

CRESTAPOL[®] 1212

Introduction

Crestapol 1212 is a tough, low viscosity resin with a rapid cure, which can be highly filled with selected grades of alumina trihydrate (ATH). Highly filling this resin with ATH allows a very high level of fire & smoke performance (Epiradiateur NFF 16-101, NFP 92-501, M1, F0). It is designed for closed mould applications, including vacuum infusion with suitable reinforcements and pultrusion processes. (Separate Crestapol Pultrusion and Closed Mould guides are available).

Formulation

This resin should be allowed to attain workshop temperature (18°C – 20°C) before use. It requires the addition of a catalyst and accelerators to start the curing reaction. Accelerators and any additives should be mixed into the resin prior to any filler addition. Catalyst is the final component to be added immediately prior to use to begin the polymerising reaction.

N.B. Catalyst and accelerators should not be mixed directly together, since they react with explosive violence.

For Closed mould applications, the recommended catalyst is Perkadox CH50X and the recommended accelerator is dimethyl aniline (DMA), Dimethyl paratoluidine (DMPT) can also be used in addition to DMA if required. The geltime can be extended using commercially available inhibitors such as NLC 10 from Akzo.

For Pultrusion applications please refer to the Crestapol Pultrusion guide or seek assistance from our Technical Services Department for formulating advice.

Pot Life

The following table demonstrates the effect of inhibitor NLC-10 addition to a typical Crestapol 1212 formulation for closed mould applications. (0.4%DMA, 2% Perkadox CH50X on resin and filled with 170 parts per resin ATH (Martinal ON-904))

Akzo NLC10 (on Resin Content)	Typical Geltime (Minutes) at 20°C
0	27
0.1%	48
0.2%	71

* Please note these are typical gel times under lab conditions. On site pot life tests are recommended before commencing closed mould processes to evaluate geltime under local conditions.

Additives

Crestapol 1212 may be highly filled (in some cases up to 200 parts per resin) with a selected range of fillers. The filler type and particle size will vary depending on the application and/or the fire standard required and may influence the geltime of the mix. For higher filler loadings viscosity reducing additives such as BYK 996 may be required. Users should seek advice from our Technical Services Department for any additive related queries.

Typical Properties

The following tables give typical properties of Crestapol 1212 when tested in accordance with BS2782.

Property	Unit of Measurement	Crestapol 1212
Appearance		Clear Yellowish Brown
Viscosity at 25°C 4500 sec ⁻¹	Poise	0.7
Density at 25°C	gcm ⁻³	1.07
Volatile Content	%	49
Stability in The Dark at 20°C	Months	9

Property	Unit of Measurement	Fully Cured* Resin
Barcol Hardness		33
Deflection Temperature Under load (1.80MPa) †	°C	87
Tensile Strength	MPa	65
Tensile Modulus	GPa	2.7
Elongation at Break	%	5.1

* Curing Schedule – 24 hours at 20°C, 3 hours at 80°C

† Curing Schedule – 24hours at 20°C, 5 hours at 80°C, 3 hours at 120°C

Property	Unit	C.S.M ** Laminate
Glass Content	%	30.8
Tensile Strength	MPa	118
Tensile Modulus	GPa	6.9
Elongation at Break	%	2.2
Flexural Strength	MPa	196
Flexural Modulus	GPa	5.7

** Made with 4 layers 450g/m2 PB CSM

Curing Schedule – 24 hours at 20°C, 16 hours at 40°C

Property	Unit	C.S.M Not Post-Cured Laminate
Glass Content	%	30.8
Tensile Strength	MPa	119
Tensile Modulus	GPa	6.2
Elongation at Break	%	2.3
Flexural Strength	MPa	186
Flexural Modulus	GPa	5.3

Storage

Crestapol 1212 should be stored in the dark in suitable closed containers. It is recommended that the storage temperature should be less than 20oC where practical, but should not be stored above 30oC. Ideally, containers should be opened immediately prior to use. Where they have to be stored outside, it is recommended that they be kept in a horizontal position to avoid the possible ingress of water.

Packaging

Crestapol 1212 can be supplied in 25kg, 200kg and 1 tonne containers.

Health and Safety

Please see separate Materials Safety Data Sheet

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