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RESISTANCE TO FIRE
CLASSIFICATION REPORT No EUI-24-000067

CLASSIFICATION OF FIRE RESISTANCE

IN ACCORDANCE WITH BS EN 13501-2:2023

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Prepared by:	Efectis UK/Ireland Shore Road, Newtownabbey Co Antrim, BT 37 0QB United Kingdom
Product name:	Hemsec Residential SIPs Panel Loadbearing Wall (30) Total Load applied: 40kN
Classification report No.:	EUI-24-000067
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This classification report consists of 4 pages and may only be used or reproduced in its entirety.

1. DOCUMENT TRACKING

Revision Index.	*Modification*
0	Original document

2. INTRODUCTION

This classification report defines the resistance to fire classification assigned to Hemsec Residential SIPs Panel Loadbearing Wall (30) in accordance with the procedures given in BS EN 13501-2:2023.

3. DETAILED OF CLASSIFIED PRODUCT

3.1. GENERAL

The element, Hemsec Residential SIPs Panel Loadbearing Wall (30), is defined as a symmetrical, load bearing partition wall.

3.2. DESCRIPTION

The product, Hemsec Residential SIPs Panel Loadbearing Wall (30), is described below or in the reports provided in support of the classification listed in section 4.1.

- Hemsec Residential SIPs Panel (HEMSEC) with a thickness of 142 mm, consisting of a perimeter frame (C16 grade softwood), a core (rigid urethane foam), facings (OSB), and splines (OSB).
- Battens, referenced as C16 softwood grade battens with dimensions 38 x 25 mm, are fixed to the exposed face of the SIP panel.
- Plasterboard, referenced as Type A Wallboard (KNAUF) with dimensions 1200 x 2400 x 12.5 mm (L x W x th), is through-fixed to the battens.

The wall has overall nominal dimensions of 3000 mm high by 3000 mm wide with a thickness of 179.5 mm.

3.2.1. Hemsec Residential SIPs Panel

The Hemsec Residential SIPs Panel (HEMSEC) with a thickness of 142 mm is made of:

- Perimeter Frame: The perimeter frame measures 108 x 50 mm and is made of C16 grade softwood with a stated density of 500 kg/m³.
- Internal Insulation Core: The core is a rigid urethane insulation, 108 mm thick, with a stated density of 32 kg/m³. This insulation is fitted between the perimeter framework and is held in place by the facing boards on each face.
- Face Panel: One layer of OSB facing, Smartply Max (SMARTPLY), is fitted to both sides of the Hemsec Residential SIPs Panel. Each layer is 15 mm thick with a declared density of 630 kg/m³. The OSB boards are nailed to the perimeter framework and splines behind, with vertical joints butting.
- Splines: The OSB spline is 15 mm thick and measures 100 x 2900 mm (width x length). Splines are fitted behind the vertical joints, supporting the butt joints of the facing boards. Additionally, two layers of timber spline with dimensions of 108 x 50 mm, C16 grade softwood, are used.

3.2.2. Facings

The exposed side of the sample comprises a layer of gypsum-based board, Type A wallboard (KNAUF), measuring 1200 x 2400 mm (w x h), with a thickness of 12.5 mm. This board is installed over a layer of treated softwood battens measuring 25 x 38 mm.

The vertical timber battens are butted to head and bottom rails made of the same material. The timber battens are fixed to the rails using circular screw shank coil nails (PASLODE), 3.1 x 90 mm (Ø x L), with three nails per joint.

The battens are attached to the Hemsec Residential SIPs Panel (perimeter framework and facing panels) using circular screw shank coil nails (PASLODE), 3.1 x 90 mm (Ø x L), spaced at 200 mm intervals.

The wallboard is fixed to the timber battens using drywall screws, referenced as 00032PSDD (TIMCO), 3.5 x 32 mm (Ø x L), spaced at 200 mm intervals along the vertical battens and horizontal rails. Continuous vertical joints are provided at approximately 1200 mm and 2400 mm from the right-hand side as viewed from the unexposed face, and a continuous horizontal joint is provided approximately 2400 mm from the top of the wall.

3.2.2.1. Plasterboard Finishing

The joints of all outer boards are taped and filled on their outer faces using Gyproc FibaTape® Xtreme (BRITISH GYPSUM) tape and Gyproc Easifill (BRITISH GYPSUM) filler compound, respectively.

3.2.3. Supporting construction

The wall is installed in a rigid supporting construction with a thickness of 320 mm.

4. REPORTS AND RESULTS IN SUPPORT OF THIS CLASSIFICATION

4.1. REPORTS

Name of Laboratory	Name of sponsor	Report ref. no	Test standard and date / field of extended application standards and date
Efectis UK/Ireland	HEMSEC	EUI-24-B-000067	BS EN 1365-1 :2012

4.2. RESULTS

Test method, test number and date	Subject of the report	No. Tests	Parameter(s)	Results
BS EN 1365-1:2012 EUI-24-B-000067 10 April 2024	A loadbearing wall with Hemsec Residential SIPs Panel. Dimensions of the Plasterboard: 1200 x 2400 x 12.5mm (Knauf Type A Wallboard)	**1**	Integrity - cotton pad - gap gauges - sustained flaming Insulation Loadbearing capacity	 40 minutes* 40 minutes* 40 minutes* 40 minutes* 40 minutes*

*No failure; test was discontinued after a period of 40 minutes.

5. CLASSIFICATION AND FIELD OF APPLICATION

5.1. REFERENCE OF CLASSIFICATION

This classification has been carried out in accordance with clause 7 of BS EN 13501-2:2023.

5.2. CLASSIFICATION

The element, Hemsec Residential SIPs Panel Loadbearing Wall (30), is classified according to the following combination of performance parameters and classes as appropriate:

R	E	I	W		*t*	*t*	-	M	S	-	C	IncSlow	sn	ef	r
R	E	I			30										

FIRE RESISTANCE CLASSIFICATION	REI 30

5.3. FIELD OF APPLICATION

The direct application field of the test results is limited to the determination of the permissible modifications of the test specimen following a successful fire resistance test. These modifications may be automatically introduced without the sponsor having to apply for any additional assessment, calculation, or agreement.

The results of the fire test are directly applicable to similar constructions where one or more of the changes listed below are made and the construction continues to comply with the appropriate design code for its stiffness and stability:

a) decrease in height.
b) increase in the thickness of the wall.
c) increase in the thickness of component materials.
d) decrease in linear dimensions of boards or dimensions of panels of but not thickness.
e) decrease in stud spacing.
f) decrease in distance of fixing centres.
~~g) increase in the number of horizontal joints when tested with one joint not more than 500 ± 150 mm from the top edge.~~
h) decrease in the applied load.
NOTE: For the reference test, the total load applied was 40kN, on a 3000 mm high sample.
i) increase in the width provided that the specimen was tested at full width or 3 m wide, whichever is the larger.

6. LIMITATIONS

This classification document does not represent type approval or certification of the product.

SIGNED **APPROVED**

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