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MEMBER OF Bodycote TESTING GROUP

Reaction to fire classification report Nr 14018C

Owner of the classification report

ISOBAR N.V.
Pontstraat 80
B-8791 WAREGEM
BELGIUM

Introduction

This classification report defines the classification assigned to the product "**ISOBAR T-PIR 100**" in accordance with the procedures given in the standard EN 13501-1: 2007: Fire classification of construction products and building elements - Part 1: classification using data from reaction to fire tests.

This classification report consists of 7 pages

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1. DETAILS OF CLASSIFIED PRODUCT

a) Nature and end use application

The product "**ISOBAR T-PIR 100**" is defined as a 'self-supporting, double skin metal faced insulating sandwich panel'.
Its classification is valid for the following end use application(s):
'Used as walls and ceilings and doors within the building envelope.

b) Description

	Nominal values
General description	T-PIR 100
Overall thickness (mm)	100mm
Overall weight per unit area (g/m²)	14880 g/m²
Coating (Test face)	Polyester coating 25µm
Generic type	Polyester
Product reference	Polyester 25µm
Name of manufacturer	Corus
Colour	White RAL 9010
Thickness of coating (mm)	0,025
Number of coats	2 : topcoat 25mµ and primer 5 mµ
Application rate per coat (g/m²)	19,5 g/m²
Application method	Painting
PCS-value (MJ/m²)	0,66 MJ/m²
Curing process per coat	painting
Flame retardant details	None
Rigid Facing(Test face)	Galvanised-lacquered steel plates
Generic type	Steel
Product reference	S220GD
Name of manufacturer	Corus
Density (kg/m³)	8000 kg/m³
Weight per unit area (g/m²)	5040 g/m²
Thickness (mm)	0,6 mm
Profile reference and height	None
Coating back side (facing to insulation)	10 mµ backing
Bonding Method (facing to insulation)	No bonding => injected PIR
Insulation core	PIR
Generic type	PIR
Trade name / product reference	Polyol Voracor CD 924 DOW Isocyanate Voranate M229 DOW
Name of manufacturer	DOW
Thickness (mm)	98,8 mm
Colour	Yellow
Density (kg/m³)	48 kg/m³
Flame retardant details	None
Bonding Method (facing to insulation)	No bonding => injected PIR
Rigid Steel Facing(reverse face)	Galvanised-lacquered steel plates

Generic type	Steel
Product reference	S220GD
Name of manufacturer	Corus
Density (kg/m³)	8000 kg/m³
Weight per unit area (g/m²)	5040g/m²
Thickness (mm)	0,6 mm
Profile reference and height	None
Coating back side (facing to insulation)	10 mμ backing
Coating(reverse face)	Polyester coating 25mμ
Generic type	Polyester
Product reference	Polyester 25 mμ
Name of manufacturer	Corus
Colour	White RAL 9010
Thickness of coating (mm)	25mμ
Number of coats	2 : topcoat 25mμ and primer 5 mμ
Application rate per coat (g/m²)	25-30 g/m²
Application method	Painting
PCS-value (MJ/m²)	0,66 MJ/m²
Curing process per coat	Painting
Flame retardant details	NONE

c) Mounting and fixing :

The material was tested with a vertical joint at 200mm and with a 40mm air gap. Corner profiles were used. The horizontal cut edges were protected.

2. TEST REPORTS AND TEST RESULTS IN SUPPORT OF THIS CLASSIFICATION

a) Test reports

Name of the laboratory	Name of the sponsor	Test report ref. Nr.	Test method
WFRGENT N.V. Ghent, Belgium	ISOBAR N.V.	14018A	EN 13823 (februari 2002)
WFRGENT N.V. Ghent, Belgium	ISOBAR N.V.	14018B	EN ISO 11925-2 (februari 2002)

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b) Test results

Test method	Parameter	Number of tests	Results		Criteria for Class B-s2,d0	
			Continuous parameters Mean	Compliance parameters	Continuous parameters	Compliance parameters
EN ISO 11925-2 (*) (1) 30s flame application:						
Surface exposure	$F_s \leq 150$mm	6	(-)	Yes	(-)	Yes
- front side	Ignition filter paper		(-)	No	(-)	No
Edge exposure						
- front side	$F_s \leq 150$mm	6	(-)	Yes	(-)	Yes
	Ignition filter paper		(-)	No	(-)	No
- turned 90° behind surface	$F_s \leq 150$mm	6	(-)	Yes	(-)	Yes
	Ignition filter paper		(-)	No	(-)	No
EN 13823 (2)	$FIGRA_{0,2\,MJ}$ (W/s)	3	48	(-)	≤ 120	(-)
	$FIGRA_{0,4\,MJ}$ (W/s)		(-)	(-)	(-)	(-)
	$LFS_{<edge}$		(-)	Yes	(-)	Yes
	THR_{600s} (MJ)		4,7	(-)	≤ 7,5	(-)
	SMOGRA (m^2/s^2)		15	(-)	≤ 180	(-)
	TSP_{600s} (m^2)		164	(-)	≤ 200	(-)
	Flaming droplets/particles		(-)			
	f<10s		(-)	No	(-)	No
	f>10s			No	(-)	No

(-) Not applicable

(*) The material did not melt nor pull away from the pilot burner.

(1) Based on the results from test report Nr. 14018B

(2) Based on the results from test report Nr. 14018A

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3. CLASSIFICATION AND DIRECT FIELD OF APPLICATION

a) Reference and direct field of application

This classification has been carried out in accordance with EN 13501-1: 2007 and EN 14509: 2006.

b) Classification

The product "**ISOBAR T-PIR 100**" in relation to its reaction to fire behavior is classified as:

Fire behavior	Smoke production	Flaming droplets
B	**s2**	**d0**

c) Field of application

This classification for the product as described in §1b, is valid for the following end use conditions :

- Self supporting
- With or without a void

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This classification is valid for the following parameter range:

PARAMETER	FACTORS	VALIDITY OF TEST
Metal Facing	Grade of metal	Valid for all grades of tested metal type
	Thickness of metal facing excluding organic coatings: 0,6 mm	Exposed and unexposed side between 0,6mm and 1,2mm
	Profile and geometry of inside facing: Flat or light profiling up to 5 mm	Valid for other types of flat or lightly profiled
	Surface coating – tested face a) PCS coating = 0,66 MJ/m² b) Colour of coating: white	Valid for PCS values in the range of 0 – 4 MJ/m² Valid for all colours
Joint design	Vertical joints (with screw fixings, without fixing plate)	Valid within normal tolerances. Not valid for changes of shape or configuration
Insulating core	a) chemical composition b) density: 48 kg/m³	Valid for the same chemical system and blowing agent Valid for densities between 40,8 kg/m³ and 55,2 kg/m³
Thickness of panel (D)	100mm	Valid for any panel with a thickness of 100mm and all greater thicknesses
Orientation of panels	Vertical orientation	Valid for vertical and horizontal wall and ceiling applications
Metal corner flashing	Tested corner flashing: External Flashing: (50mm + 100mm) X 50mm X 0,6mm Internal Flashing: 50mm X 50mm X 0,6mm	Valid for the same material / galvanised corner flashing as tested and of at least the same width and thickness
Protection of cut edges	With protection of the horizontal cut edges	Valid for end-use applications with protection of the horizontal cut edges
Fixings for metal flashings	Spacing of 400 mm	Valid for fixing spacing of 400 mm or less

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4. RESTRICTIONS

At the time the standard EN 13501-1 (2007) was published, no decision was made concerning the duration of validity of a classification report.

5. WARNING

This classification report does not represent type approval nor certification of the product.

The following statement is included in accordance with Fire Sector Group Recommendation 001rev2:

"The classification assigned to the product in this report is appropriate to a declaration of conformity by the certification body within the context of a system 1 attestation of conformity and CE marking under the Construction Products Directive."

Report	Name	Signature (*)	Date
Prepared by	Ing. Frans DUTRIEUE		1 2 AUG. 2009
Reviewed by	Prof. Dr. Ir. Paul VANDEVELDE		1 2 AUG. 2009
(*) For and on behalf of "WFRGENT N.V."			

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