

Epotal[®] CF 430

Epotal CF 430 is a coater ready, BPI certified, Industrial Compostable, waterborne laminating adhesive for flexible packaging structures.

Chemical Nature

Compostable aqueous dispersion of a polyester-polyurethane elastomer

Properties

Typical Properties

Solids content	%	~ 40.0
pH value		~ 8.0
Viscosity at 23 °C (Brookfield RV, Spindle #2, at 100 rpm)	cps	~ 85
Bulk density	g/cm ³	ca. 1.04
Freeze/thaw resistance		not resistant to freezing
Dispersion Type		Anionic
Glass transition temperature (DSC) °C		ca. -46
Appearance		clear, transparent

* The above values are not intended as specifications.

Compatible with

General

Epotal CF 430 is compatible with a wide range of compostable films and paper materials. Not recommended for PET or polyolefin films.

Crosslinker

Compatible with Basonat LR 9056

Additives

Epotal CF 430 is a coater ready formulation, so additional formulation additives are not recommended. If custom formulation is required, we recommend beginning formulation development with Epotal ECO 3702.

Application

Features

Epotal CF 430 is particularly suited to produce multi-layer structures based on a broad range of compostable films and paper. The adhesive exhibits high initial bond strength enabling direct converting.

Processing

Addition of Basonat[®] LR 9056 is recommended to improve heat, chemical, and moisture resistance of the final laminate structure. A concentration of 3% wt. of Basonat[®] LR 9056 is recommended based on wet weight of Epotal CF 430. The mixed percent solids is 41.7%. The Epotal CF 430 / Basonat LR 9056 mixture should be used as is without any water dilution.

It is recommended to apply Epotal CF 430 by reverse gravure coating, For direct gravure coating, a smoothing bar is recommended to achieve uniform coating quality. The smoothing bar should be operated against the web direction.

All rollers or application surfaces in contact with liquid Epotal CF 430 must be continually wetted with Epotal CF 430 or water, especially during line stoppages, to avoid adhesive drying in the gravure cells. If this occurs, the cylinder should be removed and cleaned.

The pot-life of the formulated adhesive after addition of Basonat® LR 9056 is approximately 4 hours at room temperature. To achieve best coating quality, it is recommended to use the formulated mixture as soon as possible after adding Basonat® LR 9056.

Coating Weight:

Film to film (dry):	2.5 – 3.5 g/m ²
Film to paper (dry)	3.5 – 5.0 g/m ²
Paper to Paper (dry)	3.5 – 6.0 g/m ² (See Food Contact Statement for use of Basonat LR 9056)

Required coating weight of a particular application should be evaluated in specific trials by the end-user.

Drying

All drying conditions should be adjusted to substrate, coating weight and machine speed. Unsuitable drying conditions may cause reduced product performance.

Curing Time

Curing starts immediately after lamination. The off-machine bonds are sufficient for further processing. Full heat and chemical resistance are achieved after 5 to 7 days.

Epotal CF 430 should be maintained at pH > 7 to avoid coagulation.

Clean Up

Chambered Doctor Blade

Maintain adhesive recirculation and gravure rotation after coating is completed. Keep the gravure cylinder wet to avoid adhesive drying. Pump clean water into chamber, and flush until the return hose is clear. Recirculate clean water for 5-10 minutes. Wipe/brush gravure cylinder while recirculating. Use 1:1 water:IPA for the final rinse.

Open Pan

Maintain gravure rotation after coating is completed. Raise the doctor blade, drain the pan, and begin wiping gravure cylinder with water. Keep gravure cylinder wet to avoid adhesive drying. Continue to wipe down with clean water until gravure cylinder is clean. Use 1:1 water:IPA for the final rinse.

Additional information can be found in Epotal CF 430 Processing and Handling Guide

Container, pipes, and other equipment in direct contact with Epotal CF 430 should be made of corrosion resistant materials such as 18/8 stainless steel or plastics to prevent coagulation. Polyurethanes can be affected by oxidation and by exposure to heat, and comprehensive tests should be performed on formulations by manufacturers to ensure stability.

Safety

General

The usual safety precautions when handling chemicals must be observed. These include the measures described in Federal, State and Local health and safety regulations, thorough ventilation of the workplace, good skin care and wearing of protective goggles.

Safety Data Sheet

All safety information is provided in the Safety Data Sheet for Epotal CF 430 and Basonat LR 9056.

Storage

Epotal CF 430 has a shelf life of six months from the date of delivery, provided that it is stored in unopened containers at 15-25°C, or in accordance with the "Handling and Storage of Polymer ispersions" brochure. Technical information regarding the storage of BASF polymer dispersion products is available upon request.

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