

**MIRKA**

Mirka Wood Sanding Solutions



# About Mirka

**MIRKA LTD** is a family-owned Finnish company and a world leader in abrasives technology innovation. We are offering a complete range of technically superior, high quality abrasives, innovatively designed tools, complete sanding systems and supplementary products. This total innovative solution delivers real benefits to customers in terms of speed, first-class efficiency, surface finish quality and cost effectiveness, even when tackling the most demanding applications.

Mirka is the first company in its sector to obtain the three most important quality standards.

The production process guarantees reliable quality by following the ISO 9001 quality assurance system. The OHSAS 18001 occupational health and safety management system ensures a high level of work safety. The ISO 14001 environmental management system proves that we consider the environment in all our activities.

97 percent of our products are exported and sold across the globe through our subsidiaries and importers.

Read more: [www.mirka.com](http://www.mirka.com)



## Corporate Responsibility

**CONTINUOUS IMPROVEMENT TOWARDS SUSTAINABILITY.** Changing conditions inspire us to improve and grow our business. We see that our customers are as interested in sustainability as we are. This is why our product development is focused on innovating the best sustainable products and systems, while continually improving our own environmental performance.

Our business is focused on providing the best surface finishing preparation tools and systems to customers. To be the most sustainable finishing systems provider, we are digging deep down to the core of our company to figure out what it really means to be sustainable. We have accomplished a great deal already and have many more

initiatives we will take on in the future.

For people working at Mirka, it has always been clear to not waste financial or material resources – of our own or those of our customers. We find it is equally clear to preserve the planet’s resources. Sustainability is a natural extension of this approach. It means taking the economy, the earth, and people into consideration when we make business decisions – now and for future generations.

We are continuously looking for opportunities to reduce our environmental footprint – this aligns with our company values and also cuts costs. We have worked hard to conserve energy and raw materials, reduce waste, increase recycling and

decrease the use of persistent chemicals. We are developing healthier, safer and more efficient products and processes so that our customers and employees will benefit. For example, our dust-free sanding systems help protect the lungs of workers while giving a cleaner and better surface finish.



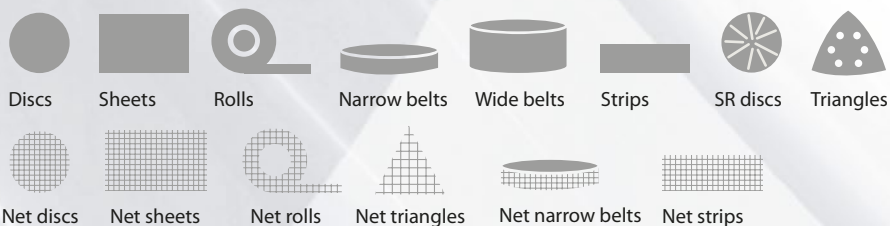




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## SYMBOLS





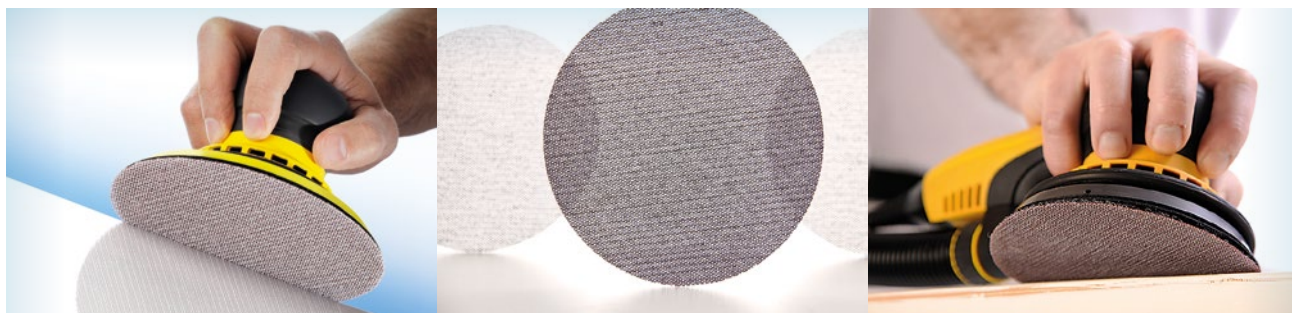
## NET SANDING PRODUCTS

**MIRKA'S INNOVATIVE** net sanding concept is unlike any other. The construction consists of a dense network of polyamide fabric threads onto which the abrasive grit is bonded. This open weave, net structure means that no dust particle is more than 0,5 mm from a dust extraction hole. The result is phenomenal dust extraction across the entire abrasive surface and virtually dust-free sanding.

Tests have shown that net sanding produce a miniscule amount of dust compared to conventional dry sanding technology with extraction. The Mirka net products are so efficient at removing potentially dangerous sanding dust that minimize dust contamination in the workplace and create far healthier environment.

It was a five-year process to bring this revolutionary technology to the market and it took almost ten years to gain buy-in to the market. Our net abrasives have won many product innovation awards and been a best seller across the globe.

Mirka has also developed a net product which is suitable for the preparation of corrosion sensitive surfaces. Aluminium based material and the demand from AOEMs for sanding corrosive sensitive materials are increasing. Special raw materials containing the lowest possible amounts of heavy metal contaminants have been used when producing Abranet NC and other abrasives belonging to the non-corrosion product range.





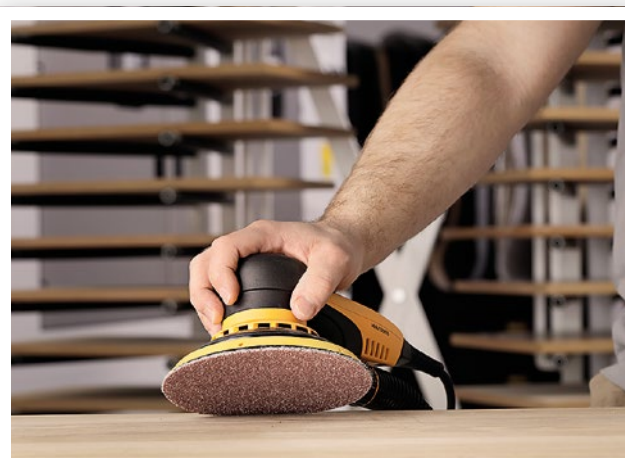
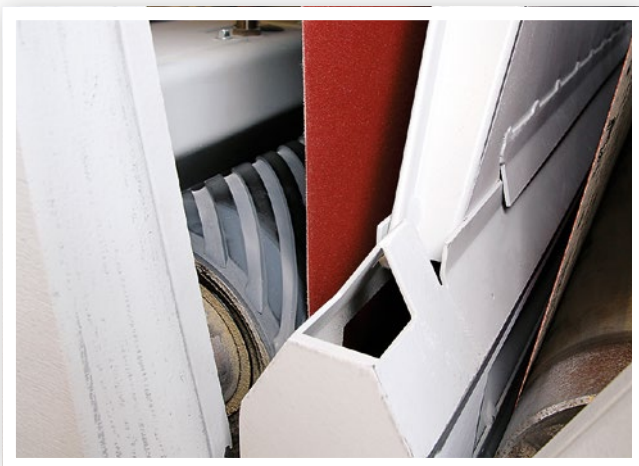
# WOOD SANDING SOLUTIONS



# FURNITURE

## CALIBRATION / ROUGH SANDING

Sanding of coarse and uneven wood. Removal of marks from planer and other defects.



### BELT SANDING

» Calibration and heavy stock removal requires a tough PES cloth or T-paper backing to resist wear and tear.

#### ABRASIVE RECOMMENDATIONS

##### P40 – P80

HARD WOOD



» Hiolit XO



» Ultimax®

SOFT WOOD



» Hiolit XO



» Avomax® Antistatic

MDF



» Hiolit XO



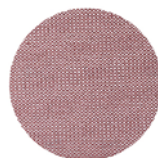
» Sica Coarse

### DISC SANDING

» Abranet Ace HD is a strong PA net in combination with ceramic grains that is optimal for coarse sanding applications.

#### ABRASIVE RECOMMENDATIONS

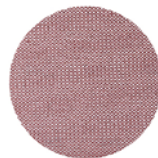
##### P36 – P80



» Abranet® Ace HD



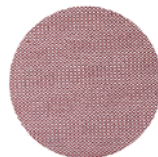
» Ultimax®



» Abranet® Ace HD



» Coarse Cut



» Abranet® Ace HD



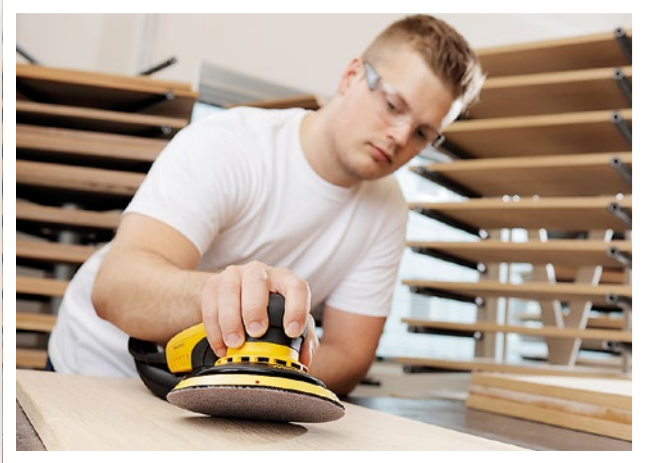
» Ultimax®



# FURNITURE

# SOLID WOOD SANDING

Sanding of solid wood prior to applying primer or sealer.



## BELT SANDING

For solid wood sanding it is important to choose the correct product to get the ultimate life time of the abrasive and desired surface finish. The Selective Coating® technology by Ultimax offers an extra long life time to the belt.

### ABRASIVE RECOMMENDATIONS

#### P80 – P180

HARD WOOD



Hiolit XO



Ultimax®

SOFT WOOD



Hiolit XO



Avomax® Antistatic

MDF



Hiolit XO



Sica Closed

## DISC SANDING

By using Mirka Net abrasives it enables a virtually dust free sanding experience. The Ceramic grains by Abranet Ace and Iridium offers an high cut rate on especially harder wood types.

### ABRASIVE RECOMMENDATIONS

#### P80 – P180



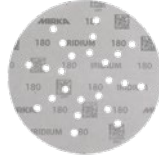
Abranet® Ace



Novastar™



Abranet® Ace



Iridium



Abranet® Ace



Novastar™

# FURNITURE INTERMEDIATE SANDING

Fine sanding/denibbing of primer or sealer before applying the top coat.



## BELT SANDING

» A stearate coated product minimizes the risk of clogging and increases the life time of the product.

### ABRASIVE RECOMMENDATIONS

#### P240 – P600

HARD PRIMER / SEALER



» Gold Max

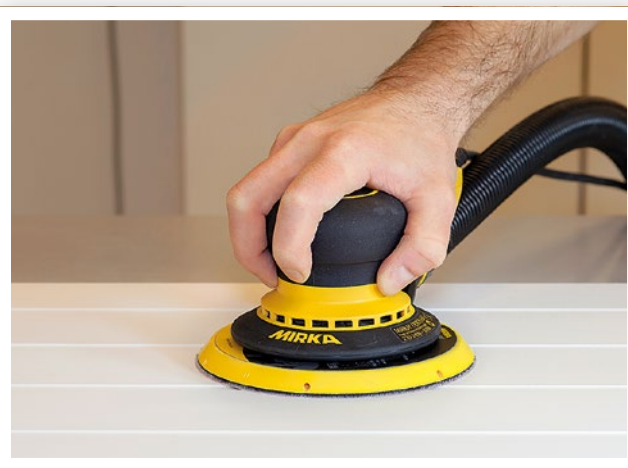


» Sica Fine Stearate

SOFT PRIMER / SEALER



» Gold Max



## DISC SANDING

» Using Mirka Net abrasives reduces the risk of dust contamination in the process and increases the life time of the product.

### ABRASIVE RECOMMENDATIONS

#### P240 – P600



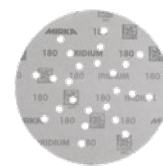
» Abranet® Ace



» Novastar™



» Abranet®

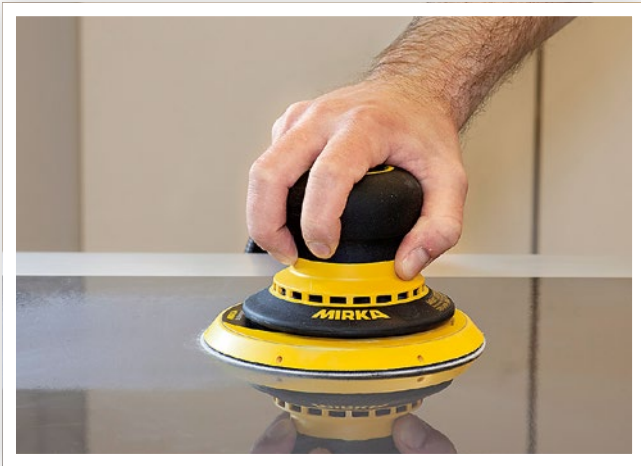


» Iridium



# FURNITURE TOP COAT / HIGH GLOSS SANDING

Fine sanding and defect removal of high gloss top coats prior to polishing.



## BELT SANDING

» A film belt creates an uniform and smooth finish which is critical prior to polishing.

### ABRASIVE RECOMMENDATIONS

**P800 – P1500**

HARD PAINTS / LACQUERS



» Sica Fine Stearate



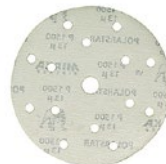
» MI231A

## DISC SANDING

» A film product levels the surface and creates a uniform finish. By using the fine and smooth Abralon soft product as a last step the the process time is reduced.

### ABRASIVE RECOMMENDATIONS

**P800 – P3000**



» Polarstar®

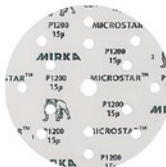


» Abralon®

MEDIUM HARD PAINTS / LACQUERS



» MI231A



» Microstar®



» Abralon®

# FURNITURE POLISHING

Polishing of high gloss top coats.



## MACHINE POLISHING

» The mirka polishing system is very efficient and user friendly. The correct combination of compound and pad ensures an efficient process and superior gloss.

### POLISHING COMPOUND RECOMMENDATIONS

#### HARD PAINTS / LACQUERS

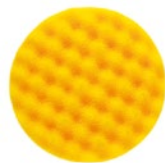
STEP 1 – BUFFING



» Polarshine® 35 + Twisted wool pad



STEP 2 – FINAL GLOSS

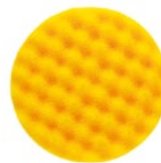


» Polarshine® 10 + Foam pad, yellow waffle

#### MEDIUM HARD PAINTS / LACQUERS



» Polarshine® 10 + Lambswool pad pro, yellow



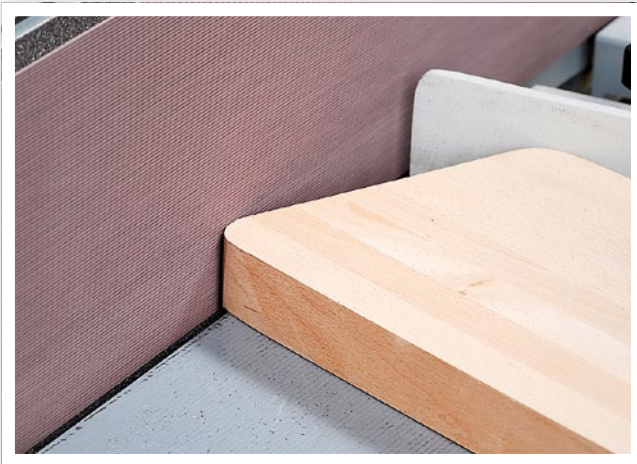
» Polarshine® 10 + Foam pad, yellow waffle



# FURNITURE

## PROFILE SANDING

Sanding of profiles and hard to reach areas.



### INDUSTRIAL SANDING

» A stiff cloth product, PES or X-type is recommended for sanding flat profiles while a soft cloth product, J-type is recommended for contoured surfaces. The Abranet Max net backed product will increase the life time of the belt due to its cool cut and long life.

### MACHINE / HAND SANDING

» Mirka OS sanders in combination with net products enables an efficient and dust free sanding experience. A nonwoven product is easy and effective to use for denibbing applications.

#### ABRASIVE RECOMMENDATIONS

#### ABRASIVE RECOMMENDATIONS

STIFF



» Abranet® Max



» Hiolit XO

MACHINE SANDING



» Abranet® Ace



» Iridium

FLEXIBLE



» Hiolit JF

HAND SANDING



» Goldflex Soft



» Mirlon Total® VF

# FLOORING NEW PRODUCTION

Industrial belt sanding process for new parquet production.



## TOP SIDE PRIOR TO COATING

» A product with selective coating enables a longer life due to less clogging and burning compared to a conventional product.

### ABRASIVE RECOMMENDATIONS

#### P80 – P180



» Ultimax®



» Jepuflex® Antistatic



## INTERMEDIATE SANDING

» A stearated product resists clogging and ensures a longer life time of the abrasive belt. Less down time in production.

### ABRASIVE RECOMMENDATIONS

#### P240 – P320



» Gold Max



» Sica Fine Stearate

# FLOORING

## FLOOR REFURBISHMENT

Sanding process for refurbishing wooden floors.



## REMOVAL OF LACQUER/OIL

### BELT SANDING

» Heavy stock removal requires a tough cloth or paper backing to resist tearing.

#### ABRASIVE RECOMMENDATIONS

**P36 – P80**



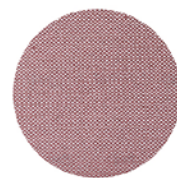
» Hiolit XO

### DISC SANDING

» A net backed abrasive enables a longer life due to less clogging and burning to a conventional product. The Abranet Ace HD net backed product is efficient for removing old lacquer or oil and the product has a good tear resistance.

#### ABRASIVE RECOMMENDATIONS

**P40 – P80**



» Abranet® Ace HD



# FLOORING

## FLOOR REFURBISHMENT

Sanding process for refurbishing wooden floors.



### SANDING PRIOR TO COATING

» The selective coating technology of Ultimax ensures a good cut and long life time of the disc.

#### ABRASIVE RECOMMENDATIONS

##### P80 – P180



» Ultimax®



» Jepuflex® Antistatic

### INTERMEDIATE SANDING

» Net backed abrasives ensures a long life time of the discs. Abranet Ace offers a long life time to the product when sanding between coats.

#### ABRASIVE RECOMMENDATIONS

##### P180 – P320



» Abranet® Ace



» Ultimax®

# SOLID SURFACE SANDING AND FINISHING PROCESS

Sanding and finish process for solid surface materials.



## LARGE AREAS

SANDING OF LARGE SURFACES

» Ceramic grains of Abranet Ace and Q.Silver Ace gives a long lifetime and great cut. Abralon is ideal to be used as a last step to achieve a smooth finish.

### ABRASIVE RECOMMENDATIONS

#### P80 – P4000



» Abranet® Ace



» Novastar™



» Abralon®



## SMALL AREAS

SANDING OF HARD TO REACH PLACES

» 34 mm discs + battery sander AROS-B for hard to reach places to create an even finish. Ultimax for sanding away glue residue from joints or removing defects left from the casting process.

### ABRASIVE RECOMMENDATIONS

#### P40 – P4000



» Abranet®



» Ultimax®

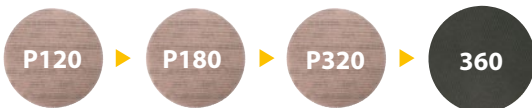


» Abralon®

# SOLID SURFACE PROCESS

## MATT FINISH

Use following grits of net abrasives. Finish with Abralon® (damp).



## SATIN FINISH

Use following grits of net abrasives. Finish with Abralon® (damp).



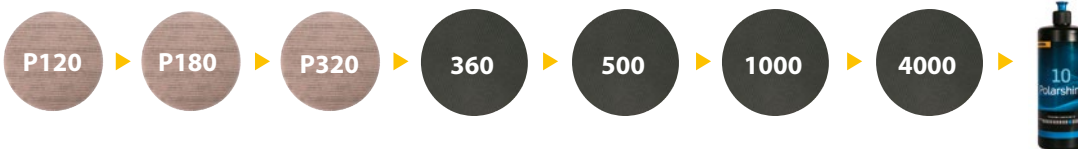
## GLOSSY FINISH

Use following grits of net abrasives. Finish with Abralon® (damp).



## HIGH GLOSS FINISH

Use following grits of net abrasives. Continue with Abralon® (damp) and finish with Polarshine® 10 and lambswool pad.





# FOR NOVASTAR

## MATT FINISH



Use following grits of Novastar. Finish with Mirlon VF.



## SATIN FINISH



Use following grits of Novastar. Finish with Mirlon VF and Mirlon Total XF, together with Spacer interface.



## GLOSSY FINISH



Use following grits of Novastar. Finish with Abralon (damp) together with Spacer interface.



## HIGH GLOSS FINISH



Use following grits of Novastar. Continue with Abralon together with Spacer interface. Finish with Polarshine 10 and lambswool pad.



# PRODUCTS FOR WOOD SANDING



# ABRANET®

The multifunctional and classic Abranet is especially developed for sanding putty, primers, lacquers, composite materials and a wide range of other materials for industrial use. Abranet combines high performance and a longer lifespan than traditional abrasives, making it a cost-effective solution. Designed for dry sanding by machine or by hand, its true dust-free sanding characteristics result in a cleaner work environment, as well as a better surface finish.

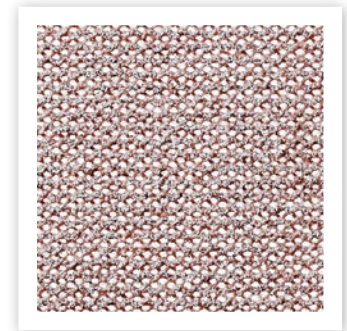


## TECHNICAL SPECIFICATIONS

<b>Bonding</b>	Resin over resin	READ MORE 
<b>Grain</b>	Aluminium oxide	
<b>Coating</b>	Closed	
<b>Colour</b>	Brownish	
<b>Grit range</b>	P80–P180, P240, P320–P1000	
<b>Backing</b>	PA net	
<b>Available as</b>		

# ABRANET® ACE

Abranet Ace is developed for tougher and more demanding sanding applications. Because of its optimised net construction and ceramic grains, Abranet Ace offers superior cut and performance for hardwoods (such as beech and oak) and fast cutting on various solid surface materials as well as for cleaning of different industrial rollers. Abranet Ace also works excellent on primer sanding applications, creating an optimal performance and lifetime.



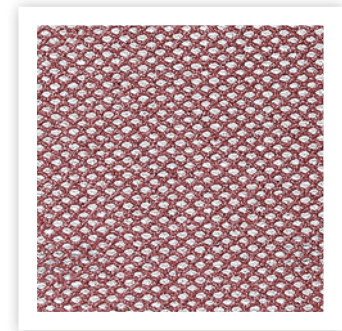
## TECHNICAL SPECIFICATIONS

<b>Bonding</b>	Resin over resin	READ MORE 
<b>Grain</b>	Ceramic (P80–P240)/Ceramic coated (P320–P1000)	
<b>Coating</b>	Closed	
<b>Colour</b>	Light maroon	
<b>Grit range</b>	P80–P240, P320–P1000	
<b>Backing</b>	PA net / PES net	
<b>Available as</b>		



# ABRANET® ACE HD

Abranet Ace HD is durable and tough with ceramic grains. The strong net structure resists high wear and tear and the ceramic grain offers superior cutting performance on various surfaces. The improved woven mesh backing increases the lifetime of the abrasive and makes the sanding process faster. The open net construction in combination with a dust extractor enables a dust-free sanding experience.

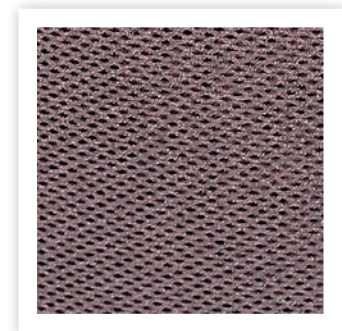


## TECHNICAL SPECIFICATIONS

<b>Bonding</b>	Resin over resin	READ MORE 
<b>Grain</b>	Ceramic	
<b>Coating</b>	Closed	
<b>Colour</b>	Brownish	
<b>Grit range</b>	P40, P60, P80	
<b>Backing</b>	PA net	
<b>Available as</b>		

# ABRANET® MAX

Abranet Max is a universal net abrasive suited for a broad variety of sanding applications and is especially developed for wooden surfaces and the wood industry. Due to the net structure it does not easily clog up on resinous wood types or soft materials and the sanded surface stays cooler and avoids burning. The tough aluminium oxide grain gives a high cut rate on harder wood types and materials. The symmetric net structure enables an efficient cut and stock removal. Lower pressure is needed and a more consistent surface finish means minimal quality variations in the process when sanding with Abranet Max. The product offers an extreme long lifetime compared to conventional abrasive belts, which results in fewer belts being needed to complete the job and also cost savings and time efficiency because of less downtime in production due to changing of belts. The product is also well suited for applications where water is used as cooling agent.



## TECHNICAL SPECIFICATIONS

<b>Bonding</b>	Resin over resin	READ MORE 
<b>Grain</b>	Aluminium oxide	
<b>Coating</b>	Closed	
<b>Colour</b>	Brownish	
<b>Grit range</b>	P80–P240	
<b>Backing</b>	PA net	
<b>Available as</b>		

# MI231A

This micro-finishing film is designed for matting and paint rectification of top- and clear coat applications. MI231A is manufactured to the highest standard using the most technically advanced materials and processes, capable of producing a consistently high quality film product. MI231A has a semi-open grain distribution that will resist surface loading and produce consistently fine surface scratch patterns during use.



## TECHNICAL SPECIFICATIONS

<b>Bonding</b>	Low VOC resin system	READ MORE 
<b>Grain</b>	Aluminium oxide	
<b>Coating</b>	Semi-open	
<b>Colour</b>	White	
<b>Grit range</b>	P360–P2500	
<b>Backing</b>	Polyester film	
<b>Available as</b>		

# MICROSTAR®

A general-purpose abrasive film product, designed for matting and paint rectification of top- and clear coat applications. Microstar has a special stearate layer and a smooth film backing. This product has a high quality finish and lasts longer as it doesn't clog as easily as traditional products. Microstar produces a fine scratch pattern that is easy to polish out. For a perfect result, it is recommended to use Microstar with a 5 mm interface pad. Microstar is intended for dry sanding only.



## TECHNICAL SPECIFICATIONS

<b>Bonding</b>	Low VOC resin system	READ MORE 
<b>Grain</b>	Aluminium oxide	
<b>Coating</b>	Semi-open	
<b>Colour</b>	White	
<b>Grit range</b>	P800–P2500	
<b>Backing</b>	Polyester film	
<b>Available as</b>		

# POLARSTAR®

Especially developed to efficiently tackle the latest demanding coating applications, Polarstar quickly produces a fine, consistent surface finish and combines that with superb durability due to an excellent resistance to clogging. The polyester film backing material creates a more flexible and much smoother abrasive surface, compared to paper backing. Suitable for dry sanding, especially of harder high gloss paints and lacquers prior to polishing.



## TECHNICAL SPECIFICATIONS

<b>Bonding</b>	Resin over resin	READ MORE 
<b>Grain</b>	Aluminium oxide (P320–P600)/Silicon carbide (P800–P1500)	
<b>Coating</b>	Semi-open	
<b>Colour</b>	Green	
<b>Grit range</b>	P320–P1500	
<b>Backing</b>	Polyester film	
<b>Available as</b>		

# ABRALON®

Abralon is a unique, multifunctional sanding material developed for tackling both smooth and profiled surfaces. Its patented, flexible construction allows it to create a smooth sanding pattern on angled surfaces and edges while minimising the risk of pressure marks. The flexible weave also allows water and air to pass freely, making it suitable for both dry and wet sanding, by machine or by hand.



## TECHNICAL SPECIFICATIONS

<b>Bonding</b>	Special resin	READ MORE 
<b>Grain</b>	Silicon carbide	
<b>Coating</b>	Special Abralon® method	
<b>Colour</b>	Grey	
<b>Grit range</b>	180, 360, 500, 600, 1000, 2000, 3000, 4000	
<b>Backing</b>	Knitted fabric on foam	
<b>Available as</b>		





# MIRLON®

Thanks to its special structure, Mirlon is a flexible, three-dimensional fibre sanding material that's easy to use on profiled surfaces and produces an excellent finish. It's ideal for matting of surfaces and creates an excellent base for the next lacquer layer.



## TECHNICAL SPECIFICATIONS




<b>Bonding</b>	Resin	READ MORE 
<b>Grain</b>	Aluminium oxide (GP,VF)/Silicon carbide (UF,MF)	
<b>Coating</b>	Three-dimensional	
<b>Colour</b>	Green (GP)/Red (VF)/Dark grey (UF)/Brownish (MF)	
<b>Grit range</b>	General Purpose – 320, Very Fine – 360, Ultra Fine – 1500, Micro Fine – 2000	
<b>Backing</b>	Non-woven	
<b>Available as</b>	  	

# MIRLON TOTAL®

Developed using Mirka's innovative Total Coating™ Technology, Mirlon Total is more aggressive than Mirlon and produces a dense scratch pattern and rapid result. Suitable for use in wet and dry modes, it features an open and flexible structure and strengthened fibres which make it strong and long-lasting.



## TECHNICAL SPECIFICATIONS

<b>Bonding</b>	Resin	READ MORE 
<b>Grain</b>	Aluminium oxide (VF)/Silicon carbide (UF,MF)	
<b>Coating</b>	Three-dimensional Total Coating™	
<b>Colour</b>	Red (VF)/Grey (UF)/Beige (MF)	
<b>Grit range</b>	Very Fine – 360, Ultra Fine – 1500, Micro Fine – 2500	
<b>Backing</b>	Non-woven	
<b>Available as</b>	 	

# AVOMAX® ANTISTATIC

Avomax Antistatic is developed as an all-round product for various wood sanding applications. The open coating makes the product especially efficient for sanding materials that clog easily. The product works well for sanding soft materials and resinous wood types such as pine wood, while ensuring a long life time of the product and smooth surface finish. The strong antistatic paper provides dimensionally accurate and reliable wide belts. Full resin bonding and aluminium oxide grain guarantee a very durable product.



## TECHNICAL SPECIFICATIONS

<b>Bonding</b>	Resin over resin	READ MORE 
<b>Grain</b>	Aluminium oxide	
<b>Coating</b>	Open	
<b>Colour</b>	Maroon	
<b>Grit range</b>	P40, P60–P240, P320	
<b>Backing</b>	Antistatic T-paper/F-paper	
<b>Available as</b>		

# CARATFLEX

A stearate-coated abrasive for dry sanding applications, Caratflex features fine stock removal, a uniform scratch pattern, a long lifespan and extremely good grain adherence. The backing consists of a flexible, latex-impregnated paper which is ideal for profile sanding.

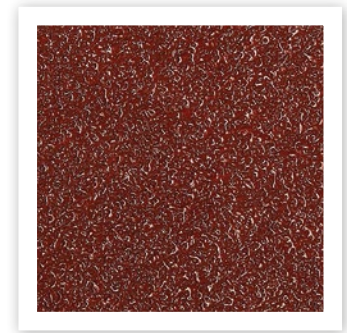


## TECHNICAL SPECIFICATIONS

<b>Bonding</b>	Resin over resin/Progressive Bond™	READ MORE 
<b>Grain</b>	Silicon carbide	
<b>Coating</b>	Semi-open	
<b>Colour</b>	Grey	
<b>Grit range</b>	P80–P320, P400	
<b>Backing</b>	B-paper/A-paper	
<b>Available as</b>		

# COARSE CUT

A specially reinforced backing material and Mirka's Progressive Bond™ dust-binding technology, make Coarse Cut ideal for all kinds of coarse sanding work. Features include, flexibility on rounded surfaces, excellent edge wear resistance and minimal clogging.



## TECHNICAL SPECIFICATIONS

<b>Bonding</b>	Resin over resin/Progressive Bond™	READ MORE 
<b>Grain</b>	Aluminium oxide	
<b>Coating</b>	Semi-open	
<b>Colour</b>	Maroon	
<b>Grit range</b>	P36–P40, P60–P150	
<b>Backing</b>	Specially reinforced F–paper	
<b>Available as</b>		

# GOLD

This durable, all-round sanding material is very well suited for high speed sanding in a multitude of applications. Gold features semi-open and special stearate coatings designed to prevent clogging and pill forming which helps achieve an optimal sanding result.



## TECHNICAL SPECIFICATIONS

<b>Bonding</b>	Resin over resin	READ MORE 
<b>Grain</b>	Aluminium oxide	
<b>Coating</b>	Semi-open	
<b>Colour</b>	Gold	
<b>Grit range</b>	P80–P800	
<b>Backing</b>	D-paper/C-paper	
<b>Available as</b>		




# GOLD MAX

Gold Max is a stearate coated paper abrasive for intermediate and fine sanding applications. The antistatic E-paper gives good strength and stability to the product. The heat treated aluminium oxide enables a high cut rate even on harder paints. The semi-open special coating minimises clogging and increases the sanding lifetime. The backing ensures a good stability and offers a smooth surface finish. Gold Max is suitable for paint and lacquer sanding.



## TECHNICAL SPECIFICATIONS

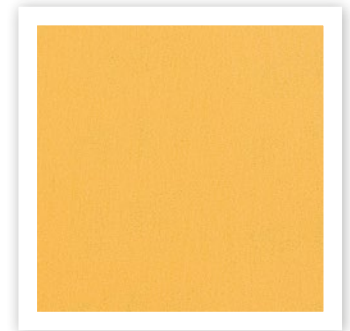
<b>Bonding</b>	Resin over resin
<b>Grain</b>	Blue fired aluminium oxide
<b>Coating</b>	Semi-open
<b>Colour</b>	Gold
<b>Grit range</b>	P240–P800
<b>Backing</b>	Antistatic E-paper
<b>Available as</b>	

READ MORE




# GOLD PROFLEX

Gold Proflex is a stearate-coated abrasive paper for dry hand sanding of wood, fillers, paints and lacquers. The backing consists of a flexible, latex-impregnated paper that provides the desired flexibility and conformity in profile sanding operations as well as on flat surfaces. The paper has an anti-slip coating on the back side in order to provide good grip and feel during sanding. Gold Proflex has aluminium oxide grain, which provides a good cut and an excellent scratch pattern.



## TECHNICAL SPECIFICATIONS

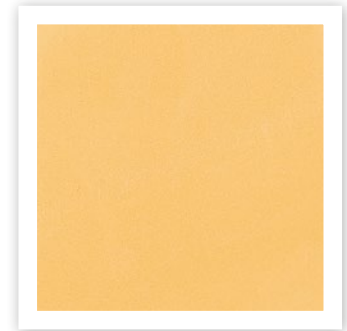
<b>Bonding</b>	Resin over resin
<b>Grain</b>	Aluminium oxide
<b>Coating</b>	Semi-open
<b>Colour</b>	Gold
<b>Grit range</b>	P80–P800
<b>Backing</b>	C-paper/B-paper
<b>Available as</b>	

READ MORE



# GOLDFLEX SOFT

The soft and flexible Goldflex Soft has been developed for sanding profiled surfaces and irregular, difficult-to-reach details by hand. Goldflex Soft is especially useful within the automotive industry and the car repair branch. The foam base is grip-friendly and applies pressure evenly, which reduces the risk of sanding through the surface. The special stearate coating prevents clogging. Suitable for both dry and wet sanding.



## TECHNICAL SPECIFICATIONS

<b>Bonding</b>	Resin over resin	READ MORE 
<b>Grain</b>	Aluminium oxide	
<b>Coating</b>	Semi-open	
<b>Colour</b>	Gold	
<b>Grit range</b>	P150–P320, P400–P1000	
<b>Backing</b>	A-latex paper, PE foam	
<b>Available as</b>		

# JEPUFLEX® ANTISTATIC

Jepuflex Antistatic is a high class abrasive product with a wide application area. The focus of the optimisation work has been the sanding of hard wood such as beech, birch and oak. The strong antistatic paper provides dimensionally accurate and reliable wide belts. Full resin bonding and aluminium oxide grain guarantee a very durable product. Silicon carbide grain used in the coarsest grit gives extra strength to the product. These qualities together with a well adjusted coating density make Jepuflex Antistatic a genuine all round product that works well also on metal, plastic and lacquer.

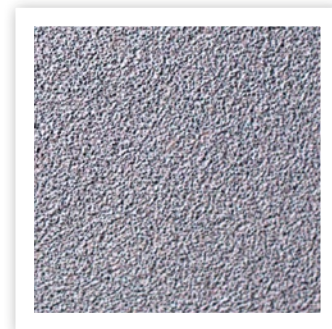


## TECHNICAL SPECIFICATIONS

<b>Bonding</b>	Resin over resin	READ MORE 
<b>Grain</b>	Silicon carbide (P36)/Aluminium oxide (P40–P400)	
<b>Coating</b>	Closed	
<b>Colour</b>	Maroon	
<b>Grit range</b>	P36–P400	
<b>Backing</b>	Antistatic T-paper / F-paper	
<b>Available as</b>		

# Q.SILVER®

With a backing consisting of a flexible and strong latex-impregnated paper, Q.Silver features optimal aggressivity, resulting in fast and efficient stock removal. The high heat endurance of this fully resin-bonded abrasive makes it ideal for tough tasks. For sanding of soft and hard wood, filler, paints and lacquers.



## TECHNICAL SPECIFICATIONS

<b>Bonding</b>	Resin over resin	READ MORE 
<b>Grain</b>	Aluminium oxide (P80–P500)/Silicon carbide(600–1500)	
<b>Coating</b>	Semi-open	
<b>Colour</b>	Blueish	
<b>Grit range</b>	P80–P320, P400– P500, 600–1500	
<b>Backing</b>	D-paper/C-paper/B-paper	
<b>Available as</b>		

# Q.SILVER® ACE

Q.Silver Ace is a ceramic premium abrasive with paper backing for tougher universal sanding. The ceramic grains give a boost, especially when sanding harder applications and a strong resin bonding gives good grip adhesion to the backing.



## TECHNICAL SPECIFICATIONS

<b>Bonding</b>	Resin over resin	READ MORE 
<b>Grain</b>	Ceramic (P80– P320)/Ceramic coated aluminium oxide (P400–P800)	
<b>Coating</b>	Semi-open	
<b>Colour</b>	Plum	
<b>Grit range</b>	P80–P800	
<b>Backing</b>	Latex paper, D-paper/C-paper	
<b>Available as</b>		



# SICA CLOSED

Designed for belt sanding and sanding of MDF and other materials containing mineral debris, Sica Closed is a fully antistatic product that's suitable for materials covered with water-based surface treatment coatings. It maintains its shape well and the silicon carbide grains produce less fibre rising and a finer scratch pattern than products using aluminium oxide grains. The result is a smoother sanded surface and a better final finish after surface treatment.



## TECHNICAL SPECIFICATIONS

<b>Bonding</b>	Resin over resin/Antistatic	READ MORE 
<b>Grain</b>	Silicon carbide	
<b>Coating</b>	Closed	
<b>Colour</b>	Black	
<b>Grit range</b>	P80-P220	
<b>Backing</b>	Antistatic F-paper	
<b>Available as</b>		

# SICA COARSE

Thanks to its ability to maintain uniform stock removal over its lifespan, Sica Coarse is ideal for calibration sanding of wood and MDF. Silicon carbide grains provide long-lasting durability when performing heavy sanding operations and the open coating and antistatic characteristics minimise dust loading and prevent clogging.



## TECHNICAL SPECIFICATIONS




<b>Bonding</b>	Resin over resin	READ MORE 
<b>Grain</b>	Silicon carbide	
<b>Coating</b>	Open	
<b>Colour</b>	Black	
<b>Grit range</b>	P40-P60	
<b>Backing</b>	Antistatic T-paper	
<b>Available as</b>		

# SICA FINE

Sica Fine is a fully antistatic product which minimises dust load and helps produce a high-quality surface finish. For example, it results in a perfect finish after surface treatment with a top lacquer – it even minimises lacquer usage.



## TECHNICAL SPECIFICATIONS



<b>Bonding</b>	Resin over resin/Antistatic	READ MORE 
<b>Grain</b>	Silicon carbide	
<b>Coating</b>	Semi-open	
<b>Colour</b>	Black	
<b>Grit range</b>	P240–P320, P400–P800	
<b>Backing</b>	Antistatic E-paper	
<b>Available as</b>	 	

# SICA FINE STEARATE

Sica Fine Stearate is a fully antistatic, 'stearate' product which produces minimal dust load and a high-quality surface finish. For example, you can expect a perfect result after surface treatment with a top lacquer – it even minimises lacquer usage. Also available as Sica Fine without stearate.



## TECHNICAL SPECIFICATIONS



<b>Bonding</b>	Stearate-coated resin over resin/Antistatic	READ MORE 
<b>Grain</b>	Silicon carbide	
<b>Coating</b>	Semi-open	
<b>Colour</b>	Grey	
<b>Grit range</b>	P240–P320, P400–P1500	
<b>Backing</b>	Antistatic E-paper	
<b>Available as</b>		

# SICA OPEN

Sica Open is the recommended solution for sanding soft, resin-rich wood types. The open coating and completely antistatic backing material and layers limit dust loading and prevent clogging which improves product lifespan. In addition, silicon carbide grains produce a smoother scratch pattern and a higher surface gloss level than aluminium oxide-based sanding materials.



## TECHNICAL SPECIFICATIONS



<b>Bonding</b>	Resin over resin/Antistatic	READ MORE 
<b>Grain</b>	Silicon carbide	
<b>Coating</b>	Open	
<b>Colour</b>	Black	
<b>Grit range</b>	P80-P180	
<b>Backing</b>	Antistatic F-paper	
<b>Available as</b>		

# ULTIMAX<sup>®</sup>

Manufactured using a unique production process called ‘Selective Coating<sup>®</sup> Technology’ Ultimax features a series of tiny cavities designed into the abrasive material which work to efficiently prevent clogging. This innovative new technology, along with special abrasive grains, produces aggressive performance and excellent edge wear resistance while keeping the sanding surface cool. Together these features ensure a longer lifespan and reduced material usage per job.



## TECHNICAL SPECIFICATIONS

<b>Bonding</b>	Resin over resin	READ MORE 
<b>Grain</b>	Aluminium oxide	
<b>Coating</b>	Closed with Selective Coating <sup>®</sup>	
<b>Colour</b>	Brown	
<b>Grit range</b>	P40-P320	
<b>Backing</b>	Antistatic T-paper/F-paper	
<b>Available as</b>		





# UNIMAX®

An all-round wood sanding product, Unimax maintains its shape and is completely antistatic. This reduces the belt dust load and minimises clogging which helps the machine stay cleaner and improves work safety while increasing belt lifespan.



## TECHNICAL SPECIFICATIONS



<b>Bonding</b>	Resin over resin/Antistatic	READ MORE 
<b>Grain</b>	Aluminium oxide	
<b>Coating</b>	Semi-open	
<b>Colour</b>	Black	
<b>Grit range</b>	P80-P220	
<b>Backing</b>	Antistatic F-paper	
<b>Available as</b>		

# WPF NEXT GEN

WPF Next Gen is the ideal paper abrasive for effective hand sanding both wet and dry on multiple surfaces. Produced with new coating technology, the abrasive surface does not clog up easily, so you can sand faster and the abrasive lasts longer. Especially recommended for automotive refinishing due to the consistent surface finish. The finer grits are optimal for fresh clear coats and make polishing easier.



## TECHNICAL SPECIFICATIONS

<b>Bonding</b>	Resin over resin	READ MORE 
<b>Grain</b>	Aluminium oxide	
<b>Coating</b>	Semi-open	
<b>Colour</b>	Yellow / Green	
<b>Grit range</b>	P60-P2500	
<b>Backing</b>	B-paper	
<b>Available as</b>		

# HIOLIT JF

Hiolit JF is a new cloth backed product targeted towards wood and metal sanding application. The product has a flexible backing making it optimal for profile sanding, seams, edges and other applications where a flexible product with high edge wear is needed. The semi-open coating makes the product universal and especially suited for soft and clogging materials.



## TECHNICAL SPECIFICATIONS

<b>Bonding</b>	Resin over resin	READ MORE 
<b>Grain</b>	Aluminium oxide	
<b>Coating</b>	Semi-open	
<b>Colour</b>	Maroon	
<b>Grit range</b>	P60–P240, P320, P400	
<b>Backing</b>	J-weight cotton cloth	
<b>Available as</b>		

# HIOLIT XO

Hiolit XO is a semi-open stiff universal abrasive for belt sanding and other machine sanding where it has excellent edge wear resistance and durability. In particular, it produces high quality results on challenging materials – for example, grits 36–80 are suitable for aggressive sanding, such as severe rust damage, as well as other sanding operations where large amounts of material need to be removed.

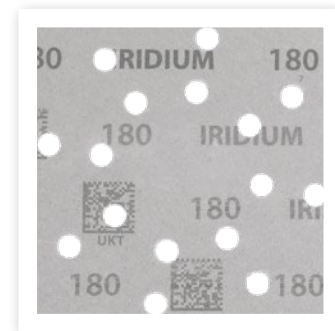


## TECHNICAL SPECIFICATIONS




<b>Bonding</b>	Resin over resin	READ MORE 
<b>Grain</b>	Blue fired aluminium oxide	
<b>Coating</b>	Semi-open	
<b>Colour</b>	Maroon	
<b>Grit range</b>	P36–P240	
<b>Backing</b>	Polyester cloth P36–P80 X-weight cotton cloth P100–P240	
<b>Available as</b>		

# IRIDIUM

Iridium is a premium paper abrasive for universal sanding. Perfected for speed and efficiency, it has a mix of ceramic and aluminium oxide grains on a flexible paper with precision coating that prevents clogging and reduces pilling. It practically repels dust and lifetime is increased as the grains stay sharp for longer. Dust extraction is optimised with multihole patterns for discs and strips. Iridium delivers amazing results on both soft and hard surfaces, making it the ideal paper abrasive choice for professionals in any industry.



## TECHNICAL SPECIFICATIONS



<b>Bonding</b>	Low VOC resin system	READ MORE 
<b>Grain</b>	Ceramic/Aluminium oxide	
<b>Coating</b>	Semi-open	
<b>Colour</b>	Grey	
<b>Grit range</b>	P80-P600	
<b>Backing</b>	Latex paper, D-paper/ C-paper	
<b>Available as</b>	 	

# NOVASTAR™

Novastar is a premium film abrasive that tackles demanding applications with unexpected ease. It has a mix of ceramic and aluminium oxide grains on a flexible film backing, with a precision coating that practically repels dust. The grains stay sharp as clogging is prevented. Great durability and excellent edge wear resistance. Dust extraction optimised with multihole pattern. Fully waterproof. Novastar delivers remarkable results, especially on hard surfaces. Outstanding performance makes it the ideal film abrasive choice for professionals in any industry.



## TECHNICAL SPECIFICATIONS

<b>Bonding</b>	Low VOC resin system	READ MORE 
<b>Grain</b>	Ceramic/Aluminium oxide	
<b>Coating</b>	Semi-open	
<b>Colour</b>	Transparent	
<b>Grit range</b>	P80-P600	
<b>Backing</b>	Polyester film	
<b>Available as</b>		



# GUIDE FOR EFFECTIVE WOOD SANDING







# EFFECTIVE WOOD SANDING

**ACHIEVING** the desired final result with any surface treatment is affected by a wide variety of factors. For example, the choice of sanding material plays a vital part in the overall process.

By choosing the correct type of sanding material and handling it correctly, you can ensure that you achieve an optimal sanding result, as well as the best possible lifespan for the sanding material itself.

The aim of this guide is to outline the construction of various sanding materials and to highlight the differences between products in an effort to help you achieve the

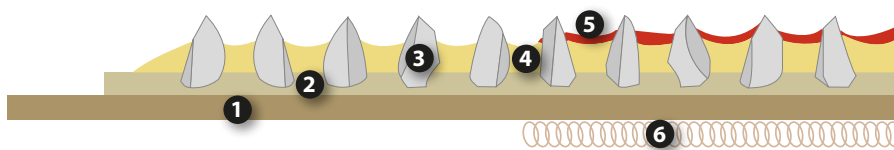
easiest and most effective sanding procedure for each application.

## **WHEN SANDING IS PERFORMED CORRECTLY, IT WILL ENSURE:**

- an even, smooth surface finish
- an accurate thickness and flatness
- minimal problems due to fibre rising
- a better result due to less dust on the surface
- cost savings, both on sanding products, as well as coatings and lacquers




# SANDING MATERIAL CONSTRUCTION



1. Backing 2. Make coat 3. Grains 4. Size coat 5. Supersize 6. Fastening system

## Backing material

 The backing material not only carries the abrasive layers, it must also transfer the sanding power through to the surface. This means that larger abrasive grains demand more power and, therefore, also need a stronger backing material. For example, a backing material made of cloth-woven thread is often stronger and more stable than a backing material made of paper. Cloth can be either rigid or flexible depending on the construction and, nowadays, there are also strong paper backings specially developed for challenging sanding applications.

### Cloth backings

Type	Weight	Application	Example product
F	Flexible cotton cloth	Profile sanding	Alox
J	Soft cotton cloth	Profile sanding	Hiolit JF
X	Stiff cotton cloth	Coarse sanding	Hiolit XO (P100–P240)
PES	Polyester cloth	Extra coarse sanding	Hiolit XO (P36–P80)

When sanding between coats or around profiles, it is important to use a material that is both light and has a flexible backing. Flexibility enables the sanding material to follow edges and profiles, while the light paper provides a smooth surface for the abrasive grains which, in turn, results in a finer surface finish. For paper, the weight of the backing material is in direct proportion to its strength and stiffness.

## Paper backings

Type	Weight	Application	Example product
A-paper	90 g/m <sup>2</sup>	Manual profile sanding	Goldflex
B-paper	110 g/m <sup>2</sup>	Manual or light machine sanding	Gold Proflex
C-paper	125 g/m <sup>2</sup>	Machine sanding	Gold
D-paper	150–180 g/m <sup>2</sup>	Coarse disc sanding	Deflex
E-paper	220–250 g/m <sup>2</sup>	Fine belt sanding	Gold Max
F-paper	270 g/m <sup>2</sup>	Belt sanding, coarse disc sanding	Jepuflex® Antistatic
T-paper	300 g/m <sup>2</sup>	Coarse belt sanding	Sica Coarse

An anti-static backing paper is used for wide belt sanding applications where it helps to keep the machine and the sanding units clean of dust.

## Unique/Special backings

Type	Special features	Application	Example product
Net-backing	Dust-free	Suitable for most wood applications	Abranet® Ace
Non-woven backing	Three-dimensional structure	Sanding of profiles, fine sanding	Mirlon®, Mirlon Total®
Knitted fabric on foam	Foam layer for damp sanding	Superior finish sanding	Abralon®
Paper on foam	Ergonomic structure	Manual profile sanding	Goldflex-Soft
Fiber reinforced paper	Strong and durable	Coarse sanding, edge sanding	Coarse Cut
Film backing	Even construction	Superior finish sanding	Microstar®

When a superior surface finish is demanded, film backing can provide a good alternative. The advantage of a film backing is the same as for premium light paper backings – it provides a very even surface for the abrasive grains.

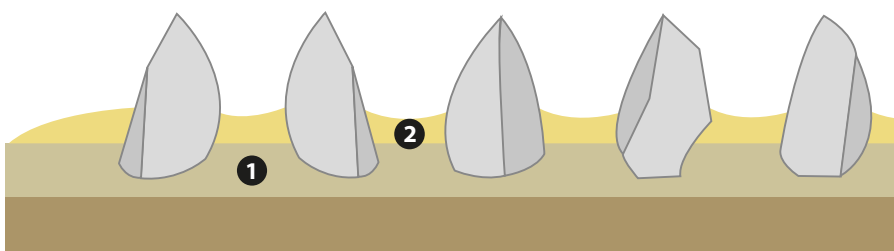
For non-conventional products there are unique backing materials. For example, the revolutionary material found on Mirka's family of Net Sanding products which enables dust-free sanding and features integrated loops for easy fastening. For other products a combination of backing materials is used, such as for Abralon and Goldflex-Soft. Coarse Cut is another example – it is made of a special paper backing reinforced with non-woven fibres.

# Make coat and size coat

➔ The 'make coat' and 'size coat' are layers of resin. The make coat is the first layer on which the abrasive grains are applied, while the size coat is added to keep the grains firmly in place. All products in the wood sanding range are made with synthetic resins (R/R, resin over resin). The benefits of using synthetic resins, instead of natural glue, include greater product durability and more consistent quality.

A key factor in producing flexible abrasives is the amount of resin that is applied. A low amount of resin results in an aggressive product but with restricted working lifespan. Increasing the amount of resin increases the products working lifespan.

A constant research and development program has enabled Mirka to continually enhance the performance of its products. By optimising the construction of our products we have been able to provide innovative and cost effective solutions that meet the demanding requirements of modern customers.



1. Make coat 2. Size coat



# Grains and coatings



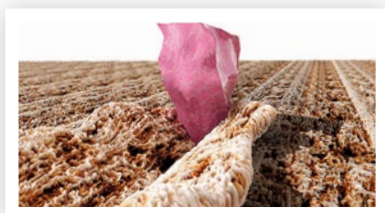
When it comes to sanding wood the choice of abrasive grain is vital, both for the final result and to achieve the best possible lifespan from the product. Choosing a sharp grain will achieve a good cut, however if a finer surface finish is essential then another type of grain may be chosen. The grain selection process is also affected by the strength required.

## Aluminium oxide

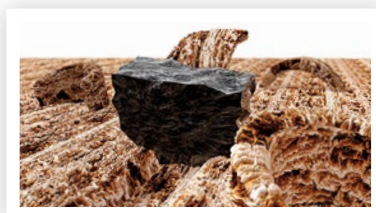
The most common abrasive grain for sanding wood is aluminium oxide – the grains are sharp and tough enough for most applications.

## Silicon carbide

Compared to aluminium oxide, silicon carbide is more regular in shape and is not as brittle. The strength of these grains makes it perform well on hard surfaces. It would typically be used to sand materials such as oak and MDF, since fibre boards usually contain hard impurities. In addition, the shape of the silicon carbide grains produces a better surface finish compared to aluminium oxide, which makes them more suitable for intermediate sanding.



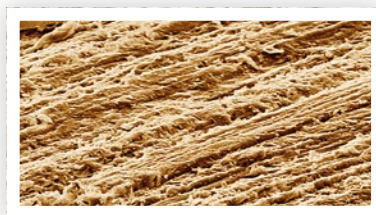
» Aluminium oxide grains plough into soft wood types.



» Silicon carbide grains cut through hard wood.



» Wooden surface after sanding with aluminium oxide.



» Wooden surface after sanding with silicon carbide.



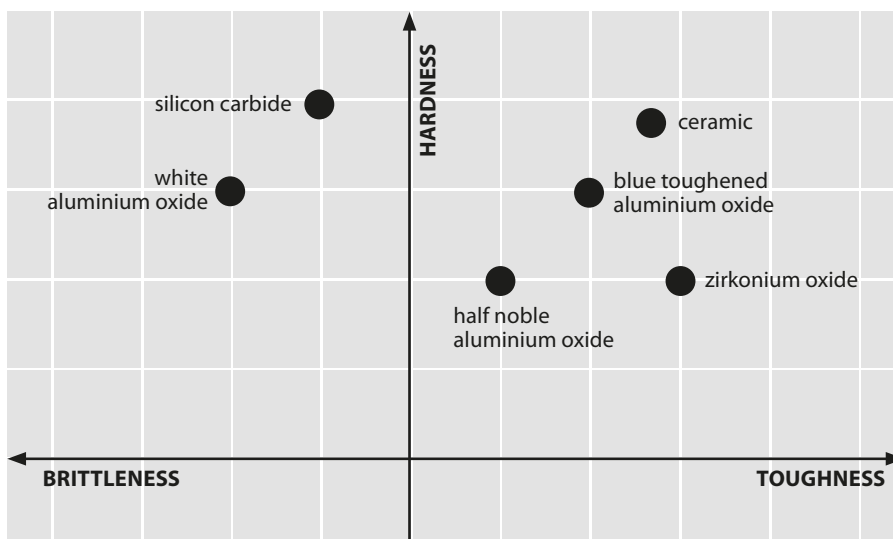
» Aluminium oxide grains.



» Silicon carbide grains.

## Standard grain: Qualities and use

Grain	Use
Aluminium oxide	
• White	Paint, lacquer, wood
• Semi-friable	Allround (wood, light metals, all types of sanding machines)
• Blufred	Metal, hard wood and hard coatings
Ceramic	Hard materials and coatings
Silicon carbide	Paint, lacquer, polishing, MDF, veneer, hard wood
Zirkonium oxide	Demanding/aggressive metal sanding



It is important to note that both the surface structure and surface finish is affected by the choice of grains. This means that the colour of the treated surface might vary. The minerals used for Mirka products are synthetic, making them harder and more durable compared to natural sand.

## Amount of grains

The performance is greatly affected by the amount of abrasive grains used. For example, less grains results in an open coating which is highly resistant to clogging, whereas more grains produce a closed coating with good stock removal and a smooth surface finish.



» Closed coating



» Semi-open coating



» Open coating



**Jepuflex® Antistatic**  
(closed coating)



**Unimax®**  
(semi-open coating)



**Avomax® Antistatic**  
(open coating)

## Grit sizes

Different grit sizes are used for different purposes. Therefore, grit sizes are sorted during manufacture. Abrasive products can be made with different grit size standards such as FEPA, ANSI and GOST. Mirka uses grains according to the FEPA standards – Federation of European Producers of Abrasives. Products produced according to this standard are recognised by the 'P' mark – for example P80. Grain size is determined by passing them through sieves that are measured in 'threads-per-inch'. When it comes to micro-grains, the threads-per-inch measurement is a theoretical amount.

## Grit standards

FEPA		ANSI	GOST
FEPA P	Grain size (microns)		
<b>Macro grain sizes</b>			
P12	1815	12	160
P16	1324	16	125
P20	1000	20	100
P24	764	24	80
P30	642	30	63
P36	538	36	50
P40	425	40	40
P50	336	50	32
P60	269	60	25
P80	201	80	16
P100	162	100	12
P120	125	120	10
P150	100	150	8
P180	82	180	6
P220	68	220	5
<b>Micro grain sizes</b>			
P240	58,5 ± 2,0		M63
P280	52,2 ± 2,0	240	M50
P320	46,2 ± 1,5		M40
P360	40,5 ± 1,5	280	
P400	35,0 ± 1,5	320	M28
P500	30,2 ± 1,5		M20
P600	25,8 ± 1,0	360	M10
P800	21,8 ± 1,0	400	M7
P1000	18,3 ± 1,0	500	M5
P1200	15,3 ± 1,0	600	
P1500	12,6 ± 1,0	800	
P2000	10,3 ± 0,8	1000	
P2500	8,4 ± 0,5	1200	

*Standards are not directly comparable to each other.*



# Additional treatments

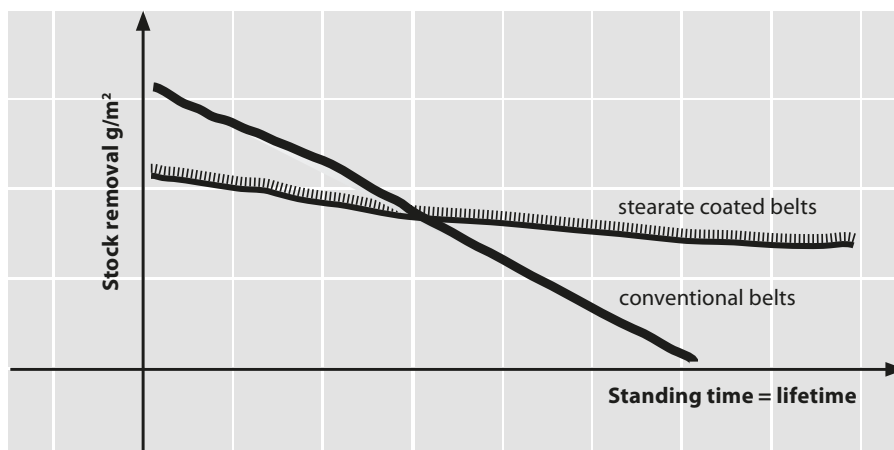
## Stearate coating

Some products receive a special stearate coating treatment which is designed to prolong lifespan. Usually the stearate is based on zinc or calcium and is like small flakes applied on top of the abrasive.

### **BENEFITS:**

- As the stearate coating is worn off during use it prevents clogging and gives the product a longer lifespan.
- The stearate reduces the initial cut and, therefore, produces a more consistent surface finish over the lifetime of the product.

Typical Mirka stearated products include Gold, Q.Silver, Abranet and Sica Fine Stearate. Stearated products achieve best results when sanding paint, lacquer and similar surfaces. For coarse sanding with high sanding pressure (for example, wood sanding with wide belts), stearate provides no advantage because it is very quickly worn off.



## Anti-static treatment

Static electricity load can cause significant dust problems when sanding with a wide belt. However, using anti-static belts prevents dust problems and provides a better work environment. Indeed, reducing the static load of sanding machine belts brings a variety of positive benefits.

### **BENEFITS:**

- A clean, dust-free sanding surface provides a better surface treatment result.
- The machine stays cleaner which makes maintenance easier.
- A low dust load ensures a better work environment.

It is also worth noting that abrasives can have various degrees of antistatic effect. Some products only have an antistatic backing material, while others also include an antistatic bonding system. Dust problems can also be further prevented through the use of an efficient dust extraction system.



# Fastening systems

➔ Generally there are two types of fastening systems – ‘PSA’ (Pressure Sensitive Adhesives) and ‘Grip’.

PSA uses an adhesive that is permanently tacky in dry form. With only light contact or hand pressure, PSA's adhere firmly to a variety of different surfaces which makes them ideally suited for fastening of discs and similar products to an even backing pad.

The Grip fastening system is a Velcro material attached to the backing of the abrasive. The Velcro loops on the abrasive backing joins with the Velcro hooks on the backing pad to fasten the two together. For example, Mirka's Net Sanding products are constructed with loops integrated into the backing material.








**IN ORDER TO** achieve the desired result and the best possible efficiency when sanding with a wide belt, many factors need to be taken into consideration. For example, the choice of sanding material is very important but other factors, such as the adjustment of sanding units, the choice of sanding speed and the handling, are also essential.

## Optimising belt lifespan

 The abrasive qualities of any sanding belt are reduced as it becomes slowly clogged while in use. After a sanding belt has been used for a certain period of time, clogging becomes so severe that the risk of causing geometric faults in the sanded material rapidly increases. Further clogging will make the sanded material overheated due to the high friction that occurs when greater pressure is applied to a clogged belt in order to continue achieving stock removal.

Overall sanding costs can be minimised simply by choosing the most suitable product for each sanding operation. That means:

- choosing the right type of grit
- choosing the right type of coating
- using the optimal grit sequence
- avoiding sanding with finer grits than necessary

The lifespan of the belt can be further increased by ensuring that the sanding equipment is correct and used properly:

- choose the right type of sanding machine for each sanding operation
- adjust the sanding machine correctly
- ensure the machine is properly maintained
- check that the dust extraction is adequate



# Grit size and sequence

➔ In general, the first sanding belt is used for stock removal, while the following belts are only used for creating an even surface finish. Typically, the first sanding unit consists of a drum made of materials such as steel or hard rubber. The drum, in combination with coarse grit (P36–P100) belts, is ideal for efficient stock removal.

When it comes to producing an even surface finish, sanding units that incorporate soft rubber drums or sanding pads are normally used. In these units the grit range varies from P120–P320.

For sanding between coats or intermediate sanding, grits P320–P800 are most commonly used along with a very soft rubber drum or a soft sanding pad.

When choosing a grit size the recommendation is to select belts that are only one step from each other in grit sizes. For example, P80–P120–P180 are appropriate steps, whereas P60–P120–P220 often results in problems with the surface finish and product lifespan.

## Recommended grit size use

Grit size	Use
P24–P80	Coarse sanding, calibration
P100–P320	Medium sanding, wood sanding
P320–P1200	Fine sanding, intermediate sanding

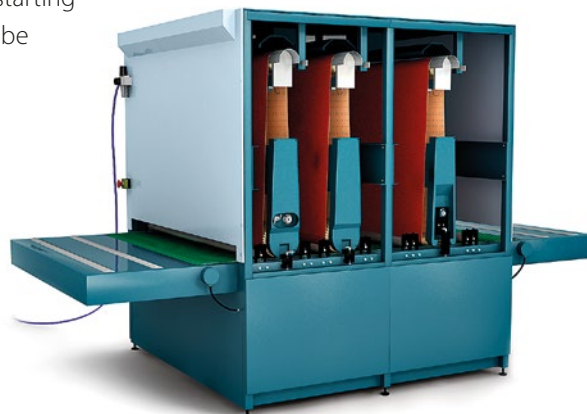
# Stock removal per unit

➔ With a **three belt machine**, the starting point for stock removal per unit can be divided according to the following:

- Station 1 ~ 60%
- Station 2 ~ 30%
- Station 3 ~ 10%



➔ With a **two belt machine**, the division can be as follows:

- Station 1 ~ 75%
- Station 2 ~ 25%




A good way of controlling whether the adjustments are correct is to check how the belts are used in comparison to each other. If adjustments are made according to the requirements given by the grit sequence and machine, then the belts are used at the same rate.

## Maximum removal

 Contact drum unit			 Sanding pad unit	
Grit	Removal (mm / inches)		Grit	Removal (mm / inches)
P36	Steel/hard rubber roller	< 1.00 / 0.04	P36	–
P40	Steel/hard rubber roller	< 0.80 / 0.03	P40	–
P60	Steel/hard rubber roller	< 0.60 / 0.02	P60	–
P80	Medium rubber roller	< 0.50 / 0.019	P80	< 0.30 / 0.012
P100	Medium rubber roller	< 0.30 / 0.012	P100	< 0.20 / 0.008
P120	Soft rubber roller	< 0.20 / 0.008	P120	< 0.15 / 0.006
P150	Soft rubber roller	< 0.10 / 0.004	P150	< 0.08 / 0.003
P180		–	P180	< 0.05 / 0.002
P220		–	P220	< 0.03 / 0.001
finer		–	finer	< 0.03 / 0.001

## Belt sanding speed


 The general rule is that higher belt speeds result in larger stock removal. A higher belt speed means that both friction heat and load increase on the belt which, in turn, reduces its lifespan. Different types of material require different sanding speeds.

### Material and recommendation for sanding belt speed

Material	Lowest sanding speed	Highest sanding speed
Hard wood	15 m/s	24 m/s
MDF	15 m/s	21 m/s
Soft, resinous wood	12 m/s	18 m/s
High gloss lacquer	2 m/s	8 m/s
Synthetic material	9 m/s	21 m/s
Veneer	18 m/s	27 m/s

*The values indicate the sanding speed.*


# Belt joints

 Belt joint performance is a key factor for sanding belts. The joints must be as strong as the actual sanding material and should not be too thick or too thin compared to the sanding material. The belt should also have the right shape and dimension.

## Types of belt joints




### A-JOINT

 Mostly used for sanding belts made from paper, an A-joint is an overlapping joint without compensation on the sand side, e.g. without interruption in the coating. It produces a uniform sanding belt thickness, even across the joint, and results in an even sanding finish without chatter marks.




### B-JOINT

 The most common joint for sanding belts with cloth backing, the B-joint is an overlapping joint with compensation on the sand side. This means that the joint area is free of abrasive material which allows the cloth to overlap without the joint having to be thicker than the rest of the belt. The B-joint is also suitable for special paper products, such as Mirka's Ultimax.




### T-JOINT

 Typically used for small cloth belts that require strength and flexibility, a T-joint is cut through the sanding belt without an overlap and the joint is attached with tape on the backing side.




### TS-JOINT

 A TS-joint is similar to a T-joint but is different in the way the connecting ends are cut. By using a TS-joint the hinge effect can be avoided. This joint type is most suitable for belts in medium grit sizes and it is most common on cloth-backed belts, although TS-joints can also be found on paper-backed belts.



### TT-JOINT

 This is a special joint where the tape is applied on the sanding side making it suited to profile sanding with a sanding pad.



## PROBLEM SOLVING

# Sanding with hand tools or by hand

**POTENTIAL PROBLEMS** Here we look at common problems in the sanding process when using hand tools or sanding by hand. It is essential to understand where a problem originates from in order to correct the process.

### THE PRODUCT IS CLOGGING

- Check that the paint, lacquer or putty is properly cured.
- A stearated product is usually the best choice for paint or lacquer.
- Use machines with dust extraction and ensure the hole combination on the backing pad is compatible with the sanding product.
- Avoid sanding with grits that are too fine.

### VISIBLE FINGER MARKS AFTER HAND SANDING

- Use a hand sanding tool when sanding plain surfaces.
- Use specialty products, such as Goldflex-Soft, for sanding profiled surfaces as they distribute the sanding pressure evenly.

### VISIBLE SCRATCHES

- Avoid too big a step between grits.
- Silicon carbide products will usually give a better surface finish.
- Use a random orbital sander.

### NOT ENOUGH STOCK REMOVAL

- Aluminium oxide products tend to have a better cut.
- Start with coarse grits and work towards finer grits.

### DUST PROBLEMS

- Use Net Sanding products with suitable machines and accessories.

### THE PRODUCT IS BREAKING UP

- Use a product with rigid backing material (e.g. Coarse Cut).
- Ensure the machine and sanding material match.
- A worn sanding pad often causes problems.

### PROBLEMS WITH PROFILE SANDING

- Use a flexible sanding product (e.g. Carat Flex).
- Use a product specially designed for sanding of profiles (e.g. Mirlon or Goldflex-Soft).
- Try an orbital sander instead of a random orbital sander.



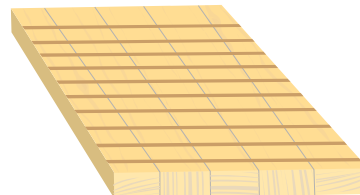


## Belt sanding

**POTENTIAL PROBLEMS** This section describes typical problems that might occur when using wide belts. It is essential to understand where a problem originates from in order to correct the process.

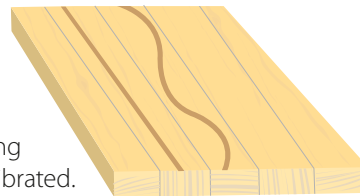
### CHATTER MARKS IN CROSS DIRECTION

- Check the condition of the belt joint.
- Is the machine working as it should? In particular, a malfunctioning drum can cause chatter marks.
- Wrong type of sanding unit? A hard drum with a short sanding contact patch is more likely to result in chatter marks, compared to a soft sanding pad.



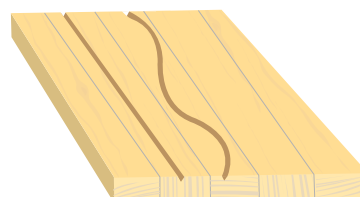
### POSITIVE STRIPES (stripes coming out of the wood piece)

- Narrow stripes in a pattern following the belt oscillation? These are normally caused by sharp objects in the work piece which destroy the abrasive. Change the belt and examine the work pieces for sharp objects.
- Wide straight stripes? Typically a problem with sanding drums or pads. Clean the pad and have the drum calibrated.



### NEGATIVE STRIPES

- Wide straight stripes? The most common problem is dust on the sanding pad. Clean the pad or, if necessary, change the graphite cloth.
- Narrow straight stripes? It is possible that small wood pieces or dust are stuck to the pressure shoe. Clean the machine.



**BELT BREAKAGES:** The belt is broken?

- Check the oscillation of the machine and clean inside the machine.
- Check the storage of the belts (see page 'Wide belt storage').
- Avoid too much stock removal. Avoid using clogged belts.
- Check the condition of the belt joint.

**UNEVEN SURFACE:** The surface feels uneven?

- Steps too big in grit sequence.
- Stock removal with sanding unit which has a sanding contact that is too soft.

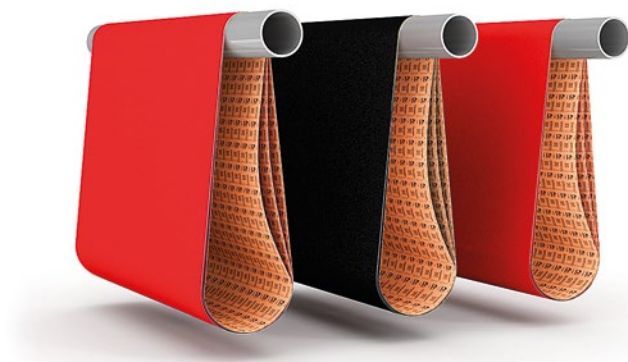
**SHORT BELT LIFESPAN:** Is the belt clogging?

- Avoid too much stock removal per sanding unit – check machine adjustments.
- Make sure you are using the correct product and grit sequence.
- Make sure the cleaning system and the dust extraction is operating correctly.
- Use the whole belt width when sanding.

## WIDE BELT STORAGE

**BY SIMPLY** following some basic recommendations on wide belt storage, you can ensure that the belts remain undamaged and maintain their full working potential.

- Store belts in their unopened packages until they are to be used.
- The belts can be hung horizontally prior to use in order to make handling easier.
- The correct storage temperature is 15–25°C.
- The relative humidity is recommended to be 35–60 per cent in order for the belts to maintain their shape.
- Wide belts should have even moisture over the whole width. Avoid keeping belts hanging close to a cold wall or a heating source. Do not expose the belts to direct sunlight



# MIRKA BELT RANGE

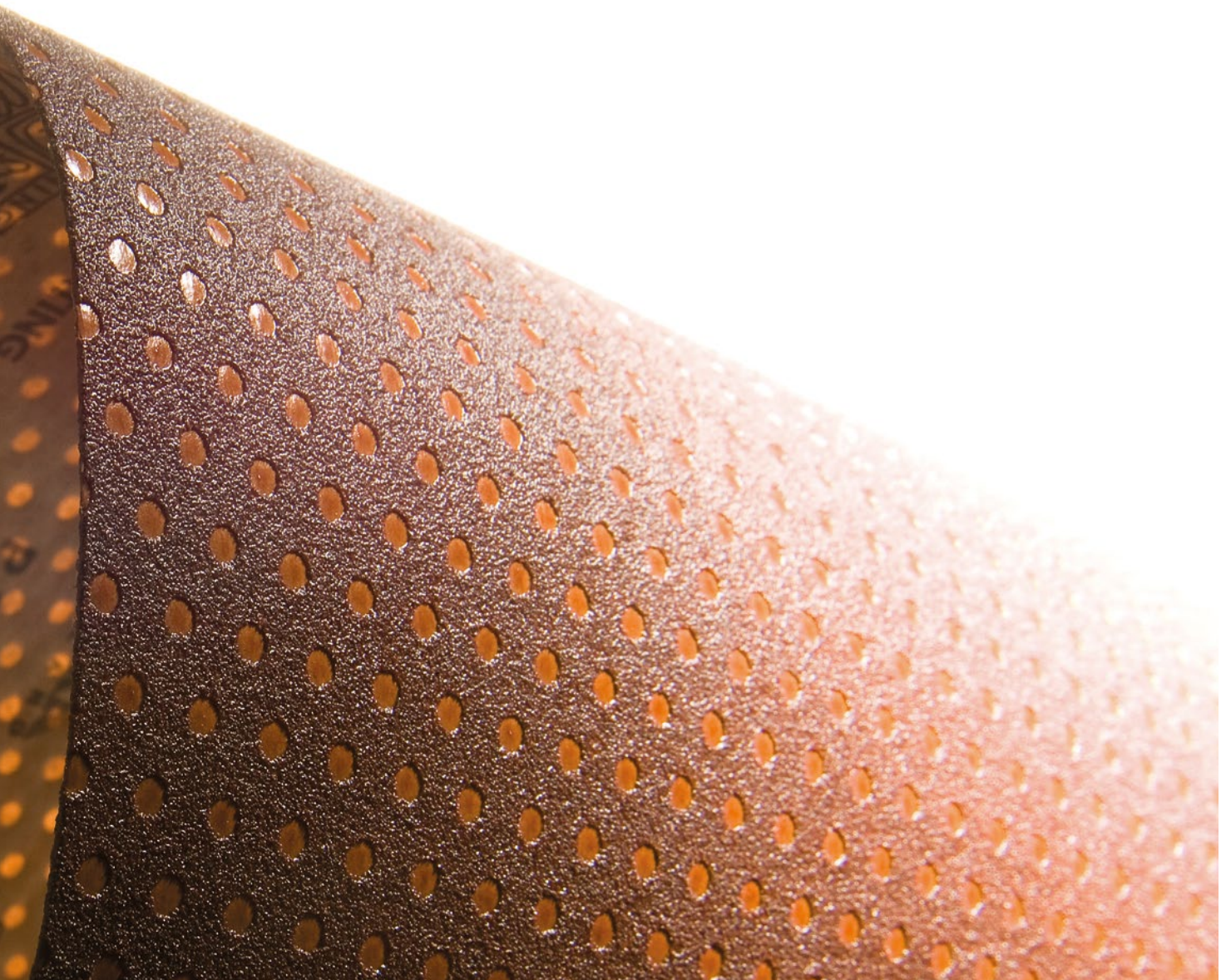


HEAVY SANDING /  
CALIBRATION

SURFACE SANDING

		SURFACE SANDING				
		SOFT WOOD	SOFT AND HARD WOOD	MDF / HDF	HARD WOOD	
<b>Hiolit XO</b> P36–P80 Polyester cloth backing P100–P240 X-weight cotton cloth backing Aluminium oxide Semi open	<b>Sica Coarse</b> P40–P60 Fully antistatic T-paper backing Silicon carbide Open	<b>Avomax® Antistatic</b> P40, P60–P240, P320 Antistatic T- and F-paper backing Aluminium oxide Open	<b>Sica Open</b> P80–P180 Fully antistatic F-paper backing Silicon carbide Open	<b>Unimax®</b> P80–P220 Fully antistatic F-paper backing Aluminium oxide Semi open	<b>Sica Closed</b> P80–P220 Fully antistatic F-paper backing Silicon carbide Closed	<b>Ultimax®</b> P40–P320 Antistatic T- and F-paper backing Aluminium oxide Closed with Selective coating® technology





	INTERMEDIATE AND TOP COAT SANDING				PROFILE SANDING	
	INTERMEDIATE				FLAT PROFILES	CONTOURED PROFILES
MELAMINE						
<b>Jepuflex® Antistatic</b> P36–P400 Antistatic T- and F-paper backing Aluminium oxide Closed	<b>Sica Fine</b> P240–P800 Fully antistatic E-paper backing Silicon carbide Semi open	<b>Sica Fine Stearate</b> P240–P1500 Fully antistatic E-paper backing Stearate Silicon carbide Semi open	<b>Gold Max</b> P240–P800 Antistatic E-paper backing Stearate Aluminium oxide Semi open	<b>MI231A</b> P360–P2500 Polyester film backing Aluminium oxide Semi open	<b>Abranet® Max</b> P80–P240 PA net backing Aluminium oxide Closed Narrow belt	<b>Hiolit JF</b> P60–P400 J-weight cotton cloth backing Aluminium oxide Semi open Narrow belt





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