



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.

Applications

- Brand Protection
- Anti-Counterfeiting
- Differentiation
- Product Authentication
- Safety

Lacquers

When incorporated into embossing or holographic lacquers, Doresco products help boost key attributes. High glass transition temperatures (Tg) 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.



Features & Benefits

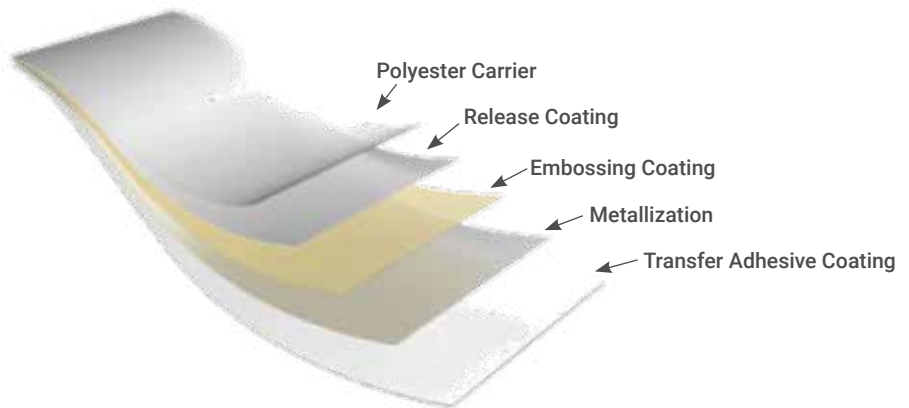
Lacquers

- 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

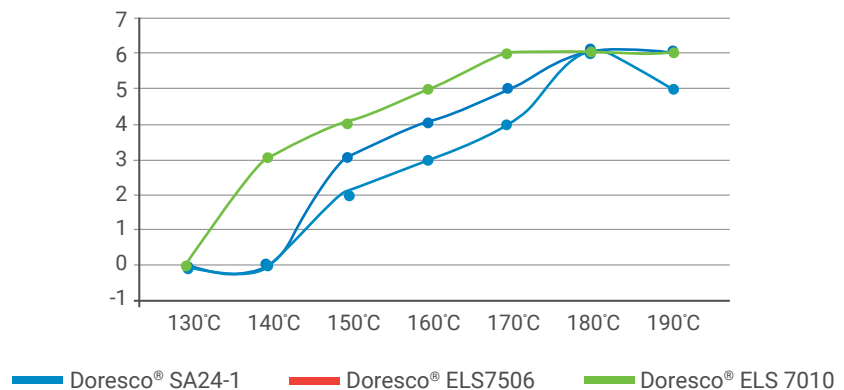
Holographic Hot Stamping Foils are multilayer structures produced by subsequent coatings followed by high vacuum metallization and embossing on special grade PET or other substrate or carrier.



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.

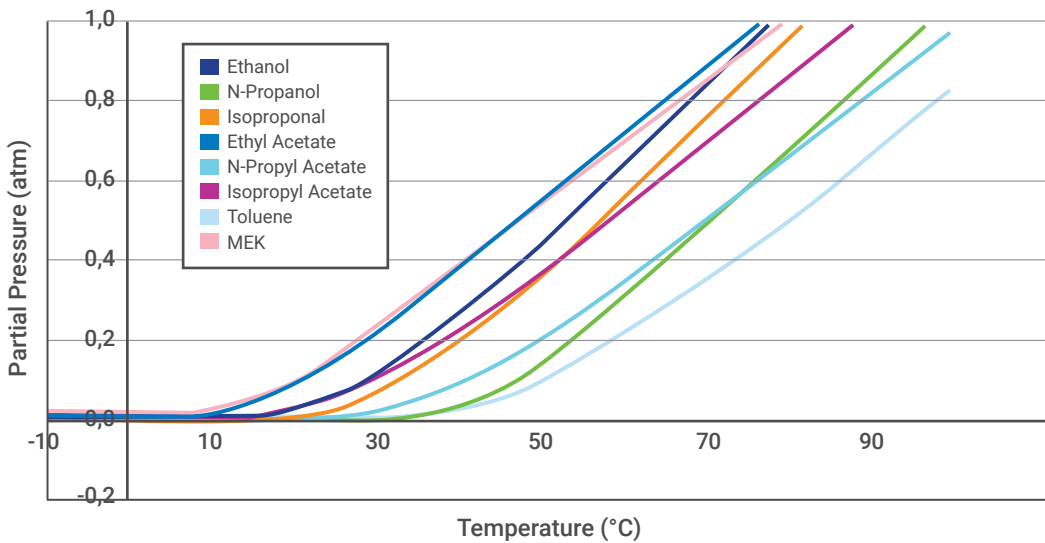
The embossing coating is a key component in the performance of the stamped foil enabling reproduction of the holographic effect. The adhesive coating is specially designed to achieve adhesion to the desired substrate to be stamped. The substrates vary from paper & board to polypropylene, nylon or PVC.

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





Solvent Partial Pressures

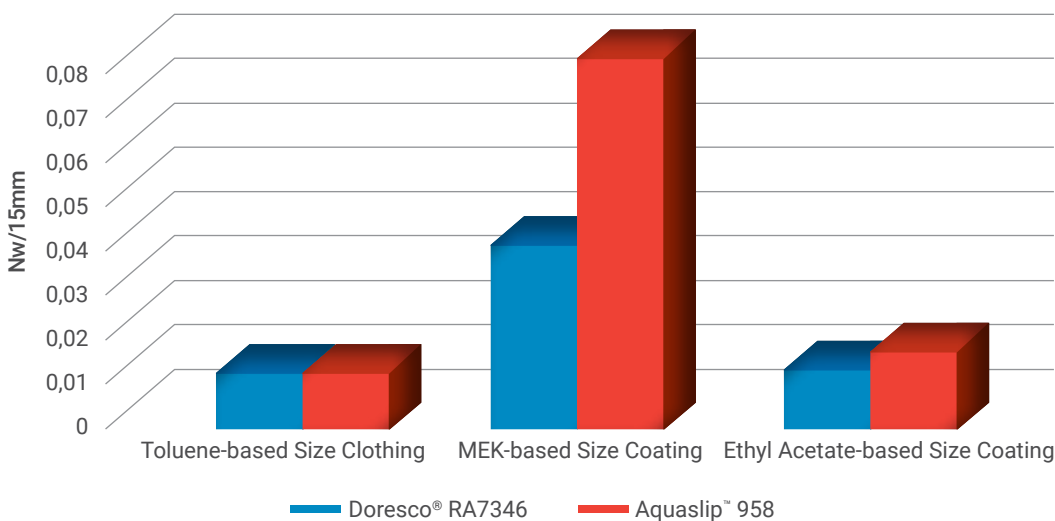


Solvent selection for the dilution of the lacquer must be carefully controlled considering the following parameters:

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

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



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For Lacquers

| Product Name | 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 |
| San cure™ 20898 | 186 | 65000 | Water | 32% | 200 cP |

For Release Products

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

Lubrizol Performance Coatings is a market-driven innovator of specialty chemicals for advanced coatings, inks, and composites. Our portfolio of resin and additive technologies solve challenges across a wide range of markets and applications. Formulators choose Lubrizol to achieve unique performance, productivity, and sustainability benefits. More than just a supplier, we are a collaborator with extensive experience in surface protection, dispersion, adhesion, and barrier properties – working closely with customers to explore and develop truly differentiated solutions.

Lubrizol | Performance Coatings

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