

Powder coatings based on Isocryl® EP-550G are being used in many situations in which a very smooth, UV resistant, matte finish is desired. Formulations with 60° gloss levels ranging from <10% to 40% are also obtainable with the product. Estron's glycidyl-functional acrylic resin GMA-300™ can be used as a co-reactant with the Isocryl EP-550G to produce powder coatings with a broad range of gloss while maintaining excellent film properties. The table below list five formulations to produce coatings with the desired varying levels of gloss. The increase in gloss is basically achieved by adding a small percentage of GMA-300 to the matte formula PE-026-1. The actual gloss achieved will be dependent on the polyester used, the level and type of pigments, and the level and type of inert pigments. Thus, each formula will require some fine-tuning to assure that the gloss level desired is achieved.

FORMULATIONS

	PE-026-1	PE-026-2	PE-026-3	PE-026-4	PE-026-5
7307 (35 A.V.)	56.0	55.6	55.3	55.0	54.7
Isocryl EP-550G	23.9	23.7	23.6	23.5	23.4
Fast Blue (Clariant)	0.25	0.25	0.25	0.25	0.25
TiO ₂ (DuPont R-960)	17.4	17.3	17.2	17.1	17.0
Escat 22	2.5	2.5	2.5	2.5	2.5
GMA-300	0	0.7	1.2	1.7	2.2

PROPERTIES

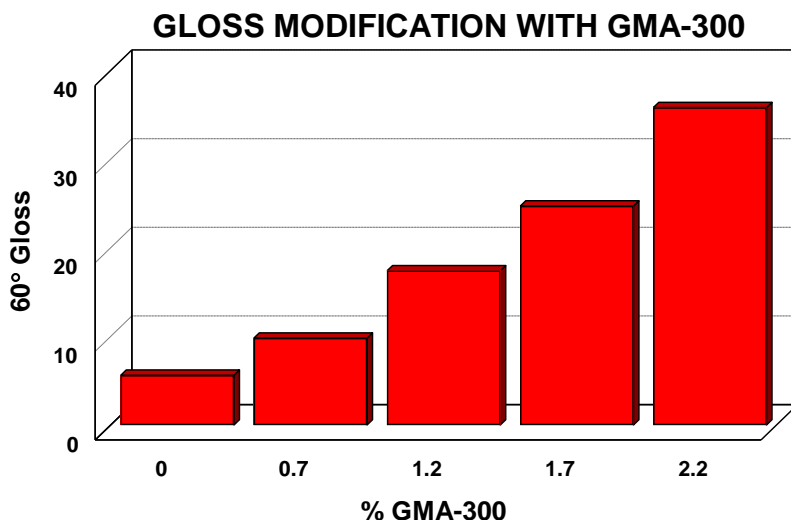
60° Gloss	5.6	9.8	18.4	24.7	35.8
Impact Resistance (Reverse inch-lbs.)	60	160	160	160	120

EXTRUSION CONDITIONS

Single screw extruder:
 Zone 1 temperature: 108° C
 Zone 2 temperature: 113° C
 Screw speed: 140rpm

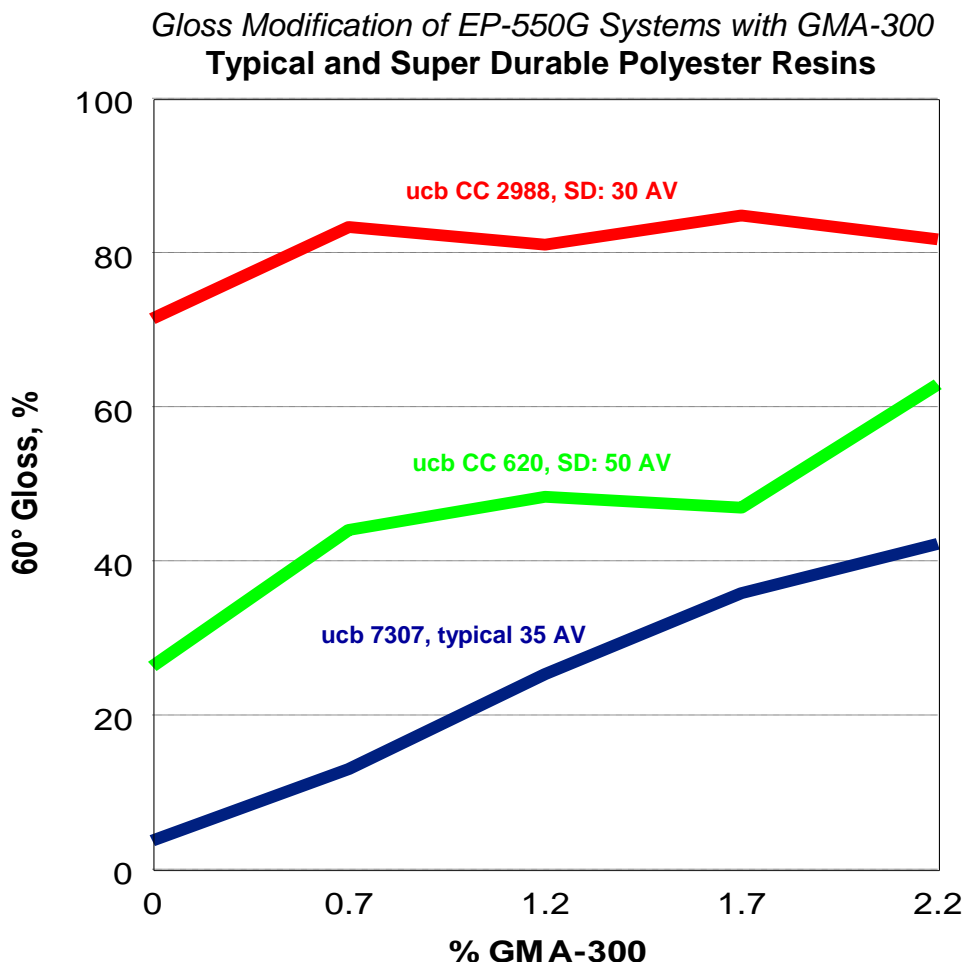
BAKE CONDITIONS

10 Minutes @ 200°C



EFFECT OF POLYESTER SELECTION

The choice of polyester resin for formulating the stepwise gloss modification of Isocryl EP-550G with the co-reactant GMA-300 is important. As the graph below shows, the typical 35 A.V. TGIC-type polyesters yield lower gloss curves than do superdurable polyesters.



CONTACT INFORMATION

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