

Advanced Materials**Aradur[®] 3253 Epoxy Curing Agent**

Low viscosity, cycloaliphatic polyamine

Provisional Data Sheet

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| Key properties | <ul style="list-style-type: none">• Low viscosity• Low color• Improved yellowing resistance over typical isophorone diamine (IPDA)-based curing agents• Rapid cure at low temperature• Good blush resistance• Good resistance to water spotting• Low mixing ratio with Araldite[®] GY 6010 Epoxy Resin |
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| Description | Aradur [®] 3253 epoxy curing agent offers the ability to formulate epoxy systems with low color and good color stability for decorative floor toppings, stone carpets, clear sealers and gloss enamels. In accelerated UV exposure testing, it showed less yellowing than a typical isophorone diamine (IPDA)-based curing agent. Its low viscosity reduces the need for epoxy reactive diluents resulting in improved chemical resistance and mechanical properties of the system. Its good low temperature cure, blush and water spot resistance are an advantage in formulating for cooler environments. |
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| Applications | Solvent-free and high solids coatings, decorative floor toppings, stone carpets, clear sealers, decorative top coats |
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Product data^{*}

| | Aradur[®] 3253 Epoxy Curing Agent |
|---|---|
| Visual Appearance | Clear, no contamination |
| Color, Gardner, max. | 1 |
| H ⁺ Active Equivalent Weight (g/eq.) | 95 |
| Use Level with Araldite GY 6010 (phr) | 50 |
| Amine Value (mg KOH/g) | 290 - 320 |
| Viscosity at 25°C (cP) | 200 - 260 |
| Density at 20°C (g/cm ³ , lb/gal) | 1.02, 8.5 |
| Flash Point, Closed Cup (°C) | > 100 |

* Product data are based on Huntsman's test methods. Copies are available upon request.

Formulations**Clear Coating Starting Formulation (Parts by Weight)**

| Formulation No. | 1 | 2 |
|---|----------|----------|
| Araldite® GY 6010 Epoxy Resin ¹ | 100 | - |
| Araldite® PY 313 Epoxy Resin ² | - | 100 |
| Aradur® 3253 Epoxy Curing Agent | 50 | 50 |
| Mixed Viscosity³, 25°C (cP) | | |
| | 1750 | 600 |
| Gel time⁴, 100 g, 23°C (min) | | |
| | 43 | 70 |
| Curing Properties⁵ @ 23°C / 50% Relative Humidity | | |
| Tack-free time (hr) | 3.5 | 5 |
| Cure-through time (hr) | 5 | 7 |
| Film Appearance | Glossy | Glossy |
| Gloss (20° / 60°) ⁶ (%) | - | - |
| @ 5°C / 50% Relative Humidity | | |
| Tack-free time (hr) | 9 | 17 |
| Cure-through time (hr) | 16 | >24 |
| Film Appearance | Glossy | Glossy |
| Gloss (20° / 60°) ⁶ (%) | - | - |

¹ Standard bisphenol-A liquid epoxy resin (epoxy equivalent weight: 182 - 192)

² Modified bisphenol-A/F liquid epoxy resin (epoxy equivalent weight: 180 - 192)

³ ASTM D4440 (ICI Cone & Plate)

⁴ Tested by Gardco® Standard gelation timer, Model GT-S

⁵ Tested by Gardner® Circular Drying Time Recorder on a 10 mil wet coating

⁶ ASTM D523

Typical Cured Properties

Unless otherwise stated, the data were determined with typical production batches using standard testing methods. They are provided solely as technical information and do not constitute a product specification.

| Formulation No. | 1 | 2 |
|---|---------|---------|
| Araldite® GY 6010 Epoxy Resin | 100 | - |
| Araldite® PY 313 Epoxy Resin | - | 100 |
| Aradur® 3253 Epoxy Curing Agent | 50 | 50 |
| Coating Properties 10-mil, 7 days @ 23°C / 50% Relative Humidity | | |
| Pencil Hardness ⁷ | 4H | 2H |
| PersoZ Hardness ⁸ (s) | 304 | 233 |
| X-Cut Adhesion ⁹ | 4A | 4A |
| Impact Resistance ¹⁰ (Direct/Rev.) (in-lb) | 10 / 2 | 40 / 8 |
| Mandrel Bend ¹¹ | Fail 1" | Pass 1" |
| Glass Transition Temp. ¹² , T _g , (°C) | 49.4 | 41.3 |

⁷ ASTM D3363

⁸ ANSI/ISO 1522

⁹ ASTM D3359

¹⁰ ASTM D2794

¹¹ ASTM D522

¹² Determined by Differential Scanning Calorimetry (DSC)

Yellowing Resistance

Cure: 7 days, 23°C / 50% Relative Humidity

Measured by Yellowing Index

Exposure Conditions: QUV-A (340 nm) bulbs, 7 days

Formulation: Araldite® GY 6010 Epoxy Resin, Titanium Dioxide (20%)

| QUV Exposure Time | Initial | 1 day | 4 days | 7 days |
|---------------------------------|---------|-------|--------|--------|
| Aradur® 3253 Epoxy Curing Agent | -2.4 | 7.8 | 24.1 | 33.7 |
| Aradur® 2975 Epoxy Curing Agent | -1.8 | 7.1 | 30.9 | 44.4 |

Storage

Aradur® 3253 epoxy curing agent should be stored in a dry place and in the sealed original container, at temperatures between 2°C and 40°C (35°F and 104°F). Under these storage conditions the shelf life is 2 years. The product should not be exposed to direct sunlight.

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First Aid!

Refer to MSDS as mentioned above.

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