BUILDING TRUST

PRODUCT DATA SHEET

SikaMelt®-673

Multi-purpose polyurethane Hot Melt for Sandwich Panel Bonding

TYPICAL PRODUCT DATA (FURTHER VALUES SEE SAFETY DATA SHEET)

Chemical base		Polyurethane
Color (CQP001-1)		Red
Cure mechanism		Moisture curing
Density (uncured)		1.2 kg/l (10.0 lbs/gal)
Viscosity (by Brookfield)	130 °C (266 °F)	12 500 mPa·s
Softening temperature (CQP538-5)		72 °C (162 °F)
Application temperature		120 – 140 °C (248 – 284 °F)
	short term max. 1h	150 °C (302 °F) [A]
Open time (CQP559-1)		Long
Curing time (CQP558-1)		22 h
Green strength (CQP557-1)		0.3 MPa (45 psi)
Shore D hardness (CQP023-1 / ISO 48-4)		72
Tensile strength (CQP036-3)		9 MPa (1300 psi)
Shelf life		9 months

CQP = Corporate Quality Procedure

A) Only valid for nozzle

DESCRIPTION

SikaMelt®-673 is a reactive polyurethane hot melt adhesive designed to bond various substrates and mainly used for sandwich panel bonding. It cures on exposure to atmospheric humidity.

PRODUCT BENEFITS

- Very long open time
- High green strength
- Broad adhesion range
- Excellent heat resistance after moisture curing
- Exceptional aging resistance

AREAS OF APPLICATION

SikaMelt®-673 is suitable for permanent bonding of polar plastics as well as for wood, foam, textiles, painted and primed steel. Non polar plastics like PP and PE can be bonded after proper physical pre-treatment. It is used for interior trim lamination as well as for Sandwich Panel applications.

This product is suitable for professional experienced users only. Test with actual substrates and conditions have to be performed to ensure adhesion and material compatibility.

CURE MECHANISM

SikaMelt®-673 cures by reaction with atmospheric moisture. At low temperatures the water content in the air is lower, which will result in a lower curing speed (see diagram 1). When bonding hydrophobic (e.g. PP) and/or moisture impermeable substrates a significantly longer curing time has to be taken into account.
This applies especially on assembly applications with an adhesive thickness > 100 µm (4 mils). For lamination applications of hydrophobic and/or moisture impermeable substrates the adhesive layer shall not exceed 100 µm (4 mils). In such cases project related tests with original substrates and conditions are mandatory.

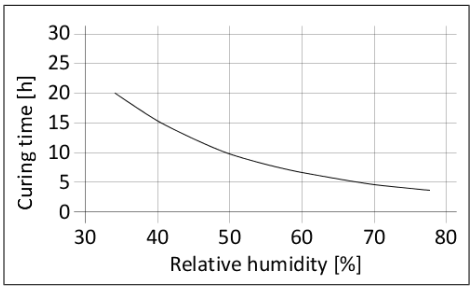

Diagram 1: Curing time for 500 µm (20 mils) film

CHEMICAL RESISTANCE

SikaMelt®-673 is resistant to aqueous surfactant, weak alkaline/acids solutions and temporarily resistant to fuels, solvents and mineral oils.
The chemical resistance is influenced by several factors such as chemical composition, concentration, period of exposure and temperature. Therefore, in cases of chemical or thermal exposure, project related testing is required.

METHOD OF APPLICATION

Surface Preparation

Surfaces must be clean, dry and free from grease, oil and dust.
Based on the surface and type of material, a physical or chemical pre-treatment might be required. Type of pre-treatment must be determined by tests. For metals, best results are achieved if substrates are heated up between 40 and 60 °C (104 and 140 °F) prior to the assembling process.

Application

With adequate processing equipment SikaMelt®-673 can be applied as film, dot, bead or spray application. For automated applications a suitable filter system is required.
To meet the required application properties the adhesive viscosity can be adjusted by changing the application temperature (see table Typical Product Data).
During breaks SikaMelt®-673 is to be processed as follows:
For breaks ≥ 1 h the heating needs to be lowered to 80 °C (176 °F) and for breaks ≥ 4 h the heating needs to be switched off.
To guarantee a constant quality during the whole production process it is mandatory to protect the adhesive in the melting tank with nitrogen, carbon dioxide or dried air (to avoid possible reaction of the product with humidity).
At breaks or shut downs dip nozzle in dried oil in order to prevent curing of the adhesive (avoid blockage).
For advice on selecting and setting up suitable processing equipment contact the System Engineering Department of Sika Industry.

Removal

Equipment and application tools can be cleaned with SikaMelt®-009 or a suitable cleaner. Cured material can for cleaning purposes be swelled with SikaMelt®-001 or a comparable alternative and needs to be removed mechanically. SikaMelt®-673 may be removed from tools and equipment with Sika® Remover-208 or another suitable solvent.
Hands and exposed skin have to be washed immediately using a suitable industrial hand cleaner and water.
Do not use solvents on skin.

STORAGE CONDITIONS

SikaMelt®-673 has to be stored at temperature below 30 °C (86 °F) in a dry place.
For transportation purposes, the storage temperature can be exceeded for a period of max. 2 weeks up to 60 °C (140 °F).

FURTHER INFORMATION

The information herein is offered for general guidance only. Advice on specific applications is available on request from the Technical Department of Sika Industry.
Copies of the following publication are available on request:

- Safety Data Sheets

PACKAGING INFORMATION

Pail	20 kg
Bag (cardboard)	22 kg
Drum	200 kg

BASIS OF PRODUCT DATA

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

ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

LEGAL DISCLAIMER

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at usa.sika.com or by contacting SIKA's Technical Service Department via email at tsmh@us.sika.com. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.
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