



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

Sponsor: ThermiSol Oy
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Notified Body No: 0809

Product: ThermiSol Elementti

Classification report No: VTT-S-4246-15

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1 Introduction

This classification report defines the classification assigned to ThermiSol Elementti in accordance with the procedures given in EN 13501-1:2007+A1:2009

2 Details of classified product

2.1 General

The product ThermiSol Elementti is defined as self-supporting, double skin metal faced insulation sandwich panel.

2.2 Product description

The product ThermiSol Elementti is described below:

Manufacturer: ThermiSol Oy

Product description: sandwich panel

Structure of panel from front side to back side:

- polyester coated steel sheet
- adhesive
- expanded polystyrene EPS 100S
- adhesive
- polyester coated steel sheet

Polyester coating on steel sheet: 25 μm , 0,81 MJ/m²

Thickness of steel sheet: 0,5 mm

Adhesive: 2-component polyurethane adhesive, $\leq 160 \text{ g/m}^2$, 29,8 MJ/m²

Nominal density of EPS 100S: 20 kg/m³

Thickness of EPS 100S: 100 mm

Structure of corners (see Appendix 1):

- Metal corner flashings: 0,7 x 75 x 75 and 0,6 x 50 x 150
- Spacing of screws in corner flashings is 200 mm
- Seal in corner: Stone wool FPS 14 by Parock Oy Ab, thickness 25 mm

Structure of vertical joints (see Appendix 1):

- Tongue and groove joints
- Seal in joints: Factory made sealing compound INSTAWELD 6613



The test results relate only to the sample tested.

3 Test reports and test results in support of classification

3.1 Test reports

Name of laboratory	Name of sponsor	Test reports	Test methods and date
VTT Expert Services Ltd	ThermiSol Oy	VTT-S-1306-13	EN 13823:2010 21 February 2013
VTT Expert Services Ltd	ThermiSol Oy	VTT-S-7061-12	EN ISO 11925-2:2010 20 November 2012
VTT Expert Services Ltd	ThermiSol Oy	VTT-S-4136-15	EN ISO 11925-2:2010 11 September 2015

3.2 Test results

Test method	Parameter	Number of tests	Continuous parameter mean	Compliance parameters
EN 13823	FIGRA _{0,2 MJ} (W/s)	3 ¹⁾	7,1	-
	FIGRA _{0,4 MJ} (W/s)	3 ¹⁾	7,1	-
	THR _{600s} (MJ)	3 ¹⁾	0,7	-
	LFS edge	3 ¹⁾	-	Compliance
	SMOGRA (m ² /s ²)	3 ¹⁾	1,3	-
	TSP _{600s} (m ²)	3 ¹⁾	34	-
	Flaming droplets / particles	3 ¹⁾	-	Compliance
EN ISO 11925-2 surface/edge flame attack 30 s exposure	F _s ≤ 150 mm	12	-	Compliance
	ignition of the filter paper	12	-	Compliance
EN ISO 11925-2 flaming droplets/particles	F _s ≤ 150 mm	6	-	Compliance
	ignition of the filter paper	6	-	Compliance

1) Tested as free standing with vertical joint



The test results relate only to the sample tested.

4 Classification and field of application

4.1 Reference of classification

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

4.2 Classification

The product ThermiSol Elementti in relation to reaction to fire behaviour is classified:

B

The additional classification in relation to smoke production is:

s1

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

d0

The format of the reaction to fire classification is:

Fire behaviour		Smoke production			Flaming droplets	
B	-	s	1	,	d	0

i.e.: B-s1, d0

4.3 Field of application

This classification is valid for the following product parameters and end use conditions:

- thickness of steel sheet 0,5...1,0 mm
- flat or light profiling up to 5 mm inside metal facings
- all coatings with PCS in the range 0 to 4 MJ/m²
- tongue and groove joint, see Appendix 1
- factory made sealing compound INSTAWELD 6613 in joints
- adhesive between metal facings and insulation core with PCS value ≤ 29,8 MJ/kg and amount ≤ 160 g/m²
- expanded polystyrene insulation core with nominal density of 20 kg/m³ ± 15 %
- thickness of panel ≥ 100 mm
- metal corner flashings (0,7 x 75 x 75) with stone wool FPS 14 by Parock Oy Ab, thickness 25 mm (see Appendix 1)
- with or without steel flashings over cut edges
- spacing of screws in corner flashings ≤ 200 mm



The test results relate only to the sample tested.

5 Limitations

This classification report does not represent type approval or certification of the products.

16 September 2015



Tiia Rynänen
Product Manager



Katja Ruotanen
Expert

APPENDIX Appendix 1, Structure of corners and joints

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The test results relate only to the sample tested.

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Structure of corners and joints

