

Technical data sheet

R930A «Firecare» fire protection system with H07 «Fire care Gel» fire protection gelcoat

Description

- Resin type:** Halogen free polyester resin **R930A**, not pre-accelerated plus gelcoat (**H07 series**)
- Description:** **Fire care-system** is a filled halogen free, fire retardant system.
- Specifics:** **Gelcoat H07** series is characterized by high gloss, less yellowing and good fire resistance.
- R930A** is a filled resin without hardening indicator. It is recommended to coat the following layer when the first layer is still fresh. At older laminates, prior grinding is necessary.
- Advantages:** The fire protection gelcoat (**H07**) is available in a wide color range. The **Fire care-system** offers excellent fire resistance and low waste gas emission. It can be worked very well and offers good mechanical values due to its special composition.
- The used thixotropic system guarantees low disposal of the mineral fillers. This makes the mixing before use much easier.
- Process:** Gelcoat: sprayable- and brushable version;
Resin: hand lay-up-process
- Certification:** **UNI CEI 11170 Part 3:**
- Class 1 A (UNI 8457 and UNI 9174)
- Class F1 (AFNOR NF F 16-101)
Corresponding for all levels LR1 and LR4
- DIN 4102-B1**
- DIN 5510 Part 2:**
- S4
- SR2
- ST2
- CEN TS 45545 Part 2:**
- HL1 and HL2 (ISO 5658; ISO 5659-2; ISO 5660-1)
- 2% gelcoat H07 – fire protection-gelcoat, 34% mat and fabric, 64% resin R930A, catalyzed with 1.0% MEKP 50 (CTP001), samples adequately conditioned.

Chemical and physical characteristics of the liquid resin R930A

Characteristics	Unit	Methode	R930A
Appearance			pink, liquid
Viscosity at 25°C *	mPa-s	I.O. 801	850 - 1250
Thixotropic index **		I.O. 802	2.8 – 3.4
Gel time at 25°C ***	minutes	I.O. 803	7 - 10
Gel - peak	minutes	I.O. 1000	8 – 14
Exothermic temperature	°C	I.O. 1000	90 – 110
Styrene content	%	I.O. 809	< 15
Water content	%	I.O. 360	≤ 0.15%

• Brookfield RVF Spindle#2@20rpm

** Brookfield RVF @ 2 rpm/20 rpm

*** Catalysis condition: 100g resin + 0,5% DEAA + 1,0g MEKP 50 (CTP001)

Mechanical characteristics of the pure resin R 930 A– typical values***

Characteristics	Unit	Method	R 930A
HDT	°C	ASTM D 648	62
Barcol hardness	---	ASTM D 2583	59

*** catalysis: 100g resin + 0.5g HTPR83 + 1.0g MEKP 50 (LUPEROX K 1)

Chemical and physical characteristics of the liquid fire protection gelcoat H07

Characteristics	Unit	Typical values	Method
Appearance		grey, liquid	
Viscosity RFA at 25°C s 2 rpm	mPa.s	35,750	I.O.801
20 rpm	mPa.s	5,500	I.O.801
Thixotropic index		6.5	I.O.802
Gel time 25°C *	minutes	13	I.O.803
Density at 25°C	g/cm ³	1.45	I.O.805
Shelf life**	months	3	

* Gelcoat 200g + 2% MEKP 50

** Gelcoat must be stored in original packaging, sealed, undamaged, dry, at a temperature between 5°C and 25°C.

Mechanical characteristics of the hardened fire protection-gelcoats H07***

Characteristics	Unit	Typical values	Method
Elongation after tensile	%	2.0	ASTM D 638
Barcol hardness	---	40	ASTM D 2583

*** Hardening parameter: Gelcoat 100gr + 1.50 g MEKP50 - 24h RT + 2h at 100°C

We recommend a working temperature between 15°C and 30°C to achieve a better polymerization of the resin. It's absolutely recommended to add the promotor Sirca **HTPR83 (DEAA)**, in the range of 0.1 – 0.6%, depending on the requested gel time. Please don't add styrene or other solvents to guarantee the flame-retarding characteristics of the resin.

Please consider: Before adding hardener the resin must have a temperature of at least 15°C. Please shake resp. stir the resin before use.

Storage recommendation: The resin must be stored in undamaged original containers at a room temperature between 5°C and 25°C. The shelf life reduces at higher temperature and therefore the characteristics of the resin could change. The storage period of unsaturated styrene soluble resin can shorten very fast when the resin isn't stored in nontransparent containers and when it is exposed to light. At correct storage the stability of the resin is guaranteed for 3 months. At temperatures of 65°C the storage period is shortened to 3 days.

All information contained in this data sheet are based on our technical and scientific knowledge, but buyer and user should make their own trials with our products under their own use conditions.

Technical data sheet

R919A – fire protection resin

Description

- Resin type:** Halogen free polyester resin
- Description:** Unsaturated polyester resin, dissolved in styrene, filled, thixotropic, pre-accelerated and halogen free.
- Specifics:** **R919A – fire protection resin** contains neither a hardening indicator nor wax or paraffin and therefore doesn't cause any delamination problems. It is recommended to coat the following layer if the subjacent layer is still fresh. At older laminates a prior grinding is necessary.
- Advantages:** **R919A – fire protection resin** offers good fire resistance, low toxicity and waste gas development as well as low shrinking. Due to the special chemical composition results good mechanical values.
- Process:** Spraying process, brushing process and RTM, too
- Certification:** -M1 (AFNOR NF P 92-507)
 -F1 (AFNOR NF F 16-101)
 (resin R919A0000G20 67%, fiberglass 33%, hardener: 100g resin + 1.5g MEKP 50 (CTP001); tempered 3 hours at 85°C

Chemical and physical characteristics of the liquid resin R919A

Characteristics	Unit	Method	R919A		
			range 1	range 2	range 3
Appearance			clear, pink, liquid		
Viscosity RFA at 25°C s 2 rpm20	mPa-s	I.O. 801	800 – 1000	800 – 1000	900 - 1000
Thixotropic index		I.O. 802	3.3 – 4.0	3.3 – 4.0	3.3 – 4.0
Gel time 25°C (100g resin /1,5g MEKP)	minutes	I.O. 803	10 - 20	20 - 30	35 - 45
Gel temperature max.	minutes	I.O. 1000	9 - 11	10 – 15	10 – 15
Exothermic temperature	°C	I.O. 1000	140 – 160	135 – 155	135 - 155
Styrene-content	%	I.O. 809	< 30	<30	<30
Water content	%	I.O. 360	≤ 0.15%	≤ 0.15%	≤ 0.15%

We recommend a working temperature between 15°C and 30°C. Using **MEKP / AAP** plus higher working temperature the gel time can be shortened. Please don't blow neither air nor gas into the resin. It may not be mixed with conventional resin or solvent, otherwise no guarantee can be given for flame retardance.

Please consider: Before hardener addition the resin must have a temperature of at least 15°C. Please shake resp. stir the resin before use.

Storage recommendation: The resin must be stored in undamaged original containers at a room temperature between 5°C and 25°C. The shelf life reduces at higher temperature and therefore the characteristics of the resin could change. The storage period of unsaturated styrene soluble resin can shorten very fast when the resin isn't stored in nontransparent containers and when it is exposed to light. At correct storage the stability of the resin is guaranteed for 3 months.

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Technical data sheet

R921A – fire protection resin

Description

- Resin type:** Halogen free polyester resin
- Description:** Unsaturated polyester resin, dissolved in styrene, filled, thixotropic, pre-accelerated and halogen free.
- Specifics:** **R921A - fire protection resin** contains neither a hardening indicator nor wax or paraffin and therefore doesn't cause any delamination problems. It is recommended to coat the following layer if the subjacent layer is still fresh. At older laminates a prior grinding is necessary.
- Advantages:** **R921A - fire protection resin** offers good fire resistance, low toxicity and waste gas development as well as low shrinking. Due to the special chemical composition results good mechanical values.
- Process:** Spraying process as well as RTM
- Certification:** DIN 5510-2: 2009
 S4 – SR2 – ST2
 EN 45545-2 HL1 (R1, R2, R3, R7 and R17) as well as HL2 (R3)
 (resin R921A0000G15 67%, fiberglass 33%, hardener: 100g resin + 1.5g MEKP 50 (CTP001); tempered 3 hours at 85°C

Chemical and physical characteristics of the liquid resin R921A

Characteristics	Unit	Method	R921A		
			winter	interim	summer
Season			winter	interim	summer
Appearance			pink, liquid		
Viscosity RFA at 25°C s 2 rpm20	mPa-s	I.O. 801	800 – 1000	800 – 1000	900 - 1000
Thixotropic index		I.O. 802	3.3 – 4.0	3.3 – 4.0	3.3 – 4.0
Gel time 25°C (100g resin /1,5g MEKP)	minutes	I.O. 803	10 - 20	20 - 30	35 – 45
Gel temperature max.	minutes	I.O. 1000	9 - 11	10 – 15	10 – 15
Exothermic temperature	°C	I.O. 1000	130 – 150	125 – 145	120 - 130
Styrene-content	%	I.O. 809	< 30	<30	<30
Water content	%	I.O. 360	≤ 0.15%	≤ 0.15%	≤ 0.15%

We recommend a working temperature between 15°C and 30°C. Using **MEKP / AAP** plus higher working temperature the gel time can be shortened. Please don't blow neither air nor gas into the resin. It may not be mixed with conventional resin or solvents. Otherwise no guarantee can be given for flame retardance.

Please consider: Before hardener addition the resin must have a temperature of at least 15°C. Please shake resp. stir the resin before use.

Storage recommendation: The resin must be stored in undamaged original containers at a room temperature between 5°C and 25°C. The shelf life reduces at higher temperature and therefore the characteristics of the resin could change. The storage period of unsaturated styrene soluble resin can shorten very fast when the resin isn't stored in nontransparent containers and when it is exposed to light. At correct storage the stability of the resin is guaranteed for 3 months.

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