

SikaColl-4300FD

Water-based high-performance contact adhesive system

Technical Product Data:

Chemical Base	PUR dispersion in water
Colour	White
Solid content (TS-SQP002-0)	54% approx.
Density (TS-SQP006-3)	1.02 kg/l approx.
pH value (TS-SQP006-3)	7 – 8
Viscosity 20°C / Brookfield RVT, Sp. 4/5 Upm	18000 mPas approx.
Curing agent	SikaCure-4900; -4901 BL or -4909
Mix ratio	4 – 5 parts by weight curing agent to 100 parts by weight dispersion
Pot life at room temperature ¹⁾	8 hrs at least
Bonding process	Hot sealing or room temperature ¹⁾ contact bonding (both faces pre-coated)
Coverage (typical value)	80 –200 g/m ² wet (depends on substrate)
Method of application	Spray gun, roller or brush
Drying conditions (flash-off conditions before fitting) (TS-SQP565)	- At room temperature ¹⁾ : 25 - 35 mins - In drying tunnel (at max. 40 - 50°C) 5 – 10 mins
Activating temperature	At least 50°C (applies only to hot sealing)
Open time ¹⁾ (TS SQP567)	At least 1.5 hrs after the end of flash off time
Processing temperature for contact bonding	18 – 25°C. (Lower temperatures down to 10°C result in an extension of the drying time and in reduction of open time). Do not process this adhesive below 10°C.
Shelf life	6 months in unopened original container at the storage temperature of 5 - 25°C, SikaColl-4300 FD is sensitive to frost, store above +5°C. In winter only transport in thermocontainer.

¹⁾ 23°C and 50% relative humidity

Description:

SikaColl-4300 FD is a ready to use waterborne PUR dispersion contact adhesive with high initial strength and very good resistance against plasticizers. In addition to that, SikaColl-4300 FD offers a short drying time in combination with a very long open time.

Both one component and two component application are possible. SikaColl 4300 FD in combination with SikaCure-4900; -4901; 4901 BL or -4909 is a high quality laminating adhesive with especially good resistance against heat and water. The two component adhesive is processed according to the sealing or contact bonding procedure.

SikaColl-4300 FD is manufactured in accordance with ISO 9001/14001 quality assurance system.

Product benefits:

- Easy processing
- Fast drying
- Long open time
- Solvent free
- Broad adhesion range on wood and plastics
- High initial strengths

- Easy positioning of the parts to fit
- Very good resistance against heat and weathering
- Very high resistance against hydrolysis

Curing mechanism:

Without curing agent the curing process only takes place due to the evaporation of water. In the presence of curing agent in the hardening process of SikaColl-4300 FD the first step is also drying, due to the evaporation of water. This physical process is followed by chemical crosslinking (in a polyaddition 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 the drying and the chemical reaction.

Areas of application:

Important uses are bonding floorings in utility vehicles, interior linings for automobiles, panels and front parts for furniture in 3D laminating process.

Suitable substrates are wood, bare or coated metals, GRP, medium density fibreboard (MDF, manufactured of wood fibres), decorative and foamed foils, made of PVC, ABS, TPO or polyester and also foam backed textile coverings, carpets and floor covers. In the production of utility vehicles SikaColl-4300 FD is suitable for the room temperature bonding of different covering materials eg. PVC flooring, and adjacent stairs, wheel arches, seat brackets and wall coverings.

SikaColl-4300 FD delivers in combination with the curing agents SikaCure-4900; -4901; 4901 BL or -4909 excellent performance as adhesive for most synthetic and natural materials and is a customized problem solver in demanding applications.

Method of application:

Mixing: The usual mix ratio of SikaColl-4300 FD (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 and heat stability.

The curing agent is metered into the continuously stirred dispersion and then mixed with a mechanical mixer to obtain a homogenous mixture. Care should be taken to avoid air inclusion. The pot life is 8 hours at room temperature.

Surface preparation: The adhesion surfaces must be clean, dry and free of oils and grease. 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.

Application: The adhesive generally is applied with roller, brush or spray gun (HVLPS-System, nozzle 1.5-1.8mm at 0.8-2.0 bar adhesive pressure) on the substrate.

Both ambient conditions as well as drying tunnel (temperature of the air should not exceed 40-50°C) can be used for drying. Before the open time is over the parts are, according to the hot sealing or cold contact bonding procedure, fitted together and compressed to form the bond.

Cleaning of tools. Tap water is sufficient to clean the tools from uncured adhesive residues. Cured adhesive only can be removed by mechanical means or suitable solvent.

Further information:

Copies of the following publication are available on request:

- Safety Data Sheet

Packaging information:

Pail	4 kg
Pail	25 kg

Important

For information and advice on the safe handling, storage and disposal of chemical products, users should refer to the actual Safety Data Sheet containing physical, ecological and other safety related data.

Note:

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 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 proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users should always refer to the most recent issue of the Technical Data Sheet for the product concerned, copies of which will be supplied on request.



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