

Technical Datasheet

INEOS Composites

MAXGUARD™ FRX // S fire retardant gelcoat

MAXGUARD FRX // S is a halogen free flame retardant gelcoat based on a special formula of resin and mineral fillers. The gelcoat has very good resistance to flame and smoke formation is very low. Maxguard FRX // S combined with Modar NX 860 TF laminate resin fulfill HL3/R1 classification according EN 45545 standard for Railways.

Maxguard FRX // S is recommended to be painted with a compatible paint for fire retardant properties. The surface appearance (color and gloss) may not be of high quality unpainted.

Typical liquid gelcoat properties

Property at 23°C			
	Value	Unit	Method
Viscosity, Brookfield RV5, 10 rpm	8000	mPas	ISO 2555
Viscosity, cone&plate	250	mPas	ISO 2884
Density	1,50	g/cm ³	ISO 2811
Geltime, 2% MEKP-50	15	min	ASTM D2471

Typical gelcoat base resin properties

Property (postcure 24h at 50°C)			
	Value	Unit	Method
Tensile strength	70	MPa	ISO 527
Tensile modulus	3600	MPa	ISO 527
Elongation at break	3	%	ISO 527
Heat deflection temperature	77	C	ISO 75/A

Application and use

MAXGUARD FRX // S is suitable for use in a variety of FRP products which need to be compliant with the more stringent fire safety regulations and will preferably have a paint finish. MAXGUARD FRX // S with a suitable paint system is mainly recommended for use in the transportation, building and maritime industry.

The thickness should be max. 300-400 microns and the peroxide dosage 1,0 - 1,5% (Butanox M50 or similar).

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The surface should be sanded and cleaned prior painting. The paint need to be compatible with fire retardant requirements in question and the adhesion to the primer checked in the final object.

Note: For more information on application and use of fire retardant gelcoats and resins, please contact INEOS Composites's sales and technical service personal.

Fire retardant properties -

Test	Value	Method
European Standard for Railways Fire Protection / Maxguard FRX // S combined with Modar NX 860 TF resin	HL3/R1	NF EN 45545-2

Certificates and approvals

The manufacturing, quality control and distribution of products, by INEOS Composites, are complying with one or more of the following programs or standards: ISO 9001, ISO 9002, ISO 14001 and OHSAS 18001 .

Note: The values given for fire resistance are purely indicative. The finished parts manufactured by our customers must be tested according to the laws in force or to specific technical specifications. Optimum fire resistance is obtained on completely hardened resins and laminated parts.

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Handling and use For good handling and working practices, see INEOS Composites "Gelcoat Handling Guide". It is highly recommended that all materials are stored at stable temperature under 25 °C preferably indoors, and away from direct sunlight. A high quality methyl ethyl ketone peroxide (MEKP) catalyst should be used between 1.0 - 1.5%. The gelcoat with the catalyst must be gently stirred before taken in use.

The material should be used within 3 months from the date of manufacture. Prolonged storage or storage outside of recommended conditions can influence gelcoat liquid properties like viscosity and gel time and it is recommended to test these properties before starting application

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Since the user's product formulations, specific use applications and conditions of use are beyond the control of INEOS Composites, INEOS Composites makes no warranty or representation regarding the results which may be obtained by the user. It shall be the sole responsibility of the user to determine the suitability of any of the products mentioned for the user's specific application.

INEOS Composites requests that the user reads, understands and complies with the information contained herein and the current Material Safety Data Sheet.