ISOCRYL® EP-570G
MATTING HARDENER
FOR POWDER COATINGS

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ESTRON CHEMICAL

THE EDGE OF INNOVATION

GENERAL DESCRIPTION

Isocryl® EP-570G is a glycidyl-functional acrylic hardener designed to produce low gloss, exterior-durable polyester powder coatings. Benefits include consistent gloss, smooth matte appearance and dependable performance. Standard and superdurable polyester resins used for TGIC, Primid or Araldite PT-910 powder coatings are well suited for use with Isocryl EP-570G. A key advantage is its improved burnish resistance over conventional matting hardeners and its predecessors Isocryl EP-550G and EP-560G. In addition, Isocryl EP-570G has substantially improved compatibility with polyester/TGIC and epoxy resin based powder coatings.

TYPICAL PROPERTIES*

Appearance	Clear Ground Flake
Softening Point (ASTM D36)	140°C minimum
Non-Volatile, weight %	98.5% minimum
Theoretical Epoxy Equivalent Weight	700-750
Glass Transition Temperature	78-82°C

* Not to be used for specification purposes

ISOCRYL EP-570G HIGHLIGHTS

Designed to achieve <10 gloss pigmented coatings with a variety of standard and super-durable resins in a single extrusion system. Best results for chemical and mechanical properties are achieved by formulating a polyester resin with acid value 35 and Isocryl EP-570G at a 75:25 ratio with a second crosslinker such as Primid® XL-552 at 1% on total formulation. Resins with acid value below 30 are not recommended for use with Isocryl EP-570G. Primid QM-1260 or TGIC are also suitable as a second crosslinker. It is not recommended to use the secondary crosslinker at a level higher than 1.3% due to uncontrolled gloss variation during processing and application. Formulations with Isocryl EP-570G are very stable to multiple extrusions indicating good process stability and have minimum gloss change with different cure temperatures, film thickness variations or part mass. Part of Isocryl EP-570G can be replaced with Isocryl EP-575G to optimize mechanical and chemical properties.

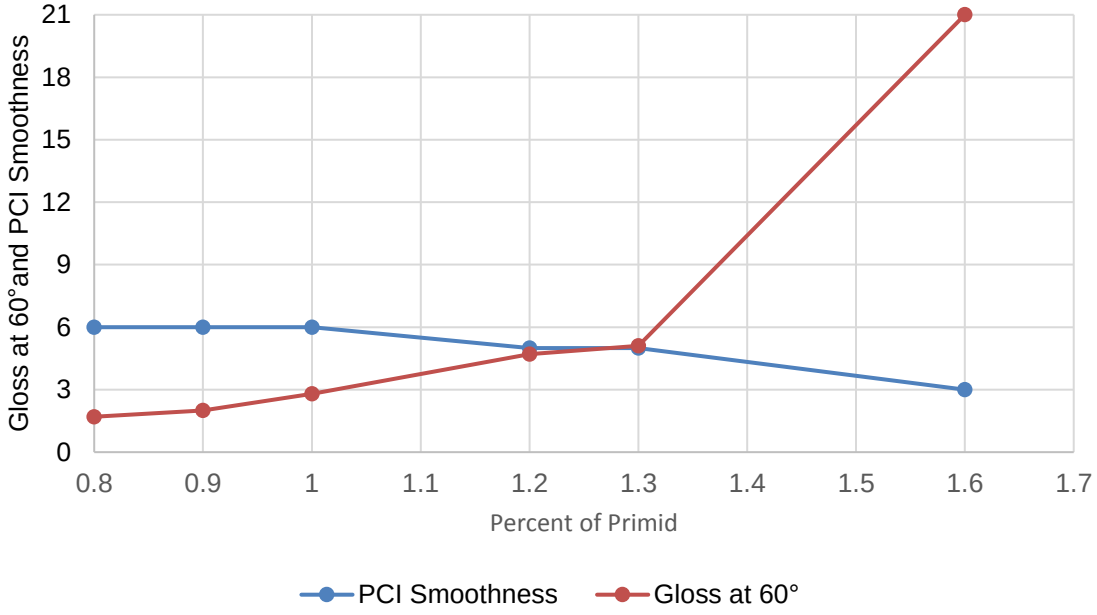
It is recommended that formulated powders be tested for physical and chemical advancement when stored at elevated temperatures. Recommended storage temperature is below 40°C. Estron Chemical has a complete powder coatings laboratory with formulating capability at our Calvert City location and can assist you in developing starting point formulations for your specific resin.

EXAMPLE FORMULATIONS

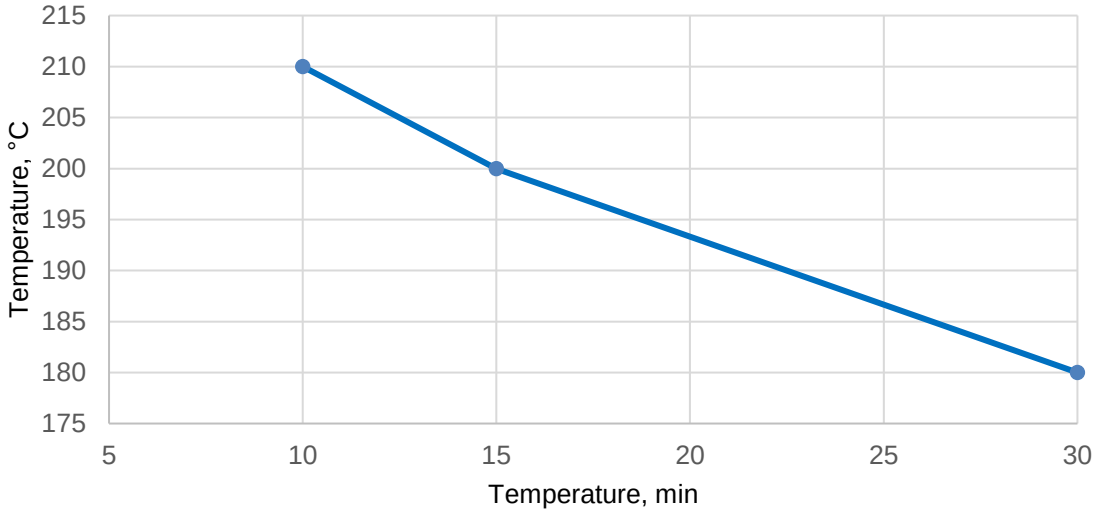
Formulation	Black with Primid XL-552	Black with TGIC	White with Primid XL-552
CC2441-2 (Allnex)	526	526	504
Isocryl EP-570G	176	176	168
Primid XL-552 (EMS)	10	-	10
TGIC		10	-
Resiflow® PL-200	10	10	10
Benzoin	5	5	5
Escat 50	3	3	3
Titanium TR-60 (Huntsman)	-	-	300
Blanc Fixe F (Sachtleben)	260	260	-
Carbon Black	10	10	-

Total	1000	1000	1000
Properties	Black with Primid XL-552	Black with TGIC	White with Primid XL-552
Gloss at 60°	5.4	1.2	3.1
Reverse Impact (in/lb.)	80	60	60
MEK, double rubs	50	50	50

INFLUENCE OF PERCENT OF PRIMID XL-552 ON SMOOTHNESS AND GLOSS AT 60°



CURE CURVE



Cure determined by 20+ in.lb. Reverse Impact, 25+ MEK double rubs and gloss below 10 at 60°

COMPARASION ISOCRYL EP-570G to EP-575G

Properties	EP-570G	EP-575G
Gloss Range	<10 at 60°	<10 at 60°
Acrylic Level	25%	20%
Resin Selection	AV >30	AV >30
Burnish Resistance	Very Good	Moderate
Mechanical Properties	Moderate, depending on polyester Reverse Impact 20+ in/lb.	Excellent Reverse Impact 40-160 in/lb.
Chemical Resistance, MEK double rubs	25+	50+
PCI Smoothness	4 - 6	5 - 7
Minimum Cure	30 min at 180°C	20 min at 170°C
Storage Stability	No Lumps, but loss of mechanical properties <40°C	No lumps or chemical advancement <30°C
Unpigmented Formulations	Not recommended, but can be used for special effects	Recommended

Isocryl EP-570G is most suitable for formulations that require optimized properties of surface appearance and performance. For example, Isocryl EP570G offers the best burnish and mar resistance for matte exterior durable polyester coatings.

REGULATORY LISTINGS

The components in this material are either listed or exempt from listing due to polymer exemption criteria for the following chemical listing inventories: AICS (Australia), DSL (Canada), ECL (Korea), ECN (Taiwan), ENCS (Japan), IECSC (China), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA).

All components are REACH registered per ECHA requirements.

PACKAGING (NET WEIGHT)

55 lb. / 25 kg in fiberboard boxes with polyolefin liner

PRODUCT AVAILABILITY

This product is commercially available and may require lead time.

STORAGE AND HANDLING

Store in a dry, cool area and avoid excessive heat. Shelf life of unopened containers is 18 months from date of shipment. Refer to the SDS for additional information.

CONTACT INFORMATION

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