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Testing. Advising. Assuring.


13th November 2017

**Mr Markus Woehr**
**Sika Deutschland GmbH**
Kornwestheimer Strasse
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Stuttgart
Germany

**Dear Sir**

**Re: Compatibility Of The Reactive Coating With Produced By PEINTURES LAGAE 'FINIFER INT' and 'FINIFER EXT' Topcoats**

The performance of intumescent coatings may be affected by the topcoat applied over the reactive coating, therefore test data demonstrating reactive coating compatibility with the protective finishing coat should be provided.

In order to comply with ETAG 018 Parts 1 and 2 compatibility requirements, six 500mm high by 500mm high by 5mm thick steel plates referenced No. 1.1.1, No. 1.1.2, No. 1, No. 2, No. 3 and No. 4 were protected with intumescent coating systems. All plates were abrasive blast cleaned to ISO 8501-1 Sa2.5 before protection system application. Details of each specimen are summarised in Table 1.

Table 1: Summary of the specimens

| Plate No. | Report No. | Plate Reference | Plate Purpose | Primer Reference | Steel Surface Preparation | Primer DFT (µm) | Basecoat (Protection Material) Reference | Basecoat DFT EXCLUDING PRIMER (µm) | Topcoat Reference | Nominal Topcoat DFT (µm) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 175833 | 1.1.1 | Control[1] | Sika® Permacor®-1705 | ISO 8501-1 Sa2.5 | 87 | Sika® Unitherm® Steel S | 1033 | - | - |
| 2 | 175833 | 1.1.2 | Control[1] | Sika® Permacor®-1705 | ISO 8501-1 Sa2.5 | 77 | Sika® Unitherm® Steel S | 1013 | - | - |
| 3 | 390849d | 1 | Topcoat compatibility | Sika® Permacor® 2706 EG | ISO 8501-1 Sa2.5 | 50 | Sika® Unitherm® Steel S | 923 | FINIFER INT | 80 |
| 4 | 390849d | 2 | Topcoat compatibility | Sika® Permacor® 2706 EG | ISO 8501-1 Sa2.5 | 50 | Sika® Unitherm® Steel S | 964 | FINIFER INT | 80 |
| 7 | 390849d | 3 | Topcoat compatibility | Sika® Permacor® 2706 EG | ISO 8501-1 Sa2.5 | 50 | Sika® Unitherm® Steel S | 890 | FINIFER EXT | 80 |
| 8 | 390849d | 4 | Topcoat compatibility | Sika® Permacor® 2706 EG | ISO 8501-1 Sa2.5 | 50 | Sika® Unitherm® Steel S | 932 | FINIFER EXT | 80 |

DFT: Dry Film Thickness
[1] Protection system as used in the initial type testing

The data referred in this letter relates to fire tests performed at the premises of Sika Deutschland GmbH. The carried out fire tests were witnessed by representatives of Warrington Certification.

The plates were fire tested utilising the heating requirements of BS EN 1363-1 to assess the effect of a topcoat on the ability of the intumescent coating to maintain its fire protection performance. The performance of the coating referenced 'Sika® Unitherm® Steel S' was assessed adopting the principles defined in the ETAG 018 Parts 1 and 2. The specific ETAG 018 Part 2 requirements state that topcoat compatibility is deemed verified when the average time to achieve a steel temperature of 500°C for the plates with topcoat is not less than 85% of the average time achieved by the 'control' specimens. Also no single result shall be less than 80% of the average time to reach 500°C of the 'control' plates.

The results of the tests show that the system with 'FINIFER INT' or 'FINIFER EXT' topcoat applied over a single pack intumescent coating known as 'Sika® Unitherm® Steel S' complies with the criteria of acceptability given in ETAG 018 Part 2. The results of the tests are detailed in Table 2.

Table 2: Evaluation results

| Plate Reference | Basecoat DFT EXCLUDING PRIMER (µm) | Time To Reach 500°C (minutes) | Corrected Time To Reach 500°C (minutes) | Mean Time To Reach 500°C (minutes) | Mean Comparison >85 (%) | Individual Deviation >80 (%) | Resut (Pass/Fail) |
|---|---|---|---|---|---|---|---|
| 1.1.1 | 1033 | 57 | 55 | 55.2 | - | - | Control |
| 1.1.2 | 1013 | 56 | 55 | | | | |
| 1 | 923 | 52.4 | 57 | 59 | 106.2 | 102.8 | Pass |
| 2 | 964 | 58.4 | 61 | | | 109.7 | |
| 3 | 890 | 56 | 63 | 60 | 108.8 | 113.9 | Pass |
| 4 | 932 | 53.4 | 57 | | | 103.7 | |

DFT: Dry Film Thickness

I trust the above comments are acceptable.

Yours faithfully,

**D Podolski**
Senior Certification Engineer
**Exova Warringtonfire**