

TECHNICAL DATA

CRAYAMID 115

SALES SPECIFICATION

Non-volatile content, %
ISO 3251 (105°C / 1gm / 3 hrs) 95 - 100

Viscosity in CPS at 40°C 45000 - 55000

Colour, Gardner scale
(ISO 4630) ≤ 11

Amine value, mg KOH/g
(HCL Method) 200 - 220

OTHER PROPERTIES

Density at 20°C
(ISO 2811) 0.97

Typical hydrogen Equivalent Weight 240

PRODUCT INFORMATION:

CRAYAMID 115 is a viscous general purpose amino polyamide resin. It can be used in conjunction with suitable epoxy resins to produce both top coats and primers as well as thermosetting adhesives for a wide variety of substrate. CRAYAMID 115 is particularly useful as a general purpose resin combining excellent resistance properties and good exterior durability. It is compatible with many synthetic resins, varnishes, oils and other media.

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). While the mixing ratio using **CRAYAMID** polyamides is not critical, optimum performance of the coating is achieved by stoichiometric mixing of the epoxy resin and **CRAYAMID 115**. The mix ratio is calculated on the basis of one Active Hydrogen Equivalent weight of the polyamide resin, will react with each epoxy group in the base resin. The AHEW of the polyamide resin **CRAYAMID 115** is typically 240 on solid resin. Considering that each epoxy reacts with one active hydrogen the mix ratio of **CRAYAMID 115** and an epoxy resin with epoxide equivalent approx. 500 is calculated as follows;

| Resin | Mass of solid Resin | Mass of Resin Solution |
|--------------------|---------------------|------------------------|
| CRAYAMID115 | 240g | 240g |
| 75% Epoxy resin(1) | 500g | 667g |

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** blend on solid resin will reach a tack free time in 30 mins. at 25°C. Film will obviously dry more rapidly if higher molecular weight epoxy resins are used. An induction period to ensure complete compatibility is recommended. Cure of epoxy: polyamide can be accelerated by the addition of catalysts and in particularly Tris (dimethylaminomethyl) phenol(2) types 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.

POTLIFE:

Reaction between the epoxy resin and **CRAYAMID 115** will commence as soon as the reactants are mixed. A65: 35 epoxy: **CRAYAMID115** mixture on solid resin will have a limited pot life. Solvents will have a considerable effect on pot life e.g. alcohols tend to reduce pot life where as 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.

ADHESIVES:

CRAYAMID 115 : epoxy resin systems demonstrate excellent adhesion to a wide variety of surfaces. In formulating adhesives for flexible substrate, a higher proportion of polyamide is required to ensure the necessary flexibility. (In bonding rigid plastics, e.g. P.V.C, the adhesive bond is normally stronger than the plastic)

NOTES:

1. Epoxy resins epoxide equivalent approx. 500 Araldite 6071 - Huntsman.
2. Ankamine K54 - Anchor Chemical