

COATING RESINS

TECHNICAL DATA

CRAYVALLAC SL

SALES SPECIFICATION

Particle size distribution:
(Malvern Mastersizer S laser particle size analyser) (CR005)

DV.1 min.	1.8 µm
DV.9 max.	15.0 µm

OTHER PROPERTIES

Density at 25°C (77°F), g/cm ³ (CR006)	0.99
Bulk density, g/cm ³ (CR016)	0.4-0.6
Appearance	Off white powder
Capillary Melting Point (CR003)	120-130°C (248 - 266°F)

PRODUCT INFORMATION

CRAYVALLAC SL is a high performance micronised amide wax rheology modifier designed for the high temperature manufacture of moisture curing methoxysilane based sealants. The performance benefits of this product are:

- 100% Active
- Efficient activation at 90 - 115°C (194 - 239°F)
- Imparts shear thinning rheology
- Very good extrusion properties
- Excellent sag and slump resistance
- Minimal effect on modulus
- Excellent storage stability

CRAYVALLAC SL is also suitable for the high temperature manufacture of moisture curing methoxysilane based adhesives.

RECOMMENDED AMOUNTS

For one component moisture curing methoxysilane based sealants, excellent slump and sag control will generally be obtained when **CRAYVALLAC SL** is used at a level of 1 - 5% by mass on total formulation.

INCORPORATION METHODS AND PROCESSING INSTRUCTIONS

CRAYVALLAC SL is designed for use in one-component methoxysilane sealants where in comparison to hydrogenated castor oil based products and fumed silica its key advantages are minimal effect on modulus and very good stability on storage.

With one component moisture curing methoxysilane based sealants, **CRAYVALLAC SL** is generally added along with the initial charge of methoxysilane polymer and plasticiser to a vacuum dispersion vessel with heating capability. This is followed by the pigments and extenders. Efficient activation of **CRAYVALLAC SL** is achieved during the vacuum dispersion stage by allowing the batch temperature to rise to 90 - 115°C (194 - 239°F). This condition of dispersion would typically be maintained for approximately 30 minutes at 110°C (230°F), or until the required level of dispersion is obtained and a suitably low moisture content has been achieved (typically < 800 p.p.m.). Following this, the batch temperature is lowered sufficiently to allow for the safe addition of such additives as moisture scavengers, adhesion promoters and reaction catalysts.

The activation process constitutes the conversion of the **CRAYVALLAC SL** particles to an interacting network of crystalline fibres. It is this network that gives rise to the shear thinning rheology. This shear thinning characteristic provides for a low viscosity at the shear rates associated with application by extrusion, and a very high viscosity under the low shear rates experienced after application. The net result is ease of application followed by excellent sag and slump resistance. Activation at too low a temperature, or for too short a time, will result in the formation of an inefficient interacting network and consequently poor sag and slump resistance.

The successful manufacture of methoxysilane based sealants is very dependent on the careful control of moisture levels throughout manufacture and storage. For this reason it is normal practice to pre-dry all pigments and extenders prior to dispersion with the methoxysilane polymer. Alternatively, special grades of low moisture content ingredients may be used.

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The use of vacuum processing at elevated temperatures serves two key purposes, it prevents the take up of moisture during processing and facilitates the removal of any unwanted water residues introduced with the raw materials.

With moisture cured methoxysilane based sealants, we strongly recommend that all additives be quickly dispersed and not allowed to remain in direct contact with the resin component. Prolonged contact may sometimes result in the formation of an insoluble fine skin which later appears as small particles in the final sealant.

Due to the multitude of formulations, processing methods and application conditions used in the field, we strongly recommend that all products containing **CRAYVALLAC SL** be tested thoroughly to ensure suitability for their intended end use. We do not recommend the use of **CRAYVALLAC SL** in paint type applications.

PRECAUTION FOR STORAGE

CRAYVALLAC SL should be stored in the original containers in a dry place at temperatures between 5°C (41°F) and 30°C (86°F). Avoid exposure to direct sunlight or frost. Under these conditions the product may be stored for up to 4 years from production date.

PRECAUTIONS FOR USE

Please refer to the corresponding Safety Data Sheet.