

TYPE

Hydroxy functional acrylic resin designed for crosslinking with polyisocyanates

Average hydroxyl content (solid resin)

approx. 2.2 %

FORM OF DELIVERY (f.o.d.)

80 % in butyl acetate/xylene (80BACX)

PRODUCT DATA

Determined per batch:

Dynamic Viscosity DIN EN ISO 3219

dynamic viscosity (25 1/s; 23 °C)	[mPa.s]	7000 - 9000
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Colour Scale (Hazen) DIN EN ISO 6271-1

Hazen colour value		<=100
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Hydroxyl Value (cat.) DIN EN ISO 4629

hydroxyl value (solid matter content)	[mg KOH/g]	65 - 80
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Non-Volatile Matter DIN EN ISO 3251

non-volatile matter (1 h; 125 °C; 2 g; ethyl acetate)	[%]	78 - 82
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Not continually determined:

Density (Liquids) DIN EN ISO 2811-2

density approx. (20 °C)	[g/cm ³]	1,04
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Flash Point DIN EN ISO 1523

flash point approx.	[°C]	28
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SPECIAL PROPERTIES

For air-drying as well as forced drying high-solids two pack topcoats for industrial applications.

SUGGESTED USES

In combination with aliphatic polyisocyanates, such as Desmodur N 3390, Macrynal SM 2703 is recommend for air-drying and forced drying high-solids two pack coatings. The principal application area is industrial topcoats providing a low content of volatile organic compounds (VOC).

PROCESSING

As a two pack system Macrynal SM 2703 must be combined with polyisocyanates. Dried at room temperature, the coatings reach their optimum properties after 10 to 12 days. If forced dried, 30 min at 80 °C is sufficient for complete curing. The addition of cellulose acetobutyrate speeds up physical drying.

Curing with polyisocyanates

Based on 100 % conversion of reactive groups the following equation can be used to calculate the quantity of polyisocyanate needed for crosslinking 100 parts Macrynal SM 2703 (on solids):

$$\text{polyisocyanate (f.o.d.)} = \frac{42 \times 100 \times \text{OH\% (solid resin)}}{17 \times \text{NCO\% (f.o.d.)}}$$

42 = molecular weight of the NCO group

17 = molecular weight of the OH group

To ensure that optimal properties are obtained it is necessary to have complete crosslinking. Over- or under-crosslinking is possible within certain limits.

STORAGE

At temperatures up to 25 °C storage stability packed in original containers amounts to at least 730 days.