



SMART-X[®]

PRODUCT GUIDE

DISTINCTIVE AND UNIQUE FOR SOPHISTICATED ADVERTISING.



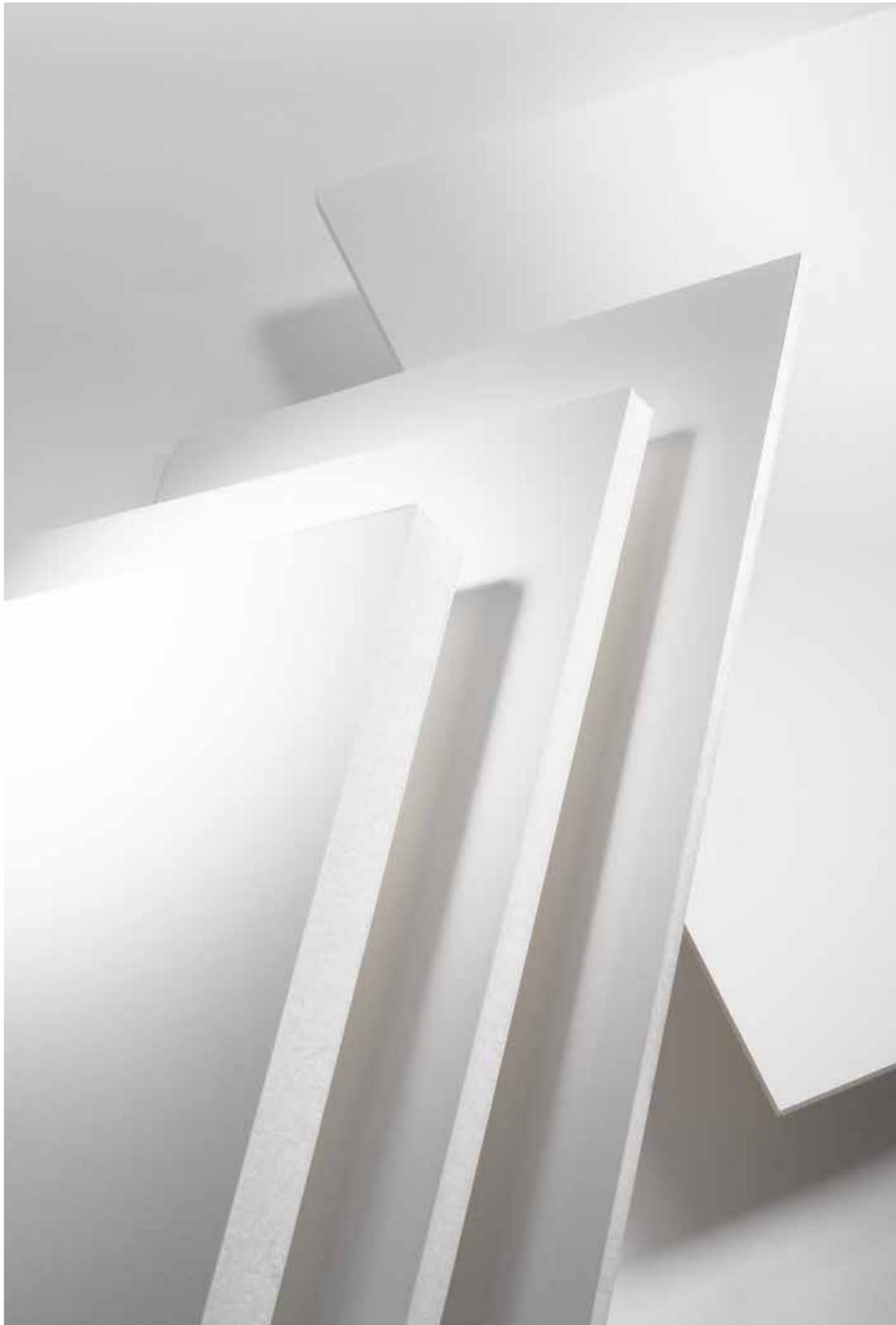


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SMART-X®

SMART-X® is a distinctive lightweight foam board for demanding visual communication applications.

This extremely lightweight foam board with weather and UV-resistant cover layers in impact-resistant solid polystyrene (HIPS) and a core of expanded polystyrene is completely insensitive to moisture. These properties mean that it is a lightweight material which can be used in outdoor applications for a period of up to two years without significant colour change.

SMART-X® is also an optimal substrate for direct digital printing due to its smooth surface structure and availability in large formats (up to 2 metres wide).

Thanks to the excellent ratio of extremely low weight and high rigidity and flatness, SMART-X® is ideal for the following two-dimensional applications: All types of signage, self-supporting, free-standing structures, lifesized fashion displays.

Sustainable involvement and environmental protection have always been amongst the essential corporate objectives at 3A Composites. The minimisation of risks for man and environment as well as the reduction of environmental pollution through careful and efficient utilisation of resources is part of the corporate philosophy.

Our production site in Sins, Switzerland is certified to DIN EN ISO 14001, the standard defining internationally recognised requirements for environmental management. In addition, one of our key aims is the strong linkage of the management systems for quality (DIN EN ISO 9001), health and safety (DIN ISO 45001) and energy management (DIN EN ISO 50001).

Ongoing efforts to reduce CO₂ emissions by scaling back energy and water consumption, increasing productivity and avoiding waste are being made at the SMART-X® production site. By 2023, 100% of the plant's electricity will be created by hydropower. In the coming years, we will be investing more e.g. in solar plants which will provide approximately 10% of the site's energy needs.

Read more about our commitment to sustainability starting on page 8.

SMART-X® – DISTINCTIVE AND UNIQUE FOR SOPHISTICATED ADVERTISING.

SMART-X[®]

DISTINCTIVE AND UNIQUE FOR SOPHISTICATED ADVERTISING.

CHARACTERISTICS

- High stability and very low weight
- Very good resistance to weathering – with high UV stability and humidity resistance, no deformation
- Refined surface structure
- Brilliant printing results with direct digital printing
- Also available in 2 metres width
- Temperature resistance from -10°C up to +70°C
- Low resistance during contour milling



APPLICATIONS

- Displays (POS / POP)
- Signage | Lettering
- Corporate Identity
- Shop design | Shop window decoration
- Interior design | Furniture
- Partitions | Cladding
- Exhibition design and construction
- Short term promotional campaigns



PROCESSING

- Digital printing | Screen printing
- Laminating
- Painting | Spray painting
- Lacquering
- Contour milling
- Laser cutting
- Sawing
- Gluing
- Drilling
- Screwing
- Folding (V-groove) | Cold bending



SMART-X [®]				
Thickness		5 mm	10 mm	19 mm
Weight of sheet (nominal)		1 kg/m ²	1.90 kg/m ²	3 kg/m ²
Flexural strength	ISO 178	10 MPa	7 MPa	5 MPa
E-modulus (in flexure)	ISO 178	600 MPa	400 MPa	200 MPa
Max. service temperature	–	up to 70°C		
Coefficient of linear expansion	ISO 11359	0.08 mm/(mK)		
100% homogeneous polystyrene – recyclable				

Note: These technical data of our products are typical ones for SMART-X[®]. The actually measured values are subject to production variations.



For more details on the processing of SMART-X[®], please contact our technical team.

SUSTAINABILITY

MISSION: TOGETHER. RESPONSIBLE.

Sustainability is at the core of everything we do. Our corporate ecological commitment is summed up by the **MISSION: TOGETHER. RESPONSIBLE.** As we also apply and comply with this mission in regard to our products, we have created a classification system. The five different categories in our **FIVE-DOT-MISSION** system indicate the factors with the greatest impact on sustainability. Our intention is to offer our partners guidance with their purchasing decision-making and to provide a transparent system. A system which focuses on the use of materials, the CO₂ content, the product life cycle and, of course, recycling, a topic of particular relevance for our products. Our FIVE-DOT-MISSION makes an assessment of a product on the basis of five categories and awards points per category, the product is then assigned to one of the five coloured DOTs. By this means we achieve a transparent, quick valuation logic which we can also use to gauge product innovation and improvement at 3A Composites.

THE FIVE-DOT CATEGORIES ARE:

1. BIOBASED CONTENT
Depending on the product, different raw materials are used to manufacture our panels. In this case, we look at the percentage of renewable raw materials used in our products. Our aim is to increase the percentage whenever possible and appropriate.

2. RECYCLED CONTENT
The industry selects recycled raw materials for use in the manufacture of new products which also fulfil requirements such as fire ratings, processing prerequisites and customer expectations in terms of functionality and appearance. This category is where we gauge the proportion of high quality recycled raw material in our products' total material input.

3. FOSSIL CO₂ BOUND IN THE MATERIAL
This category shows the weight of fossil CO₂ embedded in our panels. Differences here are principally due to the raw material type and origin, the density, the composition and the proportion of recycled content.

4. PRODUCT LIFE CYCLE
The plastic sheets and composite panels we produce are used by our customers for a longer period of time. In contrast to products used in the short term, these longer-term alternatives make an active contribution to saving resources. In this category we show our panels' average service life. Material properties result in disparities, so life cycles range from <1 year to even >30 years.

5. RECYCLABILITY
One of the most important aspects of sustainability is contributing to environmental protection by saving valuable raw materials and avoiding waste. Unlike the second category "recycled content", in this assessment category, we show options for recycling the panels after they have been in use. There are already, for instance, established recycling loops for paper and metals. At some production sites, the material can already be returned, so that material for new panels can be created from it. As a company, we came to the conclusion that thermal recycling does not seem sustainable enough, so it is not included in our FIVE-DOT classification. Instead, we are actively working with partner companies to establish a closed-loop, sustainable and future-oriented recycling economy.

As many as 3 points can be achieved in each of the categories presented, totalling a maximum of 15 points. According to the total number of points achieved (1-15), the FIVE-DOT classification is conducted using the following colour gradation.



Transparency is important to us! We will review the product assessment annually to see in which areas the product can be improved. We have set ourselves the goal of achieving the majority of our sales with products which achieve a rating of ≥ 7 points in the FIVE-DOT classification by 2030.

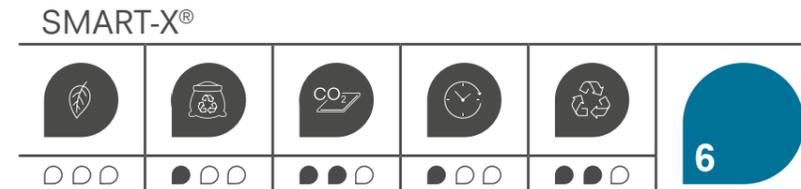
Join us on our sustainable mission!



SUSTAINABILITY

SMART-X® FIVE-DOT-MISSION

SMART-X®, the distinctive lightweight foam board for demanding visual communication applications, has been assessed in line with the criteria described above. The product currently achieves a FIVE-DOT classification with a total of 6 points.



RECYCLED CONTENT
 In the manufacture of SMART-X® foam boards, we are already using a proportion of recycled polystyrene material. The production processes have been optimised to ensure waste from the production is recovered at the site itself, processed externally before being fed back into the production process.

All raw materials used in our SMART-X® foam boards comply with the requirements in the current version of the European Union's Chemicals Regulation (REACH). In particular, SMART-X® foam boards are free of any of the substances listed in the current version of the ECHA Candidate List of Substances of Very High Concern (SVHC).

FOSSIL CO₂ BOUND IN THE MATERIAL
 SMART-X® foam boards offer advantages in terms of weight and, at the same time, a high degree of stability due to their unique structure of an expanded polystyrene core and impact-resistant polystyrene cover sheets. As the foam core is the main component of the product, fewer resources are required for manufacture and the material has a lower carbon footprint.

PRODUCT LIFE CYCLE
 SMART-X® foam boards are extremely light and ideal for both indoor and outdoor purposes. Popular applications include free-standing POS/POP displays or as a printing substrate for all signage types and formats (even up to 2 m wide). In outdoor applications over a period of up to two years, the material's special properties ensure there are no adverse effects on product performance.

RECYCLABILITY
 Our SMART-X® range is made up of 100% pure polystyrene meaning this mono-material is outstandingly adapted to recycling. In recent years, we have continually optimised our production process to recover and reuse our SMART-X® production waste on site and to feed it back into the manufacturing process.



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