CRAYAMID®

TECHNICAL DATA SHEET

CRAYAMID® 115X-70

Reactive polyamide

PRODUCT APPLICATION DETAILS

CRAYAMID® 115 X 70 is a general purpose amino polyamide resin supplied at 70% solids content in xylene.
It is used in conjunction with suitable epoxy resins to produce both top coats and primers for a wide variety of substrates.
Main characteristics are excellent resistance properties and adhesion to metallic substrates.

SALES SPECIFICATIONS

	CHARACTERISTICS	METHODS
Solid content (@ 125°C)	68 - 72	ISO 3251
Viscosity (Brookfield SC4-21/13R, , 28 s-1) (@ 25°C, 93s-1,)	1200 - 1800 mPa.s	ISO 3219
Color	10 max Gardner	ISO 4630
Amine value (Perchloric Method)	230 - 260 mg KOH/g	CVI 069

OTHER CHARACTERISTICS[1]

	CHARACTERISTICS	METHODS
Volatile	Xylene	
Flash point	24 °C	ISO 3679
Density (@ 20°C)	0.95 g/ml	ISO 2811
Active Hydrogen Equivalent Weight	240	

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

MARKETS & APPLICATIONS

COATINGS & INKS

- INDUSTRIAL COATING
  - COIL
  - GENERAL INDUSTRY
  - PROTECTIVE COATING
  - PROTECTIVE AND MARINE COATING
  - RIGID PACKAGING METAL (CAN & OTHERS)

PERFORMANCE BENEFITS

- Excellent Resistance Property
- Excellent adhesion to metallic substrates

CRAYAMID® 115X-70

FORMULATION GUIDELINES

RECOMMENDATIONS 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® 115 X 70. 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® 115 X 70 is typically 240 on solid resin. Considering that each epoxy reacts with one reactive hydrogen, the mix ratio of CRAYAMID® 115 X 70 and an epoxy resin with epoxide equivalent approx. 500 [1] is calculated as follows:
-Mass of solid resin (g): CRAYAMID® 115 X 70/75% epoxy resin = 240/500
-Mass of resin solution (g): CRAYAMID® 115 X 70/75% epoxy resin = 343/667
The resulting epoxy : polyamide mix ratio in this case is approx. 65:35 based on solid resin. Excess polyamide in a coating will impart flexibility and adhesion at the expense of solvent resistance.

CURE RATE

A 65:35 epoxy resin [1] : CRAYAMID® 115 X 70 blend on solid resin will reach a tack free time of 30 minutes at 25°C. Films will touch dry more rapidly if higher molecular weight resins are used. An induction period to ensure complete compatibility is recommended.
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 the epoxy resin and CRAYAMID® 115 X 70 will commence as soon as the reactants are mixed. A 65:35 epoxy [1] : CRAYAMID® 115 X 70 mixture on solid 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® 115 X 70 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 SAFETY

Please refer to the corresponding Safety Data Sheet.

STORAGE AND HANDLING

CRAYAMID® 115X-70 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 from the date of manufacturing.
Shelf Life (Months): 12

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