Technical Data Sheet

BÜFA®-FIRESTOP 8175-W-1

Fire Protection Laminating Resin Prod. No. 7168175

Product description

BÜFA®-Firestop 8175-W-1 is a thixotropic, moderately reactive, low viscosity laminating resin made of unsaturated polyester resin on a DCPD base dissolved in styrene. The resin is halogen-free and contains aluminium hydroxide as a flame retardant. It is also formulated with a skin-forming agent to reduce the emission of styrene.

Applications

BÜFA®-Firestop 8175-W-1 is used for the production of moulded parts with fire protection properties and can be used in hand lay-up and filament winding applications. Under certain circumstances it can also be used in RTM processes.

Specifications / technical data

Property	Test method	Value	Unit
Density at 25 °C	DIN 53 217/2	approx. 1,45	g/ml
Appearance	TM 2265	beige	
Stability	TM 2300C	> 60	min
Viscosity at 23 °C Physica Z 2, 20 s-1	TM 2313	670-870	mPas
Viscosity at 23 °C Physica Z 2, 50 s-1	TM 2313	600-680	mPas
Viscosity at 23 °C Physica Z 2, 250 s-1	TM 2313	520-580	mPas
Solid content	EN ISO 1172	74,5-77,5	%
Flash point	DIN 53 213	33	°C
Viscosity at 20 °C Brookfield RV/DV-II Spl 5. rpm 20.	ISO 2555	1500 - 2500	mPas

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Curing

Reactivity:
BÜFA method in accordance with DIN 16 945 6.2.2.1
(100 g resin + 2.5 ml Butanox M-50 or Curox M 303)

20 - 30 °C	12 - 17 min
20 °C - Tmax	20 - 30 min
Tmax	130 - 150 °C

Gel time at 20 °C in a 100 g cup with 2 ml Curox M 102: 25 - 35 min

Attention!
The information given above refers exclusively to the use of the catalyst named and the quantity specified. The use of different products or differing quantities may yield different results.

Mechanical Properties

Property*	Test method	Value
Tensile strength	EN 61	ca. 73 N/mm²
Tensile E-modulus	EN 61	ca. 7250 N/mm²

* Measured on a random fibre laminate with approx. 25 % by weight glass content

Properties of the cured base resin

Property*	Test method	Value
HDT	ASTM D648B	> 100°C

Directions for use

Due to the high thixotropic stabilisation of the resin, there is practically no settling out of the filler. Long stirring procedures should be avoided; the resin should be gently stirred for a maximum of 0.5 h before using. "Gentle stirring" is understood as stirring at low speed, just setting material at the edge of the container in motion. Only a minimal "whirlpool" effect should take place at the centre of the container.

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Open, emulsion bound mats are the best glass fibre mats for this purpose since they allow faster impregnation by the resin.

In injection processes, a continuous strand mat (450 g/m²) is ideal to guarantee the best possible flow.

- → An emulsion bound matt 300 g/m² or a glass matt (80 g/m²) can be used in the first layer directly behind the gelcoat to improve the quality of the surface.
- → To achieve higher glass contents, multiaxial or woven glass fabrics can be used but a layer of continuous stand mat should be used in between.
- → Sandwich constructions with flow channels in the foam core (2 mm crosswise) and perforated foam produce the best results.
- → The suitability of core glass for processing is limited.

BÜFA®-Additive Viscoreducer (742-0018) can be used to reduce working viscosity.

Note:

To achieve optimal mechanical and fire protection properties, the moulded parts should be post-cured for at least 8 hours at + 80 °C.

The thickness of the laminate and its entire construction, including any top coats, varnishes, applications, sandwich components, etc. also have a decisive influence on fire behaviour.

Fire protection properties

Evaluation according to DIN 5510/part 2 in an orientation test – a 3 mm thick random fibre laminate with 30% by weight glass content was tested.
Flammability class S 4
Smoke development rating SR 2
Drop forming class ST 2

Further orientation tests on different laminate constructions produced the following results:
NF P 92-501: M2
NF F 16-101: F1

Storage/Handling

This product must be stored cool in closed containers, protected from sunlight. Shelf-life is at least 3 months in unopened, original containers stored up to a temperature of 20 °C. Gel and curing times may change with increasing duration of storage.

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Former product name Synolite 8175-W-1

Note: The Information given above is based on our current state of knowledge and experience. In view of the many factors that may Influence working conditions and the application of our products, the user is not relieved from carrying out his own tests and experiments. No legally binding warranty of certain properties or suitability for a particular purpose can be derived from this information. It is the responsibility of the receiver or user of our products to observe proprietary rights as well as existing laws and regulations. The latest version of the corresponding EU Safety Data Sheet must also be observed.

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