

Crestapol[®] 1218

Introduction

Crestapol[®] 1218 is a filled, non-thixotropic, tough, low viscosity resin with a rapid cure. It incorporates a special grade of calcium carbonate for improved shrinkage control and surface finish. It is designed for use in closed mould process applications.

Applications

Crestapol[®] 1218 is designed for use in RTM applications, but its properties make it also suitable for use in other similar closed moulding techniques, such as resin infusion process (for more details on closed moulding process please consult our Closed Mould Guide).

Crestapol[®] 1218 helps to achieve very fast cycle times and high production rates, forming part of Scott Bader's new closed mould rapid cure resin systems.

Features and Benefits

Crestapol[®] 1218 is a versatile resin with good mechanical properties. Its viscosity characteristics have been designed to promote a good resin flow through the mould, whilst minimising filler settlement during storage. It is recommended for use when high productivity is desired. Key features are:

- Low viscosity
- Rapid cure
- Excellent toughness
- No post cure required
- Pre-filled with a special grade of Calcium Carbonate
- Excellent surface finish
- Pigmented white
- High production rates

Formulation

Crestapol[®] 1218 is a pre-filled, partially pre-accelerated, white pigmented grade and must be thoroughly stirred and allowed to attain workshop temperature (18°C - 20°C) before use. It requires the addition of a catalyst and one accelerator to start the curing reaction.

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

The recommended catalyst is Trigonox[®] 44B and the recommended accelerator is Accelerator G (i.e. 1.0% solution of cobalt in styrene). Both accelerator and catalyst should be added into the resin and thoroughly dispersed.

The geltimes that can be achieved depend on the levels of accelerator and catalyst. Examples of approximate pot life are shown in the tables below.

Pot Life

Table 1 –0.75% Trigonox[®] 44B

Parts of Accelerator G to 100 Parts of Catalysed Resin	1.0	1.5	2.0
Pot Life (mins) at 20°C	14.8	9.7	7.9
Pot Life (mins) at 25°C	10	7.1	6

Table 2 –1.0% Trigonox[®] 44B

Parts of Accelerator G to 100 Parts of Catalysed Resin	1.0	1.5	2.0
Pot Life (mins) at 20°C	11.2	7.4	5.7
Pot Life (mins) at 25°C	7.7	5.4	4.4

Table 3 – 1.5% Trigonox® 44B

Parts of Accelerator G to 100 Parts of Catalysed Resin	1.0	1.5	2.0
Pot Life (mins) at 20°C	8.6	5.4	4.2
Pot Life (mins) at 25°C	6.4	4.2	3.3

Table 3 – 2.0% Trigonox® 44B

Parts of Accelerator G to 100 Parts of Catalysed Resin	1.0	1.5	2.0
Pot Life (mins) at 20°C	8.4	5.2	3.9
Pot Life (mins) at 25°C	6.3	3.9	3.0

Accelerator G - 1.0% solution of cobalt in styrene.

Additives

Crestapol® 1218 is filled with a special grade of calcium carbonate to reduce surface distortion and improve surface finish. It incorporates anti-settling additives to minimise filler settlement during storage and provide good filler re-dispersion in the resin.

Post Curing

Without post cure, Crestapol® 1218 can reach approximately 94% of their total cure. Therefore, no post cure is required.

Physical Data – Uncured

The following tables give typical properties of Crestapol® 1218 when tested in accordance with the appropriate SB, BS, BS EN or BS EN ISO test methods.

Property	Unit	Crestapol 1218
Appearance	-	Off-white
Viscosity at 25°C	Poise	2.6
Specific Gravity at 25°C	-	1.35
Volatile Content	%	29
Stability in the dark at 20°C	Months	3
Geltime*	Minutes	9 – 12
Geltime to Peak*	Minutes	4
Peak Temperature*	°C	146

*With 1.0% Accelerator G, 1.0% Trigonox® 44B at 20°C

Physical Data – Cured

Property	Unit	Resin (Without Post-Cure)
Barcol Hardness	-	52
Deflection Temperature Under Load (1.80MPa)	°C	70
Tensile Strength	MPa	47
Tensile Modulus	GPa	4.4
Elongation at Break	%	1.4
Property	Unit	C.S.M** Laminate
Glass Content	%	22.4
Tensile Strength	MPa	73
Tensile Modulus	GPa	8.7
Elongation at Break	%	1.2
Flexural Strength	MPa	127
Flexural Modulus	GPa	7.0

**Made with 4 layers 450g/m² PB CSM

Storage

Crestapol® 1218 should be stored in the dark in suitable closed containers. It is recommended that the storage temperature should be less than 20°C where practical, but should not be above 30°C. Ideally, containers should be opened immediately prior to use. Where they have to be stored outside, it is recommended that containers be kept in a horizontal position to avoid the possible ingress of water.

Packaging

Crestapol® 1218 is supplied in 25Kg, 200Kg and 1 tonne containers.

Health and Safety

Please see separate Materials Safety Data Sheet.

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SCOTT BADER COMPANY LIMITED

Wollaston, Wellingborough, Northamptonshire, NN29 7RL

Telephone: +44 (0) 1933 663100

Facsimile: +44 (0) 1933 666623

www.scottbader.com