

CLASSIFICATION OF REACTION TO FIRE PERFORMANCE IN ACCORDANCE WITH EN 13501-1:2007+A1:2009

Classification no.	2014-Efectis-R000917
Sponsor	Vescom BV P.O. Box 70 5750 AB DEURNE THE NETHERLANDS
Product name	Suede wall covering
Prepared by	Efectis Nederland BV
Notified body no.	1234
Author(s)	C.C.M. Steinhage B.Sc. A.J. Lock
Project number	2014444
Date of issue	January 2015
Number of pages	5

1. INTRODUCTION

This classification report defines the classification assigned to **Suede wall covering** in accordance with the procedures given in EN 13501-1:2007+A1:2009.

2. DETAILS OF CLASSIFIED PRODUCT

2.1 GENERAL

The product, **Suede wall covering**, is defined as a wall covering.

2.2 MANUFACTURER

Vescom BV
P.O. Box 70
5750 AB DEURNE
THE NETHERLANDS

2.3 PRODUCT DESCRIPTION

Product description:

- Fabric with a paper backing
- Fabric: 100 % polyester
- Mass fabric: 270 g/m²
- Total mass: 410 g/m²

3. STANDARDS, REPORTS, RESULTS AND CRITERIA IN SUPPORT OF THIS CLASSIFICATION

3.1 REPORTS

Name of Laboratories	Name of sponsor	Report ref. no.	Test method
Efectis Nederland BV THE NETHERLANDS	Vescom BV THE NETHERLANDS	2014-Efectis-R000915 201-Efectis-R000916	EN ISO 11925-2:2010 EN 13823:2014

3.2 TEST RESULTS

Test method and test number	Parameter	No. tests	Results	
			Continuous parameter - mean (m)	Compliance with parameters
EN ISO 11925-2				
surface flame impingement	F _s ≤ 150 mm	6	43	-
	Ignition of filter paper		-	Compliant
Edge flame impingement	F _s ≤ 150 mm	6	33	-
	Ignition of filter paper		-	Compliant
EN 13823				
	FIGRA _{0.2MJ} [W/s]	3	89	-
	FIGRA _{0.4MJ} [W/s]		62	-
	THR _{600s} [MJ]		1.9	-
	LFS < edge		-	Compliant
	SMOGRA [m ² /s ²]		13.3	-
	TSP _{600s} [m ²]		73	-
	Flaming debris - flaming ≤ 10 s - flaming > 10 s		-	Compliant Compliant

3.3 CLASSIFICATION CRITERIA

Fire classification of construction products and building elements Excluding floorings and linear pipe thermal insulation products			
Classification criteria			
Class	B	C	D
Test method(s)			
EN ISO 11925-2 Exposure = 30 s	F _s ≤ 150 mm within 60 s Ignition of the paper in EN ISO 11925-2 results in a d2 classification.		
EN 13823	FIGRA _{0.2 MJ} ≤ 120 W/s LFS < edge of specimen THR _{600s} ≤ 7.5 MJ	FIGRA _{0.4 MJ} ≤ 250 W/s LFS < edge of specimen THR _{600s} ≤ 15 MJ	FIGRA _{0.4 MJ} ≤ 750 W/s
Additional classification			
Smoke production	s1 = SMOGRA ≤ 30 m ² /s ² and TSP _{600s} ≤ 50 m ² ; s2 = SMOGRA ≤ 180 m ² /s ² and TSP _{600s} ≤ 200 m ² ; s3 = not s1 or s2		
Flaming Droplets/particles	d0 = no flaming droplets/ particles in EN 13823 within 600 s ; d1 = no flaming droplets/ particles persisting longer than 10 s in EN 13823 within 600 s ; d2 = not d0 or d1.		

4. CLASSIFICATION AND FIELD OF APPLICATION

4.1 REFERENCE OF CLASSIFICATION

This classification has been carried out in accordance with clause 11 of EN 13501-1:2007+A1:2009.

4.2 CLASSIFICATION

The product, **Suede wall covering**, in relation to its reaction to fire behaviour is classified:

B

The additional classification in relation to smoke production is:

s2

The additional classification in relation to flaming droplets / particles is:

d0

Reaction to fire classification: B - s2, d0

4.3 FIELD OF APPLICATION

This classification is valid for the following product parameters:

Surface density

- Fabric 270 kg/m²
- Total 410 kg/m²

This classification is valid for the following end use applications:

Substrate	Non-combustible (class A1/A2 according to EN 13238:2010)
Air gap	Not applicable
Methods and means of fixing	The wall covering was glued on the substrate according to the manufacturer's instructions, using the special adhesive "Vescom 2000"
Joints	Vertical joints only
Other aspects of end use conditions	Wall covering

4.4 DURATION OF THE VALIDITY OF THIS CLASSIFICATION REPORT

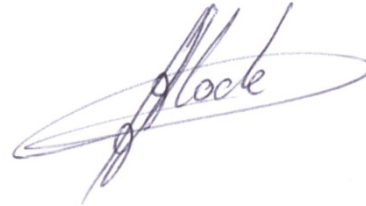
There are no limitations in time on the validity of this report.

5. LIMITATIONS

This classification document does not represent type approval or certification of the product.



C.C.M. Steinhage B.Sc.
Project leader reaction to fire



A.J. Lock
Project leader reaction to fire

Reaction to fire testing of a Suede wall covering Ignitability test according to EN ISO 11925-2:2010

Report no. 2014-Efectis-R000915

Sponsor Vescom BV
P.O. Box 70
5750 AB DEURNE
THE NETHERLANDS

Author(s) C.C.M. Steinhage B.Sc.
A.J. Lock

Project number 2014444

Date of issue January 2015

Number of pages 4

1. PRODUCT IDENTIFICATION

Suede wall covering, further referred to as 'the product'.

2. ABSTRACT

Determination of the **ignitability** properties of the product, by **direct small flame impingement** according to EN ISO 11925-2:2010, with the objective to obtain the reaction to fire classification according to EN 13501-1:2007+A1:2009.

3. DETAILS OF THE PRODUCT TESTED

3.1 INTENDED APPLICATION

The product will be used as a wall covering.

3.2 MANUFACTURER

Vescom BV
P.O. Box 70
5750 AB DEURNE
THE NETHERLANDS

3.3 PRODUCT DESCRIPTION

According to the sponsor the product is composed of:

- Fabric laminated to a paper backing
- Fabric: 100 % polyester
- Mass fabric: 270 g/m²
- Total mass: 410 g/m²

4. DETAILS OF THE EXAMINATION

4.1 SAMPLES

Sampling procedure	The samples were submitted by the sponsor.
Age	At the time of receipt: no information received.
Date of receipt	October 2, 2014

4.2 SPECIMEN PREPARATION

Substrate used	Calcium silicate board - 12 mm, non-combustible (class A1/A2 according to EN 13238:2010)
Methods and means of fixing	The wall covering was glued on the substrate according to the manufacturer's instructions, using the special adhesive "Vescom 2000"

4.3 CONDITIONING

Prior to the examinations, the specimens were conditioned over a period of 2 weeks minimum at a temperature of (23 ± 2) °C and a relative humidity of (50 ± 5) % according to § 4.1 of EN 13238:2010.

4.4 EXAMINATION

Number of tests	A total of twelve single ignitability tests were carried out according to EN ISO 11925-2.
Deviations from the test method	None
Harmonised Product Standard	At the time of examination of the product, the sponsor was not aware of a related existing Harmonised Product Standard.
Date of examination	October 2, 2014

The results are given in Table 1, Appendix: Results.

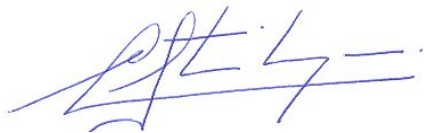
5. CONCLUSIONS

A formal classification is to be assessed in accordance with EN 13501-1, "Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests".

Remarks:

The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

Regarding the precision of the test method, following Annex B of EN ISO 11925-2, the absolute repeatability/reproducibility for this test method is estimated to lie within 3 s to 5 s for all times measured.



C.C.M. Steinhage
Project leader reaction to fire



A.J. Lock
Project leader reaction to fire

APPENDIX: RESULTS

Table 1: Ignitability classification parameter results

Flame application time: 30 s					
Sample	Ignition of sample	Maximum flame height	t ₁₅₀	Afterburning time	Ignition of filter Paper
	{Y=Yes/N=No}	[mm]	[s]	[s]	{Y=Yes/N=No}
Surface ignition					
1	Y	40	not reached	0	N
2	Y	40		0	N
3	Y	45		0	N
4	Y	45		0	N
5	Y	45		0	N
6	Y	45		0	N
Average		43			
Classification parameters		150 mm not reached within 60 s			N
Edge ignition					
1	Y	38	not reached	0	N
2	Y	30		0	N
3	Y	30		0	N
4	Y	30		0	N
5	Y	35		0	N
6	Y	35		0	N
Average		33			
Classification parameters		150 mm not reached within 60 s			N

Observations of physical behaviour of the test specimen: None

Reaction to fire testing of a Suede wall covering Single Burning Item test according to EN 13823:2014

Report no. 2014-Efectis-R000916

Sponsor Vescom BV
P.O. Box 70
5750 AB DEURNE
THE NETHERLANDS

Author(s) C.C.M. Steinhage B.Sc.
A.J. Lock

Project number 2014444

Date of issue January 2015

Number of pages 11

1. PRODUCT IDENTIFICATION

Suede wall covering, further referred to as 'the product'.

2. ABSTRACT

Determination of the reaction to fire properties of the product, when exposed to the thermal attack by a **Single Burning Item** according to EN 13823:2014, with the objective to obtain the reaction to fire classification according to EN 13501-1:2007+A1:2009.

3. DETAILS OF THE PRODUCT TESTED

3.1 INTENDED APPLICATION

The product will be used as a wall covering.

3.2 MANUFACTURER/IMPORTER

Vescom BV
P.O. Box 70
5750 AB DEURNE
THE NETHERLANDS

3.3 PRODUCT DESCRIPTION

According to the sponsor the product is composed of:

- Fabric laminated to a paper backing
- Fabric: 100 % polyester
- Mass fabric: 270 g/m²
- Total mass: 410 g/m²

4. DETAILS OF THE EXAMINATION

4.1 SAMPLES

Sampling procedure	The samples were submitted by the sponsor.
Age	At the time of receipt: no information received.
Date of receipt	October 2, 2014

4.2 SPECIMENS

Substrate used	Calcium silicate board - 12 mm, non-combustible (class A1/A2 according to EN 13238:2010).
Specimen preparation	The long specimen wing was provided with a vertical joint at a distance of 200 mm from the inner corner. See photographs of the SBI test at the end of the report.
Methods and means of fixing	The wall covering was glued on the substrate according to the manufacturer's instructions, using the special adhesive "Vescom 2000"

4.3 CONDITIONING

Prior to the examinations, the specimens were conditioned over a period of 2 weeks at a temperature of (23 ± 2) °C and a relative humidity of (50 ± 5) % according to § 4.1 of EN 13238.

4.4 EXAMINATION

Method of mounting and fixing	The panels were positioned without an air gap to the backing board.
Deviations from the test method	None
Harmonised Product Standard	At the time of examination of the product, the sponsor was not aware of a related existing Harmonised Product Standard.
Number of tests	A total of three Single Burning Item tests were carried out, all in accordance with EN 13823.
Date of examination:	October 20 and November 6, 2014

The results are given in Table 1.

Table 1: Single Burning Item classification parameter results

Test number	1	2	3	Classification parameter
FIGRA _{0.2 MJ} [W/s]	89	93	84	89
FIGRA _{0.4 MJ} [W/s]	62	64	62	62
THR _{600s} [MJ]	1.9	1.6	2.0	1.9
LFS {Yes, No}	No	No	No	No
SMOGRA [m ² /s ²]	14.6	13.4	11.9	13.3
TSP _{600s} [m ²]	85	67	67	73
Flaming droplets/particles				
Flaming ≤ 10 s {Yes, No}	No	No	No	No
Flaming > 10 s {Yes, No}	No	No	No	No

FIGRA Fire growth rate: Maximum of the quotient of heat release rate from the specimen and the time of its occurrence using a THR-threshold of 0.2 MJ or 0.4 MJ.

THR_{600s} Total heat release from the specimen during the first 600s of exposure to the main burner flames.

LFS Lateral flame spread over the long specimen wing.

SMOGRA Smoke growth rate: Maximum of the quotient of smoke production rate from the specimen and the time of its occurrence.

TSP_{600s} Total smoke production from the specimen during the first 600s of exposure to the main burner flames.

Observations of physical behaviour of the test specimen: None

5. CONCLUSIONS

A formal classification is to be assessed in accordance with EN 13501-1, "Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests".

Graphs of Rate of Heat Release ($HRR_{av}(t)$), Rate of Smoke Production ($SPR_{av}(t)$), Total Heat release ($THR(t)$), Total Smoke Production ($TSP(t)$), $FIGRA_{0.2 MJ}$, $FIGRA_{0.4 MJ}$ and $SMOGRA$, are presented hereafter followed by some photographs of the test setup and test results.

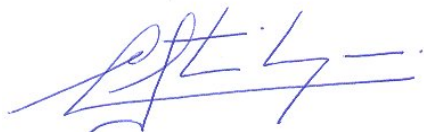
Remarks:

The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

Regarding the estimated precision of the test method, the following information is given in Annex B of EN 13823.

Table B.2 – Average relative standard deviations

	$FIGRA_{0.2 MJ}$	$FIGRA_{0.4 MJ}$	$THR_{600 s}$	$SMOGRA$	$TSP_{600 s}$
Average (s_r / m)	14 %	15 %	11 %	15 %	18 %
Average (s_R / m)	23 %	25 %	21 %	40 %	44 %



C.C.M. Steinhage, B.Sc.
 Project leader reaction to fire



A.J. Lock
 Project leader reaction to fire

APPENDIX: CHARTS

Chart 1	Rate of Heat Release ($HRR_{av}(t)$) [kW]
Chart 2	Rate of Smoke Production ($SPR_{av}(t)$) [m^2/s]
Chart 3	Total Heat release ($THR(t)$) [MJ]
Chart 4	Total Smoke Production ($TSP(t)$) [m^2]
Chart 5	$FIGRA_{0,2 MJ}$ [W/s]
Chart 6	$FIGRA_{0,4 MJ}$ [W/s]
Chart 7	SMOGRA [m^2/s^2]

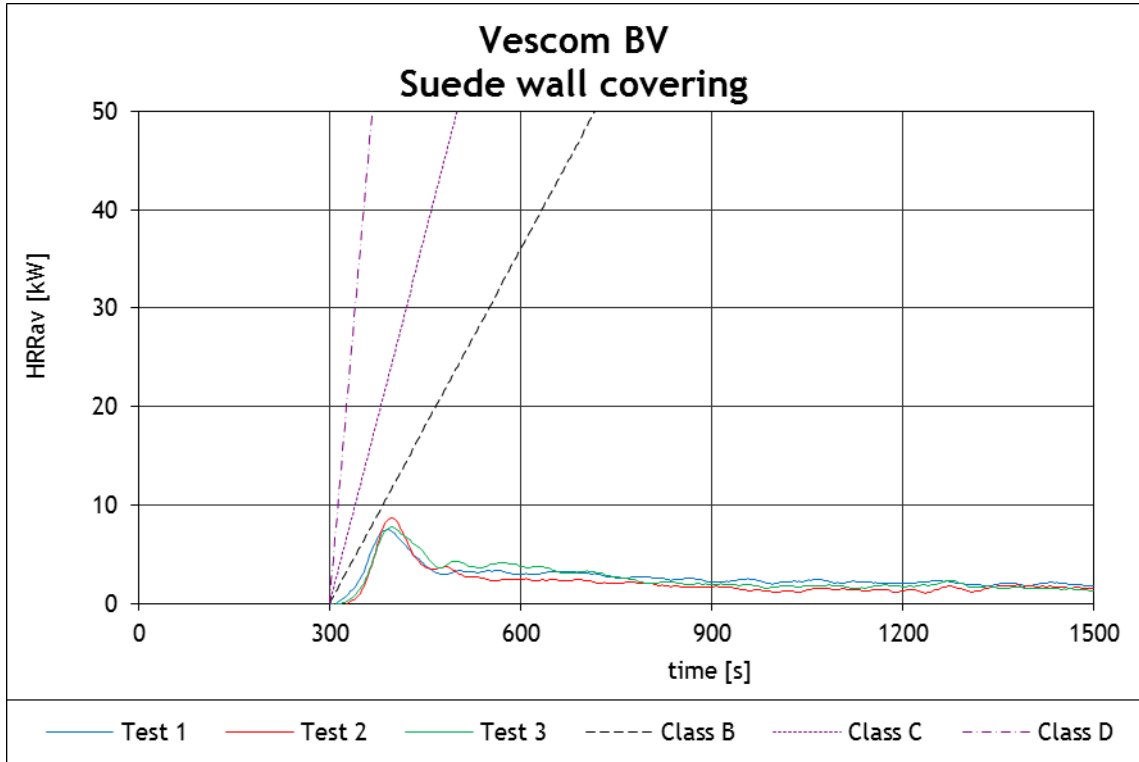


Chart 1: Rate of Heat Release (HRR_{av}(t)) [kW]

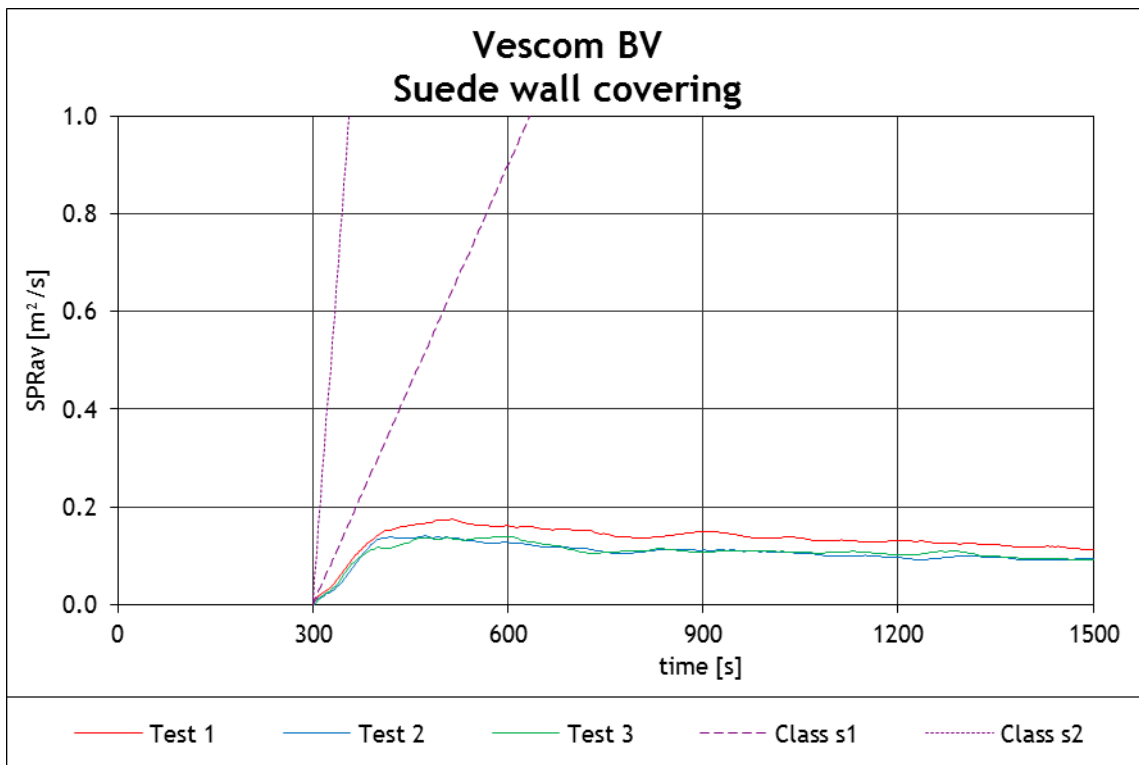


Chart 2: Rate of Smoke Production (SPR_{av}(t)) [m²/s]

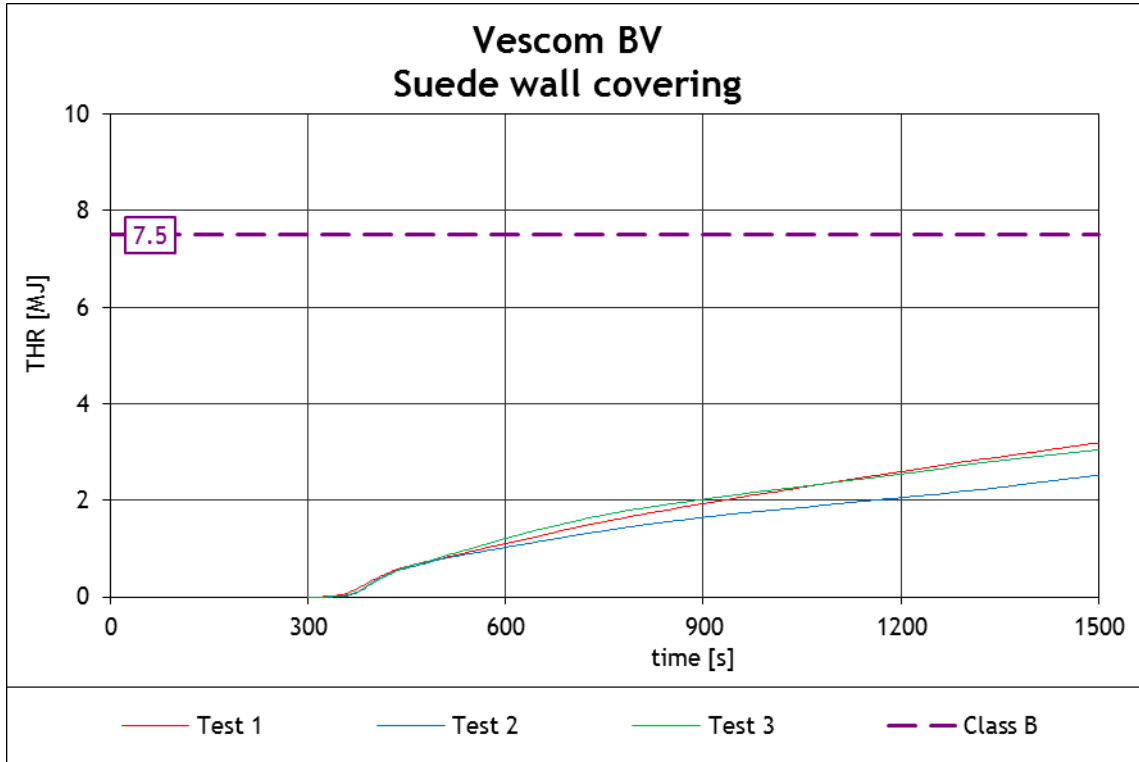
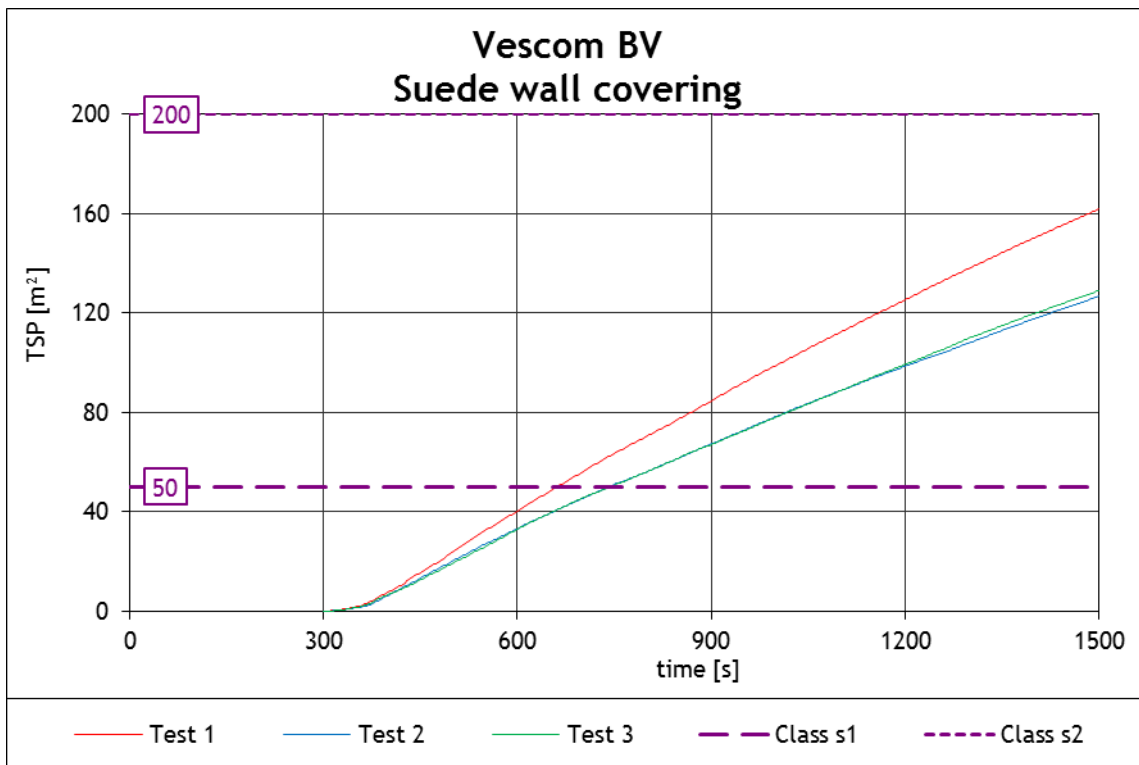


Chart 3: Total Heat release (THR(t)) [MJ]


 Chart 4: Total Smoke Production (TSP(t)) [m²]

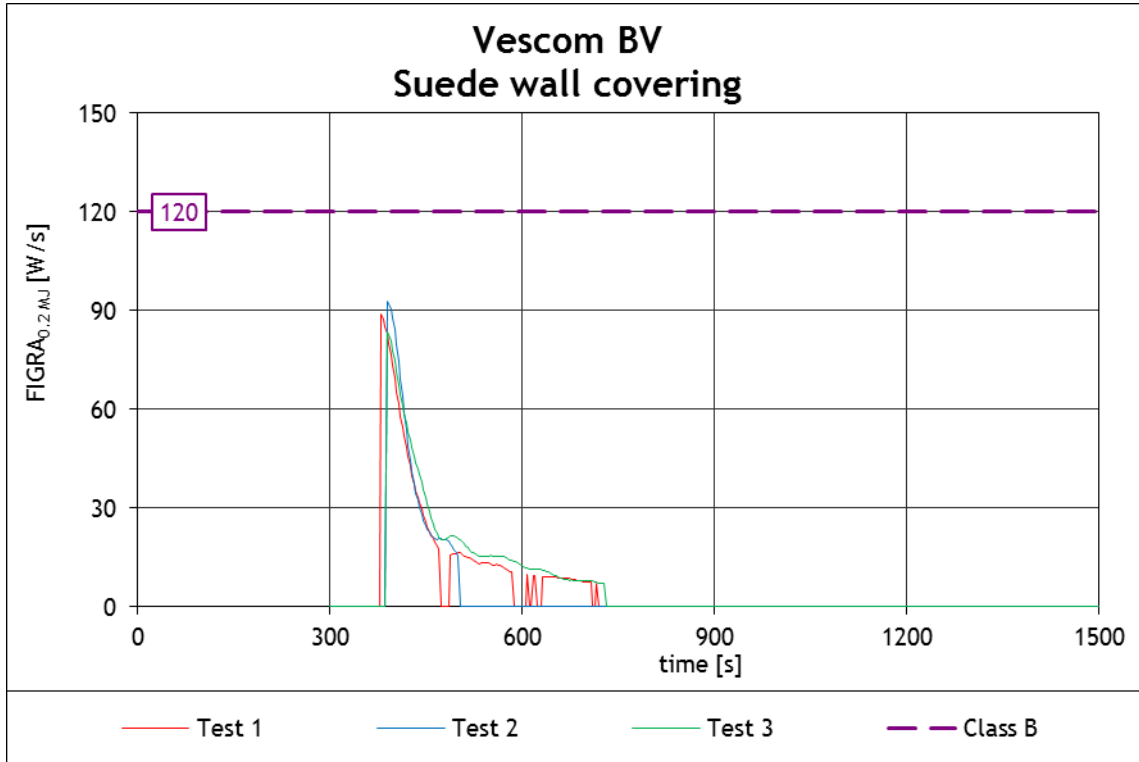


Chart 5: $FIGRA_{0.2 MJ} [W/s]$

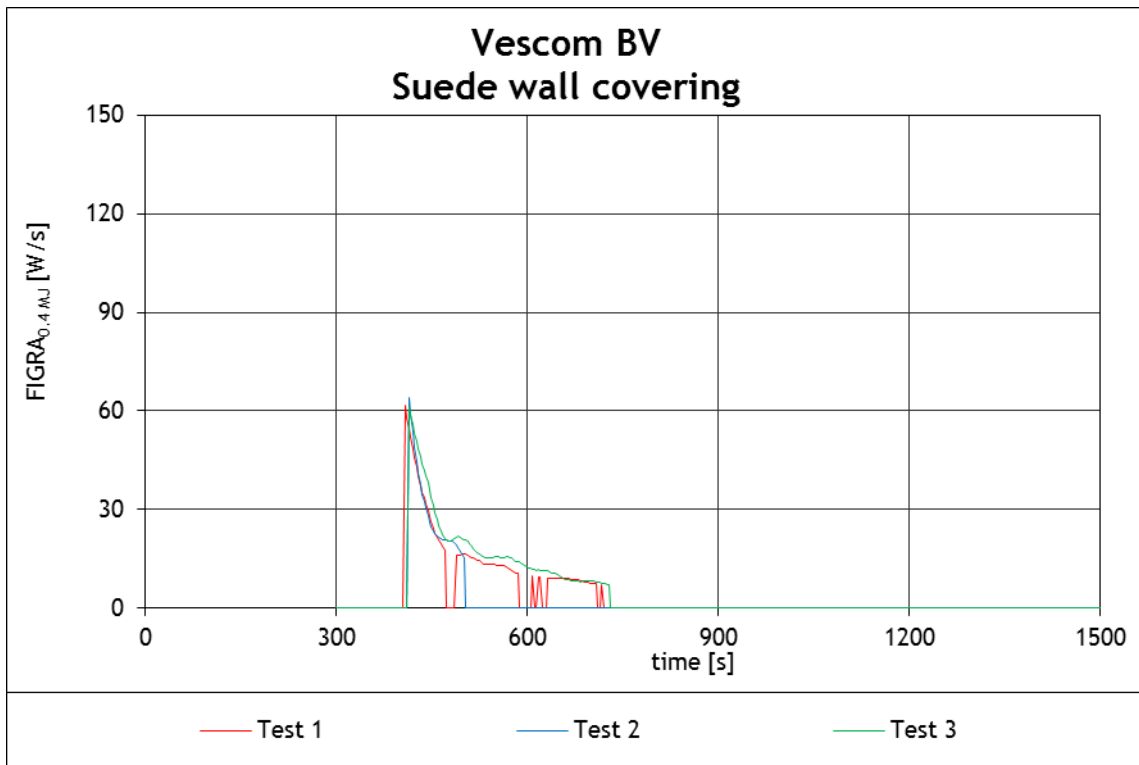


Chart 6: $FIGRA_{0.4 MJ} [W/s]$

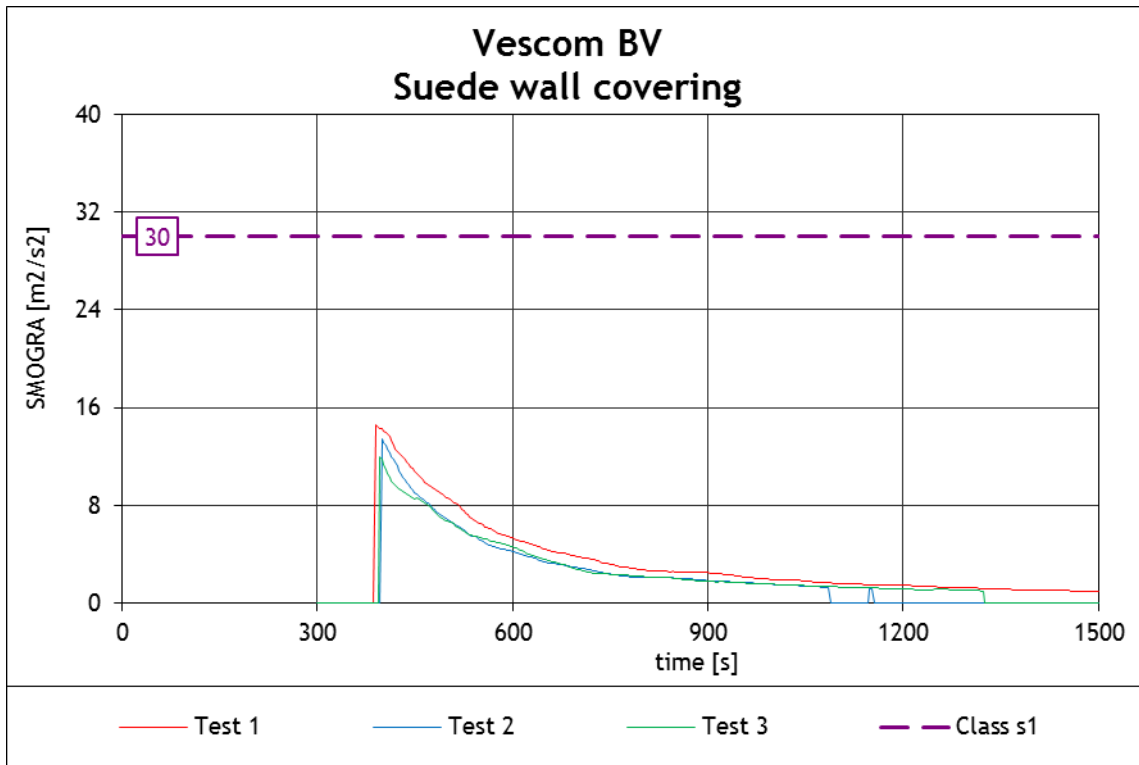


Chart 7: SMOGRA [m²/s²]

APPENDIX: PHOTOGRAPHS



Photographs 1 and 2: Specimen 1 prior to testing



Photographs 3 and 4: Specimen 1 after testing