

Luphen[®] D DS 3548

Adhesive Raw Materials



Chemical nature

Aqueous, resin-modified dispersion of a polyester-polyurethane elastomer

Technical data

Solids content	approx. 45 %
pH	approx. 8 – 9
Viscosity	approx. 10 – 70 mPas
Glass transition temperature	approx. – 46 °C
Water absorption of film after 24 h	approx. 5 %
Tensile strength of film	approx. 20 N/mm ²
Elongation at break	approx. 700 %

For detailed information see Specification Data-Sheet.

Application area

Luphen D DS 3548 is employed in the manufacture of aqueous foam adhesives and contact adhesives. Films formed by Luphen D DS 3548 can also be activated by heating them to 60 – 80 °C.

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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 DS 3548 is mixed with other products. Luphen D DS 3548 can only be mixed with anionic dispersions or with dispersions that contain a protective colloid.

Containers, pipes and other equipment that come into contact with Luphen D DS 3548 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 WD can be added to adhesives formulated with Luphen D DS 3548 to improve the heat resistance of the bond and its resistance to hydrolysis.

The pot life of the adhesive depends on the reactivity of the isocyanate used, and this has to be determined in trials. If Luphen D DS 3548 is employed in heat-sealing adhesives, an emulsifier 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 would recommend adding preservatives to adhesives that contain

Luphen D DS 3548 to protect them from microbial attack. Their suitability needs to be confirmed and monitored in trials.

Customers have to carry out their own trials when developing adhesives based on Luphen D DS 3548. The compatibility and miscibility of Luphen D DS 3548 with other ingredients of formulations and its ability to adhere to different substrates, etc., are affected by a variety of factors which are too numerous for us to take into account in our own trials.

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.

Polyurethanes are fast film forming polymer dispersions. Therefore, the storing conditions should be respected (please check the specification data sheet). However, a film formation cannot be avoided entirely. If separated from the container wall, PUD films look very similar to plastic foils and tend to block the drain of IBCs. We recommend to check the material from the top by opening the IBC and to remove the foil, if any, before emptying it.

There is no negative impact on the product quality noticeable.

The data contained in this publication are based on our current knowledge and experience. They do not constitute the agreed contractual quality of the product and, in view of the many factors that may affect processing and application of our products, do not relieve processors from carrying out their own investigations and tests. The agreed contractual quality of the product at the time of transfer of risk is based solely on the data in the specification data sheet. Any descriptions, drawings, photographs, data, proportions, weights, etc. given in this publication may change without prior information. It is the responsibility of the recipient of our product to ensure that any proprietary rights and existing laws and legislation are observed.

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This data sheet will be rendered invalid if it is superseded by a later version.