



Neuville, January 04th 2019

Our ref. : MW/DV
Study RL 2018/953

Modulyss N.V
Zevensterrestraat 21
B 9240 ZELE
BELGIUM

To the attention of Mrs Veert DEHAEMERS

Madam,

Please kindly find in the attached reports the results of orientating tests of reaction to fire radiant panel in accordance with **EN ISO 9239-1 (2010)** made on your quality **“E-FORCE sqr”**.

Compared to the classification criteria of the EN 13501-1 September 2007 + A1 (2013) are:

Critical heat flux : $\geq 3,0 \text{ kW/m}^2$: class D_{fi}

Critical heat flux : $\geq 4,5 \text{ kW/m}^2$: class C_{fi}

Critical heat flux : $\geq 8,0 \text{ kW/m}^2$: class B_{fi}

Smoke density: $s1 \text{ smoke} \leq 750 \% \text{ X min}$

: $s2$ products that do not meet the criteria for class 1

Probable classification glued over fibre cement board: **$C_{fi} - s1$**

Regards,

For the SARL C.R.E.T
The Technical Director,
Marc WELCOMME

TEST REPORT N° RL 2018/953

DELIVERY : 04/01/2019

MATERIAL RECEIVED : 14/12/2018

ORIGIN : modulyss N.V
Zevensterrestraat 21
B 9240 ZELE
BELGIUM

NAME OF QUALITY : **E-FORCE Sqr**

TESTS TYPE : Orientation test : Reaction to fire tests for floorings according to EN ISO 9239-1 (2010)
Part 1: Determination of the burning behaviour using a radiant heat source

The Technical Director
Marc WELCOMME



Head of Tests
David VANDIERDONCK



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It contains **4** page(s) and **0** annex(s).

The results which have been obtained by means of the sample specified above, may not be generalised without justification of the representativeness of the samples.

ORIGIN OF THE SAMPLE TO CONSIDER:

Sample provided by the applicant of the test.

PRODUCT DESCRIPTION DETERMINED BY THE LABORATORY:

Tufted cut pile carpet tile of 50 cm x 50 cm with tonal effect (EN 1307 family product).

INFORMATION GIVEN BY THE CUSTOMER :

Composition of use-surface : 100% polyamide

Type of primary backing : no woven polyester

Type of backing : bitumen

Total mass per unit area : 4781 g/m²

Total thickness : 9,3 mm

Total pile thickness: 6,5

Colour : Gris – noir

Flame retardant : no informed

Description of test specimens :

***Substrate : fibres-ciment**

Density (1800 ± 200) kg /m³

Dimensions 105 cm x 23 cm

Thickness (8 ± 2) mm

Installation : loose laid

Cleaning : none

Conditioning :

11 days at (23 ± 2)°C and (50 ± 5) % relative humidity.

Eventual deviations from the test method :

None

Date of test :

26/12/2018

Duration of the test :

The radiation is maintained for 30 minutes.

RESULTS :**1) HEAT FLUX**

Specimen	Flame front distance (mm)			Heat flux (kW/m ²)			Duration of flaming (min/s)	Maximum flame front distance (mm)	Critical Heat flux CHF (kW/m ²)
	10 min	20 min	30 min	HF 10	HF 20	HF 30			
1 (L)*	200	250	250	9,1	8,1	-	21 min 00 s	250	8,1
1 (T)*	180	250	250	9,5	-	-	19 min 10 s	250	8,1

(L)* → Longitudinally direction

(T)* → Transversally direction

Observations :

Specimen is mounted in such a way at least one joint is situated 250 mm from the zero point.

Distance burnt (mm)	Time for each specimen to burn in minutes (min) and seconds (s)	
	1 (L)*	1 (T)*
50	3 min 50 s	4 min 00 s
100	5 min 40 s	6 min 00 s
150	7 min 20 s	8 min 00 s
200	9 min 40 s	10 min 40 s
250	12 min 00 s	15 min 00 s
300		
350		
400		
450		
500		
550		
600		
650		
700		
750		
800		
850		
900		
950		
1000		

2) SMOKE DENSITY

Specimen	Maximum light attenuation (%)	Smoke development (% X min)
1 (L)*	43,4	170,9
1 (T)*	38,1	192,7

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.

End of report