



Lubrizol

PERFORMANCE COATINGS

DORESCO® ACRYLIC RESINS

FOR HOT STAMP FOIL LACQUERS AND RELEASE AGENTS

Doresco® Acrylic Resins enhance the performance of coatings used in hot stamp foil (HSF) applications. They are part of a comprehensive line of coating technologies developed by Lubrizol for the security and packaging industries.

Lacquers

When incorporated into embossing or holographic lacquers, Doresco products help boost key attributes. High glass transition temperatures (T_g) impart thermal stability, improving durability during shaping operations. For films that will be embossed for special effects, Doresco products increase hardness levels, resulting in greater chip and mar resistance. Other benefits include high optical clarity, impressive gloss and superior color retention. The end result is greater package design freedom and a strong shelf presence.

Release Products

Doresco technologies can be combined with traditional release coat waxes to optimize film transfer and are used for release or tape liners.

WHAT WE ADD MAKES
THE DIFFERENCE.™

- BRAND PROTECTION
- ANTI-COUNTERFEITING
- DIFFERENTIATION
- PRODUCT AUTHENTICATION
- SAFETY

www.lubrizol.com/packaging



FEATURES & BENEFITS

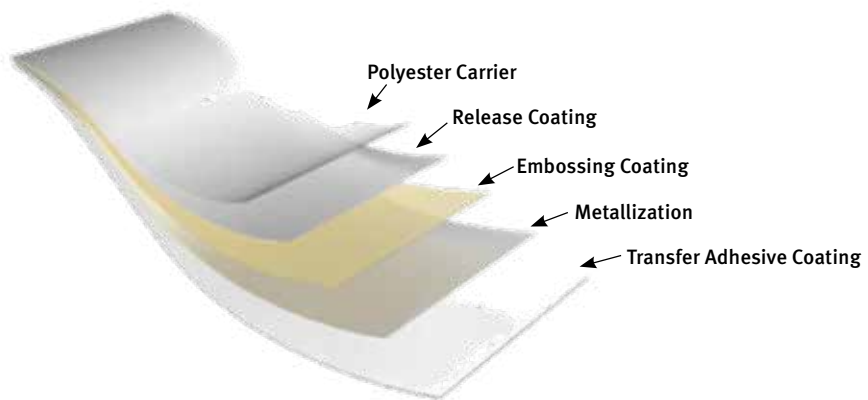
LACQUERS

- HIGH OPTICAL CLARITY
- HIGH GLOSS
- COLOR RETENTION
- THERMAL STABILITY

RELEASE PRODUCTS

- OPTIMIZE FILM TRANSFER
- TAPE LINERS IN PRESSURE-SENSITIVE ADHESIVES
- RELEASE LINERS FOR TRANSFER PRINTING
- LOW RELEASE VALUE COATINGS

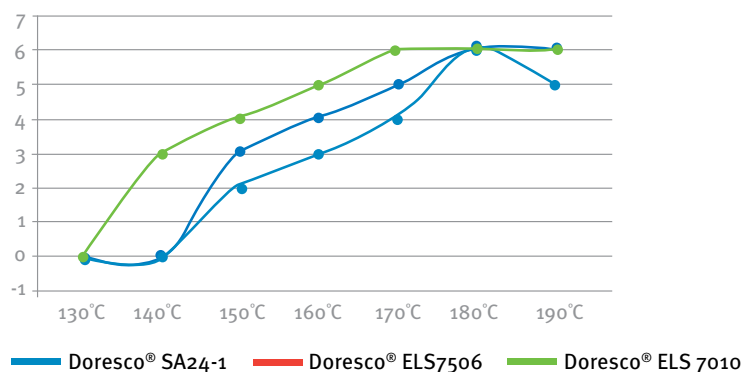
Holographic Hot Stamping Foils are multilayer structures produced by subsequent coatings followed by high vacuum metallization and embossing on special grade PET or other substrate or carrier.



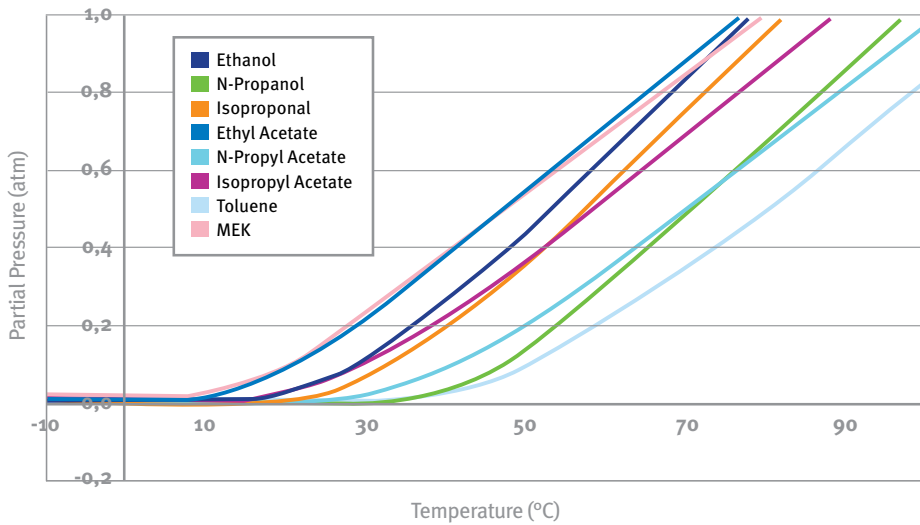
Lubrizol hot stamping foil products can be used for a variety of applications especially when it comes to security and preventing fraudulent activity. From holographics on paper currency to credit card chips, Doresco Engineered Polymers are a quality selection.

The embossing coating is a key component in the performance of the stamped foil enabling reproduction of the holographic effect. The adhesive coating is specially designed to achieve adhesion to the desired substrate to be stamped. The substrates vary from paper & board to polypropylene, nylon or PVC.

Embossability
Pressure 6 Bar, 1 gsm, speed 5 mts/min



Solvent Partial Pressures

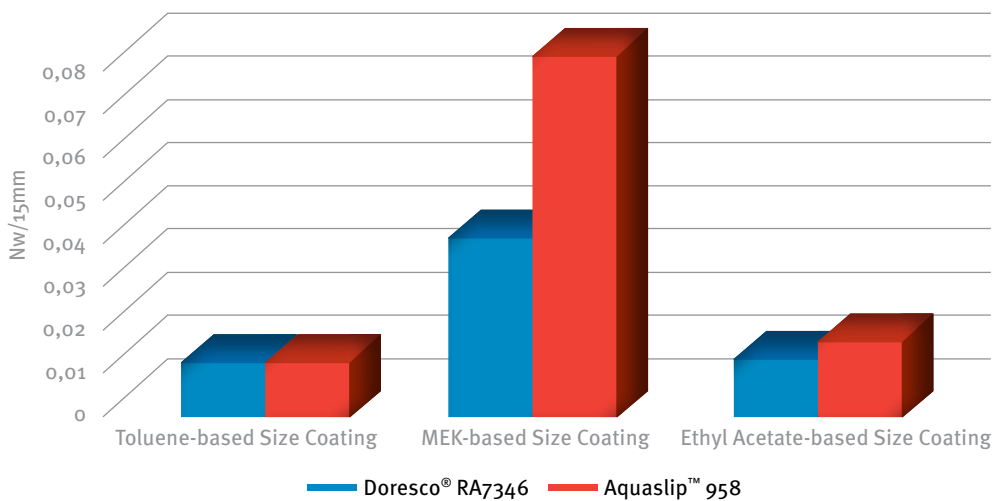


Solvent selection for the dilution of the lacquer must be carefully controlled considering the following parameters:

- Press speed
- Drying temperatures
- Solubility of the resin
- Dye solubility parameters (if colored)
- Nature of the release lacquer used

Release coatings form a layer minimizing adhesion to the substrate carrier. Lubrizol's acrylic resin and wax emulsion were both designed for hot stamping foil applications. Aquaslip™ 958 wax emulsion is very stable on press and maintains its viscosity under extreme dilution factors and when applied to PE shows very good clarity and excellent release. Doresco® RA7346 is a modified acrylic, high solids release coating allowing for more formulation latitude for the converter. This resin based release lacquer is less sensitive to solvent attack from the embossable coating layer leaving an exceptionally clean release and clear image. It is also not affected by heat from the stamping process therefore the stability makes it useful for Cold Foil Stamping.

Doresco® RA7346 vs. Aquaslip™ 958, Release After Stamping



For Lacquers

Products	Tg°C	Mw	Solvent	Solids	Viscosity
Doresco® AC341-2	134	80000	MEK, Ethanol	45%	1,000 cP
Doresco® AC341-7	158	70000	MEK, Ethanol	45%	1,000 cP
Doresco® AC7298	136	90000	Ethyl Acetate	45%	1,000 cP
Doresco® ELS 7010	62	100000	MEK	45%	7,000 cP
Doresco® ELS 7025	98	95000	Isopropyl Acetate	45%	1,500 cP
Doresco® ELS7506	125	100000	Toluene/N-P Acetate	30%	250 cP
Doresco® SA24-1	95	115000	Toluene	45%	1,500 cP
Carboset® ELW 7500	62	n/a	Water	32%	1,000 cP
Sancure™ 898	186	65000	Water	32%	200 cP

For Release Products

Products	Solvents	Solids	Viscosity
Doresco® RA44-6x15	Toluene, Acetone	15%	15 cP
Doresco® RA7346	Ethyl Acetate	35%	35 cP
Aquaslip™ 958	Water	28%	20 cP

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