Torlon® AI-30 LM

Polyamide-imide

Solvay Specialty Polymers

Message:

Torlon® AI-30 LM is a wet polymer granule developed for the performance coatings industry. This polyamide-imide precursor consists of roughly 35% polymer solids, 63% water and 2% NMP. The high acid number of the polymer backbone allows the formulation of aqueous solutions with the addition of an appropriate complexing amine. Aqueous-based solutions made with Torlon® AI-30 LM have inherently low VOCs, which helps end users meet stringent environmental regulations.
Coatings based on the Torlon® AI-30 LM polymer yield durable, abrasion-resistant, thermally-stable films. The cured resin has superior resistance to organic solvents and a wide array of other commercial and industrial chemicals. Outstanding tribological characteristics are afforded both by the resin as well as its unparalleled intra-coat adhesion to fluoropolymers.
Aqueous-based AI-30 LM polymer coatings offer a sustainable solution for electrical/electronic, high temperature decorative and corrosion preventative applications. In addition, magnet wire insulation and protective coatings for printed circuit boards may be converted from solvent-borne (NMP) polyamide-imide solutions. Industrial applications include primers and decorative topcoats for cookware, appliances and housewares. Aqueous AI-30 LM polymer solutions may be easily combined with aqueous fluoropolymer dispersions to produce sustainable, high-performance, low-friction, corrosion-resistant coatings that provide protection to industrial and automotive parts.

General Information	
Features	Good wear resistance Good adhesion Good chemical resistance Heat resistance, high Water Soluble Flame retardancy
Uses	Coating application Adhesive
RoHS Compliance	Contact manufacturer
Appearance	Yellow
Forms	Powder
Processing Method	Solution treatment Coating

Physical	Nominal Value	Unit
Molecular Weight		
Mn	3500	g/mol
Mw	11000	g/mol
Solids Content	35	%
Acid value	125.00	mg KOH/g
Additional Information		

Solution ProcessingWaterborne polyamide-imide solutions may be formulated using Torlon® AI-30 LM and an appropriate complexing amine. Please contact your Solvay representative for further details. Waterborne PAI solutions are patent protected (US 6,479,581).ApplicationThere are numerous methods by which waterborne Torlon® AI-30 LM resin-based coatings can be effectively applied. Depending on the aesthetic and performance characteristics required, uniform coatings can be applied by spray, roll, spin or curtain techniques. Usually, dry film thicknesses from 5-10 µm are readily achieved in a single coating pass, with multi-coat systems affording the opportunity for even further surface build. Regardless of the method employed, it is essential to assure appropriate preparation of the substrate prior to application of coating. Once complete, application equipment should be purged of the coating and cleaned with water.Drying/CuringCoatings based upon Torlon® AI-30 LM resin dry and initiate cure at temperatures as low as 150°C (300°F). However, optimal film properties result after heating for 5 to 20 minutes at 275°C (527°F), depending on the film thickness and the formulation. In the case of multi-coat systems, an intermediate temperature step at around 200°C (390°F) for 10 minutes may be advisable. For coating formulations employing low solids, a brief flash off period of about 3 to 10 minutes may be recommended prior to initiating cure.

Recommended distributors for this material

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