

SYNOCURE® 854 BA 80

PROTECTIVE & MARINE COATINGS

ARKEMA COATING RESINS

Product Application details

SYNOCURE® 854 BA 80 is a high solids hydroxy functional acrylic resin designed for curing at room temperature with suitable polyisocyanates. Suggested applications are protective, marine and maintenance coatings.

Performance Benefits

- Low isocyanate demand
- Economical high solids coatings
- Compliant, low VOC coatings
- Very good gloss retention
- Good all-round performance

Polymer Type

- Solventborne Acrylic

Sales Specifications

| | |
|--------------------------------------|-------------|
| Solid Content at 125°C, % (ISO 3251) | 78 - 82 |
| Viscosity at 25°C, mPa.s (ISO 3219) | 6000 - 9000 |
| Colour, Hazen scale (ISO 6271) | 100 max |
| Acid value, mg KOH/g (ISO 2114) | 10 max |

Other Characteristics¹

| | |
|---|---------------|
| Volatile | Butyl acetate |
| Flash point, °C (ISO 3679) | 24 |
| Density / Specific Gravity at 20°C, g/ml (ISO 2811) | 1.04 |
| Hydroxyl Content, % | 2.1 |
| Hydroxyl Equivalent weight | 810 |

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® 854 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 high solids / low viscosity character of SYNOCURE® 854 BA 80 allows low VOC coatings to be formulated even with conventional polyisocyanates. Depending upon formulation <420g/l at 23 seconds cup 4 and <350g/l at 45 seconds cup 4 are possible.

Formulation Guidelines

Slightly lower VOC's can be achieved if a lower viscosity isocyanate trimer such as Tolonate® HDT-LV (2) is used.

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), Tolonate™ HDB 75 MX or Tolonate® HDT-LV2 (2), the recommended ratios would be:

SYNOCURE®

| | | |
|---|----------------|-------------|
| | on solid resin | as supplied |
| SYNOCURE® 854 BA 80 | 810 | |
| Desmodur® N 75 series (1), Tolonate™ HDB 75 MX or Tolonate® HDT-LV2 (2) | | |

| | On solid resin | As supplied | | |
|---|----------------|-------------|--|--|
| SYNOCURE® 854 BA 80 | 810 | 1013 | | |
| Desmodur® N 75 series (1) or Tolonate® HDB 75 MX (2) | 191 | 255 | | |
| Tolonate™ HDT-LV2 (2) | 183 | 183 | | |
| | | | | |
| | | | | |

If necessary the initial rate of cure of SYNOCURE® 854 BA 80 based systems can be accelerated by the use of tin catalyst in the form of dibutyl tin dilaurate. Although the level can be varied to suit specific requirements 0.02% of DBTDL based on total solid resin is a good starting point.

SOLUBILITY

The solvents chosen for paints and lacquers based on SYNOCURE® 854 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® 854 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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