CRAY VALLEY

COATING RESINS

TECHNICAL DATA — CRAYVALLAC PA3 WDA 20

SALES SPECIFICATION

Non-volatile content, % @ 150°C (302°F) (CR 011)	20 ± 1

OTHER PROPERTIES

Volatile	D60 and Alcohol
Density at 25°C (77°F), g/cm^3 (CR 006)	0.88
Appearance	Off white paste

PRODUCT INFORMATION

CRAYVALLAC PA3 WDA 20 is a pre-activated amide wax dispersed in a mixture of mineral spirit (D60) and alcohols. It is a rheology modifier in paste form for post-addition to solvent-based coatings with low polarity systems. The use of **CRAYVALLAC PA3 WDA 20** provides a very simple and direct means of introducing shear-thinning rheology with thixotropic viscosity recovery to coating formulations.

The performance benefits of **CRAYVALLAC PA3 WDA 20** are:

- Suitable for post-addition
- Easy to incorporate
- Imparts shear-thinning rheology with thixotropic viscosity recovery
- Very good sag resistance
- Very good anti-settle properties
- Good recoatability

In addition to these excellent performance benefits, **CRAYVALLAC PA3 WDA 20** is also a very cost efficient alternative to organoclays.

RECOMMENDED AMOUNTS

Anti-Settling	0.5 - 2.0%
Sag Resistance	2.0 - 5.0%

INCORPORATION METHODS AND PROCESSING INSTRUCTIONS

CRAYVALLAC PA3 WDA 20 is a pre-activated amide paste and exists in the form of crystalline fibres. In a coating system, these fibres form an interacting network. It is this fibrous network that gives rise to the shear-thinning rheology of the final coating.

This shear-thinning characteristic provides a very high viscosity under the low shear rates associated with sedimentation, and a low viscosity at the much higher application shear rates. The net result is excellent control of sedimentation combined with ease of application.

Immediately following application, where low shear conditions again predominate, the coating's viscosity undergoes a time dependent recovery as the network re-establishes itself. This time dependence is known as thixotropy and enables the final coating to attain very good levelling.

In order to obtain maximum efficiency from **CRAYVALLAC PA3 WDA 20**, it is necessary to disperse this product without destroying the crystalline fibres. It is therefore preferable to incorporate **CRAYVALLAC PA3 WDA 20** under low to medium shear conditions over as short a time period as possible.

There are two main methods by which **CRAYVALLAC PA3 WDA 20** can be incorporated:

Post addition:
When using a high-speed disperser, **CRAYVALLAC PA3 WDA 20** is added during the final stages of production, when the coating has been partially thinned to a viscosity of 600-800mPas (ICI cone and plate at 10000s^{-1}) and the peripheral speed reduced to approximately 4ms^{-1}. Too high a speed will result in destruction of the active fibres and reduced performance, whereas, too low a speed will result in extended incorporation times. In general, the time required for incorporation should be kept to a minimum in order to minimise damage due to overshear.

Master batch preparation:
A master batch can be prepared by dispersing **CRAYVALLAC PA3 WDA 20** in a resin and/or solvent using low to medium shear rates. This dispersion can then be added to the finished coating.

Due to the multitude of formulations, processing methods and application conditions used in the field, we strongly recommend that all products containing **CRAYVALLAC PA3 WDA 20** be tested thoroughly to ensure suitability for their

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intended end use. In particular, the suitability of this product for application by hot-spray, or curing in poorly ventilated areas may require additional validation.

PRECAUTIONS FOR STORAGE

CRAYVALLAC PA3 WDA 20 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 24 months from production date.

PRECAUTIONS FOR USE

Please refer to the corresponding Safety Data Sheet.

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