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Advanced Materials

Aradur® 356 Hardener

A MEDIUM VISCOSITY PHENOL FREE LIQUID ALIPHATIC AMINE ADDUCT

GENERAL:

Aradur® 356 hardener is a light colored, medium viscosity phenol free hardener for solvent-free coatings. Fast cure, excellent adhesion, light color and excellent chemical resistance characterize coatings based on Aradur® 356. Particularly suitable for application with two-component spray equipment, formulations based on Aradur® 356 demonstrate excellent curing properties. These coatings can also be applied by conventional brush or roller.

CHEMICAL DESCRIPTION:

A long chain aliphatic amine adduct (Phenol free Aradur® 837)

ADVANTAGES:

- Light color
- Medium viscosity
- Excellent chemical resistance
- High gloss
- Good cure response at low temperatures (5°C)
- Good resistance to blushing and exudation
- Good mechanical properties and toughness

APPLICATIONS:

- Solvent-free and high solids formulations
- Clear decorative wood and metal coatings
- Maintenance coatings
- Linings for drums, tanks and pipes made of metal, concrete, etc.
- Flooring compounds and sealants
- Suitable as an accelerator for polyamidoamine and polyamide hardeners
- Castings
- Adhesives

TYPICAL PROPERTIES*:

Visual Appearance	Clear, no contamination
Color, Gardner, max	3
H^+ Active Equivalent, g/eq.	68
Amine Value, mg KOH/g	450 - 510
Viscosity @ 25°C (77°F), mPa s (cPs)	1,000 - 2,500
Density @ 25°C (77°F), g/cm^3 (lb/gal.)	0.97 (8.1)
Flash Point, Closed Cup, °C (°F)	>93 (>200

* Typical properties are based on Huntsman's test methods. Copies are available upon request.

FORMULATIONS:

Clear Coating Starting Formulations

(Parts by weight)	**1**	**2**
Araldite® GY 6010 (1)	100	-
Araldite® PY 313 (2)	-	100
Aradur® 356	35	35
Mix viscosity (3) @ 23°C, cPs	>4,000	1,800
Gel time (4) 100 g, 23°C, min	37	59

Curing Properties (5)

@ 23°C/50% Relative Humidity

Tack-free time, hours	3.0	4.0
Cure-through time, hours	5.0	6.0
Film appearance (6)	Glossy	Glossy

@ 5°C / 80% Relative Humidity

Tack-free time, hours	6.0	11.0
Cure-through time, hours	10.0	16.0
Film appearance (6)	Matte	Matte

Coating properties after 7 days cure at 23°C
Dry film thickness, 10 - 11mil

Glass Transition temperature, Tg [7] (°C)	53	48
Pencil hardness [8]	2H	H
Cross hatch adhesion [9]	4	5
Impact (direct/reverse), [10] in.-lbs.	10/0	18/2

[1] Standard bis A liquid epoxy resin (epoxy equivalent weight: 182 - 192)
[2] Reactive diluent modified bis A / F epoxy resin blend (epoxy eq. weight: 182 - 192)
[3] ASTM D 4440 (ICI Cone & Plate)
[4] Tested by TECAM® gelation timer
[5] Tested by Gardner® Circular Drying Time Recorder on a 10 mil wet coating
[6] Visual
[7] Tested by DSC (Differential Scanning Calorimetry)
[8] ASTM D 3363
[9] ASTM D 3359 (0 = worst, 5 = best)
[10] ASTM D 2794

STORAGE:

Aradur® 356 is supplied in 400 pound standard containers. This product should be stored in a dry place, in the sealed original container, at temperatures between +2°C and +40°C (+35.6°F and 104°F). Under these storage conditions, the shelf life is 3 years. The product should not be exposed to direct sunlight.

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First Aid!
Refer to MSDS as mentioned above.

KEEP OUT OF REACH OF CHILDREN

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