

CRAYAMID[®] 250B-75

PROTECTIVE & MARINE COATINGS

ARKEMA COATING RESINS

Product Application details CRAYAMID[®] 250B-75 epoxy – polyamide adduct in which the polyamide resin is reacted with a part-portion of the epoxy resin and supplied at 75% solids. This gives the product several advantages over standard polyamides.

Polymer Type

- Amino-polyamide Resin

Sales Specifications	Non-volatile content at 105°C, % (ISO 3251)	74 - 76
	Viscosity in Poise at 25°C, Brookfield (ISO 3219)	40 - 80
	Colour, Gardner scale (ISO 4630)	7 Max
	Amine value, mg KOH/g (Perchloric Method)	230 - 250

Other	Volatile	n-Butanol
	Density / Specific Gravity at 20°C, g/ml (ISO 2811)	0.96
	Typical Active Hydrogen Equivalent weight	250

Characteristics¹

Note: Amine value and typical active hydrogen equivalent weight are relative to solid resin

The data provided for these properties are typical values, intended only as guides, and should not be construed as sales specifications

RECOMMENDATION FOR USE

The selection of a particular grade of epoxy resin will depend on many factors but essentially in most solvent based coatings the medium molecular weight epoxy resins are used, i.e. epoxide equivalent approx. 500(1). Whilst the mix ratio when using CRAYAMID[®] polyamides is not critical, optimum performance of a coating is achieved by stoichiometric mixing of the epoxy and CRAYAMID[®] 250B-75. The mix ratio is calculated from the active hydrogen equivalent weight (AHEW) since each epoxy group in the base resin will react with one active hydrogen present in the polyamide. The AHEW of CRAYAMID[®] 250B-75 is typically 250 on solid resin. Considering that each epoxy group reacts with one active hydrogen, the mix ratio of CRAYAMID[®] 250B-75 and an epoxy resin with epoxide equivalent approx. 500 (1) is calculated as follows:

Formulation Guidelines

Resin	Mass of solid resin (g)	Mass of resin solution (g)
CRAYAMID [®] 250B-75	250	333
75% epoxy resin	500	667

LOW TEMPERATURE CURE APPLICATION:

CRAYAMID 250B-75 has improved compatibility and low sensitivity to moisture. These combined advantages significantly reduce the possibility of film defects forming under low temperatures curing conditions.

CURE RATE

A epoxy resin (1): CRAYAMID[®] 250B-75 film applied at room temperatures develop full gloss even if applied immediately after mixing. CRAYAMID 250B-75 has a fast initial cure rate, which is normally in the range of 6-8-hrs.at room temperature.

Cure of epoxy:polyamide systems can be accelerated by a range of catalysts, and in particular Tris(dimethylaminomethyl) phenol types (2) which are recommended for use at a level of 1 - 5% (calculated by weight on total resin). It should be noted, that when catalysts are employed, pot life will be reduced and there may be an adverse effect on flexibility and colour.

POT LIFE

Reaction between epoxy resin and CRAYAMID[®] 250B-75 will commence as soon as the reactants are mixed. A 2:1 epoxy (1): CRAYAMID[®] 250B-75 mixture on solid or solution resin will have a pot life of approx. 10 hours (where pot life is determined as the time taken for a 200g mass of resin at 25°C to double its initial viscosity). Solvents have a considerable effect on pot life, e.g. alcohols tend to reduce pot life, whereas esters and ketones tend to extend it. Since ketones and esters form complexes with amino polyamides on storage, these solvents should only be incorporated into the epoxy resin component.

COMPATIBILITY

CRAYAMID[®] 250B-75 is compatible with many synthetic resins, varnishes, oils and other media.

Notes: (1) Araldite[®] 6100 (Huntsman) or Epikote[™]1001 (Momentive), (2) Ancamine[®] K54 (Air Products)

Product

Please refer to the corresponding Safety Data Sheet.

Safety

Storage & Handling

CRAYAMID[®] 250B-75 should be stored indoors in the original, unopened and undamaged container, in a dry place at a temperature not exceeding 30°C. Exposure to direct sunlight should be avoided.

In the above mentioned storage conditions the shelf life of the resin will be 12 months from the date of manufacture.

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