

### General Information – Product Comparison, Waterbased v Energy-Cured

#### Scope

- Below is a general comparison between Waterbased v Energy-Cured coating products for use as a reference only. For specific product information in terms of applications, limitations, use, compatibility and pricing, please contact your Coatings and Adhesives Corporation Technical Sales Representative.

	WATERBASED COATING	ENERGY-CURED COATING
<b>Over-Print Compatibility</b>		
Substrates – Paper/Paperboard	Yes	Yes
Substrates – Non-Absorbent	Yes – Special Formula	Yes – Special Formula
Sheetfed Inks – Conv/Energy	Yes	Yes
Flexo Inks – Water/Solvent/Energy	Yes	Yes
Gravure Inks – Water/Solvent/Energy	Yes	Yes
Digital - Toner	Yes – Special Formula	Yes – Special Formula
Digital – Inkjet/Energy	Yes – Special Formula	Yes – Special Formula

	<b>Application – Methods/Considerations</b>	
Shelf-Life – Unopened/Unused	Up to 3 years*	3 – 6 months/product dependent*
Application Method - Anilox	Yes	Yes
Application Method – Roller/Nip	Yes	Yes
Application Method – Gravure	Yes	Yes
Application Method – Ink-Train	Yes – Special Formula	Yes – Special Formula
Application Method – Screen	Yes – Special Formula	Yes – Special Formula
Drying/Curing Principle	Evaporation, Absorption	Free-Radical Reactive Polymerization
Drying/Curing Equipment	Hot-Air, Air-Extraction	Hg UV, LED UV, Electron Beam
Drying/Curing Time	Immediate off-press protection – Improved film condition during aging/maturation	Instant curing – post-cure with some formulations
Spray Powder	Recommended	None Required
Make-Ready Time	<20-minutes	<20-minutes
Wash-Up Time	<20-minutes	<20-minutes
Cleaning Chemistry	Water, IPA, Ammonia, AQ Cleaner	IPA, Butyl Cellulose, Aromatic Hydrocarbon
Coating Blanket/Plate Materials	Yes	UV Compatible, Chemical Resist
Rubber Roller Compound	Nitrile/NBR, Urethane, Dual Purpose	EPDM, Dual Purpose

	<b>General Characteristics</b>	
Available Finishes	High-Gloss, Gloss, Satin, Dull/Matte	High-Gloss, Gloss, Satin, Dull/Matte
High-Gloss Level – 60o Meter	60 - 70	85 - 95
Ink/Pencil Receptive	Yes – Special Formula	Yes – Special Formula
Write-Wipe	No	Yes – Special Formula
Gluable	Most Formulas	Yes – Special Formula
Foil-Stampable	Most Formulas	Yes – Special Formula

# TECHNICAL RESOURCE INFORMATION

<b>Film-Lamination</b>	Yes – Special Formula	Yes – Special Formula
<b>Digital Ink Imprint</b>	Yes – Special Formula	Yes – Special Formula
<b>Digital Toner Imprint</b>	Yes – Special Formula	Yes – Special Formula
<b>Yellowing</b>	No	Formulation Dependent
<b>FDA Direct Food Compliance</b>	Yes – Special Formula	No
<b>Pearl, Glitter</b>	Yes – Special Formula	Yes – Special Formula
<b>Grit Texture</b>	Yes – Special Formula	Yes – Special Formula
<b>Strike-Thru/Contrast Varnish</b>	Yes – Special Formula	Yes – Special Formula
<b>Reticulation Varnish</b>	No	Yes – Special Formula
<b>Sofffeel</b>	Yes – Special Formula	Yes – Special Formula

	Pricing/Consumption	
<b>Price/lb – General Use Products</b>	\$0.80 - 1.60	\$2.50 – 4.50
<b>Solids – Liquid State</b>	25 – 45%	~100%
<b>Coat-Weight – Wet lb/1000 ft<sup>2</sup></b>	~1.0	>1.20
<b>Coat-Weight – Dry lb/1000 ft<sup>2</sup></b>	0.30 – 0.40	>1.20
<b>Coat-Weight – Dry lb/3000 ft<sup>2</sup></b>	0.90 – 1.20	>3.60

	Safety/Environmental Considerations	
<b>VOC Content</b>	Low, 0.0 – 3.0%	None, Negligible
<b>Employee Safety Hazards</b>	Low	High – Requires PPE/SOP
<b>Contains PFAS/PTFE</b>	Some Formulations	Some Formulations
<b>Contains Benzophenone</b>	No	Some Formulations
<b>Contains TMPTA</b>	No	Some Formulations
<b>Coated Waste – Segregation</b>	No	Yes
<b>Coated Materials – Repulpable</b>	Yes	Yes – More Difficult
<b>Coated Materials – Compostable</b>	ASTM D6400	No