

Luphen[®] 3685

Adhesive Raw Materials



Chemical nature

Aqueous dispersion of a polyester-polyurethane elastomer

Technical Data

Solids content	approx. 40 %
pH	approx. 8
Viscosity	approx. 40 mPas
Glass transition temperature	approx. -46 °C
Water absorption of film after 24 h	approx. 7 %
Tensile strength of film	approx. 16 N/mm ²
Elongation at break	approx. 700 %

The exact specifications can be found in the specification data sheet

Application areas

Luphen 3685 is used in the manufacture of adhesives for laminating, flocking and heat-sealing.

The film that Luphen 3685 yields can be activated by heat and in common with the PUR elastomer films, it has a limited hot-tack life.

Applications

In order to prevent coagulation, it is important to make sure that none of the components has a pH of less than 7 when thickeners are added or when Luphen 3685 is mixed with other products. Luphen 3685 can only be mixed with anionic dispersions or with dispersions that contain a protective colloid.

Container, pipes and other equipment that come into contact with Luphen 3685 must be made of corrosion-resistant materials such as 18/8 stainless steel or plastics to prevent coagulation.

Specially developed water-emulsifiable, polyfunctional isocyanates such as Basonat[®] F 200 WO can be added to adhesives formulated with Luphen 3685 to improve the heat resistance of the bond and its resistance to hydrolysis.

The potlife of the adhesive depends on the reactivity of the isocyanate used, and this has to be determined in trials. If Luphen 3685 is employed in heat-sealing adhesives, an emulsifier such as Lumiten[®] 1-SC should be added to the polymer dispersion at a rate of up to 1% in order to promote the wetting of the substrate during coating.

We recommend adding a preservative to adhesives based on Luphen 3685 to protect them from microbial attack. The suitability of such additives must be verified and monitored in trials. Manufacturers must carefully carry out their own trials when developing adhesives based on Luphen 3685, as there is a host of factors in production and processing that we cannot cover exhaustively in our trials which can influence compatibility with other components of the adhesives, their wetting of and adhesion to different substrates etc. Particular attention is drawn to the fact that polyurethanes can be affected by hydrolysis and by exposure to heat, and comprehensive tests therefore need to be performed on adhesive formulations.

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