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CLASSIFICATION REPORT

Petitioner's reference:	**PYROGUARD UK LIMITED** International House, Millfield Lane Haydock, WA11 9GA UNITED KINGDOM
Prepared by:	**LGAI Technological Center, S.A. (APPLUS)** Campus UAB Ronda de la Font del Carme, s/n E - 08193 Bellaterra (Barcelona)
Product name:	**PYROGUARD T**
Report nº:	**19/19491-1009-2 M6**
Date of issue:	**July 14th, 2025**

Description of the modification: An error in the material codification has been corrected, and the scope of the report has been expanded.

The present report replaces and cancels report 19/19491-1009 M5 Part 2 that was issued on 02ND July, 2023
The petitioner is responsible for replacing the original document and all the copies thereof.

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1. - CHARACTERISTICS OF THE PRODUCT

Product trade name: PYROGUARD T

Product range was tested:

SAMPLE 1:

T-EW/13-1, thickness of 13 mm, superficial density 29,5 kg/m^2, transparent laminated.

The product is composed by 3 layers + perimeter sealant:

- Layer 1: Toughened glass
- Layer 2: Nano composite Gel interlayer
- Layer 3: Toughened glass

- Perimeter sealant (grey-black):
  - Primary sealant
  - Secondary sealant (EW)

T-EW/13-1	Nano composite Gel interlayer	Primary sealant	Secondary sealant (EW)	Toughened glass
m^3/m^2 for the tested 1500 x 1000 panel	2.89×10^{-3}	4.96×10^{-5}	6.0×10^{-5}	1.0×10^{-2}
ρ (g/cm^3)	1.7	1.5	1.8	2.5

SAMPLE 2:

T-EI/47-3, thickness of 47 mm, superficial density 96 kg/m^2, transparent laminated

The product is composed by 7 layers + perimeter sealant:

- Layer 1: Toughened glass
- Layer 2: Nano composite Gel interlayer
- Layer 3: Toughened glass
- Layer 4: Nano composite Gel interlayer
- Layer 5: Toughened glass
- Layer 6: Nano composite Gel interlayer
- Layer 7: Toughened glass

- Perimeter sealant (grey-black):
  - Primary sealant
  - Secondary sealant (EI)

T-EI/47-3	Nano composite Gel interlayer	Primary sealant	Secondary sealant (EI)	Toughened glass
m^3/m^2 for the tested 1500 x 1000 panel	2.01 x 10^{-2}	*1.13 x 10^{-4}*	5.60 x 10^{-4}	2.60 x 10^{-2}
ρ (g/cm^3)	1.7	1.5	1.8	2.5

Manufacturer: PYROGUARD UK LIMITED, International House, Millfield Lane, Haydock, WA11 9GA, UNITED KINGDOM.

2- CLASSIFICATION AND DIRECT APPLICATION FIELD

This classification has been made in compliance with the procedures provided in Standard UNE-EN 13501-1:2007+A1:2010: "Classification in terms of the behaviour to fire of construction products and building elements. Part 1: Classification made from the data gathered during fire reaction tests".

2.1- Test Reports

Name of Laboratory	Applus – LGAI
Name of Petitioner	PYROGUARD UK LIMITED
Test Report Number	19/19491-1009 M5 Part 1
Testing method	UNE-EN ISO 1716:20111 UNE-EN 13823:2012+A1:2016

2.2- Results of the Tests

SAMPLE 1 (*T-EW/13-1*)

Test Method	RESULTS			
	CRITERIA CLASS A2	**Nº TESTS**	**AVERAGE**	**COMPLIANCE**
UNE-EN ISO 1716:20111	PCS ≤ 3.0 MJ/kg (1)	15	-0.36 MJ/kg	**YES**
	PCS ≤ 3.0 MJ/kg (2)		-0.23 MJ/kg	**YES**
	PCS ≤ 3.0 MJ/kg (1)		-0.36 MJ/kg	**YES**
	PCS ≤ 4.0 MJ/m^2 (3)		0.27 MJ/m^2	**YES**
	PCS ≤ 4.0 MJ/m^2 (3)		0.27 MJ/m^2	**YES**
	PCS ≤ 4.0 MJ/m^2 (3)		0.27 MJ/m^2	**YES**
	PCS ≤ 4.0 MJ/m^2 (3)		0.27 MJ/m^2	**YES**
	PCS ≤ 4.0 MJ/m^2 (4)		0.06 MJ/m^2	**YES**
	PCS ≤ 4.0 MJ/m^2 (4)		0.06 MJ/m^2	**YES**
	PCS ≤ 4.0 MJ/m^2 (4)		0.06 MJ/m^2	**YES**
	PCS ≤ 4.0 MJ/m^2 (4)		0.06 MJ/m^2	**YES**
	PCS ≤ 3.0 MJ/kg (6)		1.57 MJ/kg	**YES**
UNE-EN 13823:2012 +A1:2016	FIGRA$_{0.2\ MJ}$ ≤ 120 W/s	3	0.00	**YES**
	LFS < edge of the sample	3	< to edge	**YES**
	THR$_{600s}$ ≤ 7.5 MJ	3	0.14	**YES**
	CRITERIA subclass 's1'	**Nº TESTS**	**AVERAGE**	**COMPLIANCE**
	SMOGRA ≤ 30 m^2/s^2	3	0.00	**YES**
	TSP$_{600s}$ ≤ 50 m^2	3	19.72	**YES**
	CRITERIA subclass 'd0'	**Nº TESTS**	**AVERAGE**	**COMPLIANCE**
	Fall of droplets/particles in flames within 600 s	3	NO	**YES**

(1)(2) Substantial component
(3)(4) Non substantial external component
(6) Product as a whole

SAMPLE 2 (*T-EI/47-3*)

Test Method	RESULTS			
	CRITERIA CLASS A2	**Nº TESTS**	**AVERAGE**	**COMPLIANCE**
UNE-EN ISO 1716:20111	PCS ≤ 3.0 MJ/kg (1)	15	-0.36 MJ/kg	**YES**
	PCS ≤ 3.0 MJ/kg (2)		-0.23 MJ/kg	**YES**
	PCS ≤ 3.0 MJ/kg (1)		-0.36 MJ/kg	**YES**
	PCS ≤ 3.0 MJ/kg (2)		-0.23 MJ/kg	**YES**
	PCS ≤ 3.0 MJ/kg (1)		-0.36 MJ/kg	**YES**
	PCS ≤ 3.0 MJ/kg (2)		-0.23 MJ/kg	**YES**
	PCS ≤ 3.0 MJ/kg (1)		-0.36 MJ/kg	**YES**
	PCS ≤ 4.0 MJ/m^2 (3)		0.62 MJ/m^2	**YES**
	PCS ≤ 4.0 MJ/m^2 (3)		0.62 MJ/m^2	**YES**
	PCS ≤ 4.0 MJ/m^2 (3)		0.62 MJ/m^2	**YES**
	PCS ≤ 4.0 MJ/m^2 (3)		0.62 MJ/m^2	**YES**
	PCS ≤ 4.0 MJ/m^2 (5)		0.03 MJ/m^2	**YES**
	PCS ≤ 4.0 MJ/m^2 (5)		0.03 MJ/m^2	**YES**
	PCS ≤ 4.0 MJ/m^2 (5)		0.03 MJ/m^2	**YES**
	PCS ≤ 4.0 MJ/m^2 (5)		0.03 MJ/m^2	**YES**
	PCS ≤ 3.0 MJ/kg (6)		0.04 MJ/kg	**YES**
UNE-EN 13823:2012 +A1:2016	$FIGRA_{0.2\ MJ}$ ≤ 120 W/s	3	0.00	**YES**
	LFS < edge of the sample	3	< to edge	**YES**
	THR_{600s} ≤ 7.5 MJ	3	0.19	**YES**
	CRITERIA subclass 's1'	**Nº TESTS**	**AVERAGE**	**COMPLIANCE**
	SMOGRA ≤ 30 m^2/s^2	3	0.00	**YES**
	TSP_{600s} ≤ 50 m^2	3	15.62	**YES**
	CRITERIA subclass 'd0'	**Nº TESTS**	**AVERAGE**	**COMPLIANCE**
	Fall of droplets/particles in flames within 600 s	3	NO	**YES**

(1)(2) Substantial component
(3)(5) Non substantial external component
(6) Product as a whole

CLASSIFICATION

The product, PYROGUARD T *(T-EW/13-1)*, related to its fire reaction behaviour, is classified as:

Fire Behaviour		Smoke Production			Drops in flames	
A2	-	s	1	,	d	0

Fire Reaction Classification: A2-s1,d0

This classification is only valid for the final conditions of use described in the present report.

The product, PYROGUARD T *(T-EI/47-3)*, related to its fire reaction behaviour, is classified as:

Fire Behaviour		Smoke Production			Drops in flames	
A2	-	s	1	,	d	0

Fire Reaction Classification: A2-s1,d0

This classification is only valid for the final conditions of use described in the present report.

2.3- Field of application (*)

- This classification is valid for the following product parameters:

The classification is only valid for the product characteristics shown, with the following parameters being extended:

- Variable parameter 1: THICKNESS

Products with commercial reference: PYROGUARD T is manufactured in different thickness, which depend on the number of toughened glass + nanocomposite gel interlayer layers in the system composed with.

1.5 x 1.0 m	L = layer TG = toughened glass NGI = nanocomposite gel interlayer						
	L1	L2	L3	L4	L5	L6	L7
T-EW30/13-1	TG	NGI	TG				
T-EW60/13-1	TG	NGI	TG				
T-EW90/13-1	TG	NGI	TG				
T-EW120/13-1	TG	NGI	TG				
T-EW/15-1	TG	NGI	TG				
T-EW/19-1	TG	NGI	TG				
T-EW/23-1	TG	NGI	TG				
T-EI30/16-1	TG	NGI	TG				
T-EI30/18-1	TG	NGI	TG				
T-EW30/15-1	TG	NGI	TG				
T-EW/25-1	TG	NGI	TG				
T-EW/27-1	TG	NGI	TG				
T-EI30/18-2	TG	NGI	TG	NGI	TG		
T-EI30/20-2	TG	NGI	TG	NGI	TG		
T-EI30/24-2	TG	NGI	TG	NGI	TG		
T-EI60/25-3	TG	NGI	TG	NGI	TG	NGI	TG
T-EI60/26-2	TG	NGI	TG	NGI	TG		
T-EI60/33-3	TG	NGI	TG	NGI	TG	NGI	TG
T-EI90/32-2	TG	NGI	TG	NGI	TG		
T-EI90/35-3	TG	NGI	TG	NGI	TG	NGI	TG
T-EI90/37-3	TG	NGI	TG	NGI	TG	NGI	TG
T-EI90/38-3	TG	NGI	TG	NGI	TG	NGI	TG
T-EI90/39-3	TG	NGI	TG	NGI	TG	NGI	TG
T-EI90/40-3	TG	NGI	TG	NGI	TG	NGI	TG
T-EI90/42-3	TG	NGI	TG	NGI	TG	NGI	TG
T-EI120/47-3	TG	NGI	TG	NGI	TG	NGI	TG
T-EI30/24-2 SWS	TG	NGI	TG	NGI	TG		
T-EI30/32-2 SWS	TG	NGI	TG	NGI	TG		
T-EI60/32-2 SWS	TG	NGI	TG	NGI	TG		
T-EI60/36-3 SWS	TG	NGI	TG	NGI	TG	NGI	TG
T-EI30/36-3 SWS	TG	NGI	TG	NGI	TG	NGI	TG
T-EI90/47-3 SWS	TG	NGI	TG	NGI	TG	NGI	TG
T-EW/9.5	TG	NGI	TG				
T-EW/11.5	TG	NGI	TG				
T-EW/13.5	TG	NGI	TG				

T-EW/17.5	TG	NGI	TG				
T-EW/21.5	TG	NGI	TG				
T-EW/23.5	TG	NGI	TG				
T-EW/31.5	TG	NGI	TG				
T-EW/30-1	TG	NGI	TG				
T-EW/33-1	TG	NGI	TG				

After performing the test with the thinnest and the thickest products of the range, by extension it is concluded that PYROGUARD T intermediate thicknesses product range, is included in the following Euroclass:

Fire Reaction Classification: A2-s1,d0

This classification is only valid for the final conditions of use described in the present report.

- The classification is valid for the following final use applications:

Fire resistance safety laminated glass for integrity, radiation reduction and insulation.

2.4- Limitations

This classification standard should not be construed as a standard approval or certification of the product.



Digitally signed by
Salvador Suñol Gálvez



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Tutusaus Domingo

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The results refer exclusively to the samples tested at the time and under the conditions indicated.

The uncertainties expressed in this document pertain to the expanded uncertainty, which has been obtained by multiplying the typical measurement uncertainty by the coverage factor k=2 which, for a regular distribution, corresponds to a coverage probability of approximately 95%.

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