Chemical nature

Aqueous dispersion of a polyether-polyurethane elastomer

Technical data

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid content</td>
<td>approx. 53 %</td>
</tr>
<tr>
<td>pH</td>
<td>approx. 7</td>
</tr>
<tr>
<td>Viscosity</td>
<td>approx. 250 mPas</td>
</tr>
</tbody>
</table>

For detailed information see Specification Data-Sheet.

Application area

Epotal FLX 3621 is used in the manufacture of adhesives for film-to-film lamination. The dispersion adheres well to all types of plastic used for this purpose as well as to metallized films and aluminum. The addition of a few percent of a water-dispersible polyisocyanate to Epotal FLX 3621 increases its resistance to heat and moisture. The pot-life of the adhesive depends on the reactivity of the polyisocyanate used, and this has to be determined in trials.

Processing

If thickeners are added or if Epotal FLX 3621 is mixed with other products, it is important to make sure that none of the components has a pH of lower than 7 in order to prevent coagulation. Epotal FLX 3621 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 Epotal FLX 3621 must be made of corrosion-resistant materials such as 18/8 stainless steel or plastics to prevent coagulation.

It is advised to use specially developed water-emulsifiable, polyfunctional isocyanates such as Basonat® LR 9056 to improve the overall performance of the adhesive. The pot-life of the adhesive depends on the reactivity of the isocyanate used, and this has to be determined in trials.

When Epotal FLX 3621 is applied by gravure coating a wetting agent such as Lumiten® I-SC should be added to the polymer dispersion at a rate of up to 0.5 % in order to promote the wetting of the substrate during coating.

When Epotal FLX 3621 is applied by gravure coating an defoamer such as Tego® Antifoam 4-94 should be added to the polymer dispersion at a rate of up to 0.15 % in order to reduce foam formation during coating.

We advise adding a preservative to adhesives based Epotal FLX 3621 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 Epotal FLX 3621, 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 oxidation and by exposure to heat, and comprehensive tests therefore need to be performed on adhesive formulations.

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