

Luphen[®] D 259 U

Adhesive Raw Materials



Chemical nature

Aqueous dispersion of a polyester-polyurethane elastomer

Technical data

Solids content	approx. 40 %
pH	approx. 6–7
Viscosity	approx. 20–120 mPas
Glass transition temperature	approx. –45 °C
Tensile strength of film	approx. 0.4 N/mm ²
Elongation at break	approx. 2000 %
Tensile strength of crosslinked film	approx. 1.8 N/mm ²
Elongation of crosslinked film at break	approx. 1000 %

For detailed information see Specification Data-Sheet.

Application area

Luphen D 259 U is used in the manufacture of adhesives for film lamination. The dispersion adheres well to the types of plastic used for this purpose as well as to metallised films and aluminium.

The addition of a few percent of a water-dispersable polyisocyanate to Luphen D 259 U increases its resistance to heat and moisture. The potlife of the adhesive depends on the reactivity of the polyisocyanate used, and this has to be determined in trials.

Processing

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 D 259 U is mixed with other products. Luphen D 259 U 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 D 259 U must be made of

corrosion-resistant materials such as 18/8 stainless steel or plastics to prevent coagulation.

If Luphen D 259 U is employed in laminating adhesives, a surfactant such as Lumiten[®] I-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 D 259 U 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 D 259 U, 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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