

# JAMES CROPPER

## FIRE TEST STUDY

# TECNOFIRE®

## SUCCESSFUL IN E84-11a

James Cropper's TECNOFIRE materials are engineered for construction applications where fire protection and effective gap sealing are critical. Specified in a wide range of construction products, architectural fire doors and infrastructure applications, TECNOFIRE grades have achieved ASTM E84 Class A performance and expand when exposed to heat, helping to fill gaps and restrict the spread of fire and smoke in building systems.

### WHAT IS E84 TESTING & WHY IS IT IMPORTANT?

The ASTM E84-11a test is a standard test for evaluating the surface flame spread and smoke development characteristics of building materials. The Flame Spread Index (FSI) and Smoke Developed Index (SDI) are measured as part of the testing and

| CLASSIFICATION | FLAME SPREAD INDEX (FSI) | SMOKE DEVELOPED INDEX (SDI) |
|----------------|--------------------------|-----------------------------|
| A              | 0-25                     | 0-450                       |
| B              | 26-75                    | 0-450                       |
| C              | 76-200                   | 0-450                       |



WATCH  
TECNOFIRE  
IN ACTION



form key criteria in the classification of materials. The 2009 International Building Code® sets out the criteria for Classes A, B and C.

ACHIEVE AN E84-11a

# CLASS A

RATING WITH TECNOFIRE

## E84-11a TEST RESULTS

A range of Tecnofire® materials were E84 tested, including both resin infusible grades and materials which had been pre-infused with epoxy resin. The results are recorded below along with the graphs for typical flame spread, smoke development and temperature.

| MATERIAL             | FSI | SDI | CLASS |
|----------------------|-----|-----|-------|
| T6594-03 MAT         | 0   | 5   | A     |
| T6606-00 BOARD       | 0   | 15  | A     |
| 67152F<br>E22M+R MAT | 0   | 30  | A     |

ALL VARIANTS OF TECNofire TESTED REGISTERED AN FSI VALUE OF 0 AND AN SDI OF 30 OR LESS - ACHIEVING A CLASS A RATING WHICH QUALIFIES THE MATERIALS FOR USE IN WALLS & CEILINGS AND PLENUMS.

Testing was carried out by Architectural Testing Inc. in accordance with ASTM E84-11a, the standard test method for surface burning characteristics of building materials.

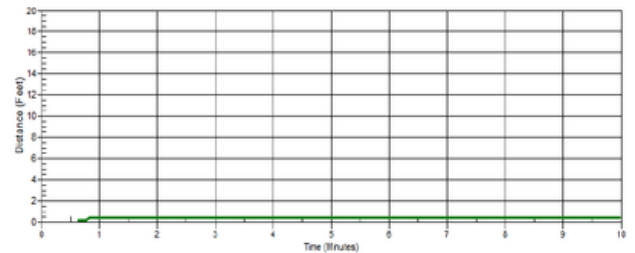
## ABOUT TECNofire

TECNofire is a versatile range of lightweight fire protection materials designed for use in a broad range of applications, including composite fabrications & construction gap filling. It is an intumescent material made from inorganic fibre and intercalated graphite. When exposed to heat, it expands unidirectionally (in the z-direction) to form a stable, thick insulative and stabilised char which fills the gap to prevent fire spread or reduces the degradation of the underlying structure by insulating it from heat energy.

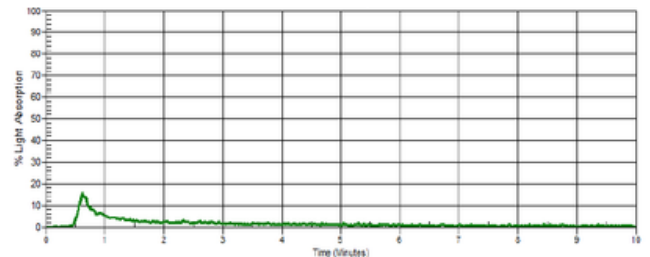
Tecnofire has passed a number of fire tests in addition to the Class A rating in ASTM E84-11a, these include key reaction to fire standards such as ASTM E662, E162 and the EN45545 rail sector standard, as well as being used extensively in the manufacture of 30, 60 & 90 minute rated fire doors.



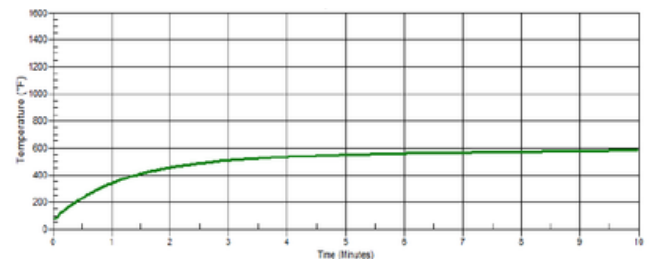
FLAME SPREAD



SMOKE DEVELOPMENT



TEMPERATURE



JAMES CROPPER  
BURNESIDE MILLS, KENDAL  
CUMBRIA, LA9 6PZ, UK

+44 (0)1539 818220  
ENQUIRIES@CROPPER.COM

ADVANCEDMATERIALS.JAMESCROPPER.COM

TECHNICAL FIBRE PRODUCTS LTD T/A JAMES CROPPER