



2011

June

Fibreglass Panel - Flame Test

Objectives:

1. **Untreated fibreglass panel** - Determine the effect of a focused heat source on a 2 mm Fibreglass panel.
2. **Treated fibreglass panel** - Determine the effect of a focused heat source on the 2 mm Fibreglass panel protected with two coats of Contego Fire-barrier Latex Intumescent Coating.

Material:

A 2mm fibreglass sheet manufactured with chopped strand laminated with general purpose NCS Resin measuring 480 x 550mm and sourced from Unifibre in Durban.

Experimental Arrangement:

The sample under test measured 480 x 550mm and was placed against a steel support. A blowtorch fuelled with a butane/propane mix was used as the heat source. The temperature rating of the torch was between 1 500 and 1 750 degrees Celsius and the blow torch placed 15 cm from the test surface.

A timer was placed near the test area to monitor time elapse.

Photographs were taken at regular intervals during the experiment and are attached below.

Tests were conducted at Contego Africa in Shongweni, KZN.

Results:

Test 1 – Untreated Fibreglass panel (see photos A to F below)

Test was initialised at 11:42

The panel ignited at 15 seconds

After 30 seconds the flames spread over the panel and burnt vigorously.

At 1 minutes 10 seconds the panel was burning out of control and had burnt through the sample

Excessive smoke was emitted during the test

The test was terminated at 11:44 after 2 minutes.

The sample had lost its structural stability due to the resin having burnt away

Test 2 – Fibreglass panel treated with Contego (see photos G to O below)

The test sample was coated with two coats of Contego applied by roller and allowed to dry for 24 hours between coats and the test.

The test was initialised at 12:00.

The char barrier started to form immediately

After 1 minute the char barrier prevented the flames from spreading and causing damage to the panel.

After 5 minutes the char barrier glowed red and although some smoke was emitted from the reverse of the panel there was no ignition or damage to the panel noted.

The char barrier expanded to approximately 6 cm with a diameter of 11 cm.

After 8 minutes the char barrier glowed yellow and white and the smoke omission noted earlier had stopped.

After 15 minutes no change was noted

At 30 and 45 minutes no change was noted

After 60 minutes no change was noted

At 13:02 after 61 minutes the test was terminated

The untreated side was un damaged and did not burn through or rupture the surface.

No excessive smoke was emitted during the test

Conclusion:

Applying two coats of Contego Fire Barrier onto the fibre glass panel achieved a one hour protection from fire.

Qualification:

This report has been prepared based on an informal test by the supplier of Contego fire barrier paint and should by no means be considered equivalent to formal testing by professional testing laboratories.

The report sets out how the test was performed and the results which were obtained from the informal testing. Formal testing may yield different results.

Alan Lancaster

Technical and Logistics
Fire Proof Coatings (T/A Contego Africa)
Island Business Park
Mount Edgecombe
KZN, South Africa
Cell: 083 627 3651
E-Mail: alan@contegoafrica.co.za
www.contegointernational.com

Test Photographs

Test 1 – Untreated Fibreglass panel



Test was initialised at 11:42



The panel ignited at 15 seconds



After 30 seconds the flames spread over the panel and burnt vigorously



At 1 minutes 10 seconds the panel was burning out of control and had burnt through the sample



The sample had lost its structural stability due to the resin having burnt away exposing the glass fibre



A close up of the rear of the pane, showing the burn through holes and distortion.



The test was initialised at 12:00



After 1 minute the char barrier prevented the flames from spreading and causing damage to the panel



After 5 minutes the char barrier glowed red and some smoke was observed from the reverse of the panel



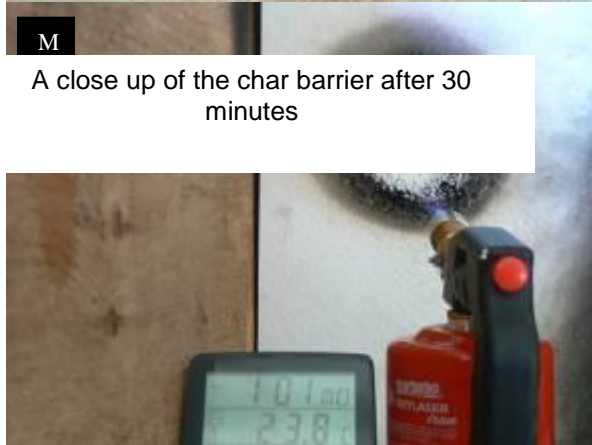
After 8 minutes the char barrier glowed yellow/white and the smoke omission noted earlier had stopped



K



L



M

A close up of the char barrier after 30 minutes



N

At 30 and 45 minutes no change was noted

After 60 minutes no change was noted and the test terminated

A close up of the char barrier after the test was completed.



O

The untreated side was undamaged and did not burn through or rupture the surface. No excessive smoke was emitted during the test