



香港試驗有限公司

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Method Statement for Pull-off Test of sprayed fire-resistive material (SFRM)

1 Scope

-This test method cover procedures for determining Bond strength of sprayed fire-resistive material (SFRM)

-In-House method base on ASTM E736 clause 8

2 Apparatus and Accessories

2.1 Adhesive, quick-hardening two-component epoxy adhesive or equivalent.

2.2 75mm ϕ aluminium dolly

2.3 The pull-off tester.

2.4 Vernier calipers with a reading inaccuracy of not more than 0.1mm.

3 Procedure

- I. Carefully remove the loose material of the test area.
- II. Apply a thin layer of adhesive to the surface of the test specimen in such a way that the adhesive forms a completely filled layer between the dolly and SFRM, Slightly press down the dolly and fix the dolly in position to avoid any movement. Allow the adhesive to harden in accordance with the manufacturer's instruction.
- III. The pulling equipment and it's accessories shall be used in accordance with the manufacturer's instructions. Place the pulling equipment perpendicularly on the test surface and concentrically over the dolly. Position the instrument in such a way that its position will not change during the test. Take all action necessary to ensure that the test results will not be influenced by the weight of the pulling tool.
- IV. Increase the load continuously and evenly in time at a rate of $0.05 \pm 0.01\text{N/mm}^2$ per 'second until failure occurs.
- V. Determine the sectional area of the test specimen at the rupture face as the average result of measurements taken perpendicularly to each other, with the vernier caliper.



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4 Calculation

Calculate the bond strength, rounded off to 0.1kpa, with the following formula :

$$f_b = (F_b / A) \times 10^5$$

Where :

f_b is the bond strength of the test specimen, in kpa;

F_b is the failure load, in kN;

A is the sectional area of the test specimen, in mm^2 .