

SYNOCURE® 853 BA 80

GENERAL INDUSTRY / PROTECTIVE & MARINE COATINGS

ARKEMA COATING RESINS

Product Application details

SYNOCURE® 853 BA 80 is a high solids hydroxy functional acrylic resin designed for curing at both room temperature and under low bake conditions with suitable polyisocyanates.

Ease of application, initial gloss and appearance make them suitable for many applications including ACE and general metal coatings. Coatings based on SYNOCURE® 853 BA 80 are faster drying than most other high solids types.

The high solids/low viscosity character of SYNOCURE® 853 BA 80 allows low VOC coatings to be formulated even with conventional polyisocyanates. Depending upon formulation <420g/l at 23 seconds and <350g/l at 45 seconds are possible.

Polymer Type

- Solventborne Acrylic

Sales Specifications

Solid Content at 125°C, % (ISO 3251)	78 - 82
Viscosity at 25°C, mPa.s (ISO 12058-1)	13000 - 17000
Colour, Gardner scale (ISO 4630)	2 max
Acid value, mg KOH/g (ISO 2114)	10 max

Other Characteristics¹

Volatile	Butyl acetate
Flash point, °C (ISO 3679)	23
Density / Specific Gravity at 20°C, g/ml (ISO 2811)	1.035
Hydroxyl Content, %	4.1
Hydroxyl Equivalent weight	415

Note: Acid value and/or Hydroxyl value quoted relative to solid resin

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

RECOMMENDATIONS FOR USE

SYNOCURE® 853 BA 80 should be mixed just prior to application with the selected polyisocyanate. The mixing ratio is not critical although it is preferable to use stoichiometric ratios to obtain optimum performance.

The reaction ratio is calculated from the respective equivalent weight or hydroxyl and isocyanate content of the reactants. The relationship is:

$$\text{Hydroxyl equivalent weight} = \frac{17 \times 100}{\% \text{ OH}}$$

$$\text{Isocyanate equivalent weight} = \frac{42 \times 100}{\% \text{ NCO}}$$

Using Desmodur® N 75 series (1) or Tolonate™ HDB 75 MX (2), the recommended ratios would be:

	on solid resin	as supplied
SYNOCURE® 853 BA 80	415	519
Desmodur® N 75 series (1) or Tolonate™ HDB 75 MX (2)	191	255

The high reactivity of systems based on SYNOCURE® 853 BA 80 makes them ideal for use in coatings applied with twin-feed guns. When conventional application equipment is used care

Formulation Guidelines

should be taken to mix no more paint than can be applied during the period appropriate to the pot life and to clean equipment immediately after use.

If necessary the initial rate of cure of SYNOCURE® 853 BA 80 based systems can be accelerated by the use of tin catalyst in the form of dibutyltin dilaurate. Although the level can be varied to suit specific requirements 0.003% metal based on total solid resin is a good starting point. SYNOCURE® 853 BA 80 should only be used in applications consistent with the above recommendations. Proposals to use the resin in alternative ways should be discussed with Arkema before any action is taken.

SOLUBILITY

The solvents chosen for paints and lacquers based on SYNOCURE® 853 BA 80 should be free of water and should not contain groups that react with isocyanates.

Esters and ketones are true solvents for this type of system and are recommended for use in conjunction with aromatic hydrocarbon diluents such as xylene.

Notes: (1) Bayer MaterialScience, (2) Vencorex Chemicals

Product Safety

Please refer to the corresponding Safety Data Sheet.

Storage & Handling

SYNOCURE® 853 BA 80 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 shipping date

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