

SYNOCURE® 516 N 60

GENERAL INDUSTRY

ARKEMA COATING RESINS

Product Application details

SYNOCURE® 516 N 60 is a hydroxy functional acrylic resin designed to crosslink at room temperature with polyisocyanates.

SYNOCURE® 516 N 60 is particularly well suited for use in high quality industrial coatings. The excellent adhesion properties make the resin a good choice for primers, fillers and single coat paints for a variety of substrates. Steel, galvanised steel, aluminium, wood, plastic and minerals can all be coated satisfactorily using coatings based on SYNOCURE® 516 N 60.

SYNOCURE® 516 N 60 has particularly good resistance properties to solvents and chemicals and to exposure to weather and UV light, making it suitable for high quality anticorrosive protection and for long life decorative coatings, especially on structural steelwork.

Performance Benefits

- Excellent chemical and stain resistance
- Good durability
- Excellent adhesion
- Economy in use

Polymer Type

- Solventborne Acrylic

Sales Specifications

Solid Content at 125°C, % (ISO 3251)	59 - 61
Viscosity at 25°C, mPa.s (Brookfield S34) (ISO 3219)	2000 - 3000
Colour, Hazen scale (ISO 6271)	100 max
Acid value, mg KOH/g (ISO 2114)	5 - 10

Other Characteristics¹

Volatile	Aromatic solvent 160°C - 180°C
Flash point, °C (ISO 3679)	46
Density / Specific Gravity at 20°C, g/ml (ISO 2811)	1.00
Hydroxyl Content, %	2.7
Hydroxyl Value, mg KOH/g	90

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

Formulation Guidelines

RECOMMENDATIONS FOR USE

SYNOCURE® 516 N 60 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 Tolonate™ HDB 75 (1) or Desmodur® N 75 (2), the recommended ratios would be:

	on solid resin	as supplied
SYNOCURE® 516 N 60	90	1050
Tolonate™ HDB 75 (1) or Desmodur® N 75 (2)	191	255

SYNOCURE®
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SYNOCURE® 516 N 60 reacted with Tolonate™ HDB 75 (1) or Desmodur® N 75 (2) in stoichiometric proportions has a usable pot life in excess of a full working day at normal room temperatures. The use of catalysts or higher temperatures will reduce this storage period. To increase the initial rate of cure of SYNOCURE® 516 N 60 paints, at both ambient temperatures and under low bake conditions, the use of tin or zinc catalysts in the form of dibutyl tin dilaurate or zinc octoate is recommended. The levels used will depend on specific requirements, but typical metal contents calculated on total solid resin would be 0.001% tin and 0.0015% zinc.

SYNOCURE® 516 N 60 should only be used in applications consistent with the above recommendations. Proposals to use the resin in other ways should be discussed with Arkema before any action is taken.

SOLUBILITY

The solvents chosen for paints and lacquers based on SYNOCURE® 516 N 60 should be free of water and should not contain groups which react with isocyanates.

Esters and ketones are true solvents for this type of system and are usually used with aromatic hydrocarbon diluents

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

Product Safety

Please refer to the corresponding Safety Data Sheet.

Storage & Handling

SYNOCURE® 516 N 60 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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