

# KVADRAT A/S TEST REPORT

## SCOPE OF WORK

REPORT OF TESTING CODA 2 WOVEN TEXTILE FOR COMPLIANCE WITH THE APPLICABLE REQUIREMENTS OF THE FOLLOWING CRITERIA: ASTM E84-21A STANDARD TEST METHOD FOR SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS.

## REPORT NUMBER

104948862COQ-001E R0

## TEST DATE(S)

01/31/22 - 01/31/22

## ISSUE DATE

01/31/22

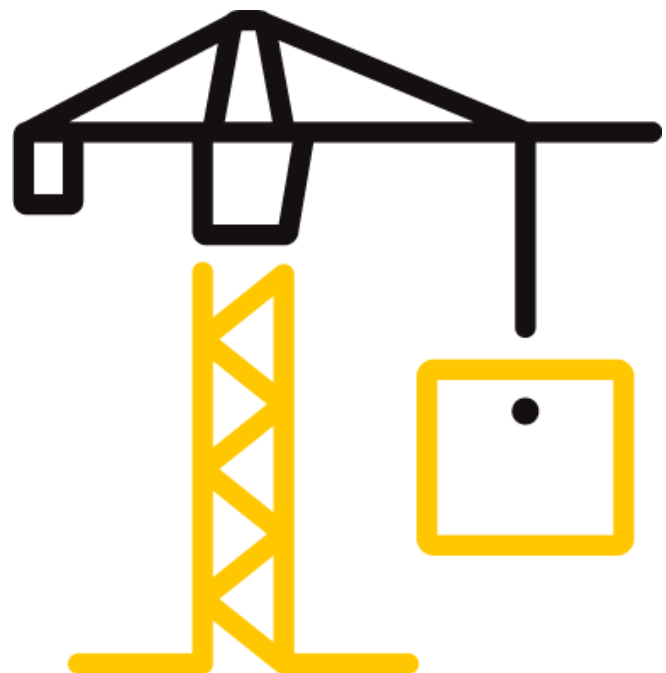
## PAGES

12

## DOCUMENT CONTROL NUMBER

GFT-OP-10C (09/29/20)

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## TEST REPORT FOR KVADRAT A/S

Report No.: 104948862COQ-001E R0

Date: 01/31/22

### REPORT ISSUED TO

**KVADRAT A/S  
LUNDBERGSVE 10,  
8400 EBELTOFT, DENMARK**

### SECTION 1

#### SCOPE

Intertek Building & Construction (B&C) was contracted by Kvadrat A/S Lundbergsvej 10, 8400 Ebeltoft, Denmark. to perform testing in accordance with ASTM E84-21a Standard Test Method for Surface Burning Characteristics of Building Materials on their Coda 2 Woven textile. Results obtained are tested values and were secured by using the designated test method(s). Testing was conducted at Intertek Testing Services NA Ltd. (Intertek) test facility in Coquitlam, BC Canada.

Unless differently required, Intertek reports apply the "Simple Acceptance" rule also called "Shared Risk approach," of ILAC-G8:09/2019, Guidelines on Decision Rules and Statements of Conformity.

Intertek B&C will service this report for the entire test record retention period. The test record retention period ends four years after the test date. Test records, such as detailed drawings, datasheets, representative samples of test specimens (where required by Certification or Accreditation bodies), or other pertinent project documentation, will be retained for the entire test record retention period.

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### SECTION 2


#### SUMMARY OF TEST RESULTS

The samples of Coda 2 Woven textile submitted by Kvadrat A/S. were tested in accordance with ASTM E84-21a Standard Test Method for Surface Burning Characteristics of Building Materials.

The product test results are presented in Section 10 of this report.

For INTERTEK B&C:

<b>COMPLETED BY:</b>	Sean Fewer
<b>TITLE:</b>	Technician – B&C
<b>SIGNATURE:</b>	
<b>DATE:</b>	01/31/22

<b>REVIEWED BY:</b>	Greg Philp
<b>TITLE:</b>	Senior Technician – B&C
<b>SIGNATURE:</b>	
<b>DATE:</b>	01/31/22

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**SECTION 3**  
**TEST METHOD(S)**

The specimens were evaluated in accordance with the following:

ASTM E84-21a Standard Test Method for Surface Burning Characteristics of Building Materials.

**SECTION 4**  
**MATERIAL SOURCE/INSTALLATION**

Samples were submitted to Intertek directly from the client and were not independently selected for testing and Intertek accepts no responsibility for any inaccuracies provided.

**SECTION 5**  
**EQUIPMENT**

ASSET #	DESCRIPTION	MODEL	CAL DUE DATE
WH 2189	Photocell	Huygen 856	11/05/22
WH 2190	Smoke Opacity Meter	Huygen	11/05/22
WH 1052	Data Logger	Phidgets DAQ 2020	11/05/22
	FS Tunnel (E84)	N/A	08/09/22

**SECTION 6**  
**LIST OF OFFICIAL OBSERVERS**

NAME	COMPANY
Sean Fewer	Intertek B&C

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### SECTION 7

#### TEST CALCULATIONS

The results of the tests are expressed by indexes, which compare the characteristics of the sample under tests relative to that of select grade red oak flooring and inorganic-cement board.

##### (A) Flame Spread Index:

This index relates to the rate of progression of a flame along a sample in the 25 foot tunnel. A natural gas flame is applied to the front of the sample at the start of the test and drawn along the sample by a draft kept constant for the duration of the test. An observer notes the progression of the flame front relative to time.

The test apparatus is calibrated such that the flame front for red oak flooring passes out the end of the tunnel in five minutes, thirty seconds (plus or minus 15 seconds).

##### (B) Smoke Developed:

A photocell is used to measure the amount of light, which is obscured by the smoke passing down the tunnel duct. When the smoke from a burning sample obscures the light beam, the output from the photocell decreases. This decrease with time is recorded and compared to the results obtained for heptane, which is defined to be 100.

### SECTION 8

#### TEST SPECIMEN DESCRIPTION

Upon receipt of the samples at the Intertek Coquitlam laboratory they were placed in a conditioning room where they remained in an atmosphere of  $23 \pm 3^{\circ}\text{C}$  ( $73.4 \pm 5^{\circ}\text{F}$ ) and  $50 \pm 5\%$  relative humidity.

The sample material was identified by the client as Coda 2 Woven textile with a composition of 90% new wool and 10% nylon. The samples measured 24 in. wide by 24 ft. long.

For this trial run, 24 in. wide by 24 ft. length of sample material was placed on the upper ledge of the flame spread tunnel. The sample material was supported by  $\frac{1}{4}$  in. steel rods spaced every 24 in. and 20 ga. 2 in x 2 in galvanized steel netting spanning the upper ledge of the flame spread tunnel. A layer of 6 mm. reinforced cement board was placed over top of the samples, the tunnel lid was lowered into place, and the samples were then tested in accordance with ASTM E84-21a Standard Test Method for Surface Burning Characteristics of Building Materials.

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**SECTION 9****TEST RESULTS****(A) Flame Spread**

The resultant flame spread Indexes are as follows:  
(Indexes rounded to nearest 5)

Sample Material	Flame Spread	Flame Spread Index
Coda 2 Woven Textile	37	35

**(B) Smoke Developed**

The areas beneath the smoke developed curve and the related indexes are as follows:  
(For smoke developed indexes 200 or more, index is rounded to the nearest 50. For smoke developed indexes less than 200, index is rounded to nearest 5)

Sample Material	Smoke Developed	Smoke Developed Index
Coda 2 Woven Textile	13	15

**(C) Observations**

During the test, the sample surface ignited at approximately 28 seconds; the flame began to progress along the sample until it reached the maximum flame spread.

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**COMMENTARY ON CLASSIFICATION**

Neither ASTM E84 nor UL 723 include classification criteria for the results obtained from testing. The International Building Code® (IBC), NFPA 101: Life Safety Code® (NFPA 101), and NFPA 5000: Building Construction and Safety Code® (NFPA 5000) all describe a set of classification criteria required for interior wall and ceiling finish materials based on Flame Spread Index and Smoke Developed Index when tested in accordance with ASTM E84 or UL 723. The classification criteria for all three model codes is the same:

Class	Flame Spread Index	Smoke Developed Index
A	0-25	0-450
B	26-75	0-450
C	76-200	0-450

Note that classification under this scheme for interior wall and ceiling finishes does not strictly apply to all products or materials tested in accordance with ASTM E84 or UL 723 because not all products or materials are recommended or suitable for use as interior wall or ceiling finish materials in buildings, regardless of the surface burning characteristics. Consult with the product manufacturer and the local authority having jurisdiction (AHJ) regarding specific applications of a given product or material.

**SECTION 10****CONCLUSION**

The samples Coda 2 Woven textile submitted by Kvadrat A/S exhibited the following flame spread characteristics when tested in accordance with ASTM E84-21a Standard Test Method for Surface Burning Characteristics of Building Materials

Sample Material	Flame Spread Index	Smoke Developed Index
Coda 2 Woven textile	35	15

The conclusions of this test report may not be used as part of the requirements for Intertek product certification. Authority to Mark must be issued for a product to become certified.



Total Quality. Assured.

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**SECTION 11**

**TEST DATA (2 PAGES)**



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## ASTM E84-21a DATA SHEETS

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**Standard:** ASTM E84/UL723

Lab ID: Intertek Coquitlam Fire Laboratory  
Client: Kvadrat  
Date: 31 Jan 2022  
Project Number: 104948862  
Test Number: 1  
Operator: Sean Fewer

Specimen ID and Description:

Coda 2

### TEST RESULTS

FLAMESPREAD INDEX: 35.000  
SMOKE DEVELOPED INDEX: 15.000

### SPECIMEN DATA

Time to Ignition (sec): 27.608  
Time to Max Flame Spread (min): 0.860  
Maximum Flame Spread (ft): 7.800  
Time to 527 C / 980 F (sec): 0.000  
Max Temperature (deg F or C as per test standard): 388.868  
Time to Max Temperature (sec): 598.608  
Total Fuel Burned (cubic feet): 49.587  
  
Flame Spread\*Time Area (M\*min): 72.427  
Smoke Area (%A\*min): 8.505  
Unrounded FSI: 37.300  
Unrounded SDI: 13.376

### CALIBRATION DATA

Time to Ignition of Last Red Oak (sec): 48  
Calibrated Smoke Area (%A\*min): 63.585

15 point Heptane average for E84  
5 point Red Oak average for S102

Tested by: ST

Reviewed by: ep

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## ASTM E84-21a DATA SHEETS

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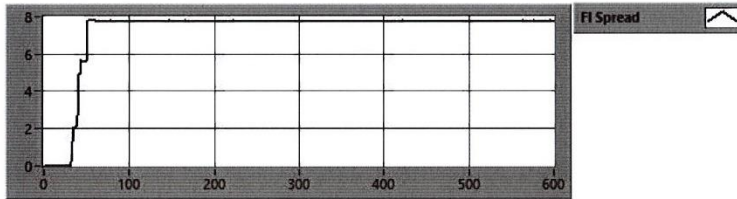
Client: Kvadrat

Project Number: 104948862

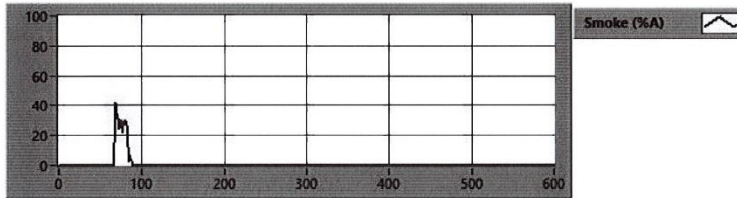
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Test Standard: ASTM E84/UL723

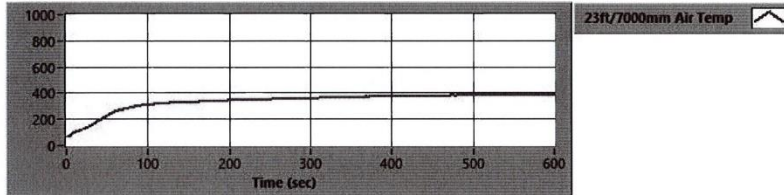
### FLAME SPREAD



### SMOKE (%A)



### TEMPERATURE



Tested by: SF

Reviewed by: SP

## TEST REPORT FOR KVADRAT A/S

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### SECTION 12 PHOTOGRAPHS



**Photo No. 1**  
**Pre-Test**



**Photo No. 2**  
**Post Test**



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**SECTION 13**  
**REVISION LOG**

REVISION #	DATE	PAGES	REVISION
0	01/31/22	N/A	Original Report Issue