



siasponge

Full of colour, free of solvent

Sia
ABRASIVES

The colour concept

Uniform colour system for greater process reliability

Thanks to their high-grade materials and careful manufacture, the long-lasting foam abrasives from sia Abrasives can be used multiple times. However, during and after use, product (grit) identification can be difficult due to dust. Feeling the grit or even measuring the grit does not guarantee identification because the grit is worn.

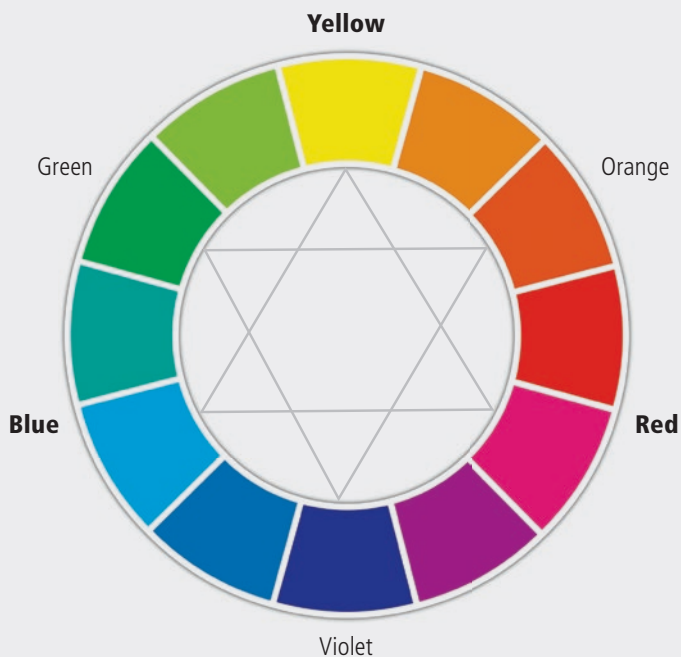
Straightforward, easy-to-understand work and sanding processes are crucial in preventing mistakes during surface treatment and keeping the sanding process as quick and uncomplicated as possible. To help secure greater safety of application, sia Abrasives has developed a uniform colour-coding scheme that is simple, logical and easy to understand without the need for a lot of words. Each foam colour represents a specific grit range or grade. This applies across all materials and all conversion forms for every sanding application. Maximum process reliability – your key to a perfect surface.

Colour concept with big role models

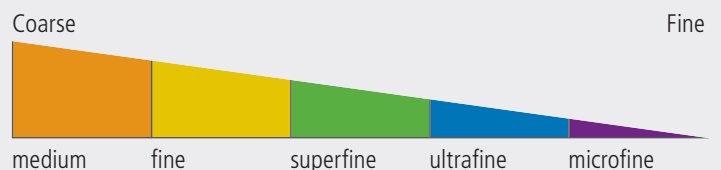
The basic colour coding we employ can trace its origins back to colour theory, which has been developed by such well-known names as Isaac Newton or Johann Wolfgang von Goethe over the course of the last few centuries.

Leonardo da Vinci also noted how colours influence each other when viewed side by side.

But it was not until Isaac Newton came along in the 17th century that the fundamentals for understanding human colour perception were defined – not only because he described a beam of light's path through a prism, but because he also understood the psychological component of colour vision. Goethe's thoughts on the topic of colour stretch back to the 18th century. His colour system was based on the notion that blue and yellow are not actually pure colours, but instead represent the opposing forces of light and dark (blue = darkness, yellow = lightness). All other colours then lie between these two poles. Modern colour theory is still based on these concepts today and plays an important role in more than just the painting and varnishing trade.



siasponge grade

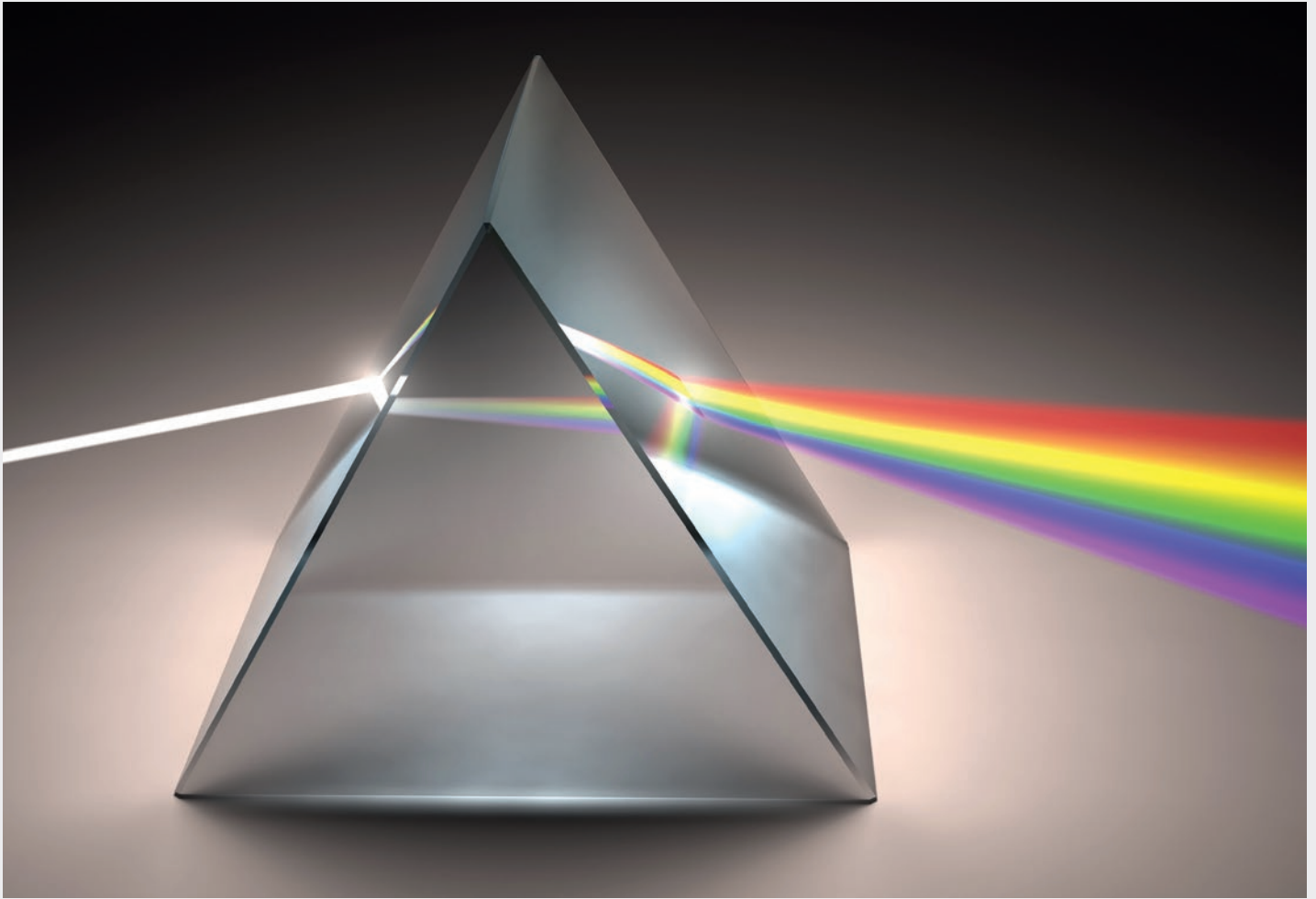


The siasponge colour concept

The grit range classifications used for siasponge products are based on colour theory. The various grades of foam abrasives have been subdivided based on the colours of the spectrum here.

The coarsest abrasives (medium) are therefore orange, working all the way down to the finest grit (microfine), which comes in violet.

Foam colour	Grade	Old product	Application examples
Orange	medium	K280, medium	Keying of plastics/composites prior to application of primer
Yellow	fine	K500, fine	Keying of primer coats prior to application of filler
Green	superfine	K800, extrafine	Fine sanding of filler (in hard-to-reach areas)
Blue	ultrafine	K1000, superfine	Intermediate lacquer sanding
Violet	microfine	K1500, microfine	Matting of paint or varnish



The colours of the spectrum

Back in the 17th century, Isaac Newton was able to demonstrate the splitting of "white" light into the colours of the spectrum. As a light beam strikes a prism, the various wavelengths are refracted to varying degrees. This made it possible to demonstrate that white light is a mix of a large number of individual colours. Spectral colours are pure light of one wavelength and the most intense, pure colour in each tone. This is how we get the light spectrum from red, through orange, yellow, green and blue, all the way up to violet.

Comparison test of siasponge grades with 1950 siaspeed grit ranges

siasponge soft pad (EVA / PU-FOAM)											microfine	microfine	
									ultrafine			ultrafine	
							superfine					superfine	
													fine
													medium
1950 siaspeed	180	240	280	320	400	500	600	800	1000	1200	1500		

Comparison test under the following conditions:

Test method: LTM9.0 – sia Abrasives application simulation
 Test equipment: 59.275/Berta, Material: DuPont™ Corian®
 Surface roughness measurement (Rz) as per DIN EN ISO 4287

Advantages of foam as a carrier material

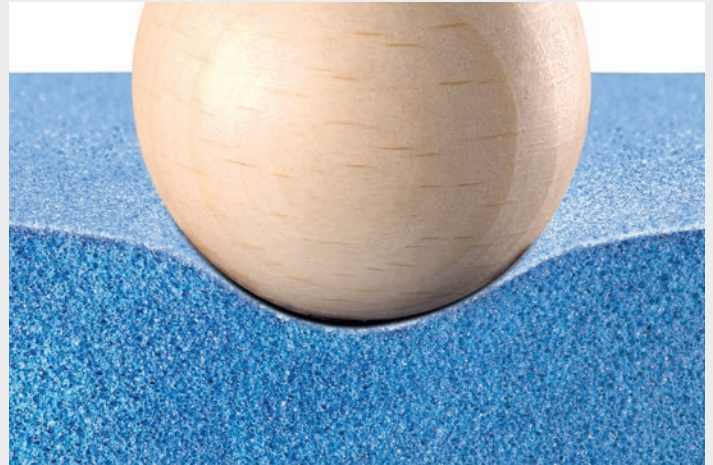
Maximum conformability

Due to their conformability, foam abrasives are the ideal choice for areas that are difficult to access and have profiled surfaces.

Hard-to-reach areas, such as door handle depressions, bumpers and radiator grilles, are ideal fields of application for the siasponge. Unlike conventional sandpaper, foam abrasives can be folded without creating permanent creases, which allows a more consistent surface finish due to improved grain consistency without swirl marks.

The benefit for you:

- Moulds itself to the work piece, also when sanding hard-to-reach areas
- No damage to the surface due to folds, kinks or ridges



Optimised pressure equalisation

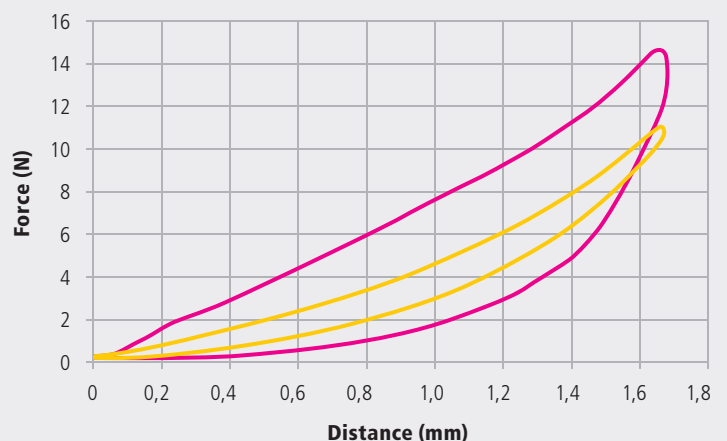
When sanding with foam abrasives, the focus is not on removing as much material as possible, but rather on optimising the surfaces. It is vital to achieve an absolutely smooth and even result when preparing surfaces for subsequent painting or varnishing. If the goal is to achieve a perfect work-piece surface finish with low scratch depth, using conventional sandpaper can be too aggressive or result in an uneven finish. Using foam as a carrier material in conjunction with a flexible binder resin, the applied force is dissipated throughout the 3-D structure creating a more consistent and even pressure of grit on substrate.

The abrasive grain then does not cut into the substrate as deeply and breaks off less. As such, less material is removed and no sanding through of the material occurs at the edges. Instead, we achieve a more consistent surface.

The benefit for you:

- Perfect surface finishes thanks to pressure-distributing foam
- No undercutting in intermediate sanding due to application of excess pressure

Pressure distribution of foams



- **PU foam** (e.g. 7970 siasponge soft)
- **EVA foam** (e.g. 7972 siasponge soft)

The larger the area between the curves, the more local energy is absorbed and transmitted uniformly. However, if the two curves are almost superimposed on top of one another, the pressure is transmitted directly to the surface being sanded.

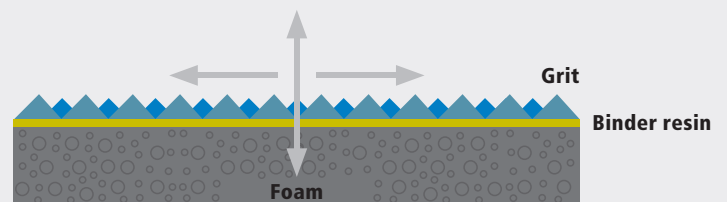
Low clogging thanks to the 3D effect

The combination of a more flexible binder and soft carrier material has further improved the clogging characteristics of foam abrasives.

Due to the new flexible binder and optimised abrasive grain distribution, improved 3D flexing means sanding dust is continuously removed from the sanding face leading to longer life.

The benefit for you:

- Longer useful life thanks to less clogging
- Suitable for multiple uses



Sustainable and user-oriented



With a view to sustainable production processes, solvent-free binder resins are used in the manufacture of siasponge abrasive sponges. sia Abrasives is therefore committed to avoiding health and environmental risks, reducing unpleasant odours at the workplace and reducing potentially hazardous or explosive vapours.

The advantages of siasponge at a glance:

- Never mix up your sanding grits again
- Highly flexible
- No discolouration of the grit side
- No bulging of the pad corners
- No acrid solvent odour
- No folds, no bends
- Consistent scratch pattern due to improved grain consistency
- Suitable for highly versatile deployments with plastics, composites, paints, varnishes, old lacquers, fillers, primers



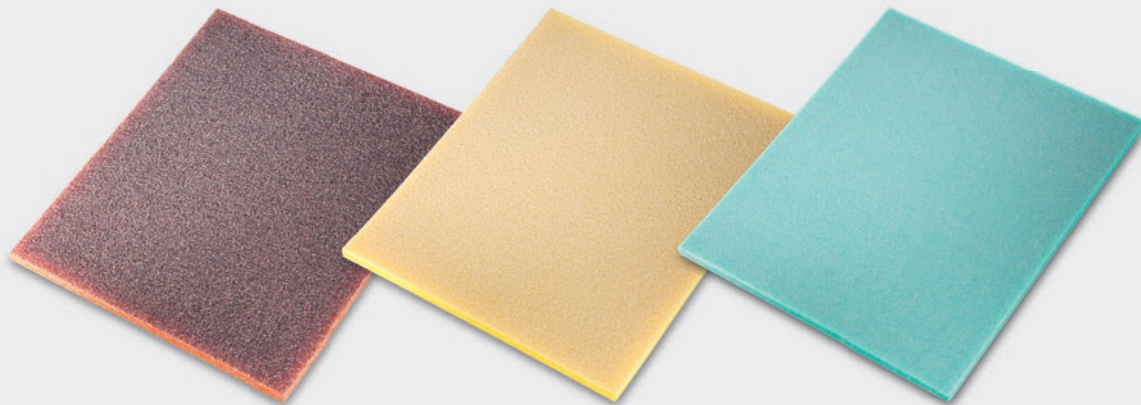
7970 siasponge soft pad (PU)

For wet sanding applications

The siasponge soft pad is also ideal for sanding hard-to-reach areas, such as radiator grilles, door handle depressions or bumpers. The pressure-distributing foam is ideally suited to wet sanding applications and delivers a perfect surface finish even in the finest grit ranges.

Product profile

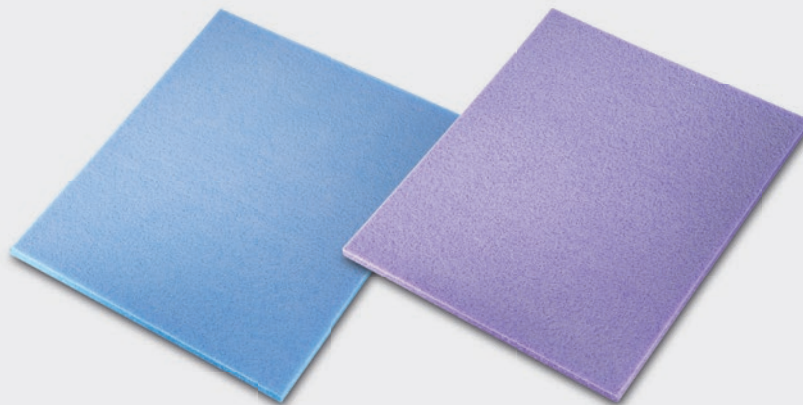
Dimensions:	115 x 140 x 5 mm
Coating:	Single-sided
Grit type:	Aluminium oxide
Binder resin:	Flexible
Carrier material/backing:	PU (polyurethane) – open foam structure



siasponge soft pad
medium

siasponge soft pad
fine

siasponge soft pad
superfine



siasponge soft pad
ultrafine

siasponge soft pad
microfine

Dry, damp and wet sanding applications

- Sanding of plastics prior to application of primer
- Keying of primer coats prior to application of filler
- Fine sanding of filler
- Keying without changing the surface shape
- Producing a matt finish on varnishes or paints
- Intermediate lacquer sanding

Advantages of PU foam

- Can be used wet or dry
- Pressure is distributed uniformly
- Highly flexible

Product	Foam colour	Grade	Article ID 20 pcs. (dispenser)	Article ID 250 pcs. (bulk pack)
Pad	Orange	medium	0070.1131.01	0070.1131.02
	Yellow	fine	0070.1132.01	0070.1132.02
	Green	superfine	0070.1134.01	0070.1134.02
	Blue	ultrafine	0070.1135.01	0070.1135.02
	Violet	microfine	0070.1136.01	0070.1136.02



Manual sanding of hard-to-reach areas
e.g. wet sanding of paintwork repair spots



Manual sanding of contours and edges
e.g. wet matting of painted car body parts

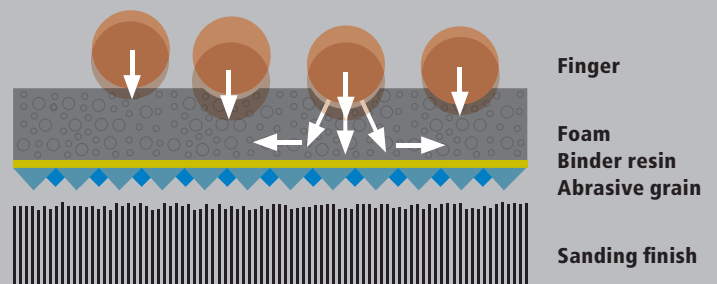


Manual sanding of special shapes and contours
e.g. preparation for painting over composites, wet sanding

Optimum distribution of applied pressure

The airy and open cell structure of PU foam allows the contact pressure applied to be more evenly distributed than when using EVA foam or conventional sandpaper.

The pressure exerted by the fingers is dissipated more evenly by PU foam giving a more consistent finish in comparison with classic abrasives. This means "fingerprints" or traces of over/under sanding can be avoided.



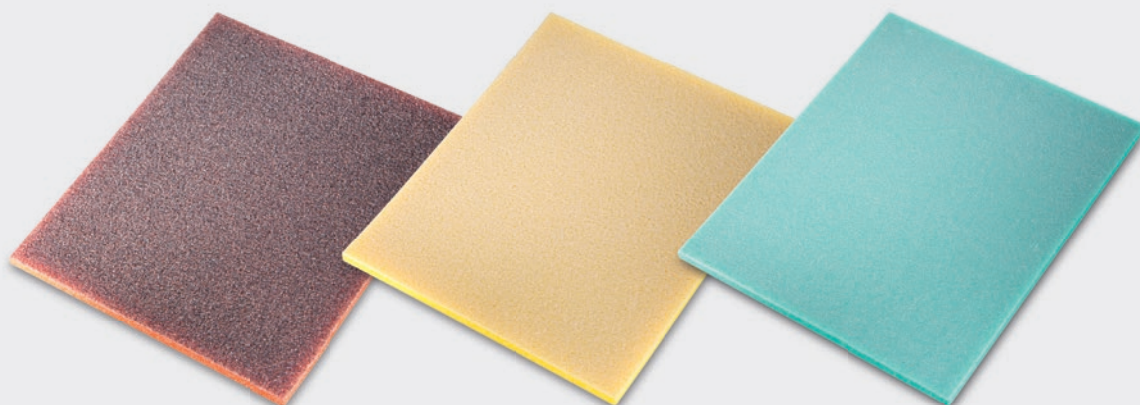
7972 siasponge soft pad (EVA)

For dry sanding applications

The siasponge soft pad is ideal for sanding difficult-to-reach areas, such as radiator grilles, door handle depressions or bumpers. Unlike conventional sandpaper, the soft pad can be folded without creating permanent folds or kinks. This prevents damage to the varnish or paint.

Product profile

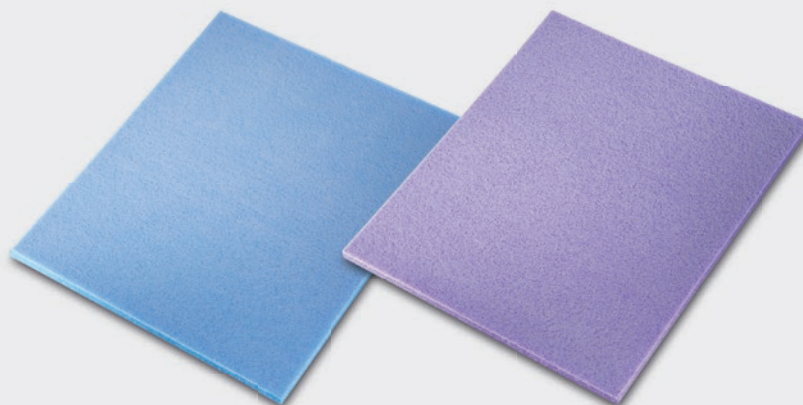
Dimensions:	115 x 140 x 5 mm
Coating:	Single-sided
Grit type:	Aluminium oxide
Binder resin:	Flexible
Carrier material/backing:	EVA (ethyl vinyl acetate) – closed foam structure



siasponge soft pad
medium

siasponge soft pad
fine

siasponge soft pad
superfine



siasponge soft pad
ultrafine






siasponge soft pad
microfine

Dry sanding applications

- Sanding of plastics prior to application of primer
- Keying of primer coats prior to application of filler
- Fine sanding of filler
- Keying without changing the surface shape
- Producing a matt finish on varnishes or paints
- Intermediate lacquer sanding

Advantages of EVA foam

- Improved tear-resistance
- For machine-based deployments
- Highly flexible

Product	Foam colour	Grade	Article ID 20 pcs. (dispenser)	Article ID 250 pcs. (bulk pack)
Pad	 Orange	medium	0070.1137.01	0070.1137.02
	 Yellow	fine	0070.1138.01	0070.1138.02
	 Green	superfine	0070.1140.01	0070.1140.02
	 Blue	ultrafine	0070.1141.01	0070.1141.02
	 Violet	microfine	0070.1142.01	0070.1142.02



Manual sanding of contours and edges
e.g. preparation for painting over painted workpieces, dry sanding



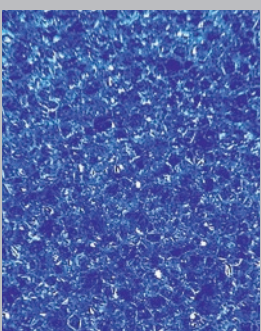
Manual sanding of hard-to-reach areas
e.g. keying/sanding out of plastic parts, intermediate sanding of hard-to-reach areas, dry sanding



Manual sanding of special shapes
e.g. preparation for painting over composites, dry sanding

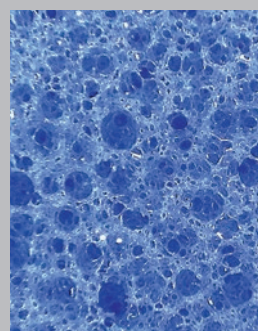
Tip

How can I tell whether a pad is an EVA foam or PU foam pad?



EVA foam:

- Closed-pore structure
- Softer; you can immediately feel the base layer
- Tear-resistant
- Becomes wet and slippery in contact with water
- The serial number 7972 is printed on the back of the sponge
- Becomes deformed when exposed to heat in excess of 120 °C



PU foam:

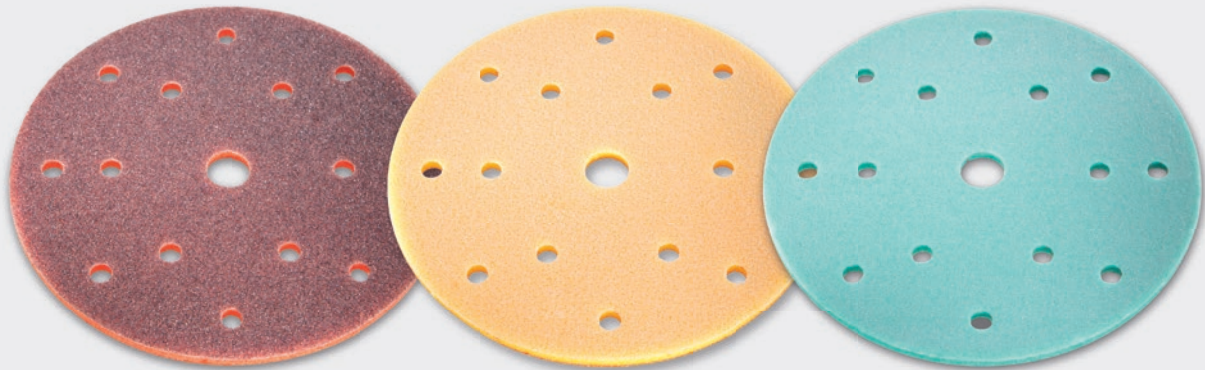
- Open-pore structure
- Harder; pressure is distributed more effectively
- Does not become wet or slippery in contact with water
- The serial number 7970 is printed on the back of the sponge
- More heat-resistant

The flexible foam disc for dry, damp and wet sanding applications

Not only can the siasponge soft disc be used both wet and dry, its closed-pore foam structure also allows it to adapt flexibly to any contour, which in turn reduces the risk of tears and sanding through the material. In addition to this, it can be placed directly onto the machine without the need for an intermediate pad.

Product profile

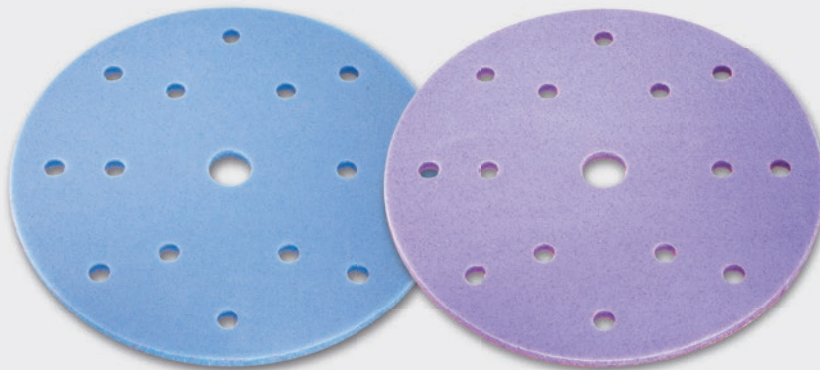
Dimensions:	Ø 150 x 5 mm, 15-hole
Coating:	Single-sided
Grit type:	Aluminium oxide
Binder resin:	Flexible
Carrier material/backing:	EVA (ethyl vinyl acetate) closed foam structure
Back:	Velour (red)



siasponge soft disc
medium

siasponge soft disc
fine

siasponge soft disc
superfine



siasponge soft disc
ultrafine

siasponge soft disc
microfine

Dry, damp and wet sanding applications

- Fine sanding of bodyfiller
- Smoothing down filler
- Matting of varnishes
- Sanding of composite parts
- Intermediate lacquer sanding
- Wet and dry sanding

Advantages of foam discs

- No intermediate pad required
- Can be used wet or dry
- Low risk of sanding through on edges
- Adapts to fit any contour
- Less tearing

Product	Foam colour	Grade	Article ID	Sales package qty
Disc	Orange	medium	0070.1153.01	20 pcs.
	Yellow	fine	0070.1154.01	
	Green	superfine	0070.1156.01	
	Blue	ultrafine	0070.1157.01	
	Violet	microfine	0070.1158.01	



Machine applications for shapes and contours

e.g. final filler finish sanding prior to painting car body parts, dry sanding



Machine sanding of rounded areas

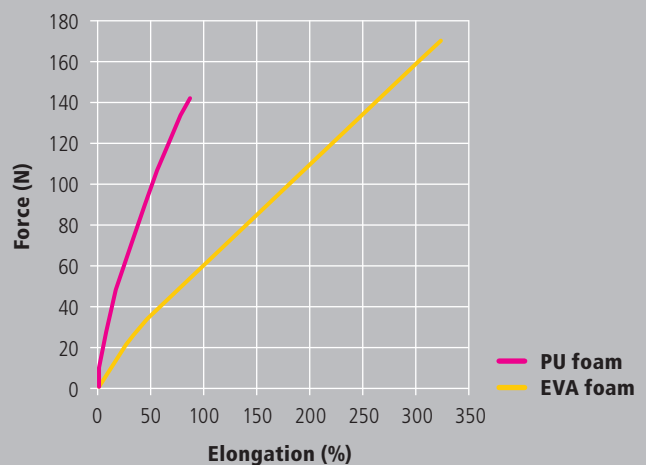
e.g. cleaning and polishing bowling balls, wet or dry sanding

Tear-resistance of various foams

Two key distinguishing features of foam abrasives are their tear-resistance and edge stability. Thanks to its closed cell structure, EVA foam boasts greater tear-resistance and toughness than PU foam. In addition, it also offers lower distribution of energy than (open cell structure) PU foam – please also refer to the illustration on page 7.

The illustration on this page shows typical elongation properties of our PU and EVA foam as a function of applied force.

Tear-resistance / Edge stability





Your Key to a Perfect Surface

www.sia-abrasives.com