

Product Technical Standards

Generic Timber Faced Structural Insulated Panel System

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MANUFACTURER

Hemsec Manufacturing Ltd.
Stoney Lane,
Rainhill,
Prescot,
Merseyside
L35 9LL.

PRODUCT: Structural insulated panel system.

Panel Thickness Options: 100mm, 125mm, 150mm, 180mm, 200mm, 220mm & 252mm
Panel Cover Width: 1200mm

PRODUCT DESCRIPTION AND APPLICATIONS

Structural Insulated Panels are manufactured on a production line in the UK. The standard internal and external facings are typically 15mm OSB Grade 3. Various external cladding systems suited to the application can be applied by others.

Facings are adhesively bonded automatically during the manufacturing process to the wet lay down PUR (polyurethane) insulation core. The PUR system is blended to formulations provided by BASF.

Panels can be installed to steel, timber or concrete structures both internally and externally to walls, ceilings and roofs to provide a thermal structure, and where applicable, a complete weather tight envelope.

Hemsec SIPs panel systems can be used in a variety of building applications, for example: Commercial Buildings, Retail, Supermarkets, Hospitals, Colleges, Schools, Housing, Hotels, Leisure Centres, Garden Rooms, Community Centres.

INSULATION CORE

Polyurethane (PUR): Closed cell HCFC free, Zero ODP, with a thermal conductivity value λ of 0.024 W/m K.

FACINGS

15mm OSB Grade 3 to both faces. OSB/3 has a thermal conductivity value λ of 0.013 W/m K. All OSB/3 used by Hemsec come from sustainable timber sources.

OSB/3 board comprises of softwood flakes/strands bonded together with a PMDI resin and are formaldehyde free. The board is manufactured to specification EN 13986 and EN 300: 2006 for OSB 3 load bearing oriented strand boards for use in humid conditions.

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STRUCTURAL TESTING

CERAM

Queens Road
Penkhull
Stoke-on-Trent
ST4 7LQ
www.ceram.com

FIRE TESTING

Bodycote Warrington Fire Research Ltd

Holmsfield Road
Warrington
Chester
WA1 2DS
www.bodycote.com

FIRE TESTING

Building Research Establishment (BRE)

Bucknalls Lane
Garston
Watford
WD25 9XX
www.bre.co.uk

B.B.A TECHNICAL APPROVALS FOR CONSTRUCTION

British Board of Agreement

Bucknalls Lane
Garston
Watford
Hertfordshire
WD25 9BA
<http://www.bbacerts.co.uk>

PUR PROPERTIES

BASF Polyurethanes U.K. Limited

Alfreton
DE55 4NL
[http://www.polyurethanes.basf.de/pu/Great Britain](http://www.polyurethanes.basf.de/pu/Great_Britain)

BM TRADA CERTIFICATION

BM Trada Certification Ltd

Chiltern House
Stocking Lane
High Wycombe
Buckinghamshire
HP14 4ND
www.bmtrada.com

BS EN ISO 9001: 2008 - QUALITY MANAGEMENT SYSTEMS:

Hemsec have consistently maintained third party certification to BS EN ISO 9001:2008 and have fully embraced the eight management principles considered essential in delivering customer focusing products and services.

CUSTOMER FOCUS

Organisations depend on their customer and therefore should understand current and future customer requirements and strive to exceed customer expectations.

LEADERSHIP

Leaders establish unity of purpose, direction and the internal environment of the organisation. They create the environment in which people can become fully involved in achieving the organisations objectives.

INVOLVEMENT OF PEOPLE

People at all levels are the essence of an organisation and their full involvement enables their abilities to be used to the organisations benefit.

PROCESS APPROACH

A desired result is achieved more efficiently when related resources and activities are managed as a process.

SYSTEM APPROACH TO MANAGEMENT

Identifying, understanding and managing a system of inter-related processes for a given objective contribute to the effectiveness and efficiency of the organisation.

CONTINUAL IMPROVEMENT

A permanent objective of the organisation is continual improvement.

FACTUAL APPROACH TO DECISION MAKING

Effective decisions are based on the logical or intuitive analysis of data and information.

MUTUALLY BENEFICIAL SUPPLIER RELATIONSHIPS

The ability of the organisation and its suppliers to provide value is enhanced by mutually beneficial relationships.

Physical Properties	Unit	Current Test Method Adopted by BASF/Hemsec
Density	Kg/m ³	EN ISO 845
Thermal Conductivity	W/mK	BS 874
Compressive Strength @ 10%	kPa	BS 4370
Fire Resistance - OSB and CPB facings	Class 1 Class 0	Surface spread of flame - BS 476 Pt 7: 1987 Defined by building regulations.
Reaction to Fire	Refer to Hemsec SIPs	BS476 Part 21 – fire resistance of load bearing walls.
Dimensional Stability	%	BS 4370
Closed cell content	%	ISO 4590

PRODUCT PERFORMANCE STANDARDS

BS 476-21 : 1987	Fire tests on building materials and structures - Methods for determination of the fire resistance of load bearing elements of construction.
BS 1282 : 1999	Wood preservatives - Guidance on choice, use and application.
BS 5268-2 : 2002	Structural use of timber – Code of practice for permissible stress design, materials and workmanship.
BS 5534 : 2003	Code of practice for slating and tiling (including shingles)
BS 5628-3 : 2005	Code of practice for the use of masonry – Materials and components, design and workmanship.
BS DD 140-2 : 1987	Wall ties – Recommendations for design of wall ties.
BS EN 300 : 2006	Oriented Strand Boards (OSB) – Definitions, classification and Specifications.
BS EN 594 : 1996	Timber structures – Test methods — Racking strength and stiffness of timber frame wall panels
BS EN ISO 140-3 : 1995	Acoustics – Measurement of sound insulation in buildings and of building elements — Laboratory measurement of airborne sound insulation of building elements
BS EN ISO 6946 : 1997	Building components and building elements – Thermal resistance and thermal transmittance — Calculation method.
EN 338 : 2003	Structural timber – Strength classes