BUILDING TRUST

PRODUCT DATA SHEET

Sika® Crystal Clear MS

Transparent adhesive and sealant

DESCRIPTION

Sika® Crystal Clear MS is a 1-part, multipurpose transparent adhesive and sealant with good initial grab which bonds and seals most construction material substrates.

USES

- An adhesive to bond most construction components and materials such as:
  - Concrete
  - Masonry
  - Most stones
  - Ceramic
  - Wood
  - Metals
  - Glass
  - PVC
- A sealant to seal around bonded components.
- Interior and exterior sealing and bonding applications (refer to the 'Important Considerations' section)

CHARACTERISTICS / ADVANTAGES

- Transparent Glass-like clarity
- MS Technology
- Good initial grab
- Very low emissions
- Easy to tool and finish
- Paintable
- Excellent adhesion
- Solvent free
- Isocyanate free
- Virtually odourless
- Non-corrosive

ENVIRONMENTAL INFORMATION

- Conformity with LEED v4 EQc 2: Low-Emitting Materials
- VOC emissions classification GEV-EMICODE EC 1PLUS
- Class A+ according to French Regulation on VOC emissions

APPROVALS / STANDARDS

- CE Marking and Declaration of Performance to EN 15651-1 - Sealants for non-structural use in joints in buildings - Facade elements: Class F EXT-INT 20HM

PRODUCT INFORMATION

Chemical Base	Silane terminated polymer	
Packaging	300 ml cartridges, 12 cartridges per carton	
Colour	Transparent	
Shelf Life	Twelve (12) months from date of production when stored as stated.	
Storage Conditions	Store in cool, dry conditions, out of direct sunlight at temperatures between + 5 °C and + 25 °C.	
Density	~1.05 kg/l	(ISO 1183-1)

TECHNICAL INFORMATION

Shore A Hardness	~48 (after 28 d)	(ISO 868)
Tensile Strength	~2.5 N/mm²	(ISO 37 - rod 1)
Elongation at Break	400 %	(ISO 37 - rod 1)
Tear Propagation Resistance	~4.0 N/mm (ISO 34)	
Service Temperature	–40 °C min. / +70 °C max.	

APPLICATION INFORMATION

Backing Material	Use closed cell polyethylene foam backing rod (PEF Rod)
Sag Flow	0 mm (20 mm profile, 23 °C)
Ambient Air Temperature	+5 °C to +40 °C.
Substrate Temperature	+5 °C min. / +40 °C max., min. 3 °C above dew point temperature
Curing Rate	~3 mm/24 h (23 °C, 50 % r.h.)
Skin Time	~10 minutes (+23 °C, 50 % r.h.)

BASIS OF PRODUCT DATA

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

FURTHER DOCUMENTS

- Pre-Treatment Sealing and Bonding Chart

LIMITATIONS

- For good workability, the adhesive temperature must be +20°C
- Application during high temperature changes is not recommended (movement during curing).
- Do not use for structural window glazing.
- Do not use in joints subject to movement over 20%.
- Sika® Crystal Clear MS can be overpainted with most conventional water-based coating and paint systems. However, paints must first be tested to ensure compatibility by carrying out preliminary trials. The best over-painting results are obtained when the adhesive is allowed to fully cure first. Note: non-flexible paint systems may impair the elasticity of the adhesive and lead to cracking of the paint film.
- Do not use in exterior applications exposed to UV radiation. If exposed to UV, Sika® Crystal Clear MS must be overpainted.
- If used on natural stone the clarity of the product will cause the surface to look wet which may be mistaken for staining. For this reason Sika® Crystal Clear MS should not be used on natural stone.
- When used to bond mirror glass to other substrates the mirror must be supported while the adhesive cures. e.g use double sided tape in strips on the rear of the mirror. When bonding mirrors to Plasterboard walls mechanical fasteners should also be used.
- Always use Sika® Crystal Clear MS in conjunction with mechanical fixings for overhead applications or heavy components.
- For very heavy components, provide temporary support until Sika® Crystal Clear MS has fully cured.
- Do not use to seal structures that are permanently immersed in water, such as fish tanks.
- Do not use to seal joints in and around swimming pools.
- Do not use for joints under water pressure or for permanent water immersion.
- Do not use to seal glass or in floor or sanitary joints.
- Do not use for bonding glass if the bond line is exposed to sunlight/ UV radiation.
- Do not use as a weather or roofing sealant.
- Do not use for structural bonding.
- Do not use on wet porous surfaces such as concrete and wood.
- Do not use where abrasion or physical attack can be expected.
- Sika® Crystal Clear MS can be used on a wide variety of substrates but we recommend preliminary compatibility tests if any doubt regarding suitability exists.
- Do not use on bituminous substrates, natural rubber, EPDM rubber or on any building materials which might leach oils, plasticisers or solvents that could degrade the adhesive.
- Do not use on plastics such as polycarbonate in stress loaded applications, as this can cause stress cracking and crazing in the substrate.
- Do not use on polyethylene (PE), polypropylene (PP), polytetrafluoroethylene (PTFE / Teflon) and certain plasticised synthetic materials. Preliminary trials must be carried out.
- Do not expose uncured Sika® Crystal Clear MS to alcohol containing products as this may interfere with the curing reaction.
- Full surface applications/fixings are not recommended since the inner part of the adhesive layer may never cure.

ECOLOGY HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION

The substrate must be sound, clean, dry and free of all contaminants such as dirt, oil, grease, cement laitance, old sealants and poorly bonded paint coatings which could affect adhesion of the adhesive / sealant. The substrate must be of sufficient strength to manage with the stresses induced by the sealant during movement.
Removal techniques such as wire brushing, grinding, sanding or other suitable mechanical tools can be used.
All dust, loose and friable material must be completely removed from all surfaces before application of any activators, primers or adhesive / sealant. For optimum adhesion, joint durability and critical, high performance applications the following priming and/or pretreatment procedures must be followed:
Non-porous substrates
Aluminium, anodised aluminium, stainless steel, galvanised steel, powder coated metals or glazed tiles, slightly roughen surface with a fine abrasive pad.
Clean and pre-treat using Sika® Aktivator-205 applied with a clean cloth. Before bonding / sealing, allow a waiting time of > 15 minutes (< 6 hours).
Other metals, such as copper, brass and titanium-zinc, clean and pre-treat using Sika® Aktivator-205 applied with a clean cloth. After a waiting time of > 15 minutes (< 6 hours). Apply Sika® Primer-3 N applied by brush. Allow a further waiting time of > 30 minutes (< 8 hours) before bonding / sealing.
PVC has to be cleaned and pre-treated using Sika® MultiPrimer Marine applied with a brush. Allow a waiting time of > 15 minutes (< 8 hours) before bonding / sealing.
Porous substrates
Concrete, aerated concrete and
cement based renders, mortars and bricks, prime surface using Sika® Primer-3 N applied by brush. Before bonding / sealing, allow a waiting time of > 30 minutes (< 8 hours). For more detailed advice and instructions contact Sika Technical Services.
Note: Primers are adhesion promoters and not an alternative to improve poor preparation / cleaning of joint surfaces. Primers also improve the long term adhesion performance of a sealed joint.

APPLICATION METHOD / TOOLS

- Cut tip off cartridge. Cut nozzle to desired size at 45° angle. Screw nozzle onto cartridge. Place cartridge into Sika caulking gun.
- Hold gun at 45° angle with nozzle in contact with both sides of joint.
- **Joints:** Apply sealant by pushing sealant ahead of nozzle, thus ensuring sealant is pushed firmly into place.
- **Bonding:** Apply to one of the substrates to be bonded and position together. Make sure enough adhesive is placed in the bond and avoid squeezing adhesive out when joining surfaces together.
- Smooth or remove excess adhesive/sealant by tooling immediately with a spatula dipped in turpentine to give a neat finish.
- Sika® Crystal Clear MS will skin in approximately 10 minutes. Maximum toughness is achieved over several days.

CLEANING OF TOOLS

Wipe off any uncured excess sealant immediately, and clean up with Sika Thinner C, mineral turpentine or Sika Wonder Wipes. Cured material can only be removed mechanically.

LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request. It may be necessary to adapt the above disclaimer to specific local laws and regulations. Any changes to this disclaimer may only be implemented with permission of Sika® Corporate Legal in Baar.

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