

Materials for SAFETY

Passende Brandschutzsysteme
für jedes Verfahren.



MÜHLMEIER
COMPOSITES



Fire protection - Materials for SAFETY

Realizing ideas

All over Germany, Mühlmeier Composites can offer as one of a few suppliers a checked and perfectly synchronized fiber composite system. The single components of the polymer matrix are most exactly coordinated and certified as complete system. The so resulting fiber composite is flame retardant, only shows a low toxicity and convinces by low smoke generation in case of contact with fire. In connection with national and international certification for the complete system here we can offer a unique product line. Especially in the field of haul means it's our topmost target to offer secure products which can protect human beings and technology from flames in emergency situations.

Your Advantages

- Certified complete system
- Extreme resistance and high flexibility
- Multi-purpose use- and application possibilities
- Material- and weight saving by light components
- Ready for use at once
- Confirmed fire resistance
- Permanent control according to ISO test standards

Our innovative fire protection systems are available in three different recipes for the most important working processes. Hand lay-up laminate and spray process, the vacuum compression molding and the injection process RTM resp. RTM light. The adapted high-quality gelcoats are protecting the laminate from chemical and mechanical influences but also different weather conditions, UV radiation or also moisture. Obviously these are deliverable in nearly all RAL colours.

In addition we offer the suitable fiber reinforcement in the form of mats or fabrics / non wovens and combinations from it. Especially for injection and RTM process FLOWMAT FR® - a triple compound (chopped fiber – knitted glass fabric – chopped fiber) out of 100% glass fibre – was developed This compound is not flammable and guarantees resin flow without any time lag also with strongly filled matrix systems. Non wovens out of glass fiber guarantee a high quality surface finish.

Our fire protection systems can be used in different fields. Besides the manifold applications in building industry these are especially predestinated for the navy, the energy sector – especially wind energy – and obviously the manifold applications in transport like rail traffic, mountain railways and busses-

Certified fire protection systems

Halogenous free, low flue gas emission, low toxicity

RESIN COMBINATIONS

R921A – FIRE PROTECTION RESIN

R921A – Fire protection resin on the base of unsaturated polyester resins. It is pre-accelerated, minerally filled, thixotrope adjusted and obviously halogenous free. R921A Contains neither a hardening indicator nor wax or paraffin and therefore causes no delamination. Good fire resistance, low toxicity and flue gas development and also low shrinkage behavior feature this resin.

FIRECARE-FIRE PROTECTION SYSTEM

The FIRECARE-fire protection system consists of halogenous free polyester resin FIRECARE R930A with the FIRECARE GEL H07 as gelcoat. It is a filled and thixotrope adjusted Polyester resin without hardening indicator and a low sedimentation of the mineral fillers. The high quality gelcoat H07 is characterized by high gloss, less yellowing, a wide range of colours and an excellent fire resistance. The FIRECARE-fire protection system offers low flue gas emission. The gelcoat is available in sprayable and brushable version, the working of the FIRECARE-resin happens in hand-lay-up process.

FIRECARE-FIRE PROTECTION SYSTEM PLUS

For demanding moulded part geometries we offer the middle viscous FIRECARE fire protection system PLUS. It exists of the halogenous free polyester resin FIRECARE R944A with the FIRECARE GEL H19 ass gelcoat. It is a technical further development of the known FIRECARE-system. 'The R944A is a filled polyester resin without hardening indicator. Due to the special composition of the FIRECARE R944A simple working and good mechanical characteristics are guaranteed. Additionally the special thixotropy causes that only less sedimentation of the fillers appear and so stirring before use becomes easier. The high quality gelcoat H19 is characterized by high gloss, less yellowing and – in connection with the R944A – by a good fire resistance. The FIRECARE fire protection system PLUS offers an excellent fire resistance and low flue gas emission. The gelcoat H19 is available in sprayable and brushable version, the working of the FIRECARE resin R944A happens in hand-lay-up process.

PRODUCT NAME	Fire protection resin R921A	FIRECARE-fire protection system R930A and HL07
RESIN BASE	UP	UP
HALOGENOUS FREE		
FLAME-RETARDENT		
PRE-ACCELERATED		
THIXOTROPE		
HARDENING	1,5% MEKP	1,5% MEKP
GEL TIME (25 °C)	16 - 27 MIN	16 - 27 MIN
VISCOSITY RESIN AVERAGE VALUE	900 MPAS	1050 MPAS
	EXHALABLE PORTION	<30%
Fire protection Certification	EN 45545	HL1, HL2

	DIN 5510 PART 2	S4, SR2, ST2
	DIN 4102-1:1998-05	
	IMO FTP	
	UNI CEI 11170 PART 3	
	AFNOR NF F 16-101	F0
	AFNOR NF P 92-507	M2
REFERENCES	PLANT ENGINEERING	
	CONSTRUCTION INDUSTRY	
	ENERGY (WKA ETC.)	
	NAVY	
	TRANSPORT	
WORKING PROCESSES	HAND LAMINATE	
	FIBER SPRAYING	
	RTM	
	VAKUUM PROCESS	
RECOMMENDED FIBER REINFORCEMENT	CHOPPED STRAND MAT	
	ROVING FABRIC	
	MULTIAXIAL FABRICS	
	FLOWMAT FR	
	SPRAY ROVING	
	GLASS NON WOVENS	



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