

CR-607™ Monomer Product Bulletin

Last Revised April 20, 2006



Introduction:

CR-607 and CR-630™ monomers in combination with Next Generation Transitions® photochromics produce lenses with superior photochromic performance.

Health and Safety:

Always read the CR 607 Monomer MSDS, product ID # 0761 and product label. Follow all instructions when handling this product.

Storage and Handling:

To safeguard the quality of CR 607 monomer, keep the product stored in its original, unopened container.

Since the material is mildly hygroscopic, containers should be kept closed until time of use. Opening prior to use can cause the drums to rust.

Shelf Life:

CR 607 monomer should be used within 9 months from the date of production at PPG as printed on the barcode label.

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Technical Note

Monomer Haze

CR-607 monomer, when stored for extended periods of time at low temperatures may develop a slight haze. For example, tests have shown that a 55-gallon drum stored at 2° C will form a slight haze in about 8 weeks. Haze will continue to accumulate after that. Analytical testing has demonstrated no product degradation due to storage of the monomer under low temperature conditions. Lenses cast from both the hazy and non-hazy monomer and have given similar results when processed by Transitions. Storing a 55-gallon drum at 23° C overnight will allow the haze to completely disappear. This may be desirable to avoid potential filtering problems. Although recommended, agitation is not required of a 55-gallon drum of **CR-607** prior to use.

Processing:

The processing of **CR-607** should be similar to the processing of **CR-39™** monomer. Initiator levels and curing cycles should be more like those used for **CR-39** monomer to give acceptable lenses for Transitions® process (see initiator levels below). **CR-607** monomer contains a UV absorber. **DO NOT** add additional UV absorbers as they may have a negative impact on photochromic performance characteristics.

Initiator Levels:

Requirements for initiator levels will vary according to processing. However, the following levels can be used as guidelines for a starting point. Degree of cure is critical to the performance of the photochromic lenses.

Begin by using a formulation with 2.55% by weight of Diisopropyl Peroxydicarbonate (IPP). Transitions® qualification procedures require lenses to be imbedded at Transitions® in order to validate the lens and the lens casting process. The degree of cure needs to achieve a specific lens UV absorbance in order to be qualified for Transitions®.

In the laboratory using the cure cycle below, an initiator level of 2.55% by weight of IPP resulted in polymer with an acceptable degree of cure. A limited number of lenses were cast using these conditions, and there were no signs of striation or pre-release. However, please note that these processing parameters have not been optimized, and only represent guidelines for a starting point.

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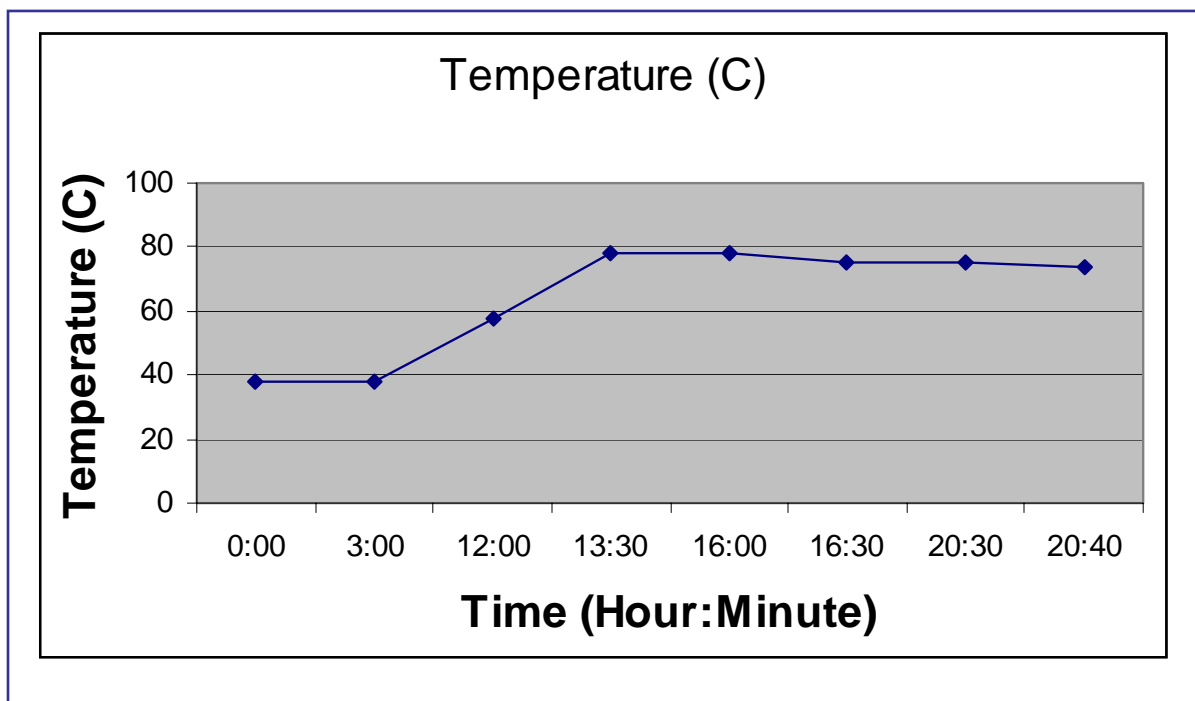
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Cure Cycle:

Step	Hour:Minutes	Temperature (C.)
1	0:00	38
2	3:00	38
3	12:00	58
4	13:30	78
5	16:00	78
6	16:30	75
7	20:30	75
8	20:40	74
9	Demold	74



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Typical Monomer Properties for CR 607:

Viscosity @ 25 ⁰ C	32 cPs
Density g/ml	1.12
Refractive Index n _D ²⁰ at 20 ⁰ C	1.4551
Transmittance %	92
Yellowness Index	3.5
IPP Level, %weight	2.4
Gel-Time, hours @ 40C	~ 4.75 hours
Gel-Time, hours @ 22C	~ 5.0 days

Typical Polymer Properties for CR 607:

**** CR630 initiated with 10% IPP pre-mix**

Refractive Index n _D ²⁰ at 20 ⁰ C	1.497
Abbe	56
Density, g/ml	1.27
Polymerization Shrinkage, %	11.4
Barcol 935	72 - 73
Heat Distortion Temperature, ⁰ C @ 10mils deflection	41
Total Deflection at 130 ⁰ C in mils	37
Transmittance, %	93
b*	0.5
Bayer Abrasion, x uncoated CR-39	1.14

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Samples and Services:

For additional information, please contact a PPG customer service representative at:

- Phone: **1-800-323-2487**
- Fax: **724-325-5042**

or: [send E-Mail](#)

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