materials of Hardness 50-150 HV 250 mm dia.	1 pc.	1.00
61251110	Demo Kit Materials of Hardness 400-700 HV 250 mm dia.	1 pc.	1.00
61251210	Demo Kit 3 Step Hard Materials 700-2000 HV 250 mm dia.	1 pc.	1.00
61251310	Demo Kit Electronic Components 250 mm dia.	1 pc.	1.00
61251410	Demo Kit Cast Iron 250 mm dia.	1 pc.	1.00
61251510	Demo Kit Zinc Coated Steel 250 mm dia.	1 pc.	1.00
61251610	Demo Kit Materials of Hardness 150-400 HV 250 mm dia.	1 pc.	1.00
61251710	Demo Kit Nitrided and Nitrocarburized Steels 250 mm dia.	1 pc.	1.00
61251810	Demo Kit Surface Hardened Steel 250 mm dia.	1 pc.	1.00
61251910	Demo Kit Superalloys with Diffusion Coatings 250 mm dia.	1 pc.	1.00
61252010	Demo Kit Superalloys 250 mm dia.	1 pc.	1.00
61252110	NEW Demo Kit Ceramic Thermal Spray Coated Parts 250 mm dia.	1 pc.	1.00

Product no.	 Product name	Contents	GRWT kg
Demo Kits, 300 mm dia.			
61300110	Demo Kit Copper and Copper Alloys 300 mm dia.	1 pc.	1.00
61300210	Demo Kit Ceramic Capacitors 300 mm dia.	1 pc.	1.00
61300310	Demo Kit Pure Titanium 300 mm dia.	1 pc.	1.00
61300410	Demo Kit Aluminium Alloys 300 mm dia.	1 pc.	1.00
61300510	NEW Demo Kit Metallic/Composite Thermal Spray Coated Parts 300 mm dia.	1 pc.	1.00
61300610	Demo Kit Coated Sintered Carbides 300 mm dia.	1 pc.	1.00
61300710	Demo Kit Stainless and Duplex Steels 300 mm dia.	1 pc.	1.00
61300810	Demo Kit Titanium Alloys 300 mm dia.	1 pc.	1.00
61300910	Demo Kit Carbon Fibres Composites 300 mm dia.	1 pc.	1.00
61301010	Demo Kit Materials of Hardness 50-150 HV 300 mm dia.	1 pc.	1.00
61301110	Demo Kit Materials of Hardness 400-700 HV 300 mm dia.	1 pc.	1.00
61301210	Demo Kit 3 Step Hard Materials 700-2000 HV 300 mm dia.	1 pc.	1.00
61301310	Demo Kit Electronic Components 300 mm dia.	1 pc.	1.00
61301410	Demo Kit Cast Iron 300 mm dia.	1 pc.	1.00
61301510	Demo Kit Zinc Coated Steel 300 mm dia.	1 pc.	1.00
61301610	Demo Kit Materials of Hardness 150-400 HV 300 mm dia.	1 pc.	1.00
61301710	Demo Kit Nitrided and Nitrocarburized Steels 300 mm dia.	1 pc.	1.00
61301810	Demo Kit Surface Hardened Steel 300 mm dia.	1 pc.	1.00
61301910	Demo Kit Superalloys with Diffusion Coatings 300 mm dia.	1 pc.	1.00
61302010	Demo Kit Superalloys 300 mm dia.	1 pc.	1.00
61302110	NEW Demo Kit Ceramic Thermal Spray Coated Parts 300 mm dia.	1 pc.	1.00



Cutting

Cut-off Wheels

Metallographic cutting is the first and very important step in sample preparation.

To take out a representative sample from a large workpiece or to make longitudinal or cross sections of smaller parts, it must be ensured that the sample is removed without the creation of heat that could modify or even damage the structure.

The surface of the sample after cutting must be free from thermal damage and with a minimum of mechanical deformation. Otherwise the following preparation steps will take very long time, and there is a risk that possible changes to the microstructure are not removed and may be seen as the "real" structure.

Our wheels are, in respect of the above, optimised especially for metallographic cutting to provide perfect results in the shortest possible time.

The abrasive cut-off wheels for laboratory and production type cut-off machines are available in 5 different standard sizes, from 250 to 430 mm dia., with an arbor size of 32 mm dia.

Our precision cut-off wheels are optimised for high precision cutting of different materials. They are as thin as possible in relation to the diameter to remove an absolute minimum of material, a critical factor when sectioning expensive materials. Thin cut-off wheels limit the thermal damage and mechanical deformation during cutting. This again reduces the following grinding and polishing time.



Our range of cut-off wheels are named with both the material group they are designed for and the approximate hardness range. As can be seen in the table below, there are two Fe wheels for Ferrous Metals with a hardness of approximately 60 and 50 HRC.

The third wheel is especially developed for titanium and titanium alloys, and the fourth wheel is designed for other, soft non-ferrous metals.

Aka-Cut 500 HV is a fibre-reinforced wheel, well suited for cutting of surface hardened workpieces. The fibre-reinforcement strengthens the wheel and reduces breaking when subjected to pinching.

Use the table below to select the correct wheel for your specific material type, hardness and size.

For materials, like ceramics, very hard ferrous metals and plastics, we have diamond cut-off wheels and a CBN cut-off wheel, that provide optimal sectioning for these materials. These superabrasive precision cut-off wheels are 152 x 0.8 x 12.7 mm.

Aka-Cut 50 HV is an electroplated diamond cut-off wheel designed for cutting soft materials like resin or plastic, such as electronic components.

Aka-Cut 1500 HV is a resin bond CBN cut-off wheel specifically formulated for cutting very hard ferrous metals with a hardness between 700 and 1500 HV.

Aka-Cut 2000 HV is a metal bond diamond cut-off wheel ideally suited for cutting medium-hard and brittle ceramics, concrete, rocks, tiles, and similar materials with a hardness above 700 HV.

Aka-Cut 3000 HV is a resin bond diamond cut-off wheel recommended for cutting extremely hard ceramics like oxides, carbides, nitrides, and borides, as well as materials containing large amounts of ceramic in a metal matrix, such as sintered carbides and powder metallurgy, with a hardness exceeding 1500 HV.

Additionally, we also have a selection of precision cut-off wheels in 150 mm dia. for cutting ferrous and non-ferrous metals with a hardness between 50 HV and 1000 HV.

		Abrasive Cut-off Wheels				
		Aka-Cut Fe60	Aka-Cut Fe50	Aka-Cut Ti20	Aka-Cut NF10	Aka-Cut 500 HV
HARDNESS	1000 HV					
	700 HV					
	500 HV					
	350 HV					
	250 HV					
	200 HV					
	150 HV					
	100 HV					
	50 HV					
DIAMETER	250 mm / 10" dia.	11252160	11252150	11252120	11252110	11251140
	300 mm / 12" dia.	11302160	11302150	11302120	11302110	11301140
	350 mm / 14" dia.	11352160	11352150	11352120	11352110	11351140
	400 mm / 16" dia.	11402160	11402150	11402120	11402110	11411140
	430 mm / 17" dia.	11432160	11432150	11432120	11432110	

Product no.	Product name	Contents	GRWT kg
Precision cut-off wheels 150 mm dia.			
11151110	Aka-Cut 400 HV Cut-off wheel 150 x 0.5 x 12.7 mm 50 - 400 HV	5 pcs.	0.33
11151140	Aka-Cut 700 HV Cut-off wheel 150 x 0.5 x 12.7 mm 150 - 700 HV	5 pcs.	0.33
11151170	Aka-Cut 1000 HV Cut-off wheel 150 x 0.5 x 12.7 mm 500 - 1000 HV	5 pcs.	0.33
Superabrasive cut-off wheels 152 mm dia.			
18153110	NEW Aka-Cut 50 HV Precision Cut-off wheel 152 x 0.8 x 12.7 mm Electroplated Diamond. Low Concentration.	1 pc.	0.33
16153150	NEW Aka-Cut 1500 HV Precision Cut-off wheel 152 x 0.8 x 12.7 mm Resin Bond CBN. High Concentration.	1 pc.	0.33
17153110	NEW Aka-Cut 2000 HV Precision Cut-off wheel 152 x 0.8 x 12.7 mm Metal Bond Diamond. Medium Concentration.	1 pc.	0.33
17153150	NEW Aka-Cut 3000 HV Precision Cut-off wheel 152 x 0.8 x 12.7 mm Resin Bond Diamond. High Concentration.	1 pc.	0.33
Cut-off wheels 250 mm dia.			
11251140	Aka-Cut 500 HV Cut-off wheel 254 x 1.7 x 32 mm 150 - 500 HV	10 pcs.	1.98
11252110	Aka-Cut NF10 Cut-off wheel 250 x 1.5 x 32 mm	10 pcs.	1.57
11252120	Aka-Cut Ti20 Cut-off wheel 250 x 1.5 x 32 mm	10 pcs.	1.61
11252150	Aka-Cut Fe50 Cut-off wheel 250 x 1.5 x 32 mm	10 pcs.	1.82
11252160	Aka-Cut Fe60 Cut-off wheel 250 x 1.5 x 32 mm	10 pcs.	1.79
Cut-off wheels 300 mm dia.			
11301140	Aka-Cut 500 HV Cut-off wheel 305 x 2.2 x 32 mm 150 - 500 HV	10 pcs.	3.62
11302110	Aka-Cut NF10 Cut-off wheel 300 x 2.0 x 32 mm	10 pcs.	2.66
11302120	Aka-Cut Ti20 Cut-off wheel 300 x 2.0 x 32 mm	10 pcs.	2.80
11302150	Aka-Cut Fe50 Cut-off wheel 300 x 2.0 x 32 mm	10 pcs.	3.19
11302160	Aka-Cut Fe60 Cut-off wheel 300 x 2.0 x 32 mm	10 pcs.	3.10
Cut-off wheels 350 mm dia.			
11351140	Aka-Cut 500 HV Cut-off wheel 356 x 2.6 x 32 mm 150 - 500 HV	10 pcs.	5.91
11352110	Aka-Cut NF10 Cut-off wheel 350 x 2.5 x 32 mm	10 pcs.	4.81
11352120	Aka-Cut Ti20 Cut-off wheel 350 x 2.5 x 32 mm	10 pcs.	5.20
11352150	Aka-Cut Fe50 Cut-off wheel 350 x 2.5 x 32 mm	10 pcs.	5.46
11352160	Aka-Cut Fe60 Cut-off wheel 350 x 2.5 x 32 mm	10 pcs.	5.33

Product no.	Product name	Contents	GRWT kg
Cut-off wheels 400 mm dia.			
11411140	Aka-Cut 500 HV Cut-off wheel 406 x 3.2 x 32 mm 150 - 500 HV	10 pcs.	8.50
11402110	Aka-Cut NF10 Cut-off wheel 400 x 3.0 x 32 mm	10 pcs.	8.26
11402120	Aka-Cut Ti20 Cut-off wheel 400 x 3.0 x 32 mm	10 pcs.	8.26
11402150	Aka-Cut Fe50 Cut-off wheel 400 x 3.0 x 32 mm	10 pcs.	8.46
11402160	Aka-Cut Fe60 Cut-off wheel 400 x 3.0 x 32 mm	10 pcs.	8.27
Cut-off wheels 430 mm dia.			
11432110	Aka-Cut NF10 Cut-off wheel 430 x 3.0 x 32 mm	5 pcs.	4.90
11432120	Aka-Cut Ti20 Cut-off wheel 430 x 3.0 x 32 mm	5 pcs.	4.90
11432150	Aka-Cut Fe50 Cut-off wheel 430 x 3.0 x 32 mm	5 pcs.	4.90
11432160	Aka-Cut Fe60 Cut-off wheel 430 x 3.0 x 32 mm	5 pcs.	4.94



Additives for Recirculation Units

Aka-Cut cut-off wheels will perform at their very best together with Aka-Cool, an additive for recirculation units. Aka-Cool improves the cooling and lubricating ability of the water and acts as corrosion protection for both cut-off machine and sample material.

Aka-Cool is free from amine and boric acid, common in many other machine coolants. The absence of amines gives optimum skin compatibility with a pH of the mixed cooling fluid between 7 – 8, and an extremely low allergy potential.

The recommended mixing ratio of Aka-Cool in water is 3 – 5 %.

Aka-Cool guarantees a long service life of the coolant and a safe and economical process flow.

Both in regards of cost and personal safety Aka-Cool is the optimal choice.

When excessive foaming of the cooling water occurs, Aka-NoFoam is the solution. Any formation of foam drastically reduces cooling of the sample during cutting and can result in thermal damage.

Aka-NoFoam eliminates foam and thus increases the cooling ability of the cooling water.

The recommended mixing ratio of Aka-NoFoam in the cooling fluid is 0.5 – 1 %.



Product no.	Product name	Contents	GRWT kg
Additive for recirculation cooling units			
19201015	Aka-Cool	1 l	1.00
19201017	Aka-Cool	5 l	4.90
Foam reducing additive			
19501013	Aka-NoFoam	500 ml	0.59



Mounting

Mounting serves several different purposes:

- Protection/support of the sample surface
- Easier handling
- Having several small samples in one mount
- Having uniform sizes for clamping in sample holders

There are two different mounting methods; cold and hot mounting. Several resins are available that each have different strengths and advantages.



Cold Mounting

Cold mounting resins typically consist of two components that cure after being mixed together. Two different systems are available; epoxies and acrylics.

The epoxies consist of a liquid resin and a liquid hardener.

Our epoxy resin can be mixed with either the Aka-Cure Slow or Aka-Cure Quick hardener, depending on the requirements. Both have very good adhesion to the sample, which helps to provide the best possible edge retention. They can also be used for vacuum impregnation of fragile and porous samples like ceramics and plasma spray coatings. Aka-Cure Slow cures in 8-24 hours at 22°C (room temperature). Aka-Cure Quick cures in 30 minutes when heated to 80°C.

We offer epoxy resin and hardeners separate, not as a kit, to make it easy to use either hardener with the resin.

Epoxies require precision when mixing the two components. It can be measured by volume, but weighing is much more precise and the recommended method.

Our acrylic resin consists of a powder and a liquid.

Aka-Clear-2 is a fast curing, transparent system with a slightly yellowish tint. It cures in 8-10 minutes and produces totally clear, bubble-free mounts without having to use a pressure pot.






Mixing of the 2 components is not critical, if a thinner mix is required, a little extra liquid can be added without adverse effect on the cured mounts.

With Aka-Clear-2 Powder, 1 kg we ship 2 measuring spoons, 2 reusable mixing cups and 25 wooden mixing sticks for easy measuring and mixing of the resin. With the Aka-Resin Epoxy, 1 l we ship the same, except the measuring spoons, as the epoxy resin and hardener should be measured by weight and not by volume.

Cold Mounting

Type	Epoxy		Acrylic
Component 1	Aka-Resin Liquid Epoxy Viscosity: 600-700 cps @25°C		Aka-Clear-2 Powder
Component 2	Aka-Cure Slow Viscosity: 20 cps @25°C	Aka-Cure Quick Viscosity: 80 cps @25°C	Aka-Clear-2 Liquid
Mixing ratio by weight	100 g of resin:12 g of Aka-Cure Slow	100 g of resin:26.3 g of Aka-Cure Quick	10 g of powder:6.3 g of liquid
Mixing ratio by volume	100 parts of resin:13.5 parts of Aka-Cure Slow	100 parts of resin:30 parts of Aka-Cure Quick	2 parts of powder:1 part of liquid
Curing time	8-24 hours @ 22°C Long pot life and low peak temperature, suitable for both vacuum impregnation and mounting of heat sensitive samples. Not suitable for large mounts due to excessive exothermal reaction	30 min. when heated to 80°C. Peak temperature up to 200°C. For very hard, transparent mounts. Very large mounts can be made using a 2 cycle curing schedule. First, the mount is cured without heating in 8 hours, followed by a 1 h cycle @ 100°C	8-10 minutes @ 22°C. Peak temperature up to 90°C
Shrinkage, 1-5, 1 = best/lowest	1	2	3
Recommended applications	Transparent, very low curing temperature, no shrinkage, for sensitive materials. Vacuum impregnation	Transparent, very fast epoxy system, for vacuum impregnation of porous samples	Completely clear for easy visibility of sample, mounting of electronic components, failure analysis



Product no.	 Product name	Contents	GRWT kg
Clear, low viscosity epoxy resin			
25101115	Aka-Resin Liquid Epoxy	1 l	1.27
25101117	Aka-Resin Liquid Epoxy	5 l	5.72
Epoxy hardener, 8-24 hours cure @ 22°C			
25101213	 Aka-Cure Slow	500 ml	0.79
Epoxy hardener, 30 min cure @ 80°C			
25101223	 Aka-Cure Quick	500 ml	0.79
Clear acrylic resin, 8-10 min cure @ 22°C			
25202311	Aka-Clear-2 Powder	1 kg	1.23
25202313	Aka-Clear-2 Powder	5 kg	5.40
25202413	 Aka-Clear-2 Liquid	500 ml	0.80
25202415	 Aka-Clear-2 Liquid	1 l	0.99



Hot Mounting

Hot mounting resins are single compounds for use in mounting presses.

- Aka-Resin Epoxy is a black mineral-filled thermosetting compound for perfect mounts with very low shrinkage and best edge retention.
- Aka-Resin Melamine is a white mineral-filled thermosetting compound for universal mounting with low shrinkage. White colour gives perfect contrast in hardness testing.
- Aka-Resin Acrylic is a thermoplastic compound for crystal clear mounts for easy visibility of the sample.
- Aka-Resin Phenolic SEM is a black carbon-filled thermosetting compound for conductive mounting used in SEM work.
- Aka-Resin Phenolic and Aka-Resin Phenolic-2, Black are black wood-filled thermosetting compounds for backfilling and mounting of routine samples. Aka-Resin Phenolic has a slightly shorter heating time than Aka-Resin Phenolic-2, Black.

Hot Mounting					
Type	Epoxy	Melamine	Acrylic	Phenolic	
Name	Aka-Resin Epoxy	Aka-Resin Melamine	Aka-Resin Acrylic	Aka-Resin Phenolic SEM	Aka-Resin Phenolic & Aka-Resin Phenolic-2, Black
Shrinkage, 1-5, 1 = best/lowest	1	1	4	2	3
Recommended applications	With hard mineral filler for best edge retention	With mineral filler, good all-round resin, perfect contrast for micro-hardness testing	Completely clear, for easy visibility of the sample	Conductive, for use in SEM	Low price, for routine mounting and back-filling



Product no.	Product name	Contents	GRWT kg
Black, mineral-filled epoxy for best edge retention			
21101521	Aka-Resin Epoxy	1 kg	1.12
21101524	Aka-Resin Epoxy	7.5 kg	7.90
White, mineral-filled resin for all round purposes			
21301511	Aka-Resin Melamine	1 kg	1.17
21301514	Aka-Resin Melamine	7.5 kg	7.90
Clear, acrylic resin for monitoring the sample			
21201001	Aka-Resin Acrylic	1 kg	1.16
21201004	Aka-Resin Acrylic	7.5 kg	7.90
Black, wood-filled resin for best economy			
21501122	Aka-Resin Phenolic	2.5 kg	2.82
21501124	Aka-Resin Phenolic	7.5 kg	8.30
21502122	Aka-Resin Phenolic-2, Black	2.5 kg	2.74
21502124	Aka-Resin Phenolic-2, Black	7.5 kg	8.30
Black, graphite-filled conductive resin for SEM work			
21501721	Aka-Resin Phenolic SEM	1 kg	1.13
21501724	Aka-Resin Phenolic SEM	7.5 kg	8.30



Accessories for Mounting

Here you find a range of accessories for cold and hot mounting.

Moulds for all types of cold mounting resins. With built-in bevel to avoid ripping cloths or grinding paper while preparing samples. The moulds are available in sizes from 25 – 50 mm dia.

Silicone lids to be used with Aka-Mould instead of the normal, hard lid. The soft silicone lid is easier to remove and facilitates assembly and usage of the Aka-Mould. The silicone lid can be used with both acrylic and epoxy resins. A shorter lifetime must be expected with epoxy resins.

Mounting clips in stainless steel and in plastic for easy placement of samples while curing. The stainless steel springs are used for holding individual samples, and the plastic clips can hold up to three samples.

To minimise contact between the softer plastic clips and the sample during sample preparation, the clips are elevated on thin legs. This reduces the risk of contamination and edge rounding.

Protection Caps can be used to cover the samples after preparation. This will avoid scratching or other damage to the sample surface.

Mould release products Aka-NoStick for both cold and hot mounting. For cold mounting the silicone-free Aka-NoStick Liquid is used to coat the inside of the moulds, and for hot mounting, Aka-NoStick Powder is applied on the upper and lower ram of the mounting press to prevent the resin from sticking.

The **Cold Mounting Mixing Kit** consists of 200 paper cups and wooden mixing sticks for easy and fast mixing of both acrylic and epoxy resins.



Product no.	Product name	Contents	GRWT kg
Mounting cups for all cold mounting resins			
73112510	Aka-Mould 25 mm dia.	10 pcs.	0.19
73113010	Aka-Mould 30 mm dia.	10 pcs.	0.21
73114010	Aka-Mould 40 mm dia.	10 pcs.	0.28
73115010	Aka-Mould 50 mm dia.	10 pcs.	0.36
Silicone lids for Aka-Mould			
73352510	Silicone Lid 25 mm dia.	10 pcs.	0.19
73353010	Silicone Lid 30 mm dia.	10 pcs.	0.19
73354010	Silicone Lid 40 mm dia.	10 pcs.	0.19
73355010	Silicone Lid 50 mm dia.	10 pcs.	0.19
Clips for holding samples			
73210860	Aka-Clip Stainless Steel	100 pcs.	0.05
73222060	Aka-TrioClip Black	100 pcs.	0.09
73222090	Aka-TrioClip Black	1000 pcs.	0.52
Caps for sample protection			
78313060	Protection Cap 30 mm dia.	100 pcs.	0.22
78314060	Protection Cap 40 mm dia.	100 pcs.	0.31
78315060	Protection Cap 50 mm dia.	100 pcs.	0.48
Release agent for hot and cold mounting			
21901105	Aka-NoStick Powder - Mould release powder	50 g	0.15
25901201	Aka-NoStick Liquid - Mould release liquid	250 ml	0.38
Cold Mounting Mixing Kit			
73511075	Cold Mounting Mixing Kit (200 cups & 200 sticks)	1 pc.	2.63



Grinding

Grinding is the first “real” preparation step. Cutting and mounting are not always necessary, but for a successful metallographic sample preparation a correct sequence of grinding and polishing steps is a must.

The first step is usually a plane grinding step, either to level all samples in a sample holder, and/or to remove the initial deformation from the sample surface. Depending on the sample size and the depth of deformation, relatively coarse abrasives are used to obtain short grinding times.

A major goal in sample preparation today is to receive a satisfactory result in the *shortest possible time* at the *lowest possible cost*. Therefore, every step must be considered carefully, also in relation to the following step and the required finish. It does not make sense to have a very fast plane grinding step if that produces a lot of deformation that will take a very long time to remove in the following step(s). And the better the planeness of the samples after grinding, the faster the following step(s) can be carried out.



Plane Grinding

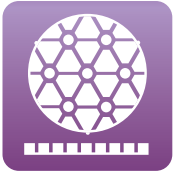
For materials with a hardness higher than 150 HV, the best possible choice is the Aka-Piatto. Aka-Piatto is a multi-layer diamond grinding disc that can replace at least 100 - 200 pieces of SiC paper. It has a consistently high removal rate and will provide absolutely plane samples with perfect edge retention.

For plane grinding of soft materials with hardness below 150 HV or very ductile materials with a higher hardness grinding paper can still be the correct choice, but harder materials will greatly benefit from the Aka-Piatto. For grinding brittle and fragile materials Aka-Piatto+ is recommended. It has a higher diamond concentration than Aka-Piatto. This results in a lower specific pressure during grinding and thereby less aggressive abrasion. This might result in longer grinding time than with Aka-Piatto. Depending on the size and the hardness of the samples, Aka-Piatto/Aka-Piatto+ in grit sizes P80 – P220 is used for plane grinding.

Usually a single plane grinding step is sufficient when grinding with Aka-Piatto. The absolutely plane samples make it possible to speed up the following fine grinding step.

The table below shows the correct application areas for the different grinding consumables.

	Aka-Piatto	Aka-Piatto+	Rhaco Grit Grinding Paper
Plane Grinding	P80, P120, P220	P80, P120, P220	P80, P120, P180, P220, P320
Use with	Water	Water	Water
Hardness range	> 150 HV	> 150 HV	< 400 HV
Applications / Benefits	Long lifetime, continuous removal and perfect planeness. Can replace several grinding paper steps.	Very long lifetime, continuous removal, perfect planeness, finer surface finish for brittle materials like ceramics and cermets. Can replace several grinding paper steps.	Due to the use of Al ₂ O ₃ , Rhaco Grit has 2 - 3 times longer lifetime and higher removal compared to standard SiC Paper @ P120 - 320.
For use on magnetic support discs	✓	✓	✓ when used on Aka-Rhaco



Fine Grinding

After plane grinding, traditionally several fine grinding steps in successively finer grit sizes have been used to make the samples ready for polishing. Also here, new technology has made it possible to speed up preparation and reduce fine grinding to one single step.

Aka-Allegran and Aka-Largan apply a unique system for material removal. Integrated abrasive is released during preparation while abrasive in the form of diamond suspension or diamond spray is applied. The result is high removal, perfect planeness and an exceptional long lifetime.

Aka-Largan and Aka-Allegran replace a number of grinding steps, typically P320 - P1200 with one single fine grinding step. With a constant removal rate these discs are ideal for automatic preparation systems that rely on constant, reproducible settings on every step.

Alternatively, Aka-Piatto can be used in the more traditional way where several grinding steps are carried out successively. As Aka-Piatto is used with water only, cleaning is easier than with Aka-Allegran or Aka-Largan, and not even necessary in-between preparation steps.

For very soft and/or ductile materials it can still be necessary to use traditional grinding paper.

	Aka-Piatto	Aka-Piatto+	Rhaco Grit Grinding Paper
Fine Grinding	P600, P1200, P2400, P4000	P600, P1200	P500, P800, P1000, P1200, P2400, P4000
Use with	Water	Water	Water
Hardness range	> 150 HV	> 150 HV	< 400 HV
Applications / Benefits	Long lifetime, continuous removal and perfect planeness. Can replace several grinding paper steps.	Very long lifetime, continuous removal, perfect planeness, finer surface finish for brittle materials like ceramics and cermets. Can replace several grinding paper steps.	Due to the use of Al ₂ O ₃ , Rhaco Grit has longer lifetime and higher removal compared to standard SiC Paper @ P500 - 800. For P1000 - 4000 the use of SiC ensures minimum deformation.
For use on magnetic support discs	✓	✓	✓ when used on Aka-Rhaco

	Aka-Allegran 9	Aka-Allegran 6	Aka-Allegran 3	Aka-Allegran 1	Aka-Largan 9
Use with	Diamond Suspension 15 - 3 µm	Diamond Suspension 9 - 3 µm	Diamond Suspension 9 - 3 µm	Diamond Suspension 1 - 0.1 µm	Diamond Suspension 15 - 3 µm
Hardness range	> 450 HV	> 150 HV	> 150 HV	> 150 HV	< 150 HV (< 400 HV)
Applications / Benefits	For one-step fine grinding, replaces grinding papers P320 - P1200 in one step. Perfect planeness and edge retention. For fine grinding of hard and very hard materials.	For one-step fine grinding, replaces grinding papers P320 - P1200 in one step. Perfect planeness and edge retention. Ideal for fine grinding of all types of steel.	For one-step fine grinding, replaces grinding papers P320 - P1200 in one step. Perfect planeness and edge retention. For fine grinding of softer materials and the preservation of soft phases like inclusions in steel or graphite in cast iron.	Can be used as final polishing step of very hard materials, provides outstanding flatness and edge retention. Perfect for coated sintered carbides.	For fine grinding of soft and very soft materials. Replaces grinding papers P320 - P1200 in one step.
For use on magnetic support discs	✓	✓	✓	✓	✓



Aka-Piatto

Unique to Aka-Piatto is the colour-coded binder and a wear compensating surface design increasing the planeness of the samples and the lifetime of the Aka-Piatto discs.

3 small tabs make it easy to exchange the Aka-Piatto discs.

Depending on the sample size and machine set-up at least 100 - 200 pcs. of grinding paper can be substituted by one Aka-Piatto disc.

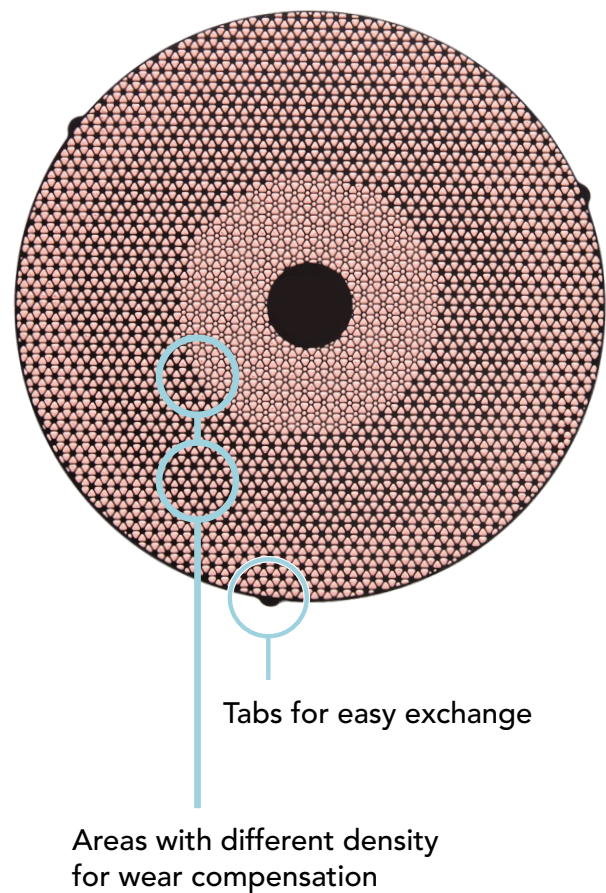
The Aka-Piatto discs have been dressed and are ready to use. Depending on the material being prepared, they have to be dressed once in a while during use to ensure continuously high removal.


We recommend using the dressing stick 75310201 to be found in the Accessories section.

Colour-coding of the Aka-Piatto grinding discs:



Special features of Aka-Piatto:



Product no.	 Product name	Contents	GRWT kg
Aka-Piatto, 200 mm dia.			
31212010	Aka-Piatto 80/250 μm 200 mm dia.	1 pc.	0.38
31212020	Aka-Piatto 120/125 μm 200 mm dia.	1 pc.	0.34
31212030	Aka-Piatto 220/75 μm 200 mm dia.	1 pc.	0.34
31212045	Aka-Piatto 600/30 μm 200 mm dia.	1 pc.	0.34
31212060	Aka-Piatto 1200/15 μm 200 mm dia.	1 pc.	0.34
31212075	Aka-Piatto 2400/6 μm 200 mm dia.	1 pc.	0.34
31212090	NEW Aka-Piatto 4000/3 μm 200 mm dia.	1 pc.	0.34
Aka-Piatto, 250 mm dia.			
31212510	Aka-Piatto 80/250 μm 250 mm dia.	1 pc.	0.40
31212520	Aka-Piatto 120/125 μm 250 mm dia.	1 pc.	0.40
31212530	Aka-Piatto 220/75 μm 250 mm dia.	1 pc.	0.40
31212545	Aka-Piatto 600/30 μm 250 mm dia.	1 pc.	0.40
31212560	Aka-Piatto 1200/15 μm 250 mm dia.	1 pc.	0.40
31212575	Aka-Piatto 2400/6 μm 250 mm dia.	1 pc.	0.40
31212590	NEW Aka-Piatto 4000/3 μm 250 mm dia.	1 pc.	0.40
Aka-Piatto, 300 mm dia.			
31213010	Aka-Piatto 80/250 μm 300 mm dia.	1 pc.	0.50
31213020	Aka-Piatto 120/125 μm 300 mm dia.	1 pc.	0.50
31213030	Aka-Piatto 220/75 μm 300 mm dia.	1 pc.	0.50
31213045	Aka-Piatto 600/30 μm 300 mm dia.	1 pc.	0.50
31213060	Aka-Piatto 1200/15 μm 300 mm dia.	1 pc.	0.50
31213075	Aka-Piatto 2400/6 μm 300 mm dia.	1 pc.	0.50
31213090	NEW Aka-Piatto 4000/3 μm 300 mm dia.	1 pc.	0.50
Aka-Piatto, 350 mm dia.			
31213510	Aka-Piatto 80/250 μm 350 mm dia.	1 pc.	0.62
31213520	Aka-Piatto 120/125 μm 350 mm dia.	1 pc.	0.62
31213530	Aka-Piatto 220/75 μm 350 mm dia.	1 pc.	0.62
31213545	Aka-Piatto 600/30 μm 350 mm dia.	1 pc.	0.62
31213560	Aka-Piatto 1200/15 μm 350 mm dia.	1 pc.	0.62



Aka-Piatto+

Aka-Piatto+ is a series of discs with an even higher diamond concentration than Aka-Piatto.

The effect of Aka-Piatto+ is an improved lifetime and finer surface finish on brittle samples like ceramics and cermets due to the lower specific pressure.

Used on metals it results in a finer finish and up to 100% longer lifetime compared to regular Aka-Piatto discs.

Aka-Piatto+ shares all the same features as Aka-Piatto, like colour-coding, the wear compensating design and the 3 small tabs for easy exchange.

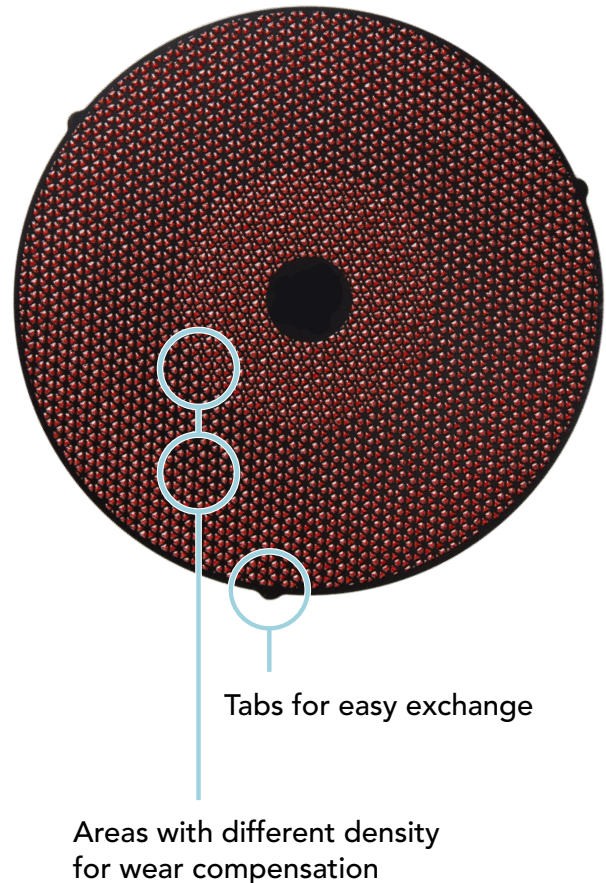
The Aka-Piatto+ discs have been dressed and are ready to use. Depending on the material being prepared, they have to be dressed once in a while during use to ensure continuously high removal.

We recommend using the dressing stick 75310201 to be found in the Accessories section.

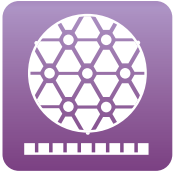
Colour-coding of the Aka-Piatto+ grinding discs:



Special features of Aka-Piatto+:



Product no.	Product name	Contents	GRWT kg
Aka-Piatto+, 200 mm dia.			
31412010	Aka-Piatto 80+/250 µm 200 mm dia.	1 pc.	0.34
31412020	Aka-Piatto 120+/125 µm 200 mm dia.	1 pc.	0.34
31412030	Aka-Piatto 220+/75 µm 200 mm dia.	1 pc.	0.34
31412045	Aka-Piatto 600+/30 µm 200 mm dia.	1 pc.	0.34
31412060	Aka-Piatto 1200+/15 µm 200 mm dia.	1 pc.	0.34
Aka-Piatto+, 250 mm dia.			
31412510	Aka-Piatto 80+/250 µm 250 mm dia.	1 pc.	0.40
31412520	Aka-Piatto 120+/125 µm 250 mm dia.	1 pc.	0.40
31412530	Aka-Piatto 220+/75 µm 250 mm dia.	1 pc.	0.40
31412545	Aka-Piatto 600+/30 µm 250 mm dia.	1 pc.	0.40
31412560	Aka-Piatto 1200+/15 µm 250 mm dia.	1 pc.	0.40
Aka-Piatto+, 300 mm dia.			
31413010	Aka-Piatto 80+/250 µm 300 mm dia.	1 pc.	0.50
31413020	Aka-Piatto 120+/125 µm 300 mm dia.	1 pc.	0.50
31413030	Aka-Piatto 220+/75 µm 300 mm dia.	1 pc.	0.50
31413045	Aka-Piatto 600+/30 µm 300 mm dia.	1 pc.	0.50
31413060	Aka-Piatto 1200+/15 µm 300 mm dia.	1 pc.	0.50



Aka-Allegran/Largan

Aka-Allegran and Aka-Largan are rigid fine grinding/polishing discs. They provide a unique system for high material removal, perfect planeness and edge retention and a very long lifetime.

Upon delivery the discs are ready to use and need practically no maintenance.

Aka-Largan 9 is used for fine grinding of soft materials with a hardness from 50 HV up to 400 HV. It is ideal for fine grinding of non-ferrous metals. Diamond suspension or spray in grain sizes from 15 to 3 μm is added during the preparation.

Aka-Largan 9 replaces a number of grinding steps, typically P320 - P1200 with one single step.

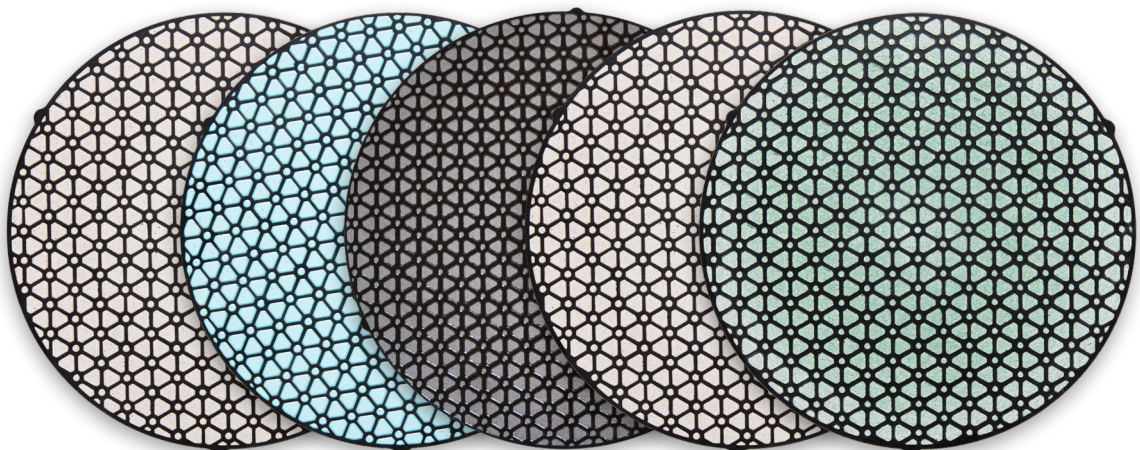
Aka-Allegran is available in four different versions for the preparation of materials with a hardness higher than 150 HV.

Aka-Allegran 9, the hardest disc in the range, is used with 15 to 3 μm diamond suspension or spray for fine grinding of materials with a hardness above 450 HV. It will replace the grinding steps from P320 - P1200 with one single step.

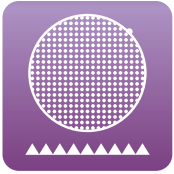
Aka-Allegran 6, the most universal disc for fine grinding of all materials with a hardness of above 150 HV with 9 - 3 μm diamonds. It is the ideal disc for fine grinding of all kinds of steel. It will replace the traditional grinding steps from P320 - P1200 with one single step.

Aka-Allegran 3, a medium hard disc, is used with 9 to 3 μm diamond suspension or spray for fine grinding of materials with a hardness above 150 HV. It will replace the grinding steps from P320 - P1200 with one single step. Used with 6 μm diamonds it will produce perfectly flat samples ready for a final polishing with 1 μm . When used with 3 μm diamonds it is perfect for the preservation of soft inclusions in steel and graphite in cast iron.

Aka-Allegran 1, the softest disc in the range, is used for the preparation of materials with a hardness above 150 HV. It can be used with diamond suspension or spray with grain sizes as small as 0.1 μm and can then even be used as a final polishing step for very hard materials like coated sintered carbides, resulting in outstanding planeness.



Product no.	Product name	Contents	GRWT kg
Aka-Largan 9, for fine grinding of materials < 150 HV			
33212022	Aka-Largan 9 200 mm dia.	2 pcs.	0.45
33212522	Aka-Largan 9 250 mm dia.	2 pcs.	0.59
33213022	Aka-Largan 9 300 mm dia.	2 pcs.	0.77
33213522	Aka-Largan 9 350 mm dia.	2 pcs.	0.94
Aka-Allegran 9, for fine grinding of materials > 450 HV with 15-3 µm			
33412022	Aka-Allegran 9 200 mm dia.	2 pcs.	0.47
33412522	Aka-Allegran 9 250 mm dia.	2 pcs.	0.59
33413022	Aka-Allegran 9 300 mm dia.	2 pcs.	0.76
33413522	Aka-Allegran 9 350 mm dia.	2 pcs.	0.98
Aka-Allegran 6, for fine grinding of materials > 150 HV with 9-3 µm			
33412032	Aka-Allegran 6 200 mm dia.	2 pcs.	0.45
33412532	Aka-Allegran 6 250 mm dia.	2 pcs.	0.59
33413032	Aka-Allegran 6 300 mm dia.	2 pcs.	0.76
33413532	Aka-Allegran 6 350 mm dia.	2 pcs.	0.97
Aka-Allegran 3, for fine grinding of materials > 150 HV with 9-3 µm			
33412042	Aka-Allegran 3 200 mm dia.	2 pcs.	0.45
33412542	Aka-Allegran 3 250 mm dia.	2 pcs.	0.57
33413042	Aka-Allegran 3 300 mm dia.	2 pcs.	0.75
33413542	Aka-Allegran 3 350 mm dia.	2 pcs.	0.94
Aka-Allegran 1, for fine grinding of materials > 150 HV with 1-0.1 µm			
33412062	Aka-Allegran 1 200 mm dia.	2 pcs.	0.45
33412562	Aka-Allegran 1 250 mm dia.	2 pcs.	0.58
33413062	Aka-Allegran 1 300 mm dia.	2 pcs.	0.74
33413562	Aka-Allegran 1 350 mm dia.	2 pcs.	0.94



Rhaco Grit

If the preparation method requires grinding paper, our own Rhaco Grit has unique advantages:


- With Al_2O_3 as abrasive on P80 - P800, the lifetime is up to 2-3 times longer compared to SiC paper. Especially in the coarser grit sizes.
- Replaces self-adhesive paper when used with Aka-Rhaco.

Grit/grain size conversion table

European grit size # FEPA P	US grit size # ANSI	Grain size in μm (approx.)
P60		260
P80		200
P100		160
P120	100	125
P150	150	93
P180	180	76
P220	220	68
P240		58
P280	240	52
P320		46
P360	280	39
P400	320	35
P500	360	30
P600		26
P800	400	22
P1000	500	18
P1200	600	14
P1500		12
P2000	800	10
P2400	1000	8
P4000		5

Available as Rhaco Grit

Product no.	 Product name	Contents	GRWT kg
Rhaco Grit, 32 mm dia.			
35203208	Rhaco Grit P120 32 mm dia.	100 pcs.	0.15
35203308	Rhaco Grit P220 32 mm dia.	100 pcs.	0.15
35203358	Rhaco Grit P320 32 mm dia.	100 pcs.	0.15
35203458	Rhaco Grit P600 32 mm dia.	100 pcs.	0.15
Rhaco Grit, 200 mm dia.			
35320107	NEW Rhaco Grit P80 200 mm dia.	50 pcs.	1.00
35320207	Rhaco Grit P120 200 mm dia.	50 pcs.	0.70
35320258	Rhaco Grit P180 200 mm dia.	100 pcs.	1.30
35320308	Rhaco Grit P220 200 mm dia.	100 pcs.	0.69
35320358	Rhaco Grit P320 200 mm dia.	100 pcs.	1.03
35320408	Rhaco Grit P500 200 mm dia.	100 pcs.	0.78
35320458	Rhaco Grit P600 200 mm dia.	100 pcs.	0.78
35320508	Rhaco Grit P800 200 mm dia.	100 pcs.	0.74
35320558	Rhaco Grit P1000 200 mm dia.	100 pcs.	0.70
35320608	Rhaco Grit P1200 200 mm dia.	100 pcs.	0.69
35220757	Rhaco Grit P2400 200 mm dia.	50 pcs.	0.54
35220758	Rhaco Grit P2400 200 mm dia.	100 pcs.	0.86
35220907	Rhaco Grit P4000 200 mm dia.	50 pcs.	0.54
35220908	Rhaco Grit P4000 200 mm dia.	100 pcs.	0.86
Rhaco Grit, 230 mm dia.			
35323207	Rhaco Grit P120 230 mm dia.	50 pcs.	0.98
35323258	Rhaco Grit P180 230 mm dia.	100 pcs.	1.80
35323308	Rhaco Grit P220 230 mm dia.	100 pcs.	0.86
35323358	Rhaco Grit P320 230 mm dia.	100 pcs.	1.11
35323408	Rhaco Grit P500 230 mm dia.	100 pcs.	0.91
35323458	Rhaco Grit P600 230 mm dia.	100 pcs.	0.91
35323508	Rhaco Grit P800 230 mm dia.	100 pcs.	0.91
35323558	Rhaco Grit P1000 230 mm dia.	100 pcs.	0.82
35323608	Rhaco Grit P1200 230 mm dia.	100 pcs.	0.86
35223757	Rhaco Grit P2400 230 mm dia.	50 pcs.	0.63
35223758	Rhaco Grit P2400 230 mm dia.	100 pcs.	1.07
35223907	Rhaco Grit P4000 230 mm dia.	50 pcs.	0.66
35223908	Rhaco Grit P4000 230 mm dia.	100 pcs.	1.11

Product no.	 Product name	Contents	GRWT kg
Rhaco Grit, 250 mm dia.			
35325107	NEW Rhaco Grit P80 250 mm dia.	50 pcs.	1.20
35325207	Rhaco Grit P120 250 mm dia.	50 pcs.	0.96
35325258	Rhaco Grit P180 250 mm dia.	100 pcs.	1.89
35325308	Rhaco Grit P220 250 mm dia.	100 pcs.	1.01
35325358	Rhaco Grit P320 250 mm dia.	100 pcs.	1.33
35325408	Rhaco Grit P500 250 mm dia.	100 pcs.	1.08
35325458	Rhaco Grit P600 250 mm dia.	100 pcs.	1.08
35325508	Rhaco Grit P800 250 mm dia.	100 pcs.	0.82
35325558	Rhaco Grit P1000 250 mm dia.	100 pcs.	1.05
35325608	Rhaco Grit P1200 250 mm dia.	100 pcs.	1.01
35225757	Rhaco Grit P2400 250 mm dia.	50 pcs.	0.73
35225758	Rhaco Grit P2400 250 mm dia.	100 pcs.	1.20
35225907	Rhaco Grit P4000 250 mm dia.	50 pcs.	0.68
35225908	Rhaco Grit P4000 250 mm dia.	100 pcs.	1.15

Rhaco Grit, 300 mm dia.

35330107	NEW Rhaco Grit P80 300 mm dia.	50 pcs.	1.51
35330207	Rhaco Grit P120 300 mm dia.	50 pcs.	1.10
35330258	Rhaco Grit P180 300 mm dia.	100 pcs.	2.02
35330308	Rhaco Grit P220 300 mm dia.	100 pcs.	1.70
35330358	Rhaco Grit P320 300 mm dia.	100 pcs.	2.00
35330408	Rhaco Grit P500 300 mm dia.	100 pcs.	1.50
35330458	Rhaco Grit P600 300 mm dia.	100 pcs.	1.50
35330508	Rhaco Grit P800 300 mm dia.	100 pcs.	1.51
35330558	Rhaco Grit P1000 300 mm dia.	100 pcs.	1.46
35330608	Rhaco Grit P1200 300 mm dia.	100 pcs.	1.15
35230757	Rhaco Grit P2400 300 mm dia.	50 pcs.	1.00
35230758	Rhaco Grit P2400 300 mm dia.	100 pcs.	1.72
35230907	Rhaco Grit P4000 300 mm dia.	50 pcs.	0.93
35230908	Rhaco Grit P4000 300 mm dia.	100 pcs.	1.65



Grinding Stones

For automatic or semi-automatic plane grinding machines we have both an Al_2O_3 grinding stone for grinding of ferrous metals, and a SiC grinding stone for grinding of non-ferrous metals in our program.

They will fit Struers AbraPlan® and MAPS® and QATM System Automat® and Saphir 375® (with adapter) plane grinding machines.

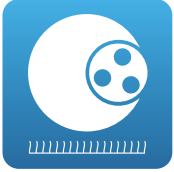
The stones have a diameter of 356 mm at a height of 45 mm with an arbour diameter of 38 mm. The hole for the flange is 125 mm in dia. and 30 mm deep.

For the QATM Qgrind XL®, Qpol 300 BOT®, System Automat® and Saphir 375® we also offer both an Al_2O_3 and a SiC grinding stone with base plate that can be mounted directly on the machine without the use of an adapter disc.

The stones have a diameter of 350 mm at a height of 50 mm. The centerhole is 125 mm dia. and 40 mm deep.



Product no.	Product name	Contents	GRWT kg
Grinding stones without base plate			
39136210	SiC Grinding Stone NF10, 356 mm dia. #150	1 pc.	8.20
39136240	Al ₂ O ₃ Grinding Stone Fe40, 356 mm dia. #150	1 pc.	8.20
Grinding stones with base plate			
39235210	SiC Grinding Stone NF10, with base plate, 350 mm dia. #150	1 pc.	10.40
39235240	Al ₂ O ₃ Grinding Stone Fe40, with base plate, 350 mm dia. #150	1 pc.	9.90



Polishing

Polishing has to remove the last deformation introduced during grinding, and to provide a highly reflective finish so the samples can be examined under the microscope.

Soft cloths usually provide the best surface finish but tend to round the edges of the sample and create relief between phases of different hardness.

Hard cloths are good for planeness and edge retention, but tend to leave slight scratches on the surface.

Therefore, a compromise has to be found to create the best possible surface finish with the best planeness and least edge rounding, in the shortest possible time.

Our variety of polishing cloths provides a solution to every polishing challenge, when used with the correct abrasives. The cloths are available in two different versions; magnetic and self-adhesive.

Many laboratories are using a magnetic support disc for an easy exchange of grinding and polishing discs. In this case the polishing cloths on a steel base are the obvious choice. However, the self-adhesive cloths can also be used on magnetic support discs when they are applied on the Aka-Rhaco support disc. This will save money and reduce metallic waste.





Polishing Cloths

The polishing cloths contain a thick polymer barrier that keeps both abrasive and lubricant at the surface of the cloth to perform the most efficient polishing action.

Plaran and Paran-S are relatively hard cloths used for fine grinding or pre-polishing with 15 μm , 9 μm , 6 μm , 3 μm or 1 μm diamonds.

Silk, Daran, Ramda, Moran-U, Moran and Plural are gradually softer cloths for polishing with 9 - 0.25 μm diamonds.

Napal is used for final polishing with diamond abrasives of 1 μm and finer or for final oxide polishing.

Chemal is used for oxide polishing and especially suited for chemical-mechanical polishing.

The self-adhesive polishing cloths are equipped with an adhesive with low tack and a unique tab that assures easy placing and removal of the cloths. Unique is also the batch code printed directly onto the back of the cloths.

Without removing the liner from the back of the cloths, they can be used directly on Aka-Rhaco and thus on magnetic support discs. See section Magnetic Adaptation.

All magnetic polishing cloths are based on the cloths above, laminated on a steel disc. These steel discs are equipped with 3 tabs for easy removal from the magnetic support disc and lasercut to avoid injuries.

	Cloth material	Fine Grinding	Polishing	Final Polishing	Application
Plaran	Woven Nylon	15 - 6 μm	3 μm	÷	Fine grinding of soft metals, polishing of hard materials
Paran-S	Non-woven Polyester	15 - 3 μm	6 - 1 μm	÷	Fine grinding of soft metals, polishing of hard materials
Daran	Woven Acetate	÷	6 - 1 μm	1 - 0.25 μm Oxide polishing	Polishing of all materials
Ramda	Woven Acetate	÷	3 - 1 μm	1 μm	Polishing of all materials
Silk	100% Woven Silk	9 μm	6 - 1 μm	1 - 0.25 μm Oxide polishing	Fine grinding of ferrous metals, polishing and final polishing of harder materials and coatings
Moran	100% Woven Wool	÷	6 - 3 μm	÷	Polishing of non-ferrous and ferrous metals
Moran-U	100% Woven Wool	÷	6 - 3 μm	1 μm	Polishing and final polishing of non-ferrous and ferrous metals
Plural	Flocked Viscose	÷	3 - 1 μm	÷	Fast, one-step polishing of steels, sintered carbides and other hard materials. Polishing of unmounted samples
Napal	Flocked Viscose	÷	÷	1 - 0.25 μm Oxide polishing	Final polishing of all materials
Chemal	Synthetic Foam	÷	÷	Oxide polishing	Chemical/mechanical final polishing of all materials

Product no.	Product name	Contents	GRWT kg
Self-adhesive polishing cloths, 32 mm dia.			
41031016	Aka-Plaran 32 mm dia.	25 pcs.	0.06
41032016	Aka-Paran-S 32 mm dia.	25 pcs.	0.06
41032516	Aka-Daran 32 mm dia.	25 pcs.	0.06
41033016	Aka-Ramda 32 mm dia.	25 pcs.	0.06
41034016	Aka-Silk 32 mm dia.	25 pcs.	0.06
41035026	Aka-Moran 32 mm dia.	25 pcs.	0.06
41035116	Aka-Moran-U 32 mm dia.	25 pcs.	0.06
41036016	Aka-Plural 32 mm dia.	25 pcs.	0.06
41037016	Aka-Napal 32 mm dia.	25 pcs.	0.06
41039016	Aka-Chemal 32 mm dia.	25 pcs.	0.06
Self-adhesive polishing cloths, 200 mm dia.			
41201013	Aka-Plaran 200 mm dia.	5 pcs.	0.33
41202013	Aka-Paran-S 200 mm dia.	5 pcs.	0.33
41202513	Aka-Daran 200 mm dia.	5 pcs.	0.31
41203013	Aka-Ramda 200 mm dia.	5 pcs.	0.31
41204013	Aka-Silk 200 mm dia.	5 pcs.	0.30
41205023	Aka-Moran 200 mm dia.	5 pcs.	0.33
41205113	Aka-Moran-U 200 mm dia.	5 pcs.	0.31
41206013	Aka-Plural 200 mm dia.	5 pcs.	0.32
41207013	Aka-Napal 200 mm dia.	5 pcs.	0.30
41209013	Aka-Chemal 200 mm dia.	5 pcs.	0.36
Self-adhesive polishing cloths, 250 mm dia.			
41251013	Aka-Plaran 250 mm dia.	5 pcs.	0.38
41252013	Aka-Paran-S 250 mm dia.	5 pcs.	0.39
41252513	Aka-Daran 250 mm dia.	5 pcs.	0.37
41253013	Aka-Ramda 250 mm dia.	5 pcs.	0.35
41254013	Aka-Silk 250 mm dia.	5 pcs.	0.35
41255023	Aka-Moran 250 mm dia.	5 pcs.	0.38
41255113	Aka-Moran-U 250 mm dia.	5 pcs.	0.36
41256013	Aka-Plural 250 mm dia.	5 pcs.	0.38
41257013	Aka-Napal 250 mm dia.	5 pcs.	0.36
41259013	Aka-Chemal 250 mm dia.	5 pcs.	0.43

Product no.	Product name	Contents	GRWT kg
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Self-adhesive polishing cloths, 300 mm dia.

41301013	Aka-Plaran 300 mm dia.	5 pcs.	0.46
41302013	Aka-Paran-S 300 mm dia.	5 pcs.	0.46
41302513	Aka-Daran 300 mm dia.	5 pcs.	0.44
41303013	Aka-Ramda 300 mm dia.	5 pcs.	0.41
41304013	Aka-Silk 300 mm dia.	5 pcs.	0.41
41305023	Aka-Moran 300 mm dia.	5 pcs.	0.45
41305113	Aka-Moran-U 300 mm dia.	5 pcs.	0.43
41306013	Aka-Plural 300 mm dia.	5 pcs.	0.45
41307013	Aka-Napal 300 mm dia.	5 pcs.	0.42
41309013	Aka-Chemal 300 mm dia.	5 pcs.	0.53

Self-adhesive polishing cloths, 350 mm dia.

41351013	Aka-Plaran 350 mm dia.	5 pcs.	0.56
41352013	Aka-Paran-S 350 mm dia.	5 pcs.	0.55
41352513	Aka-Daran 350 mm dia.	5 pcs.	0.51
41353013	Aka-Ramda 350 mm dia.	5 pcs.	0.51
41354013	Aka-Silk 350 mm dia.	5 pcs.	0.48
41355023	Aka-Moran 350 mm dia.	5 pcs.	0.59
41355113	Aka-Moran-U 350 mm dia.	5 pcs.	0.51
41356013	Aka-Plural 350 mm dia.	5 pcs.	0.53
41357013	Aka-Napal 350 mm dia.	5 pcs.	0.50
41359013	Aka-Chemal 350 mm dia.	5 pcs.	0.67

Magnetic polishing cloths, 200 mm dia.

42201013	Mag-Plaran 200 mm dia.	5 pcs.	0.87
42202013	Mag-Paran-S 200 mm dia.	5 pcs.	0.92
42202513	Mag-Daran 200 mm dia.	5 pcs.	0.87
42203013	Mag-Ramda 200 mm dia.	5 pcs.	0.86
42204013	Mag-Silk 200 mm dia.	5 pcs.	0.86
42205023	Mag-Moran 200 mm dia.	5 pcs.	0.88
42205113	Mag-Moran-U 200 mm dia.	5 pcs.	0.86
42206013	Mag-Plural 200 mm dia.	5 pcs.	0.90
42207013	Mag-Napal 200 mm dia.	5 pcs.	0.86
42209013	Mag-Chemal 200 mm dia.	5 pcs.	0.94

Product no.	Product name	Contents	GRWT kg
Magnetic polishing cloths, 250 mm dia.			
42251013	Mag-Plaran 250 mm dia.	5 pcs.	1.24
42252013	Mag-Paran-S 250 mm dia.	5 pcs.	1.24
42252513	Mag-Daran 250 mm dia.	5 pcs.	1.24
42253013	Mag-Ramda 250 mm dia.	5 pcs.	1.24
42254013	Mag-Silk 250 mm dia.	5 pcs.	1.24
42255023	Mag-Moran 250 mm dia.	5 pcs.	1.24
42255113	Mag-Moran-U 250 mm dia.	5 pcs.	1.25
42256013	Mag-Plural 250 mm dia.	5 pcs.	1.04
42257013	Mag-Napal 250 mm dia.	5 pcs.	1.23
42259013	Mag-Chemal 250 mm dia.	5 pcs.	1.33
Magnetic polishing cloths, 300 mm dia.			
42301013	Mag-Plaran 300 mm dia.	5 pcs.	1.69
42302013	Mag-Paran-S 300 mm dia.	5 pcs.	1.78
42302513	Mag-Daran 300 mm dia.	5 pcs.	1.68
42303013	Mag-Ramda 300 mm dia.	5 pcs.	1.66
42304013	Mag-Silk 300 mm dia.	5 pcs.	1.65
42305023	Mag-Moran 300 mm dia.	5 pcs.	1.69
42305113	Mag-Moran-U 300 mm dia.	5 pcs.	1.71
42306013	Mag-Plural 300 mm dia.	5 pcs.	1.75
42307013	Mag-Napal 300 mm dia.	5 pcs.	1.71
42309013	Mag-Chemal 300 mm dia.	5 pcs.	1.80
Magnetic polishing cloths, 350 mm dia.			
42351013	Mag-Plaran 350 mm dia.	5 pcs.	2.24
42352013	Mag-Paran-S 350 mm dia.	5 pcs.	2.24
42352513	Mag-Daran 350 mm dia.	5 pcs.	2.24
42353013	Mag-Ramda 350 mm dia.	5 pcs.	2.17
42354013	Mag-Silk 350 mm dia.	5 pcs.	2.24
42355023	Mag-Moran 350 mm dia.	5 pcs.	2.24
42355113	Mag-Moran-U 350 mm dia.	5 pcs.	2.17
42356013	Mag-Plural 350 mm dia.	5 pcs.	2.24
42357013	Mag-Napal 350 mm dia.	5 pcs.	2.24
42359013	Mag-Chemal 350 mm dia.	5 pcs.	2.45



Diamond Products

The evolution of diamond products:

Diamond paste was the first diamond product to be used instead of alumina for polishing of metallographic samples. A small amount of diamond paste is distributed manually on the polishing cloth before preparation. During the preparation process only lubricant is added to achieve the correct lubrication and cooling action. Diamond paste cannot be added during the preparation process, it cannot be dosed automatically and it cannot be used on rigid grinding discs.

To improve on that, diamond spray was introduced. It can be applied during the preparation process, but automatic dosing demanded ingenious constructions and never became common.

When diamond suspension was developed, precise automatic dosing was made possible by using peristaltic pumps and reproducible preparation methods with well-defined dosing levels were a reality. However, as from the beginning, diamond and lubricant were still applied individually.

The next logical step was to combine suspension and lubricant into one liquid, the 2-in-1 diamond suspension. These 2-in-1 suspensions guarantee the correct suspension/lubricant ratio at all times and combine the best possible preparation results with utmost ease of use.

In between the development of the different suspensions the diamond stick was introduced as a substitute of the diamond paste. The diamond stick is easier to use than diamond paste, and is, because of the very high diamond concentration, recommended for priming new, unused polishing cloth. It can, contrary to diamond paste, also be added during preparation.

To cater for all the different requests and to satisfy our customers' wishes, we have developed the widest selection of high quality diamond products.

Most of our diamond products are available in two different versions; with either polycrystalline or monocrystalline diamonds.

The first diamonds to be used for metallographic polishing were natural, monocrystalline diamonds, as used in the production of jewellery. Since then the demand for diamonds for polishing applications has increased dramatically and diamonds are now produced artificially.

Artificial monocrystalline diamonds have replaced natural diamonds in most metallographic applications because they have the same properties. For the highest requirements and the best preparation results, polycrystalline diamonds are traditionally used.

Polycrystalline diamonds break down over time, continuously producing small abrasive edges that provide high material removal while producing only shallow scratches. Monocrystalline diamonds will get more and more round over time, losing their cutting ability.

However, today a new type of monocrystalline diamonds has been developed. These can be described as multicrystalline diamonds. To some extent they have the same ability to break as polycrystalline diamonds, which provides a high removal rate and better performance than traditional monocrystalline diamonds.

2-in-1 Suspensions	DiaUltra		DiaMaxx		DiaDoublo	
	Poly	Mono	Poly	Mono	Poly	Mono
Ease of use	✓✓✓✓✓	✓✓✓✓✓	✓✓✓✓✓	✓✓✓✓✓	✓✓✓✓✓	✓✓✓✓✓
Diamond concentration	+++	+++	+++	+++	++	++
Removal rate	↑↑↑↑↑	↑↑↑↑↑	↑↑↑↑	↑↑↑	↑↑↑	↑↑
For water-free preparation	÷	÷	÷	÷	÷	÷

Suspensions	Aka-Poly			Aka-Mono	
	Aka-Poly+	Aka-Poly	Aka-Poly WF	Aka-Mono+	Aka-Mono
Ease of use	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓
Diamond concentration	+++	++	++	+++	++
Removal rate	↑↑↑↑↑	↑↑↑	↑↑↑	↑↑↑↑	↑↑↑
For water-free preparation	÷	÷	✓	÷	÷

Other	Diamond Spray		Diamond Stick		Diamond Paste	
	Poly	Mono	Poly	Mono	Poly	Mono
Ease of use	✓✓✓	✓✓✓	✓✓	✓✓	✓	✓
Diamond concentration	+++	+++	++++	++++	+++++	+++++
Removal rate	↑↑↑	↑↑↑	↑↑↑	↑↑↑	↑↑↑	↑↑↑
For water-free preparation	✓	✓	✓	✓	✓	✓





2-in-1 Diamond Suspensions

DiaUltra


DiaUltra is a permanently stable, ready mix of suspension and lubricant.

Based on the newest development in diamond suspensions, DiaUltra has the highest removal rates of any currently available 2-in-1 suspension on the market. With DiaUltra it is possible to reduce the preparation time with up to 40%. At the same time, the surface finish is extremely smooth allowing for further reduction of the following step.

The unique formulation allows to use DiaUltra on all fine grinding discs and polishing cloths with equally good results.

DiaUltra is available with monocrystalline (multicrystalline) diamonds as DiaUltra and with polycrystalline diamonds as DiaUltra Poly.



Product no.		Product name	Contents	GRWT kg
DiaUltra Poly, final polishing				
43622513	NEW	DiaUltra Poly 0.25 µm	500 ml	0.60
43622516	NEW	DiaUltra Poly 0.25 µm	2.5 l	2.76
43622517	NEW	DiaUltra Poly 0.25 µm	5 l	5.32
43624013	NEW	DiaUltra Poly 1 µm	500 ml	0.60
43624016	NEW	DiaUltra Poly 1 µm	2.5 l	2.76
43624017	NEW	DiaUltra Poly 1 µm	5 l	5.32
DiaUltra Poly, polishing				
43625013	NEW	DiaUltra Poly 3 µm	500 ml	0.60
43625016	NEW	DiaUltra Poly 3 µm	2.5 l	2.76
43625017	NEW	DiaUltra Poly 3 µm	5 l	5.32
43626013	NEW	DiaUltra Poly 6 µm	500 ml	0.60
43626016	NEW	DiaUltra Poly 6 µm	2.5 l	2.76
43626017	NEW	DiaUltra Poly 6 µm	5 l	5.31
DiaUltra Poly, fine grinding				
43627013	NEW	DiaUltra Poly 9 µm	500 ml	0.60
43627016	NEW	DiaUltra Poly 9 µm	2.5 l	2.76
43627017	NEW	DiaUltra Poly 9 µm	5 l	5.32
43628013	NEW	DiaUltra Poly 15 µm	500 ml	0.60
43628016	NEW	DiaUltra Poly 15 µm	2.5 l	2.76
43628017	NEW	DiaUltra Poly 15 µm	5 l	5.31

Product no.	Product name	Contents	GRWT kg
DiaUltra, final polishing			
43612513	DiaUltra 0.25 µm	500 ml	0.60
43612516	DiaUltra 0.25 µm	2.5 l	2.76
43612517	DiaUltra 0.25 µm	5 l	5.32
43614013	DiaUltra 1 µm	500 ml	0.60
43614016	DiaUltra 1 µm	2.5 l	2.76
43614017	DiaUltra 1 µm	5 l	5.32
DiaUltra, polishing			
43615013	DiaUltra 3 µm	500 ml	0.60
43615016	DiaUltra 3 µm	2.5 l	2.76
43615017	DiaUltra 3 µm	5 l	5.32
43616013	DiaUltra 6 µm	500 ml	0.60
43616016	DiaUltra 6 µm	2.5 l	2.76
43616017	DiaUltra 6 µm	5 l	5.31
DiaUltra, fine grinding			
43617013	DiaUltra 9 µm	500 ml	0.60
43617016	DiaUltra 9 µm	2.5 l	2.76
43617017	DiaUltra 9 µm	5 l	5.32
43618013	DiaUltra 15 µm	500 ml	0.60
43618016	DiaUltra 15 µm	2.5 l	2.76
43618017	DiaUltra 15 µm	5 l	5.31



DiaMaxx

DiaMaxx is a ready mix of lubricant and suspension, it is permanently stable and thus ensures reproducible results.

Based on our high concentration Aka+ suspensions and our high removal Aka-Lube Clear+ we have formulated a product that combines quick preparation with ease of use. DiaMaxx does not contain any oil and is therefore very easy to clean.

DiaMaxx meets the highest requirements in metallographic sample preparation and is available with polycrystalline diamonds as DiaMaxx Poly and with monocrystalline diamonds as DiaMaxx Mono.



Product no.	Product name	Contents	GRWT kg
DiaMaxx Poly, final polishing			
43122513	DiaMaxx Poly 0.25 µm	500 ml	0.62
43122517	DiaMaxx Poly 0.25 µm	5 l	5.32
43123513	DiaMaxx Poly 0.7 µm	500 ml	0.62
43123517	DiaMaxx Poly 0.7 µm	5 l	5.32
43124013	DiaMaxx Poly 1 µm	500 ml	0.62
43124016	DiaMaxx Poly 1 µm	2.5 l	2.76
43124017	DiaMaxx Poly 1 µm	5 l	5.32
DiaMaxx Poly, polishing			
43124513	DiaMaxx Poly 2.5 µm	500 ml	0.62
43124517	DiaMaxx Poly 2.5 µm	5 l	5.32
43125013	DiaMaxx Poly 3 µm	500 ml	0.62
43125016	DiaMaxx Poly 3 µm	2.5 l	2.76
43125017	DiaMaxx Poly 3 µm	5 l	5.32
43126013	DiaMaxx Poly 6 µm	500 ml	0.62
43126016	DiaMaxx Poly 6 µm	2.5 l	2.76
43126017	DiaMaxx Poly 6 µm	5 l	5.32
DiaMaxx Poly, fine grinding			
43127013	DiaMaxx Poly 9 µm	500 ml	0.62
43127016	DiaMaxx Poly 9 µm	2.5 l	2.76
43127017	DiaMaxx Poly 9 µm	5 l	5.32
43128013	DiaMaxx Poly 15 µm	500 ml	0.62
43128017	DiaMaxx Poly 15 µm	5 l	5.32

Product no.	Product name	Contents	GRWT kg
DiaMaxx Mono, final polishing			
43114013	DiaMaxx Mono 1 μ m	500 ml	0.63
43114016	DiaMaxx Mono 1 μ m	2.5 l	2.76
43114017	DiaMaxx Mono 1 μ m	5 l	5.32
DiaMaxx Mono, polishing			
43115013	DiaMaxx Mono 3 μ m	500 ml	0.63
43115016	DiaMaxx Mono 3 μ m	2.5 l	2.76
43115017	DiaMaxx Mono 3 μ m	5 l	5.32
43116013	DiaMaxx Mono 6 μ m	500 ml	0.62
43116016	DiaMaxx Mono 6 μ m	2.5 l	2.76
43116017	DiaMaxx Mono 6 μ m	5 l	5.27
DiaMaxx Mono, fine grinding			
43117013	DiaMaxx Mono 9 μ m	500 ml	0.62
43117016	DiaMaxx Mono 9 μ m	2.5 l	2.76
43117017	DiaMaxx Mono 9 μ m	5 l	5.27
43118013	DiaMaxx Mono 15 μ m	500 ml	0.62
43118016	DiaMaxx Mono 15 μ m	2.5 l	2.76
43118017	DiaMaxx Mono 15 μ m	5 l	5.32



DiaDoublo

DiaDoublo is a ready mix of lubricant and suspension, it is permanently stable and thus ensures reproducible results.

Based on our Aka suspensions and the Aka-Lube Yellow we have formulated a product that is very well suited for the preparation of softer materials. DiaDoublo combines fast preparation with ease of use.

DiaDoublo is available with polycrystalline diamonds as DiaDoublo Poly and with monocrystalline diamonds as DiaDoublo Mono.



Product no.	Product name	Contents	GRWT kg
DiaDoublo Poly, final polishing			
43322513	DiaDoublo Poly 0.25 µm	500 ml	0.60
43322516	DiaDoublo Poly 0.25 µm	2.5 l	2.65
43322517	DiaDoublo Poly 0.25 µm	5 l	5.12
43324013	DiaDoublo Poly 1 µm	500 ml	0.60
43324016	DiaDoublo Poly 1 µm	2.5 l	2.65
43324017	DiaDoublo Poly 1 µm	5 l	5.12
DiaDoublo Poly, polishing			
43325013	DiaDoublo Poly 3 µm	500 ml	0.60
43325016	DiaDoublo Poly 3 µm	2.5 l	2.65
43325017	DiaDoublo Poly 3 µm	5 l	5.12
43326013	DiaDoublo Poly 6 µm	500 ml	0.60
43326016	DiaDoublo Poly 6 µm	2.5 l	2.65
43326017	DiaDoublo Poly 6 µm	5 l	5.12
DiaDoublo Poly, fine grinding			
43327013	DiaDoublo Poly 9 µm	500 ml	0.60
43327016	DiaDoublo Poly 9 µm	2.5 l	2.65
43327017	DiaDoublo Poly 9 µm	5 l	5.12
43328013	DiaDoublo Poly 15 µm	500 ml	0.60
43328016	DiaDoublo Poly 15 µm	2.5 l	2.65
43328017	DiaDoublo Poly 15 µm	5 l	5.12

Product no.	Product name	Contents	GRWT kg
DiaDoublo Mono, final polishing			
43314013	DiaDoublo Mono 1 µm	500 ml	0.60
43314016	DiaDoublo Mono 1 µm	2.5 l	2.65
43314017	DiaDoublo Mono 1 µm	5 l	5.12
DiaDoublo Mono, polishing			
43315013	DiaDoublo Mono 3 µm	500 ml	0.60
43315016	DiaDoublo Mono 3 µm	2.5 l	2.65
43315017	DiaDoublo Mono 3 µm	5 l	5.12
43316013	DiaDoublo Mono 6 µm	500 ml	0.60
43316016	DiaDoublo Mono 6 µm	2.5 l	2.65
43316017	DiaDoublo Mono 6 µm	5 l	5.12
DiaDoublo Mono, fine grinding			
43317013	DiaDoublo Mono 9 µm	500 ml	0.60
43317016	DiaDoublo Mono 9 µm	2.5 l	2.65
43317017	DiaDoublo Mono 9 µm	5 l	5.12
43318013	DiaDoublo Mono 15 µm	500 ml	0.60
43318016	DiaDoublo Mono 15 µm	2.5 l	2.65
43318017	DiaDoublo Mono 15 µm	5 l	5.12



Diamond Suspensions

Aka-Poly and Aka-Mono

Our diamond suspensions have been developed to combine short preparation times with reproducible results.

They have of course been formulated with environmentally friendly and easily biodegradable components; and they do not carry any hazard warnings.

In a special process we are able to assure agglomerate-free suspensions from 0.25 μm to 15 μm . This assures outstanding finish without large scratches from agglomerated diamond particles.



Product no.	Product name	Contents	GRWT kg
Aka-Poly, final polishing			
44122513	Aka-Poly 0.25 µm	500 ml	0.60
44122515	Aka-Poly 0.25 µm	1 l	1.16
44122516	Aka-Poly 0.25 µm	2.5 l	2.64
44122517	Aka-Poly 0.25 µm	5 l	5.14
44123013	Aka-Poly 0.5 µm	500 ml	0.60
44123015	Aka-Poly 0.5 µm	1 l	1.16
44123017	Aka-Poly 0.5 µm	5 l	5.14
44123515	Aka-Poly 0.7 µm	1 l	1.16
44124013	Aka-Poly 1 µm	500 ml	0.60
44124015	Aka-Poly 1 µm	1 l	1.16
44124016	Aka-Poly 1 µm	2.5 l	2.64
44124017	Aka-Poly 1 µm	5 l	5.14
Aka-Poly, polishing			
44124515	Aka-Poly 2.5 µm	1 l	1.16
44125013	Aka-Poly 3 µm	500 ml	0.60
44125015	Aka-Poly 3 µm	1 l	1.16
44125016	Aka-Poly 3 µm	2.5 l	2.64
44125017	Aka-Poly 3 µm	5 l	5.14
44126013	Aka-Poly 6 µm	500 ml	0.60
44126015	Aka-Poly 6 µm	1 l	1.16
44126016	Aka-Poly 6 µm	2.5 l	2.64
44126017	Aka-Poly 6 µm	5 l	5.14
Aka-Poly, fine grinding			
44127013	Aka-Poly 9 µm	500 ml	0.60
44127015	Aka-Poly 9 µm	1 l	1.16
44127016	Aka-Poly 9 µm	2.5 l	2.64
44127017	Aka-Poly 9 µm	5 l	5.14
44128013	Aka-Poly 15 µm	500 ml	0.60
44128015	Aka-Poly 15 µm	1 l	1.16
44128016	Aka-Poly 15 µm	2.5 l	2.64
44128017	Aka-Poly 15 µm	5 l	5.14

Product no.	Product name	Contents	GRWT kg
Aka-Mono, final polishing			
44114013	Aka-Mono 1 µm	500 ml	0.60
44114015	Aka-Mono 1 µm	1 l	1.12
44114016	Aka-Mono 1 µm	2.5 l	2.64
44114017	Aka-Mono 1 µm	5 l	5.14
Aka-Mono, polishing			
44115013	Aka-Mono 3 µm	500 ml	0.60
44115015	Aka-Mono 3 µm	1 l	1.12
44115016	Aka-Mono 3 µm	2.5 l	2.64
44115017	Aka-Mono 3 µm	5 l	5.14
44116013	Aka-Mono 6 µm	500 ml	0.60
44116015	Aka-Mono 6 µm	1 l	1.12
44116016	Aka-Mono 6 µm	2.5 l	2.64
44116017	Aka-Mono 6 µm	5 l	5.14
Aka-Mono, fine grinding			
44117013	Aka-Mono 9 µm	500 ml	0.60
44117015	Aka-Mono 9 µm	1 l	1.12
44117016	Aka-Mono 9 µm	2.5 l	2.64
44117017	Aka-Mono 9 µm	5 l	5.14
44118013	Aka-Mono 15 µm	500 ml	0.60
44118015	Aka-Mono 15 µm	1 l	1.12
44118016	Aka-Mono 15 µm	2.5 l	2.64
44118017	Aka-Mono 15 µm	5 l	5.14



Aka-Poly+ and Aka-Mono+

Aka-Mono+ and Aka-Poly+ have twice the diamond concentration compared to Aka-Poly and Aka-Mono. When used in combination with Aka-Lube Clear+ this assures outstanding removal rates, allowing for up to 50 % reduction in preparation time.

When cost is more of an issue than preparation time, you can reduce the dosing levels of Aka-Mono+ and Aka-Poly+ diamond suspension to half of that used normally. This will give you the same amount of diamonds as with regular concentration Aka-Poly and Aka-Mono and thus the same removal rate and polishing time.

The savings in cost of diamond suspension is about 30 % on our already competitively priced suspensions.



Product no.	Product name	Contents	GRWT kg
Aka-Poly+, final polishing			
44142513	Aka-Poly+ 0.25 µm	500 ml	0.60
44144013	Aka-Poly+ 1 µm	500 ml	0.60
44144015	Aka-Poly+ 1 µm	1 l	1.16
Aka-Poly+, polishing			
44145013	Aka-Poly+ 3 µm	500 ml	0.60
44145015	Aka-Poly+ 3 µm	1 l	1.16
44146013	Aka-Poly+ 6 µm	500 ml	0.60
44146015	Aka-Poly+ 6 µm	1 l	1.16
Aka-Poly+, fine grinding			
44147013	Aka-Poly+ 9 µm	500 ml	0.60
44147015	Aka-Poly+ 9 µm	1 l	1.16
44148013	Aka-Poly+ 15 µm	500 ml	0.60
44148015	Aka-Poly+ 15 µm	1 l	1.16
Aka-Mono+, final polishing			
44134013	Aka-Mono+ 1 µm	500 ml	0.60
44134015	Aka-Mono+ 1 µm	1 l	1.16
44134016	Aka-Mono+ 1 µm	2.5 l	2.64
Aka-Mono+, polishing			
44135013	Aka-Mono+ 3 µm	500 ml	0.60
44135015	Aka-Mono+ 3 µm	1 l	1.16
44135016	Aka-Mono+ 3 µm	2.5 l	2.64
44136013	Aka-Mono+ 6 µm	500 ml	0.60
44136015	Aka-Mono+ 6 µm	1 l	1.16
44136016	Aka-Mono+ 6 µm	2.5 l	2.64
Aka-Mono+, fine grinding			
44137013	Aka-Mono+ 9 µm	500 ml	0.60
44137015	Aka-Mono+ 9 µm	1 l	1.16
44137016	Aka-Mono+ 9 µm	2.5 l	2.64
44138013	Aka-Mono+ 15 µm	500 ml	0.60
44138015	Aka-Mono+ 15 µm	1 l	1.16
44138016	Aka-Mono+ 15 µm	2.5 l	2.64



Aka-Poly WF

These suspensions are fully glycol based thus free of oil and any hazardous or flammable components and do therefore not come with any hazard warnings. They contain less than 0.1% water and are perfect for the preparation of water sensitive samples.

Being oil-free, the suspensions are also easy to clean.

Aka-Poly WF is only available with polycrystalline diamonds.



Product no.	Product name	Contents	GRWT kg
Aka-Poly water-free, final polishing			
44162513	Aka-Poly WF 0.25 µm	500 ml	0.63
44162515	Aka-Poly WF 0.25 µm	1 l	1.23
44164013	Aka-Poly WF 1 µm	500 ml	0.63
44164015	Aka-Poly WF 1 µm	1 l	1.23
Aka-Poly water-free, polishing			
44165013	Aka-Poly WF 3 µm	500 ml	0.63
44165015	Aka-Poly WF 3 µm	1 l	1.23
44166013	Aka-Poly WF 6 µm	500 ml	0.63
44166015	Aka-Poly WF 6 µm	1 l	1.23
Aka-Poly water-free, fine grinding			
44167013	Aka-Poly WF 9 µm	500 ml	0.63
44167015	Aka-Poly WF 9 µm	1 l	1.23
44168013	Aka-Poly WF 15 µm	500 ml	0.63
44168015	Aka-Poly WF 15 µm	1 l	1.23














Diamond Spray

Diamond spray is easy to use, hassle-free and, because of the absence of liquid, leaves a free-cutting layer of diamonds resulting in high removal rates.

Diamond spray is available with polycrystalline diamonds as Aka-Spray Poly and with monocrystalline diamonds as Aka-Spray Mono.

Our diamond spray contains non-flammable CO₂ and less than 0.1 % water; hence it is very well suited for the preparation of water sensitive materials.



Product no.		Product name	Contents	GRWT kg
Aka-Spray Poly				
45022511		Aka-Spray Poly 0.25 µm	165 ml	0.20
45023511		Aka-Spray Poly 0.7 µm	165 ml	0.20
45024011		Aka-Spray Poly 1 µm	165 ml	0.20
45025011		Aka-Spray Poly 3 µm	165 ml	0.20
45026011		Aka-Spray Poly 6 µm	165 ml	0.20
45027011		Aka-Spray Poly 9 µm	165 ml	0.20
Aka-Spray Mono				
45014011		Aka-Spray Mono 1 µm	165 ml	0.20
45015011		Aka-Spray Mono 3 µm	165 ml	0.20
45016011		Aka-Spray Mono 6 µm	165 ml	0.20
45017011		Aka-Spray Mono 9 µm	165 ml	0.20



Diamond Stick

Diamond stick is mainly used for manual polishing and recommended for priming of new polishing cloths. Diamond stick is easier to apply than diamond paste; it can even be applied during the process.

Our diamond stick is compatible with water-, glycol- and ethanol-based lubricants. It contains less than 0.1 % water, and is therefore perfect for the preparation of water sensitive materials.

Diamond stick is available with polycrystalline diamonds as Aka-Stick Poly and with monocrystalline diamonds as Aka-Stick Mono.



Product no.	Product name	Contents	GRWT kg
Aka-Stick Poly			
46022512	Aka-Stick Poly 0.25 μm	20 ml	0.09
46023512	Aka-Stick Poly 0.7 μm	20 ml	0.09
46024012	Aka-Stick Poly 1 μm	20 ml	0.09
46025012	Aka-Stick Poly 3 μm	20 ml	0.09
46026012	Aka-Stick Poly 6 μm	20 ml	0.09
46027012	Aka-Stick Poly 9 μm	20 ml	0.09
Aka-Stick Mono			
46014012	Aka-Stick Mono 1 μm	20 ml	0.09
46015012	Aka-Stick Mono 3 μm	20 ml	0.09
46016012	Aka-Stick Mono 6 μm	20 ml	0.09
46017012	Aka-Stick Mono 9 μm	20 ml	0.09



Diamond Paste

Diamond paste is mainly used for manual polishing and quick charging of new polishing cloths.

Our diamond paste is homogeneous, easy flowing and compatible with water-, glycol- and ethanol-based lubricants. It contains less than 0.1 % water, and is therefore perfect for the preparation of water sensitive materials.

Diamond paste is available with polycrystalline diamonds as Aka-Paste Poly and with monocrystalline diamonds as Aka-Paste Mono.



Product no.	Product name	Contents	GRWT kg
Aka-Paste Poly			
47022511	Aka-Paste Poly 0.25 μm	10 ml	0.06
47023511	Aka-Paste Poly 0.7 μm	10 ml	0.06
47024011	Aka-Paste Poly 1 μm	10 ml	0.06
47024511	Aka-Paste Poly 2.5 μm	10 ml	0.06
47025011	Aka-Paste Poly 3 μm	10 ml	0.06
47026011	Aka-Paste Poly 6 μm	10 ml	0.06
47027011	Aka-Paste Poly 9 μm	10 ml	0.06
47028011	Aka-Paste Poly 15 μm	10 ml	0.06
Aka-Paste Mono			
47014011	Aka-Paste Mono 1 μm	10 ml	0.06
47015011	Aka-Paste Mono 3 μm	10 ml	0.06
47016011	Aka-Paste Mono 6 μm	10 ml	0.06
47017011	Aka-Paste Mono 9 μm	10 ml	0.06
47018011	Aka-Paste Mono 15 μm	10 ml	0.06



Oxide Polishing Suspensions

For the final polishing step, where the very last deformations have to be removed, sub-micron sized oxide polishing suspensions are used.

For general applications alumina suspension is used, and for the more demanding applications silica suspensions are the best choice.

The silica suspensions perform a chemical-mechanical polishing action. During polishing, the sample surface is slightly attacked. The resulting layer is removed by the sub-micron silica grains, leaving the sample surface absolutely deformation-free.

We offer a selection of silica and alumina suspensions for the final polishing of different materials:

- The super fine grained colloidal silica or the slightly coarser fumed silica suspensions
- Grain sizes from 0.05 μm to 0.2 μm (50 to 200 nm)
- Unique system to prevent crystal formation
- Our unique water-free suspension of 0.2 μm fumed silica
- The neutral alumina suspension



Product no.	Product name	Contents	GRWT kg
Alkaline silica suspensions, pH 9-10			
48161015	Colloidal Silica Suspension 50 nm Alkaline	1 l	1.49
48161017	Colloidal Silica Suspension 50 nm Alkaline	5 l	6.78
48123015	Fumed Silica Suspension 0.2 µm Alkaline	1 l	1.29
48123017	Fumed Silica Suspension 0.2 µm Alkaline	5 l	5.82
Water-free fumed silica suspension, for water sensitive materials			
48133015	Fumed Silica Suspension 0.2 µm WF	1 l	1.20
48133017	Fumed Silica Suspension 0.2 µm WF	5 l	6.25
Neutral alumina suspension, pH 7			
48211015	Alumina Suspension 50 nm Neutral	1 l	1.34
48211017	Alumina Suspension 50 nm Neutral	5 l	6.14



Lubricants

All diamond products other than our 2-in-1 suspensions require the addition of a lubricant during preparation. The lubricant serves as lubricating and cooling liquid. It has to meet the correct balance between the highest possible removal rate and the best possible surface finish.

Depending on the material to be prepared, and the fine grinding disc or polishing cloth used, the right lubricant has to be selected.

Our water-based lubricants Aka-Lube Green, Yellow and Red utilise a 2-phase system, with particle sizes in the nano range. This allows for the lubricant to get in between the diamonds and the sample into the area where the actual abrasion is taking place. This maximises the lubrication effect.

Water-based lubricants benefit from a high lubrication effect hence reducing heat generation. Along with low evaporation rates this means very stable and uniform preparation. All our lubricants have low viscosity.





Aka-Lube Clear+ is a superior polymer based lubricant helping to achieve outstanding removal rates. Together with Aka-Poly+ and Aka-Mono+ it will provide the fastest possible preparation results.



Aka-Lube Clear WF is the water-free version of Aka-Clear+ and ideal for the preparation of water sensitive materials.



Aka-Lube Blue is a traditional water-free ethanol based lubricant for general purposes and for the preparation of water sensitive materials.



Aka-Lube Blue Concentrate contains all the active ingredients of Aka-Lube, Blue and is simply mixed with ethanol 96% in a ratio of 1:9. Shipping of the concentrate saves both cost and eliminates the risk of shipping a flammable liquid that easily can be sourced locally.




Aka-Lube Green maintains a very thin lubrication film, perfect for high removal in the initial preparation stages, for fine grinding and pre-polishing

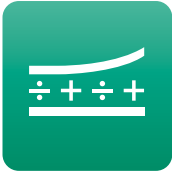


Aka-Lube Yellow provides a good combination between lubricating and cooling and is used as a general lubricant.



Aka-Lube Red produces a thick lubrication film; ideal for final polishing and scratch-free finishes on soft materials.

Product no.	 Product name	Contents	GRWT kg
Aka-Lube Clear+, thinnest lubrication film, highest removal rate			
49201015	Aka-Lube Clear+	1 l	1.20
49201017	Aka-Lube Clear+	5 l	5.33
Aka-Lube Clear, for preparation of water sensitive materials			
49101015	Aka-Lube Clear WF	1 l	1.24
49101017	Aka-Lube Clear WF	5 l	5.48
Aka-Lube Green, thin lubrication film, high removal			
49301015	Aka-Lube Green	1 l	1.12
49301017	Aka-Lube Green	5 l	5.10
Aka-Lube Yellow, medium lubrication film, general use			
49401015	Aka-Lube Yellow	1 l	1.12
49401017	Aka-Lube Yellow	5 l	5.10
Aka-Lube Red, thick lubrication film, best finish			
49501015	Aka-Lube Red	1 l	1.12
49501017	Aka-Lube Red	5 l	5.10
Aka-Lube Blue, thin lubrication film, high removal, ethanol based			
49601015	 Aka-Lube Blue	1 l	0.88
Aka-Lube Blue, concentrate, to be diluted with ethanol			
49605013	Aka-Lube Blue Concentrate	500 ml	0.63
49605017	Aka-Lube Blue Concentrate	5 l	5.34



Magnetic Adaptation

Today, magnetic support discs are more and more common because they facilitate the exchange of grinding and polishing discs.

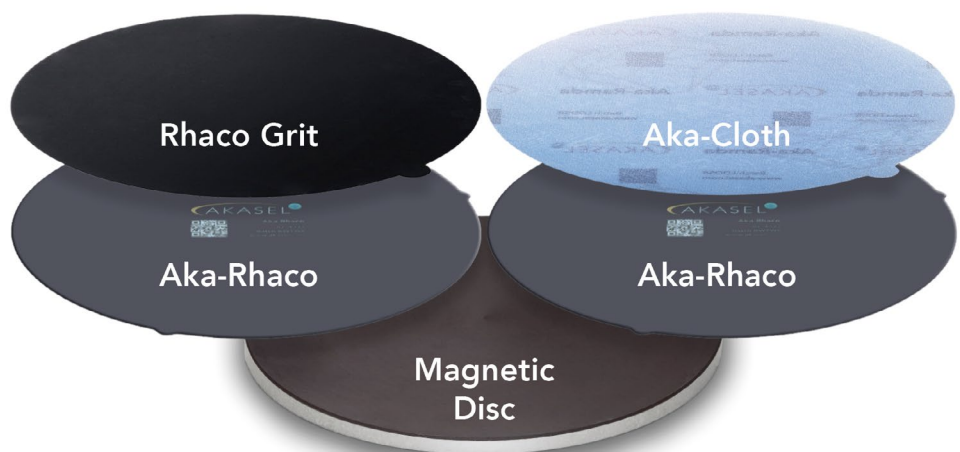
Instead of removing the complete aluminium disc from the grinding/polishing machine only the preparation surface is exchanged. For that purpose, modern grinding discs like Aka-Piatto and fine grinding discs like Aka-Allegran or Aka-Largan are produced directly on a thin steel disc.

For the best grinding action a stiff support like a steel disc is necessary.

However, not all preparation methods allow the use of these grinding and fine grinding discs, but still require the use of grinding paper. Several solutions are available to use grinding paper on magnetic support discs, but the most efficient and cost effective solution is the Aka-Rhaco.

Aka-Rhaco is a thin steel disc with a soft polymer coating. It will safely hold grinding papers allowing over the edge grinding and substituting expensive PSA or foil backed grinding papers. Aka-Rhaco will last for over 1000 applications and will perform perfectly with our own Rhaco Grit grinding paper. This is equipped with a non-woven paper backing that prevents curling.

Instead of using more expensive magnetic polishing cloths on steel discs, the standard Aka-Cloths can also be placed on Aka-Rhaco without removing the liner. Place the cloth on top of Aka-Rhaco and you have a magnetic cloth. When the cloth is worn, simply pull it off and re-use the Aka-Rhaco.



Aka-Rhaco is available with 3 backings:

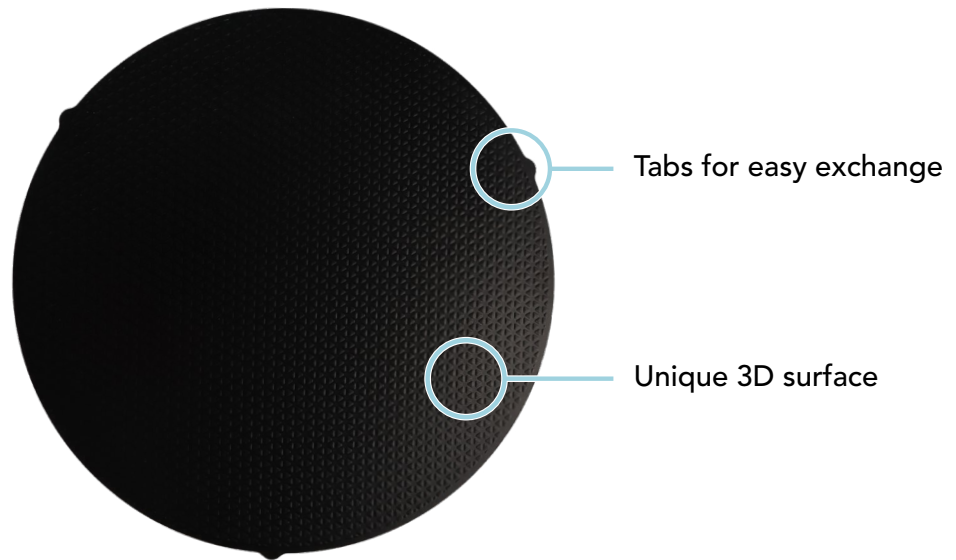
Aka-Rhaco	Aka-Rhaco Flex	Aka-Rhaco PSA
Thin steel disc for use on magnetic support discs	Soft polymer disc containing ferrous particles for use on magnetic support discs	Self-adhesive foil to be glued directly on an aluminium support disc

Aka-Ronan 3D is a steel disc with a 3D-polymer coating. It is used to adapt self-adhesive polishing cloths or other self-adhesive grinding discs for use on magnetic support discs. Remove the liner and attach the self-adhesive product to the surface of Aka-Ronan 3D.

Due to the unique 3D surface air pockets are avoided and the polymer surface allows for easy removal of the cloths once they are worn out.

Aka-Ronan 3D can be used over and over again.

Special features of Aka-Ronan 3D:



Aka-Magnet is a polymer-based magnetic foil with PSA backing to convert a standard preparation disc to a magnetic support disc.

As with all polymer-based magnets some maintenance is necessary and eventually the foil will wear. Due to the PSA backing it can then easily be replaced.



Product no.	Product name	Contents	GRWT kg
Aka-Magnet, round, self-adhesive magnetic foil			
75110201	Aka-Magnet, PSA backed magnetic foil 200 mm dia.	1 pc.	0.39
75110251	Aka-Magnet, PSA backed magnetic foil 250 mm dia.	1 pc.	0.49
75110301	Aka-Magnet, PSA backed magnetic foil 300 mm dia.	1 pc.	0.60
75110351	Aka-Magnet, PSA backed magnetic foil 350 mm dia.	1 pc.	0.77
Aka-Ronan 3D, for use with self-adhesive polishing cloths on magnetic discs			
75131201	Aka-Ronan 3D, adapter disc with 3D surface 200 mm dia.	2 pcs.	0.45
75131251	Aka-Ronan 3D, adapter disc with 3D surface 250 mm dia.	2 pcs.	0.58
75131301	Aka-Ronan 3D, adapter disc with 3D surface 300 mm dia.	2 pcs.	0.73
Aka-Rhaco, unique adhesive adapter disc for magnetic discs			
75151202	Aka-Rhaco, adapter disc with polymer coating 200 mm dia.	2 pcs.	0.49
75151252	Aka-Rhaco, adapter disc with polymer coating 250 mm dia.	2 pcs.	0.63
75151302	Aka-Rhaco, adapter disc with polymer coating 300 mm dia.	2 pcs.	0.80
75151352	Aka-Rhaco, adapter disc with polymer coating 350 mm dia.	2 pcs.	1.05
Aka-Rhaco Flex, flexible adhesive adapter disc for magnetic discs			
75152202	Aka-Rhaco Flex, soft adapter disc with polymer coating 200 mm dia.	2 pcs.	0.40
75152232	Aka-Rhaco Flex, soft adapter disc with polymer coating 230 mm dia.	2 pcs.	0.43
75152252	Aka-Rhaco Flex, soft adapter disc with polymer coating 250 mm dia.	2 pcs.	0.45
75152302	Aka-Rhaco Flex, soft adapter disc with polymer coating 300 mm dia.	2 pcs.	0.57
75152352	Aka-Rhaco Flex, soft adapter disc with polymer coating 350 mm dia.	2 pcs.	0.78
Aka-Rhaco PSA, adhesive adapter disc for gluing on aluminium discs			
75153037	Aka-Rhaco PSA, PSA backed adapter disc with polymer coating 32 mm dia.	50 pcs.	0.10
75153202	Aka-Rhaco PSA, PSA backed adapter disc with polymer coating 200 mm dia.	2 pcs.	0.26
75153232	Aka-Rhaco PSA, PSA backed adapter disc with polymer coating 230 mm dia.	2 pcs.	0.27
75153252	Aka-Rhaco PSA, PSA backed adapter disc with polymer coating 250 mm dia.	2 pcs.	0.35
75153302	Aka-Rhaco PSA, PSA backed adapter disc with polymer coating 300 mm dia.	2 pcs.	0.32
75153352	Aka-Rhaco PSA, PSA backed adapter disc with polymer coating 350 mm dia.	2 pcs.	0.37



Accessories

Enhance your daily routine with our essential accessories.

Dressing Sticks: For occasional dressing of Aka-Piatto, Aka-Allegran and Aka-Largan grinding discs.

PET Bottles: 250 and 500 ml bottles with trigger spray. For refilling when using 2.5 or 5 l containers.

Trigger Spray: For 250, 500 and 1000 ml bottles. For easy and reproducible manual dosing of all types of liquids including diamond suspensions and lubricants. Approx. 0.5 ml/dosing.

Adapter Lid: To convert diamond suspension bottles to dosing bottles with tube and nozzle.

Disc Cabinet: Cabinet for the storage of up to 16 steel preparation discs with a diameter of 200 - 300 mm.



Product no.	Product name	Contents	GRWT kg
Dressing stick, for dressing of Aka-Piatto, Aka-Allegran and Aka-Largan			
75310101	Dressing Stick #220 10 x 25 x 100 mm	1 pc.	0.05
75310201	Dressing Stick #220 25 x 25 x 150 mm	1 pc.	0.19
Bottles and trigger sprays for reproducible dosing of liquids			
78101103	Trigger Spray with Bottle 250 ml PET	3 pcs.	0.16
78101303	Trigger Spray with Bottle 500 ml PET	3 pcs.	0.21
78200005	Trigger Spray for 250, 500 and 1000 ml bottles	5 pcs.	0.15
Lid to convert suspension bottles to dosing bottles			
77152801	Adapter Lid for Dosing Bottles	1 pc.	0.05
Disc cabinet for storage of preparation discs			
79000002	Disc Cabinet for storing of 16 x 200 - 300 mm steel discs, 1 pc.	1 pc.	15.80