BUILDING TRUST

PRODUCT DATA SHEET

SikaMelt®-670

Polyurethane Hot Melt for assembly applications

TYPICAL PRODUCT DATA (FURTHER VALUES SEE SAFETY DATA SHEET)

Chemical base		Polyurethane
Colour (CQP001-1)		White – beige
Cure mechanism		Moisture curing
Density (uncured)		1.2 kg/l
Viscosity (by Brookfield)	at 130 °C	22 000 mPa·s
Softening temperature (CQP538-5)		65 °C
Application temperature		100 – 160 °C
	short term max. 1 h	170 °C [A]
Open time (CQP591-1)		Short
Curing time (CQP558-1)		4 h
Green strength (CQP557-1)		2 MPa
Shore D hardness (CQP023-1 / ISO 48-4)		45
Tensile strength (CQP036-3)		25 MPa
Shelf life		9 months

CQP = Corporate Quality Procedure [A)] Only valid for nozzle

DESCRIPTION

SikaMelt®-670 is a reactive polyurethane hot melt adhesive which cures on exposure to atmospheric humidity. With its short open time, high green strength and broad adhesion range it is best suited for fast assembly operations.

PRODUCT BENEFITS

- High green strength
- Short open time
- Ideal for assembly operations
- Very good heat and ageing resistance after curing
- Broad adhesion range

AREAS OF APPLICATION

SikaMelt®-670 is especially designed for fast assembly applications in diverse areas. It 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. Typical application areas are Automotive interior trim and other industrial assembly operations.

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

CURE MECHANISM

SikaMelt®-670 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. For lamination applications of hydrophobic and/or moisture impermeable substrates the adhesive layer shall not exceed 100 µm. In such cases project related tests with original substrates and conditions are mandatory.

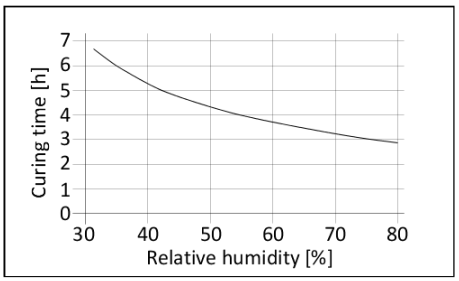

Diagram 1: Curing time for 500 µm film

CHEMICAL RESISTANCE

SikaMelt®-670 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 a project related testing in case of chemical or thermal exposure 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 preliminary tests.

For metals best results are achieved, if substrates are heated up between 40 °C and 60 °C prior the assembly process.

Application

With adequate processing equipment SikaMelt®-670 can be applied as film, dot, bead or spray application. It is not recommended for roller coater application.

For automated applications a suitable filter system is required.

To meet the required application properties the adhesive viscosity can be adjusted by adapting the application temperature (see table Typical Product Data).

During breaks SikaMelt®-670 is to be processed as follows:

For breaks ≥ 1 h the heating needs to be lowered to 80 °C 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. Cured material can for cleaning purposes be swelled with SikaMelt®-001 and needs to be removed mechanically (see also cleaning instruction).

SikaMelt®-670 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 hand wipes such as Sika® Cleaner-350H or a suitable industrial hand cleaner and water.

Do not use solvents on skin.

STORAGE CONDITIONS

SikaMelt®-670 has to be stored at temperature below 30 °C in a dry place.

For transportation purposes, the storage temperature can be exceeded for a period of max. 2 weeks up to 60 °C.

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 publications are available on request:

- Safety Data Sheets
- Cleaning Instruction
  For SikaMelt® PUR reactive hot melt equipment

PACKAGING INFORMATION

Bag	2.5 kg
Pail	20 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.

HEALTH AND SAFETY INFORMATION

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

DISCLAIMER

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