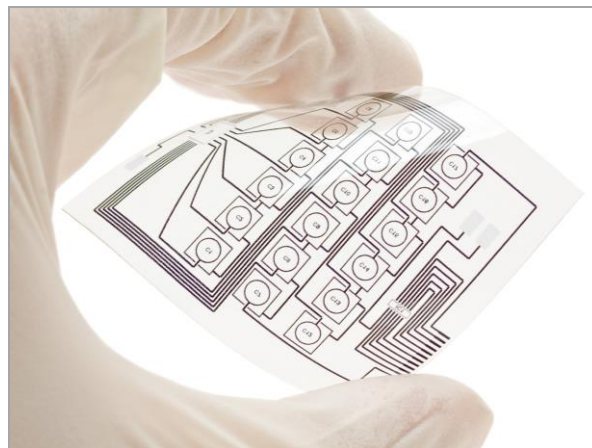


# Jaylink<sup>®</sup> UV-Curing Additives

## Acrylamidomethyl-Substituted Cellulose Esters

### Jaylink Additives, What Are They?

Jaylink additives are proprietary, high molecular weight, polymerizable cellulosic polymers. They are exclusively manufactured by Dymax and have the physical appearance of free flowing, white powders. These acrylamidomethyl-substituted cellulose ester polymers are typically used as additives in formulations at 2-10% by weight. They are frequently used in automotive, aerospace, food contact packaging, medical, flexographic printing, overprint varnish (OPV), UV printing ink, rapid prototyping, and graphic arts applications.



Flexible Coatings & Inks for Electronics

Due to the high degree of acrylamide substitution, products formulated with Jaylink usually have a higher rate of photo-cure. At addition levels of up to 30%, formulas that incorporate Jaylink materials will also see improved surface hardness without any impact on clarity. A coating will have greatly improved scratch and solvent resistance when Jaylink is used instead of cellulose acetate butyrate (CAB).<sup>1</sup> Furthermore, the coating or ink will have less turbidity and therefore improved clarity when compared to formulas that contain ingredients like fumed silica. Jaylink additives are often used in the ink and coating industries as rheology modifiers and adhesion promoters. Jaylink has been used as a photo-polymerizable binder to form a homogeneous single-layer coating for printing plates.<sup>2</sup>



Inks for Flexographic Printing

### Jaylink Materials in Coating and Ink Applications

In a solution, Jaylink is known to be a reactive thickener which can be utilized for its thixotropic characteristics. This rheology modifier<sup>3</sup> is used to prevent wet material from wicking into porous substrates. This is particularly useful in ink and coating applications. The hydrophobic and hydrophilic segments of this polymer allow it to be employed as a compatibilizer in systems that have incompatible ingredients with different polarity. The cured coating will have improved clarity and less turbidity when used for applications that need superior abrasion, chemical, and impact resistance. Jaylink has been known to enhance surface hardness for various coatings.

<sup>1</sup> Cook, P. M. "Radiation-polymerizable cellulose esters". Patent 4,839,230, 13 June 1989.

<sup>2</sup> Grosclaude, G.V., Perron, P.A., Sypek, M. T." Photopolymeric printing plates". Patent EP 0575802 A1. 29 December 1993.

<sup>3</sup> Deeken, J.S., Johnson, R. E., Moussa, K. M., Wu, L. "Radiation curable ink compositions and flat panel color filters made using same". Patent 6,114,404. 9 September 2000.

Jaylink can be easily incorporated into a formula by dispersing it in a monomer that has strong solvency. Up to 30% of this additive can be dissolved in most acetate and ketone solvents. Jaylink is also soluble in acrylate monomers such as IBOA, NNDMA, NVP, EOEOEA, TMPTA, GPTA, PONPGDA, HDDA and TPGDA.

Jaylink Additive	Degree of Acrylate Substitution	Formulated Properties in 50% N,N-DIMETHYLACRYLAMIDE with 2% Omnirad™ 481			
		Uncured Viscosity at 50°C	Cured Mechanical Properties		
			Tensile Strength	Elongation Elastic Modulus	Durometer Hardness
JL-106E	0.13	59,000	4,020 psi	9 %	84D

***JL-106E is available for sampling now.  
Custom oligomers and coatings are created upon request.***



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