

## GENERAL DESCRIPTION

Isocryl® EP-581 LT 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-912 powder coatings are well suited for use with Isocryl EP-581 LT. A key advantage is its lower cure capability over conventional matting hardeners and its predecessors Isocryl EP-570G and EP-575G.

## TYPICAL PROPERTIES\*

Appearance	Clear Ground Flake
Softening Point (ASTM D36)	135-145°C
Non-Volatile, weight %	98.5% minimum
Specific Gravity (25/25)	1.15-1.25
Theoretical Epoxy Equivalent Weight	650-690
Glass Transition Temperature	67-77°C

\* Not to be used for specification purposes

## ISOCRYL EP-581 LT 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-581 LT at a 70:30 ratio with a second crosslinker such as Primid® XL-552 at 1% on total formulation. Primid QM-1260, TGIC, PT-912 are also suitable as a second crosslinker.

Formulations with Isocryl EP-581 LT 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.

It is recommended that formulated powders be tested for both physical and chemical advancement when stored at elevated temperatures. Recommended storage temperature is below 30°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.

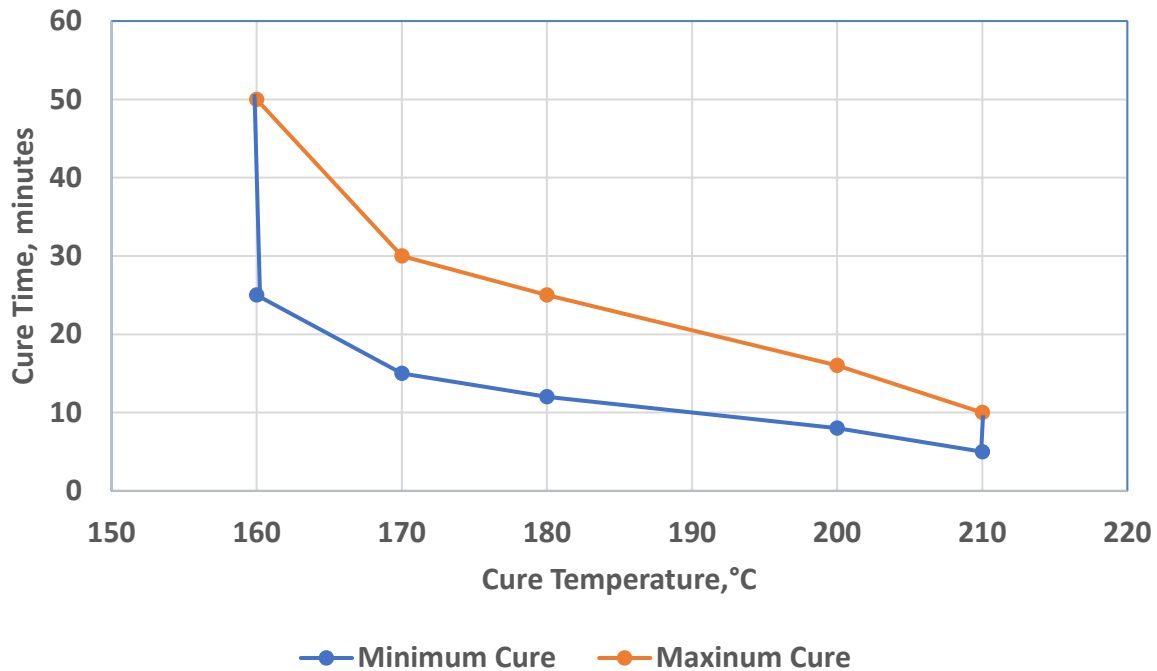
## EXAMPLE FORMULATIONS

Raw materials	Black	White	Unpigmented
CC2441-2 (Allnex)	557.4	557.4	737
Primid XL-552 (EMS)	10	10	10
Isocryl EP-581 LT	157.6	157.6	235
Resiflow PL-200	10	10	10
Benzoin	5	5	5
Blanc Fixe F (Venator)	245	-	-
Carbon Black Pigment	10	-	-
Escat 50	5	5	3
Titanium TR-60(Huntsman)	-	255	-
Total	1000	1000	1000

**CURE WINDOW**

Cure determined by 20+ in.lb. Reverse Impact, 25+ MEK double rubs, gloss below 10 at 60° and Delta E ≤ 1

**EP-581 LT Cure Window**



**COMPARASION ISOCRYL EP-581 LT to EP-570G and EP-575G**

Properties	EP-581 LT	EP-570G	EP-575G
Gloss Range	<10 at 60°	< 10 at 60°	< 10 at 60°
Acrylic Level	30%	25%	20%
Resin Selection	AV>30	AV>30	AV>30
Burnish Resistance	Moderate	Very Good	Moderate
Mechanical Properties	Moderate Reverse Impact 20+ inch per lb.	Moderate, depending on polyester Reverse Impact 20+ inch per lb.	Excellent Reverse Impact 40-160 inch per lb.
Chemical Resistance, MEK double rubs	50+	25+	50+
PCI Smoothness	6-7	4-6	5-7
Minimum Cure	30 min at 160°C	30 min at 180°C	20 min at 170°C
Storage Stability	No lumps or chemical advancement below 30°C	No Lumps, but loss of mechanical properties below 40°C	No lumps or chemical advancement below 30°C
Unpigmented Formulations	Recommended	Not Recommended, but can be used for special effects	Recommended

**Isocryl® EP-581 LT  
MATTING HARDENER  
FOR POWDER COATINGS**

*Experimental Product*



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**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), TCSI (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 experimental and subject to change. Please contact your Estron Sales Representative for lead time and availability.

**STORAGE AND HANDLING**

Keep container tightly closed and store in a dry, well ventilated area away from heat and sources of ignition. Store Isocryl EP-575G and finished formulations containing Isocryl EP-581 LT at  $\leq 30^{\circ}\text{C}$  for optimal performance. Shelf life of unopened containers is one year from date of shipment. See SDS for detailed information.

**CONTACT INFORMATION**

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*Revision Date: August 29, 2018*

*TDS Revised by: A. Chizhikova*

*TDS Approved by: F. Allen*