SYNOLAC® 5085

GENERAL INDUSTRY

ARKEMA COATING RESINS

Product Application details

SYNOLAC® 5085 is a solvent-free low viscosity linear saturated polyester (typical average molecular weight 1500).
SYNOLAC® 5085 is a very compatible low viscosity modifier designed for blending with other systems.
SYNOLAC® 5085 is suitable for use with 2-component acrylic isocyanate or polyester isocyanate systems, high quality stoving systems.

Performance Benefits

- Increase solids content
- Improve flexibility, even at low temperatures
- Improve wetting of pigments and substrates
- Improve adhesion and saltspray resistance
- Improve chemical resistance

Polymer Type

- Solventborne Polyester

Sales Specifications

Viscosity at 25°C, mPa.s (Brookfield, SC4-21/13R, 47 s-1) (ISO 3219)	800 - 1100
Colour, Gardner scale (ISO 4630)	3 max
Acid value, mg KOH/g (ISO 2114)	3 max

Other Characteristics[1]

Density / Specific Gravity at 20°C, g/ml	1.06
Hydroxyl Content, %	7.6
Hydroxyl Value, mg KOH/g	250
Solid Content, %	100

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

Formulation Guidelines

RECOMMENDATIONS FOR USE

SYNOLAC® 5085 will react into the blended system via its high hydroxyl content, and will not compromise durability.
It is suggested that initial evaluations be carried out using SYNOLAC® 5085 at substituted levels of between 5% and 15% of the main binder.

(a) 2-component systems

When used in combination with other hydroxyl containing resins in 2-component systems, SYNOLAC® 5085 will react with aromatic isocyanates such as Desmodur® L series (1) and aliphatic isocyanates such as Tolonate® HDB series (2) and Desmodur® N series (1).
SYNOLAC® 5085 can be successfully used (at low levels, 2-3%) in water based systems if it is dispersed into the resin system before neutralisation and addition of water.

Recommended ratios using typical isocyanates would be:
The reaction ratio is calculated from the respective equivalent weight or hydroxyl and isocyanate content of the reactants. The relationship is:

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

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

Recommended ratios using typical isocyanates would be:

	on solid resin	as supplied
SYNOLAC® 5085	224	224
Desmodur® N 75 series (1)	191	255
Tolonate® HDB 75 MX (2)	191	255
Desmodur® L 75 (1)	242	323

(b) stoving systems

When used in combination with other resins in stoving systems, SYNOLAC® 5085 will react with most melamine resins, resin solids ratios of between 70:30 and 85:15 binder to amino are suggested.

SOLUBILITY

SYNOLAC® 5085 is soluble in aromatic hydrocarbons, esters and ketones and insoluble in aliphatic hydrocarbons.

COMPATIBILITY

SYNOLAC® 5085 is compatible with many resins including polyesters, acrylics, isocyanates, melamine, urea and alkyd resins.

Notes: (1) Bayer MaterialScience, (2) Perstorp

Product Safety

Please refer to the corresponding Safety Data Sheet.

Storage & Handling

SYNOLAC® 5085 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.
Under the above mentioned storage conditions the shelf life of the resin will be 6 months from the shipping date.

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