

CLASSIFICATION REPORT OF REACTION TO FIRE NO. CR-15-001 IN ACCORDANCE WITH EN 13501-1+A1: 2010

1. Introduction

This classification report of reaction to fire determines classification of external thermal insulation composite systems with rendering **TERMO BRAVO SK (hereby ETICS)** with composition according to table No. 1 in line with the rules stated in EN 13501-1+A1: 2010.

Manufacturer of ETICS:
(Customer)

P.P.H. TERMO BRAVO JAROSLAW KOBIELA
TURYSTYCZNA 144
43-384 JAWORZE
Poland

Elaborated by:

Technický a skúšobný ústav stavebný, n. o.
Technical Assessment Body TSÚS
Studená 3
821 04 Bratislava, Slovak republic

Product (System) name:

TERMO BRAVO SK
according to table No. 1
External thermal insulation composite system
with rendering

Number of classification report: CR-15-001

Date of issue:

28. 05. 2015

Number of prints:

4

Distribution list:

1. P.P.H. TERMO BRAVO JAROSLAW KOBIELA, TURYSTYCZNA 144 ,
43-384 JAWORZE, Poland (1 x)
2. Technical Assessment Body TSÚS, Studená 3, 821 04 Bratislava (1x)

This classification report of reaction to fire contains 6 pages and can be reproduced only as a whole.

2. Detailed data of classified product

2.1 Product (System) and end use of application

External thermal insulation composite system with rendering (ETICS)

TERMO BRAVO SK

with composition according to Table No. 1 is determined as „type of classified product“. Its classification is valid for end use application.

2.2 Description of product

ETICS contains of following components:

- **Fixing devices:** adhesive, anchors tested according to ETAG 014
- **Thermal insulation** – EPS
- **Rendering system consists of:**
 - Base coat
 - Glass fibre meshes
 - Key coat
 - Finishing coats.

The representative of ETICS

TERMO BRAVO SK

has the composition proposed for testing in Table No 1. Representant of ETICS for testing was chosen according to the rules defined in Annex D ETAG 004: 2013.

Table No. 1: Composition of tested ETICS (chosen representants)

Trade name of ETICS components	Manufacturer of ETICS components	Thickness [mm]	Density [kg/m ³]/ Mass per unit area [kg/m ²] / Ash content (at 450 °C) [%]/ Heat combustion [MJ/kg]
Adhesive			
TERMO 1	P.P.H. TERMO BRAVO JAROSLAW KOBIELA Jaworze, Poland	Until 10 mm	1535,6 - 95,98 -
Thermal insulation			
EPS 70F EPS-EN 13163-T2-L2- W2-S2-P4-BS125- CS(10)70-DS(N)2- DS(70,-)1-TR100	IZO4, s.r.o. Priemyselná 5 071 01 Michalovce Slovak republic	150	(15,1±1) - - -
Base coat			
TERMO 2	P.P.H. TERMO BRAVO JAROSLAW KOBIELA Jaworze, Poland	3	1515,9 4,56 95,3 -
Glass fibre mesh			
R5x5/145	Sklotextílie Revúca s.r.o. Železničná 1202/103 050 01 Revúca Slovak republic	-	- min. 0,145 80±3- -
Key coat			
GRUNT AKRYLOWY	P.P.H. TERMO BRAVO JAROSLAW KOBIELA Jaworze, Poland	-	1 671 0,2 88,2 -
Finishing coats			
TYNK AKRYLOWY	P.P.H. TERMO BRAVO JAROSLAW KOBIELA Jaworze, Poland	1,0 (grain size)	1 982,6 4,96 91,6 -
TYNK AKRYLOWY		2,5 (grain size)	1 982,6 4,96 91,6 -

3. Test reports and test results used for classification

3.1 Test reports

Table No. 2 – List of performed test reports issued for classification of reaction to fire

Test laboratory	Order	Number of report Date of issue	Test method
FIRES, s. r. o. Osloboditeľov 282 SK-059 35 Batizovce Slovak republic	P.P.H. TERMO BRAVO JAROSLAW KOBIELA Jaworze, Poland	FIRES-RF-032-10-AUNS 09.04.2010	STN EN 13823
		FIRES-RF-020-10-AUNS 09.04.2010	STN EN ISO 11925-2
		FIRES-RF-019-10-AUNS 09.04.2010	STN EN 13823

3.2 Test results

Table No. 3: Test results on ETICS with finishing coat TYNK AKRYLOWY 1,0 mm (composition according to Table No. 1)

Test method	Parameter	Number of tests	Results	
			Average value of parameter	Fulfillment of criteria
STN EN 13823	FIGRA _{0,2 MJ} [W/s]	3	61,8	≤ 120 (B)
	THR _{600s} [MJ]		1,9	≤ 7,5 (B)
	SMOGRA [m ² /s ²]		0	≤ 30 (s1)
	TSP _{600s} [m ²]		28	≤ 50 (s1)
	LFS < edge of sample		(-)	yes (B)
	Without flaming droplets		(-)	yes (d0)
STN EN ISO 11925-2	F _s ≤ 150 mm within 60 s	6	(-)	yes (B)

Table No. 4: Test results on ETICS with finishing coat TYNK AKRYLOWY 2,5 mm (composition according to Table No. 1)

Test method	Parameter	Number of tests	Results	
			Average value of parameter	Fulfillment of criteria
STN EN 13823	FIGRA _{0,2 MJ} [W/s]	3	78,9	≤ 120 (B)
	THR _{600s} [MJ]		4	≤ 7,5 (B)
	SMOGRA [m ² /s ²]		0	≤ 30 (s1)
	TSP _{600s} [m ²]		25,8	≤ 50 (s1)
	LFS < edge of sample		(-)	yes (B)
	Without flaming droplets		(-)	yes (d0)
STN EN ISO 11925-2	F _s ≤ 150 mm within 60 s	6	(-)	yes (B)

4. Classification and field of direct application

4.1 Reference on classification

This classification was elaborated in accordance with clause 10 EN 13501-1+A1: 2010.

4.2 Classification

External thermal insulation composite systems with rendering

TERMO BRAVO SK

represented by composition defined in Table No. 1 in term of reaction to fire is classified as:

B

Additional classification depended on production of smoke is:

s1

Additional classification depended on separation of flaming droplets/elements is:

d0

Format of classification of reaction to fire of external thermal insulation composite system with rendering

TERMO BRAVO SK

represented by composition defined in Table No. 1:

Fire behaviour		Production of smoke			Flaming droplets	
B	-	s	1	,	d	0

Classification of reaction to fire: B – s1, d0

4.3 Field of application

This classification is valid for the following final application:

- ETICS applied on substrate, which reaction to fire is A1 or A2,
- Pure bonded ETICS,
- Bonded ETICS with supplementary anchors,
- Pure mechanically fixed ETICS without adhesive,
- Mechanically fixed ETICS with supplementary adhesive.

This classification is also valid for the following product (ETICS) parameters:

- color of used thermal insulation EPS- EN 13163-TR100 white
- thickness of used thermal insulation EPS- EN 13163-TR100 max. 150 mm
- density of thermal insulation EPS max. (15,5±1) kg/m³
- organic content of adhesive max. (4,02±0,6) %
- organic content of base coat max. (4,7±0,6) %
- thickness of adhesive max. 10 mm
- thickness of base coat min. 3 mm
- area density of glass fibre mesh 0,145 kg/m²+5%
- organic content of key coat max. (11,8±0,6) %
- organic content of finishing coat max. (4,96±0,6) %
- minimal grain size (thickness) of finishing coat 1,0 mm
- maximal grain size (thickness) of finishing coat 2,5 mm

5 Provisions of utilization

5.1 Restrictions

The validity of this report of classification is 5 years, it means till 27.05.2020, as far as no changes in technical specification of components and systems will occur.

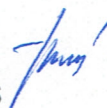
5.2 Attention

This classification report replaces neither type testing nor product certification.

Executed by: Ing. Dana Bellušová
Auditor, TSUS, branch Bratislava



Approved by: prof. Ing. Zuzana Sternová, PhD.
Head of Technical Assessment Body TSÚS



Literature:

EN 13238: 2010

Reaction to fire tests for building products. Conditioning procedures and general rules for selection of substrates

EN ISO 11925-2: 2010/AC:2011

Reaction to fire tests. Ignitability of building products subjected to direct impingement of flame. Part 2: Single-flame source test

EN 13823: 2010

Reaction to fire tests for building products. Building products excluding floorings exposed to the thermal attack by single burning item

EN 13501-1:2007+A1: 2009

Fire classification of construction products and building elements. Part 1: Classification using test data from reaction to fire tests

ETAG 004: 2013, Annex D

External Thermal Insulation Composite Systems with rendering, Annex D: Reaction to Fire