



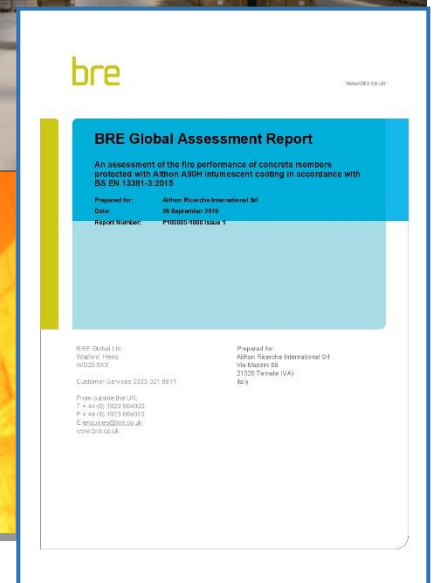
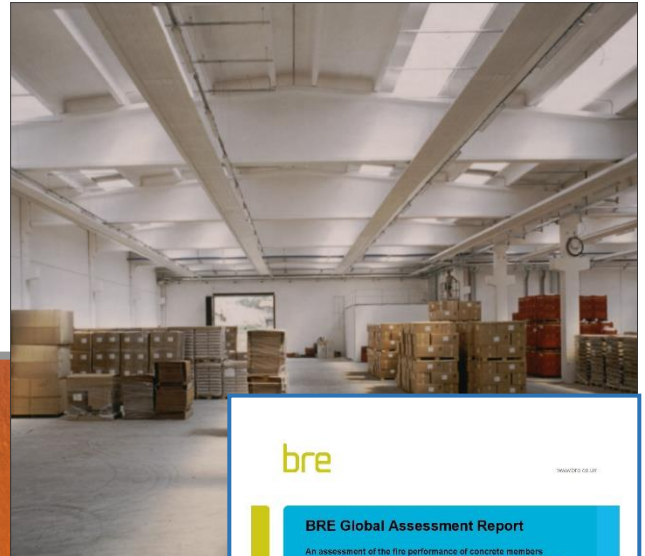
## AITHON A90H

**fire protection  
of concrete  
structures**

**Assessed by B.R.E.**

**BS EN 13381-3  
BS EN 12501-2**

- **R240 on concrete slabs and walls**
- **R120 on concrete beams and columns**
- **For pre-stressed and reinforced concrete**



A FIRE TEST ON A CONCRETE SLAB

- **FOR CONCRETE AND PRE-STRESSED CONCRETE**
- **WATERBORNE, LOW VOC COATING**
- **CLASSIFIED IN Y CLASS: NO NEED OF TOP-COATING EVEN IN HIGH HUMIDITY AND LOW TEMPERATURE INTERIOR ENVIRONMENT**



***hard, thin film intumescent coating  
for durable fire protection and decoration***

# Up to 240 minutes fire resistance according to BS EN 13381-3 and BS EN 13501-2

The BS EN 13381-3 regards the fire resistance of concrete structures and the performance of the intumescent coatings applied on concrete are expressed in terms of **equivalent concrete thickness**. The method defines the quantities (in  $\text{gr}/\text{m}^2$ ) of intumescent coating required to achieve the same insulation performance provided by different thicknesses of concrete.

The calculation of the equivalent concrete thickness required for slabs and walls exposed to fire on one side is based on fire test results achieved on loaded slabs having minimum ( $500 \text{ gr}/\text{m}^2$ ) and maximum ( $2035 \text{ gr}/\text{m}^2$ ) applied quantity of intumescent coating. Linear interpolation between minimum and maximum is allowed.

| <b>AITHON A90H</b>                         |        | Fire resistance time (min.)<br>(exposed to fire on one side) |      |      |      |      |      |
|--|--------|--|------|------|------|------|------|
|  |        | 30   | 60   | 90   | 120  | 180  | 240  |
| required quantity<br>$\text{g}/\text{m}^2$ | mm DFT | Equivalent concrete thickness (mm)                           |      |      |      |      |      |
| 500  | 0.25   | 12.5   | 10.4 | 8.3  | 5.4  | 0    | 0    |
| 1000                                       | 0.50   | 16.4   | 16.9 | 14.5 | 11.7 | 7.1  | 6.0  |
| 1500                                       | 0.75   | 20.3   | 23.4 | 20.6 | 18.0 | 14.0 | 11.9 |
| 2035                                       | 1.02   | 24.5   | 30.4 | 27.2 | 24.7 | 21.6 | 18.2 |

The calculation of the equivalent concrete thickness required for beams and columns exposed to fire on three of four sides is based on fire test results achieved on loaded beams having minimum ( $500 \text{ gr}/\text{m}^2$ ) and maximum ( $2092 \text{ gr}/\text{m}^2$ ) applied quantity of intumescent coating. Linear interpolation between minimum and maximum is allowed.

| <b>AITHON A90H</b>                         |        | Fire resistance time (min.)<br>(exposed to fire on three or four sides) |      |      |      |
|--|--------|---|------|------|------|
|  |        | 30  | 60   | 90   | 120  |
| required quantity<br>$\text{g}/\text{m}^2$ | mm DFT | 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 |



### **Fire protection and decoration**

**AITHON A90H** has a smooth, matt white finish and does not need a top coating even in high humidity, low temperature environment (classified Y according ETAG 18-2)

But if a decoration is required, **AITHON A90H** has a suitable top-coating which provide a satin or matt finish in the full RAL colour range

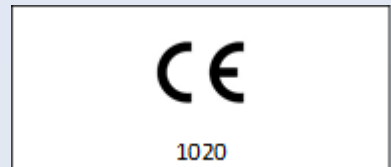


### **30 years guarantee**

*Defining the lifetime of a fire protection system is often a difficult problem to solve. The over 30 years of our experience in research and development of intumescent coatings, together with the high quality of the raw materials that we use, allow us to offer a 30 years guarantee for all our intumescent coatings and varnishes. For further details about our guarantee program please contact our technical service.*

|                       |                  |                     |
|-----------------------|------------------|---------------------|
| <b>Technical data</b> | Solids by volume | 66%                 |
|                       | solids by weight | 72%                 |
|                       | density          | 1,33 Kgr/lit        |
|                       | colour           | white               |
|                       | viscosity        | thixotropic product |
|                       | VOC              | < 45 gr/lit         |
|                       | VOC (on request) | < 5 gr/lit          |

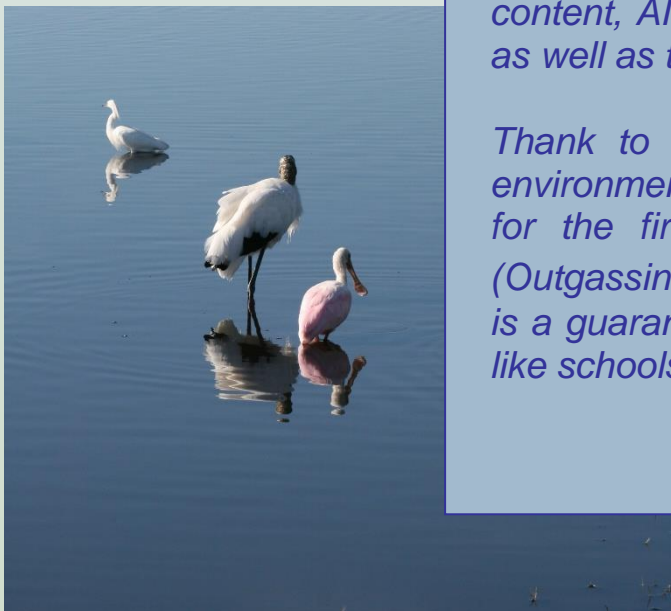
|                    |                              |                             |
|--------------------|------------------------------|-----------------------------|
| <b>Application</b> | thinner                      | water                       |
|                    | wet film thickness           | 2 Kgr/sqmt for 1500 micron  |
|                    | dry film thickness           | 2 Kgr/sqmt for 1000 micron  |
|                    | first coat                   | < 250 gr/sqmt (recommended) |
|                    | further coats                | up to 1 Kgr/sqmt per coat   |
|                    | Drying time (20°C, 65% R.H.) | dust dry: 30 mins.          |
|                    |                              | touch dry: 2 hours          |
|                    |                              | 3 – 4 hours between coats   |
|                    | Top coating (if required)    | after 24 hours              |
| Shipment weight    | 20 Kgr net plastic pails     |                             |



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ETA 13 / 0926  
 EAD 350402-00-1106  
 Fire protective product  
 See ETA for relevant characteristics



**ENVIRONMENTALLY FRIENDLY**

*Waterborne, halogen-free, low VOC content, AITHON A90H protects concrete as well as the environment.*

*Thank to its very low emission to the environment, AITHON A90H is approved for the fire protection in clean rooms (Outgassing tests at 40°C: 2,6 µg/g). This is a guarantee for any sensitive buildings like schools and hospitals.*

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