

TYPE

Reactive, unsaturated polyester (wax-free) which cures to yield hard films

USES

In the formulation of clear and pigmented, wax-free coatings for wood and furniture, high-gloss to matt, with good chemical resistance and very good flow properties and scratch resistance. Also in the formulation of spray and curtain-coating fillers for wood, metal and plastic.

FORM SUPPLIED

Approx. 76 % in styrene

SPECIFICATION

Non-volatile content (1 g, 1 h, 125 °C):	76 ± 1 %
DIN EN ISO 3251	
Viscosity (23 °C):	1800 ± 200 mPa·s
DIN EN ISO 3219/A.3	
Hazen colour value:	≤ 100
DIN EN 1557	
Acid value, supply form:	15 ± 5 mg KOH/g
DIN EN ISO 2114	

OTHER DATA*

Density (20 °C):	approx. 1.12 g/cm ³
DIN EN ISO 2811-2	
Flash point:	approx. 37 °C
DIN EN ISO 1523	

* These values provide general information and are not part of the product specification.

PROPERTIES / APPLICATIONS

Coatings based on ROSKYDAL 500 A cure to form hard, scratch-resistant films. The addition of ROSKYDAL 550 (up to 50 %, calculated on the resin supply form) or E 70 (up to 30 %) improves the flexibility and polishability of the films without reducing the scratch resistance.

Fillers and putties can be flexibilized with ROSKYDAL E 65 or E 70. The use of ROSKYDAL E 65 is particularly recommended because of its air-drying properties. As is common with unsaturated polyester systems, coatings based on ROSKYDAL 500 A are cured with a cobalt/hydroperoxide combination. The cobalt not only splits the peroxide into free radicals but also promotes surface drying. It thus influences two independent but simultaneous reactions. As the breakdown of the hydroperoxide accelerates at higher temperatures, even without the addition of cobalt, it may be necessary to reduce the amount of cobalt added. Otherwise the surface drying will be much quicker than the polymerization of the film, which may result in surface defects.

The cobalt/hydroperoxide ratio must be optimized for the formulation, film thickness, application method and drying conditions selected. The standard addition at room temperature is 0.02 - 0.05 % cobalt metal and 1 - 3 % hydroperoxide, calculated on the ROSKYDAL supply form. The cobalt compounds used are cobalt salts, e.g. cobalt octoate.

For curing at room temperature we recommend the use of cyclohexanone peroxide and/or methyl ethyl ketone peroxide. Cumene hydroperoxide or tertiary butyl peroxoate can be used at temperatures above 80 °C and benzoyl peroxide or tertiary butyl perbenzoate at temperatures above 100 °C. The amount of peroxide used is 1 - 2 %, calculated on the polymerisable substance.

Once cured, the films are resistant to many solvents and other chemicals. The requirements of, for example, DIN 68 861, Group B, are thus satisfied. ROSKYDAL 500 A can be used to formulate brilliant high-gloss coatings as well as to create easily reproducible matt effects.

STORAGE

When stored in its sealed containers at a temperature not exceeding 23 °C, the product will remain stable for at least 270 days.

SOLUBILITY / THINNABILITY

Alcohols	partly soluble
Aliphatic hydrocarbons	insoluble
Esters	soluble
Ketones	soluble
Toluene, xylene	partly soluble

COMPATIBILITY

ROSKYDAL 300/1	compatible
ROSKYDAL 502	compatible
ROSKYDAL 620	compatible
ROSKYDAL E 65	compatible
ROSKYDAL E 70	compatible

LABELING AND REACH APPLICATIONS

This product data sheet is only valid in conjunction with the latest edition of the corresponding Safety Data Sheet. Any updating of safety-relevant information – in accordance with statutory requirements – will only be reflected in the Safety Data Sheet, copies of which will be revised and distributed. Information relating to the current classification and labeling, applications and processing methods and further data relevant to safety can be found in the currently valid Safety Data Sheet.