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# NFPA 701-2019 Test Method 1 - Flame Propagation of "ECOMESH"

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|---|---|
| A Report To: | **SAINT CLAIR TEXTILES**<br>415, Avenue de Savoie<br>F-38110 Saint-Clair-de-la-Tour<br>France |
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| Submitted by: | Element Fire Testing |
| Report No. | 21-002-015(B1)<br>3 pages |
| Date: | January 26, 2021 |

**1.0 ACCREDITATION** To ISO/IEC 17025 for a defined Scope of Testing by the International Accreditation Service

**2.0 SPECIFICATIONS OF ORDER**

Determine flame propagation in accordance with Test Method 1 of NFPA 701, 2019 Edition, as per Saint Clair Textiles reference Purchase Order No. AC43360 and Element Quotation No. 20-002-223721 REV1 dated December 16, 2020.

**2.1 History of Report Revision**

This is the original.

**3.0 SAMPLE IDENTIFICATION** (Element sample identification number 21-002-S0015-2)

Material described as, "Polyester fabric with fire retardants in mass, with an acrylic/polyurethane coating on both sides - White color - 320 µm ± 10% - 215 g/$m^2$ ± 10%", and identified as:
"ECOMESH"

**4.0 APPLICABILITY**

Test Method 1 shall apply to materials with an areal density less than or equal to 700 g/m2 (21 oz/yd2). Test Method 1 shall not apply to the following: 1) Vinyl-coated blackout linings or lined draperies using a vinyl-coated fabric blackout lining; 2) Plastic Films; 3) Decorative materials other than fabrics.

**5.0 SUMMARY OF TEST PROCEDURE**

Ten specimens are cut, each 150 mm x 400 mm, with the length parallel to the lengthwise direction of the material. After having been weighed, the specimens are conditioned for at least 30 minutes at 105 ± 3°C (220 ± 5°F). Specimens may also be conditioned at 20 ± 5°C for a minimum of 24 hours, if they melt or permanently deform at 105°C.

Each specimen is removed from the conditioning chamber individually and attached to a pin bar which is then mounted on a support hanger at the back ceiling of a specified test chamber. A specified gas flame is applied to the centre of the lower edge of the specimen for 45 seconds and then withdrawn. The specimen is allowed to burn until the flame self-extinguishes, after which it is removed from the pin bar and re-weighed. The percent mass loss is determined and used as a measure of total flame spread and specimen damage.

**6.0 PERFORMANCE CRITERIA**

As listed in NFPA 701-2019 Edition, Chapter 10:

Where fragments or residues of specimens that fall to the floor of the test chamber continue to burn for more than an average of 2 seconds per specimen for the sample of 10 specimens, the material shall be recorded as failing the test.
Where the average weight loss of the 10 specimens in a sample is greater than 40 percent, the material shall be recorded as failing the test.
Where the percent mass loss of any individual specimen exceeds the mean value plus three standard deviations, a second set shall be tested.
If and when a retest is required, where an individual specimen's percent mass loss in the second set of specimens deviates from the mean value by more than 3 standard deviations calculated for the second set, the material shall be recorded as failing the test.

## 7.0 SUMMARY OF TEST RESULTS

**SAMPLE: "ECOMESH"**

| | | | |
|---|---|---|---|
| Mean Mass Loss (%): | 1.6 | Average Flaming Dripping Time (s): | 0.0 |
| Specified Maximum Mean Mass Loss (%): | 40.0 | Specified Maximum Flaming Drip Time (s): | 2.0 |
| Standard Deviation: | 0.47 | Overall Result: | **Pass** |

## 8.0 TEST RESULTS

**NFPA 701-2019 Test Method 1**

Standard Methods of Fire Tests for Flame Propagation of Textiles and Films

| Trial | Initial Mass (g) | Final Mass (g) | Mass Loss (%) | Afterflame Time (s) | Flaming Dripping (s) | Individual Result |
|---|---|---|---|---|---|---|
| 1: | 12.7 | 12.6 | 1.0 | 0.0 | 0.0 | Pass |
| 2: | 12.7 | 12.5 | 1.7 | 0.0 | 0.0 | Pass |
| 3: | 12.9 | 12.7 | 1.8 | 0.0 | 0.0 | Pass |
| 4: | 12.9 | 12.7 | 1.5 | 0.0 | 0.0 | Pass |
| 5: | 12.8 | 12.6 | 1.6 | 0.0 | 0.0 | Pass |
| 6: | 12.9 | 12.7 | 1.6 | 0.0 | 0.0 | Pass |
| 7: | 13.0 | 12.7 | 2.5 | 0.0 | 0.0 | Pass |
| 8: | 12.9 | 12.6 | 2.4 | 0.0 | 0.0 | Pass |
| 9: | 12.8 | 12.7 | 1.2 | 0.0 | 0.0 | Pass |
| 10: | 13.0 | 12.9 | 1.1 | 0.0 | 0.0 | Pass |

### 8.1 Test Notes and Observations

Material was tested "as-received"
Measured Sample Weight: 217 g/m$^2$

## 9.0 CONCLUSIONS

When tested "as-received", the material identified in this report meets the flame propagation requirements of Test Method 1 of NFPA 701, 2019 Edition.

Robert A. Carleton,
Technician.

Ian Smith,
Technical Manager.

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