Provisional Product Data Sheet
Version 01 / 2008

SikaSense®-4305 (VP)

Laminating Adhesive for Plastics

Technical Product Data

Chemical base	Polyurethane
Curing agent (hardener)	SikaCure®-4900; -4901; -4901 BL; -4909
Color (CQP[1] 001-1)	White
Cure mechanism	Polyaddition
Density (uncured) (CQP 006-6)	1,05 kg/l approx.
pH-Value (CQP 004-1)	7 - 8
Viscosity, 20℃ / Brookfield RVT, Sp. 3 / 5 Rpm	40000 mPas approx.
Solid content (CQP 002-2)	40% approx.
Mix ratio (hardener per weight)	4 - 5 parts by weight curing agent to 100 parts by weight dispersion
Application temperature	15 - 25℃
Activation temperature	At least 55℃
Pot life (20℃)	8 h at least
Drying time (CQP 565-1) minimal[2] dried in drying tunnel at max. 50℃	45 min. approx. 10 min. approx.
Open time	At least 2 h after drying
Final bond strength[2]	3 days approx.
Shelf life (storage 5-25℃) SikaTherm® is sensitive to frost, store above +5℃. An excess of the recommended storage temperature during transport is not critical.	6 months

[1] CQP = Corporate Quality Procedure [2] 23℃ (73℉) / 50% r.h.

Description

SikaSense®-4305 (VP) is a ready to use waterborne two component PUR dispersion adhesive with high initial strength and very good resistance towards plasticizers.
SikaSense®-4305 (VP) is manufactured in accordance with ISO 9001 / 14001 quality assurance system and the responsible care program.

Product Benefits

- Easy positioning of the substrates at room temperature
- Contact bonding at room temperature possible
- No penetration into porous substrates
- Easy to use
- High initial strength
- Very good resistance against heat and weathering
- Very good resistance towards hydrolysis

Areas of Application

Important area of application is the production of interior trim parts for automotive and the bonding of decorative materials, especially leather and synthetic leather.
Suitable substrates are plastics, wood, cotton fibre or wood fibre carriers (MDF), decorative materials like compact or foamed foils of PVC, ASA, TPO or polyester and textiles, foam backed textiles, carpets and other flooring materials.
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

In the curing process of SikaSense®-4305 (VP) the first step is the drying, due to the evaporation of the solvent. This physical process is followed by chemical cross-linking (in a poly-additional reaction) with the curing agent. At room temperature the chemical curing is completed in about 72 hours. Higher temperatures increase, lower ones decrease the speed both of drying and the chemical reaction.

Method of Application

Surface preparation

The adhesion surfaces must be clean, dry and free of oils and fats. Release agents from the surface of the plastic parts must be removed with the help of suitable cleaners. To obtain wetting and good adhesion, the surface tension of plastic parts must be at least 38 mN/m.
Advice on specific applications is available from the Technical Service Department of Sika Industry.

Mixing

The usual mix ratio of SikaSense®-4305 (VP) (resin dispersion), in combination with SikaCure® (curing agent) is 100 parts by weight resin dispersion to 4 parts by weight curing agent. Slight increase of the curing agent amount to 5% results in an improved hydrolytic stability.

The curing agent is metered into the continuously stirred solution and then mixed with a mechanical mixer to obtain a homogeneous mixture. Care should be taken to avoid air inclusion.

Application

The adhesive generally is applied with roller, brush or spray gun (nozzle 1,5 -1,8 mm at 0,8 - 2,0 bar adhesive pressure) on the substrate. For automated application a suitable filter system is required.
Both ambient conditions as well as drying tunnel (temperature of the air should not exceed 50°C) can be used for drying. Before the open time is over the parts are, according to the hot sealing bonding procedure, fitted together and compressed to form the bond.
For advice on selecting and setting up a suitable pump system please contact the System Engineering Department of Sika Industry.

Removal

Uncured SikaSense®-4305 (VP) may be removed from tools and equipment with Sika® Remover-208 or another suitable solvent. Once cured, the material can only be removed mechanically.
Hands and exposed skin should be washed immediately using Sika® Handclean Towel or a suitable industrial hand cleaner and water. Do not use solvents!

Further Information

Copies of the following publications are available on request:

- Material Safety Data Sheets
- Polyurethane Dispersion Guidelines

Packaging Information

Pail	25 kg

Value Bases

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.

Health and Safety Information

For information and advice regarding transportation, handling, storage and disposal of chemical products, users should refer to the actual Material Safety Data Sheets containing physical, ecological, toxicological and other safety-related data.

Legal Notes

Further information available at:
www.sika.de
www.sika.com

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