

DATA SHEET

CHAR 21



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UNIT 4, Stowford Business Park
Blair Road | Ivybridge | PL21 0BE



Waterbased intumescent coating for
fire protection of timber structures.

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WHAT IS CHAR 21

CHAR 21 is a very low VOC, waterborne, high performance intumescent coating providing a very effective fire barrier thanks to high active solids content, char strength and the use of nanofillers. Rapid development of a stable, insulating char provides effective and long-term protection to flammable and non-flammable substrates.

CHAR 21 can be used for fire protection of timber-based substrates. It achieves a Euroclass B-s1-d0 rating.

CHAR 21 has superior environmental accreditation, assessed by EN 16000 tests for indoor emissions, ISO 89011-2 tests for VOC content and carries approval from LEED, BREEAM, CAM, French VOC and more.

CHAR 21 achieves Euroclass B-s1-d0 on wood-based substrates of 10mm or more.

RECOMMENDED PRIMERS AND TOPCOATS

Bare timber does not require primer.

Painted or coated surfaces should be treated with Wall Primer 3500 to ensure proper adhesion. WP 3500 is thinned with 2L of water per 1L of primer to achieve an ultrafine solution with an application rate of 10m² per L. Pre-thinning rate of 30m² per L. No film should appear on the surface after drying.

CHAR 21 does not require a topcoat for C1, internal warm dry environments, though can be top coated for decorative purposes with product approval from our Sales & Technical department. An approved topcoat is required for environments C2 and above.

USE AND APPLICATION

Can be applied by brush, roller or spray.

For timber, rating is achieved with one coat of 250g, or 200ml, per m². This may vary with different equipment, always check WFT with a gauge as you apply. Actual application thickness should be in accordance with your report and Spec. Contact sales@fireproofpaint.co.uk for a specification.

Product may be thinned with 5% water, if necessary, though not generally required. Mechanical/paddle mix prior to application for smooth and consistent flow.

For application by brush or roller use long single strokes, avoiding overworking the paint. Application by brush/roller requires more coats than airless spray. Proper environmental conditions must be kept during application and drying.

CERTIFICATIONS & APPROVALS

CHAR 21 achieves a reaction to fire rating; Euroclass B-S1-D0. Available certificates and test reports are in accordance with European fire standards. Reaction to fire test according to EN 13501-1. Classification tests are performed according to EN 13823:2020+A1:2022 and EN 13823 on wood particleboard detailed according to table 1 (312).

Test report:

Therefore, according to EN 13823 paragraph 5.3 results apply to all types of wood and wood-based substrates and also on all flammable substrates rated A2 or better. This performance is achieved with 250 g/m² active layer.

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PROPERTIES

DENSITY: 1.3 ± 0.05 kg/dm³ at 20°C.**SOLIDS CONTENT:**

- 78% ±5% w/w
- 67% ±5% v/v

COLOUR: White.**STANDARD PACKING:** 15L, 5L, 1L paint tins.**SHELF LIFE:** 12 months in original packing and proper environment.**SPREADING RATE:** 200ml per m². 1L = 5m². (theoretical)**APPLICATION:** Can be applied by brush, roller or spray.**THINNING:** Not recommended. (if necessary, with water max 5%)**DRYING TIME (*):**

- 8 hours - touch
- 24 hours - complete

(*) @ +20°C and 60% RH. Drying time depends on thickness applied, temperature, and relative humidity.

MIN APPLICATION TEMPERATURE: +5°C**MAX APPLICATION TEMPERATURE:** +45°CTEST, ASSESSMENT AND
CLASSIFICATION REPORTS INCLUDE:

- PR-01-02-093 – PAVUS
- PV-08-02-088 – PAVUS
- 1953709 – AFITI LICOF
- 26959/A – TECNALIA
- 0119526 – HBRC EGYPT
- 282296917.001 – TUV RHEINLAND
- 28229694-28229693 – TUV RHEINLAND
- CSI 2123 FR – CSI
- CSI 2140 FR – CSI
- CSI 2124 FR – CSI
- CSI 2140 FR – CSI
- CSI 2121FR – CSI
- CSI 2127FR – CSI
- U0201 – Tomas Bell-Wright
- CSI 2124FR – CSI
- CSI 2127FR – CSI
- 1032204 – GFC Chimica



DISCLAIMER: Though based on the results of long term testing and experience the information given here is informative only. We cannot accept any liability for use of this information and the product unless a proper check has been done of the specific application, verified by the end-user. Accurate preliminary testing and definition of an application protocol and system is highly advisable to obtain full advantage of this product.