L-6282 High Metallization Polycarbonate Polyurethane

Description

L-6282 is a polyurethane acrylate synthesized using polycarbonate polyol as the backbone. The polycarbonate structure provides exceptional weather resistance, high toughness, hydrolytic stability, and excellent mechanical properties, making it an ideal choice for high-end UV-curable coatings, inks, and adhesives, particularly for outdoor applications requiring superior durability.

Technical Data

Appearance	Transparent liquid
Color Value (Gardner)	≤1
Viscosity (60ºC,CPS)	4,000-8,000
Density (g/cm³, 25ºC)	1.1±0.1
UV Content (%)	100
Acid Value (mg KOH/g)	1-4
Refractive Index	1.443
Shore Hardness	76D
Tensile Strength (MPa)(ASTM D882)	18
Elongation at Break (%)(ASTM D882)	20.5
Functional Group	2

Product Features

Outstanding Weathering and Yellowing Resistance:
The polycarbonate backbone provides excellent UV aging resistance, maintaining the coating's color and transparency over long periods and minimizing yellowing. Its performance far surpasses that of conventional polyester- or polyether-based polyurethane acrylates.

Excellent Mechanical Properties and Toughness:
Combining high hardness with superior toughness, the coating exhibits excellent abrasion and scratch resistance, outstanding impact resistance, and is highly resistant to cracking or embrittlement.

Superior Chemical and Hydrolytic Resistance:
It demonstrates strong resistance to chemicals such as alcohols, cleaning agents, and gasoline. The polycarbonate structure ensures stable performance even under high-temperature and high-humidity conditions, preventing degradation.

Good Adhesion:
Exhibits excellent adhesion to a variety of plastics (e.g., PC, ABS, PMMA), metals, and treated substrates.

Applications

High-Performance Coatings:

- Automotive: Hard coatings for automotive headlamp lenses (PC lenses) and surface coatings for interior parts.
- Consumer Electronics: Wear-resistant coatings for smartphone and laptop housings.
- Industrial Coatings: Protective coatings for metal and plastic components.
- Outdoor Products: Weather-resistant protective coatings for architectural glass façades and solar panels.

Specialty Inks:

- Used for film printing requiring high flexibility and fold-resistance (e.g., PET, PE).
- Outdoor signage and advertising inks requiring exceptional weathering resistance.

Adhesives:

- For bonding glass, metals, and plastics, providing high strength and durability.

3D Printing:

- As a key component in photopolymerizable (SLA/DLP) 3D printing resins, producing tough, engineering-grade prototypes and parts.

Storage Conditions

To prevent premature polymerization due to the high reactivity of this product, keep it tightly sealed and store away from heat sources and direct sunlight. It is recommended to maintain storage temperature below 30 °C. Unused product should be promptly resealed and must not be left open. Under ventilated conditions at 25 °C, the product has a safe storage period of 6 months. Available packaging: 20 kg / 200 kg drums.

Tips: L-6282 features excellent vacuum metallization compatibility within the polycarbonate polyurethane series.