

Jaylink® 106E Polymerizable Cellulosic

APPLICATIONS

- UV/EB Coatings
- Rheological Additive
- Fiberglass Composites

FEATURES & BENEFITS

- Improves Impact Resistance
- Accelerates Cure
- Enhances Surface Hardness

FEATURES & BENEFITS

- Mild Thixotrope
- Provides Chemical Resistance
- Low-haze

Jaylink® 106E polymerizable cellulosic is an acrylamidomethyl-substituted cellulose ester polymer. Due to its high degree of acrylamide substitution, formulations using JL-106E cure very rapidly in response to UV/EB. Resulting films have excellent abrasion, chemical, and impact resistance. The hydrophobic and hydrophilic segments of 106E make it an excellent compatibilizer for materials of differing polarity. JL-106E is used for its thixotropic characteristics, which are particularly useful in improving UV ink holdout on porous substrates, without sacrificing cured properties. This material is INCI listed for use in the cosmetic industry

UNCURED PROPERTIES

Property	Value
Viscosity, cP (50°C)	59,000*
Appearance	White Powder
Moisture Content, %	~0.5
Specific Gravity (20°C)	1.28
Hydroxyl Content (Calculated), %	3.8
Nitrogen, %	0.45

* Solution viscosity in 50% N,N'-DMA

TYPICAL FORMULATIONS

Test Formulation Name	Neat	144 w/o JL	144 w/ JL	200 w/o JL	200 w/ JL
JL-106E	100		8		8
BR-144		50	50		
BMA-200				50	50
HDDA		50	42	50	42
Omnirad™ 481	2	2	2	2	2
Viscosity, 25°C *	solid	390	55,000	65	3,900

* Brookfield – Small Samples Adapter

CURED MECHANICAL PROPERTIES

Property	Neat	144 w/o JL	144 w/ JL	200 w/o JL	200 w/ JL
Tensile Strength, psi**	4,960	3,913	4,379	2,105	2,737
Elongation, %	6	4	3.5	2	6
Elastic Modulus, ksi	155.2	146.85	197	185	87
Durometer Hardness	45D	75D	86D	90D	90D
MEK Double Rubs (#)	>200	163	>200	>200	>200
T _g (DMA) = 118°C; Peak tan delta; cured with 2 phr of Irgacure™ 481					

** Per ASTM D882

ADHESION PROPERTIES

Substrate	Neat	144 w/o JL	144 w/ JL	200 w/o JL	200 w/ JL
Aluminum			✓		
Cold Rolled Steel				✓	
Glass			✓	✓	✓
HDPE					
Polycarbonate		✓	✓	✓✓✓	✓✓✓
Stainless Steel			✓	✓	

✓ Recommended ✓✓ Highly Recommended ✓✓✓ Strongly Recommended

FORMULATION NOTES

JL-106E is typically used at 2-10% by weight in most applications. When used in a formulation, it is most easily incorporated by making a concentrate out of the monomer in the formulation with the strongest solvency. Stir the monomer with a shear (Cowles-type) mix blade, and heat (up to 60°C). Sift the JL-106E into the vortex of the mixing monomer, so as to prevent agglomeration. Mix until the powder dissolves fully. Typically, a 25 to 50% solution is feasible, depending on the monomer solvency. This concentrate is then added to the formulation (in the case of inks, on the letdown side, before blending with the grind). Once dissolved, JL-106E is very compatible with most oligomers, monomers, photoinitiators, and additives.

JL-106E is soluble in most acetate and ketone solvents, along with acrylate monomers, such as IBOA, NNDMA, NVP, EOEOEA, TMPTA, GPTA, PONPGDA, HDDA, and TPGDA.

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