FIRELAB

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For attention: Mr Mike Howard

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Dear Sir

SMALL-SCALE FIRE PROPERTIES: FIRE-RETARDED CLOTH SAMPLE

1. SAMPLE DESCRIPTION

A khaki-coloured cloth sample was delivered for evaluation of its small-scale fire propagation properties. The cloth was treated with a fire-retardant chemical. The cloth has a mass per unit area of approximately 445 gsm.

2. TEST METHODS AND RESULTS

2.1 Small-scale fire propagation properties (SANS 10177 Part 9)

A 150 mm wide and 1 000 mm long specimen was secured to the test frame. This frame was suspended in a 300 mm x 300 mm x 2.1 m high metal chimney. A Bunsen burner with a flame length of 60 mm and a temperature of 1 100 ˚C was applied at an angle of 45˚ 100mm below to the bottom edge of the sample for a period of 10 minutes.

The temperature near the top of the chimney was recorded with a single K-type thermocouple. This temperature was used to determine the heat contribution of the test specimen in comparison to the plot obtained from a “blank” run. Other observations related to the presence of flaming droplets, the propensity to self-extinguish upon removal of the burner and rate of flame spread along the height of the specimen were also noted.

The following results were obtained:

- Time to ignition: immediate
- Time to burn over entire length: did not burn over full length
- No molten burning droplets was noted during the test period
- Material self-extinguished after removal of burner at 12 seconds and 24 seconds respectively. Overall self-extinguishment occurred after 30 seconds
- Length of flame spread/heat damage on sample: 180 mm
- Heat contribution over 10-minute test duration: 0 ºC /min
- Maximum temperature in chimney (at any time during test): 0 ºC above ambient (calibration temperature)

The material did not propagate fire and damage was limited to the area under direct influence of the fire source.

3. DISCUSSION OF RESULTS

The small-scale fire propagation test on the sample revealed that the material did not propagate fire and tended to self-extinguished when outside the area under direct influence of the burner.

4. CONCLUSION

The material is deemed suitable from an ignitability and flame spread point of view for applications where ignition resistance is sought for cloth products.

I trust the foregoing will be of assistance to you, but should you require any further information, please do not hesitate to approach the undersigned.

Yours faithfully

K van Dyk
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T/a **FIRELAB**