

# Product Technical Standards

## Generic Metal Faced Insulating Panel System



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### MANUFACTURER

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

### PRODUCT: Composite insulated panel system.

Panel Thickness Options:	50mm, 80mm, 100mm, 125mm, 150mm, 175mm & 200mm
Profile Options:	Smooth, Rib and Microrib.
Panel Cover Width:	1155mm

### PRODUCT DESCRIPTION AND APPLICATIONS

Composite Insulated Panels are pre-engineered on a continuous production line in the UK. The standard internal and external facings are typically 0.5mm hot-dipped galvanized steel with a Z225 zinc coating. Various coating systems are available depending on application.

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

Panel joints consist of a tongue and groove detail parallel with the width of the panel and joints.

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 panel systems can be used in a variety of building applications, including: Distribution Warehouses, Commercial Buildings, Industrial Buildings, Retail, Supermarkets, Hospitals, Colleges, Schools, Research and Development Laboratories, Temperature and Hygiene Controlled Internal Environments (chillers and freezers).

Panels are generally fixed back to supporting structures using proprietary fasteners with integral washers and manufactured from suitable material i.e. coated carbon steel or 304 stainless steel depending on durability performance.

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## STRUCTURAL TESTING

### CERAM

Queens Road  
Penkhull  
Stoke-on-Trent  
ST4 7LQ

[www.ceram.com](http://www.ceram.com)

## FIRE TESTING

### Bodycote Warrington Fire Research Ltd

Holmsfield Road  
Warrington  
Chester  
WA1 2DS

[www.bodycote.com](http://www.bodycote.com)

## FIRE TESTING

### Building Research Establishment (BRE)

Bucknalls Lane  
Garston  
Watford  
WD25 9XX

[www.bre.co.uk](http://www.bre.co.uk)

## PIR 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)

## BS EN ISO 9001 ASSESSING BODY

### Loss Prevention Certification Board (LPCB)

Bucknalls Lane  
Garston  
Watford  
WD25 9XX

[www.brecertification.co.uk](http://www.brecertification.co.uk)

## LPS 1208 & 1181 PRODUCT CERTIFICATION

### Loss Prevention Certification Board (LPCB)

Bucknalls Lane  
Garston  
Watford  
WD25 9XX

[www.brecertification.co.uk](http://www.brecertification.co.uk)

## FM APPROVALS

### FM Global

Manchester Office  
Anchorage 2  
Salford Quays  
Manchester  
M5 3YW

[www.fmglobal.com](http://www.fmglobal.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 <sup>3</sup>	BS EN 1602
Thermal Conductivity ( $\lambda$ ) – Initial	W/mK	BS EN 13165
Thermal Conductivity ( $\lambda$ ) – Aged	W/mK	BS EN 13165
Compressive Strength	kPa	BS EN 826
Tensile Adhesion Strength	kPa	BS EN 1607
Fire Behaviour (Core Material)	mm	DIN 4102
Fire Resistance	FR30/60	BS 476 Pt 22-5 BS 476 Pt 22-9
Reaction to Fire	Refer to HEMSEC	LPS 1181 FM4880
Dimensional Stability	% Linear Change	BS 4370-3

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## INSULATION CORE

Polyisocyanurate (PIR): Closed cell HCFC free, Zero ODP, with a mean thermal conductivity value  $\lambda$  of 0.02038 W/m K.

## PRODUCT PERFORMANCE STANDARDS

<b>BS EN 1602</b>	Thermal insulating products for building applications. Determination of the apparent density
<b>BS EN 13165</b>	Thermal insulation products for buildings. Factory made rigid polyurethane foam (PUR) products. Specification
<b>BS EN 826</b>	Thermal insulating products for building applications. Determination of compression behavior.
<b>BS EN 1607</b>	Thermal insulating products for building applications. Determination of tensile strength perpendicular to faces
<b>DIN 4102</b>	Fire behavior of building materials and elements - Classification of building materials - Requirements and testing
<b>BS 4370-3</b>	Methods of test for rigid cellular materials. Methods 12 and 13
<b>BS 476-22</b>	Fire tests on building materials and structures. Methods for determination of the fire resistance of non-loadbearing elements of construction
<b>LPS 1208</b>	LPCB Fire resistance requirements for elements of construction used to provide compartmentation
<b>LPS 1181</b>	Series of Fire Growth Tests for LPCB Approval and Listing of Construction Product Systems
<b>FM 4880</b>	Class 1 Fire Rating of Insulated Wall or Wall and Roof/Ceiling Panels, Interior Finish Materials or Coatings, and Exterior Wall Systems
<b>BS EN 14509</b>	Self-supporting double skin metal faced insulating panels. Factory made products. Specifications
<b>BS 6399-1</b>	Loading for buildings. Code of practice for dead and imposed loads
<b>BS EN ISO 9001</b>	Quality management systems. Requirements