Techical Data Sheet

Protecflam Industries
Edition 16/06/2026

Verniflam® Aithon A90H

Verniflam® Aithon A90H is a water-based, opaque, film-forming intumescent paint for concrete (beams, columns, floors, load-bearing walls) and metal components (beams and structures).

Use

Verniflam® Aithon A90H is used indoors or outdoors under cover as an industrial primer to improve the fire resistance of concrete and/or metal building components. Application of Verniflam® Aithon A90H creates a smooth, opaque matt white film; no top coat is required.

Before use, contact Protecflam Industries to ensure that this product is suitable for the intended application.

Fire resistance ratings

On concrete: up to REI 240 in accordance with EN 13381-3 and EN 13501-2.
Test report: RS16-005 from the CSTB

On metal: up to R 120 according to EN 13501-2+A1:2009: 7.4.6.5.
Classification report: PK2-16-11-004-A-0 from PAVUS

Colour & Packaging

Opaque white.
Matt finish.
20 kg drums.

Storage

In unopened original packaging, stored at temperatures between +5 °C and +30 °C: 18 months from the date of manufacture. Recommended shelf life: 18 months for unopened products. After this period, check the product's physical properties, consistency and viscosity. Please contact us.

Keep well away from frost!

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Technical Data

Density:	Approx. 1.33 g/cm³ at 20°C
Dry matter by volume:	66% ± 2%.
Dry matter by mass:	72% ± 2%
Volatile Organic Compounds (VOCs)	< 45 g/L

Emission test under IDE at 40°C: 2.6 µg/g.
The product has been approved for fire protection of structures in cleanrooms and sterile rooms where microprocessors are manufactured. It is suitable for all sensitive buildings such as schools and hospitals.

Recommended application rate	< 250 g/m² for the first coat, up to 1000 g/m² for subsequent coats
Wet film yield	2000 g/m² for 1500 µm
Dry film coverage	2000 g/m² for 1000 µm
Thinner	Water
Drying time at +20°C, 65%	Dust-free: 30 minutes. Fingerprint-free: 2 hours Next coat after 3 to 4 hours Top coat if required: after 24 hours

Increasing the film thickness and raising the relative humidity in the drying area generally slows down the drying process.

Exposure to fire

For concrete

The European standard NF EN 13381-3, introduced in May 2015, requires that loaded beams and floors be subjected to a load-bearing test. NF EN 13381-3 measures the fire protection pro-

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vided by an intumescent paint through the equivalent concrete thickness, i.e. the thickness of concrete that provides the same level of protection as that thickness of paint.

According to this standard, the value of the equivalent concrete thickness depends on the number of sides exposed to fire.

The equivalent concrete thickness to be applied to flat, two-dimensional reinforced concrete elements such as floors and walls, as well as beams and columns exposed on a single side, is obtained through fire resistance tests carried out on floors under load, as shown in the table below:

Verniflam® Aithon A90H		Fire exposure time (exposure on one side)					
		30 min	60 min	90 min	120 min	180 min	240 min
weight (g/m^2)	dry thickness (mm)	Equivalent concrete thickness (mm)					
500	0,25	12,4	10,2	8,1	5,1	0	0
1000	0,50	16,4	16,9	14,5	11,7	7,2	6,0
1500	0,75	20,3	23,4	20,6	18,0	14,1	11,9
2035	1,02	24,5	30,4	27,2	24,7	21,6	18,2

The equivalent concrete thickness to be applied to beams and columns exposed on three or four sides is determined by fire resistance tests carried out on loaded beams, as described below:

Verniflam® Aithon A90H		Fire exposure time (exposure on 3 or 4 sides)			
		30 min	60 min	90 min	120 min
weight (g/m^2)	dry thickness (mm)	Equivalent concrete thickness (mm)			
500	0,25	16,1	14,2	12,8	0
1000	0,50	21,5	20,7	19,1	10,6
1500	0,75	26,8	27,1	25,3	21,0
2092	1,05	33,0	34,7	32,6	33,2

For steel beams

The product classification applies to the beam types listed below, which have a section modulus Am/V of between 60 and 434 m^2/m^3 (developed area of the member / volume of the component).

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The maximum dry weights are as follows, in order to keep the metal member below the test temperature (in this case 500°C).

Beam type	Cross-sectional factor	Ranking	Minimum dry film thickness (µm)
I-beams or H-beams	60	R15	214
		R20	214
		R30	262
		R45	431
		R60	617
		R90	1029
		R120	1478
	434	R15	768
		R20	1106
		R30	1845
		R45	-
		R60	-
		R90	-
		R120	
Hollow rectangular sections	60	R15	214
		R20	214
		R30	308
		R45	513
		R60	739
		R90	1229
		R120	-
	434	R15	895
		R20	1307
		R30	-
		R45	-
		R60	-
		R90	-
		R120	-

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Beam type	Cross-sectional factor	Ranking	Minimum dry film thickness (µm)
Hollow circular sections	60	R15	214
		R20	251
		R30	426
		R45	722
		R60	1048
		R90	1767
		R120	-
	434	R15	1194
		R20	1767
		R30	-
		R45	-
		R60	-
		R90	-
		R120	-

For minimum dry film thickness values at other temperatures and for intermediate film factors, please contact us.

Installation and preparation of the substrate

The substrate must be dry and free from dust, oil, wax, grease, dirt, resin, etc.

Existing coatings or coatings with poor adhesion must be completely removed, e.g. using solvent-based paint strippers or by sanding.

Terms and conditions / Limitations

Temperature

Minimum +5°C, maximum +30°C

Relative humidity

Up to 70%

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If the relative humidity exceeds 70%, measures must be taken to prevent condensation from forming during application.

Special instructions

Mixing of products

Stir using a low-speed electric mixer until the mixture is smooth and lump-free.
For application at low temperatures (5°C – 10°C), it is advisable to heat the intumescent paint to approximately 30°C.

Application methods

Apply with a spray gun in several coats, depending on the desired finish. If necessary, dilute by 5–10% and increase the application rate accordingly.

Cleaning tools

With water or a cleaner designed for water-based finishes, immediately after completion of the work.

Measured values

All technical specifications given in this product data sheet are based on laboratory tests. Circumstances beyond our control may result in deviations from the actual values.

Local restrictions

The information provided in this product data sheet applies to the corresponding product supplied by Protecflam Industries.

Safety notes

For further details, please refer to the current safety data sheet available from Protecflam Industries.

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