

TECHNICAL DATA

CRAYAMID 125

SALES SPECIFICATION

Non-volatile content, %
ISO 3251 (105°C / 1gm / 3 hrs) 93 - 100

Viscosity in CPS at 40°C 8000 - 12000

Colour, Gardner scale
(ISO 4630) ≤ 11

Amine value, mg KOH/g
(HCL Method) 280 - 320

OTHER PROPERTIES

Density at 20°C
(ISO 2811) 0.97

Typical hydrogen Equivalent Weight 130

PRODUCT INFORMATION:

CRAYAMID 125 is a medium viscosity liquid amino polyamide resin used in conjunction with epoxy resins to produce high build coatings and structural and laminating adhesives. It is used where the prime requirement are fast cure and flexibility. 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 the end use, although for high build coatings a low molecular weight epoxy resin(1) (epoxide equivalent below 250) is recommended. In solvent based coatings both the medium molecular weight(2) and unmodified liquid(1) epoxy resins may be used, whilst for adhesive applications either the unmodified(1) or modified(3) liquid epoxy resins are recommended. 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 125**. 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 125** is typically 130 on solid resin. Considering that each epoxy reacts with one active hydrogen the mix ratio of **CRAYAMID 125** and an epoxy resin with epoxide equivalent approx. 500 is calculated as follows;

Resin	Mass of solid Resin	Mass of Resin Solution
CRAYAMID125	130g	130g
75% Epoxy resin(2)	500g	667g

The resulting epoxy: polyamide mix ratio in this case is approx. 80:20 based on solid resin. Excess polyamide in a coating will impart flexibility and adhesion at the expense of solvent resistance.

CURE RATE:

A 75:25 epoxy resin(2): **CRAYAMID125** blend on solid resin will reach a tack free time in 180 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 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 **CRAYMIDE 125** will commence as soon as the reactants are mixed. A75: 25 epoxy: **CRAYAMID125** 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 125: epoxy resin systems demonstrate excellent adhesion to a wide variety of surfaces, such as glass, wood, ceramics, masonry, leather and plastic substrates. The pot life of a **CRAYAMID 125:** epoxy resin adhesives will cure at ambient temperature but heating to elevated temperature can reduce cure time.

NOTES:

1. Unmodified epoxy resin epoxide equivalent 200
Epikote 828 - shell Chemicals.
2. Epoxy resins epoxide equivalent approx. 500
Araldite 6071 - Huntsman.
3. Modified epoxy resins epoxide equivalent approx. 200
Epikote 915 - Shell Chemicals