SYNOLAC® 5085

GENERAL INDUSTRY

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℃, 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℃, 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.

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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