



APPROVED BUILDING PRODUCT

This is to certify that
A Proctor Group Limited

**The Haugh
Blairgowrie
Perthshire
PH10 7ER**

is authorised to use the BRE Certification mark in association with

Spacetherm® Lining Type P and Type F

These products comply with the requirements of

**BPS 7006: Issue 1.0 – Requirements for the approval of thermal insulation
blanket products in walls and ceilings**

Certificate Number: ABP007

Date of Issue: February 2009

Period of Validity: 3 years

This certificate shall be read in conjunction with the attached schedule which forms an integral part of this certificate

For and on behalf of BRE Certification
Dated: 3 February 2009

To check the validity and authenticity of this certificate please visit www.RedBookLive.com or contact

BRE Global Ltd, Garston, Watford, WD25 9XX. Tel +44 (0) 1923 664100

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Spacetherm Lining Type P and Type F

1 Description of Product and Intended Use

Spacetherm linings are laminated panels of Aerogel insulation™ bonded to either Gyproc Wallboard Duplex™ (Type P) aerated gypsum core with paper liners and an additional metallised polyester film applied as a backing to the lining board or Fermacell™ gypsum fibreboard (Type F) which consists of a homogenous mixture of water, gypsum and cellulose fibre compressed at high pressure for this application with a metallised layer applied to the back surface of the board. Aerogel insulation is a flexible polyethylene terephthalate (PET) reinforced silica blanket of dark grey appearance.

The lining panels are available with up to four bonded layers of Aerogel providing a maximum insulation thickness up to 36mm. Spacetherm Lining panels are manufactured in the material combinations shown below.

Characteristic	Product type	Nominal value
Panel length*	P, F	2.4 m
Panel width*	P, F	1.2 m
Aerogel thickness	P,F	3, 6, 9 mm
Plasterboard thickness	P	12.5 and 15 mm
Fermacell board thickness	F	10, 12.5, 15 and 18 mm
*Other board sizes available to order		

The products are intended for use as mechanically fixed thermally insulated dry lining boards for internal application to external walls and ceilings under roofs constructed of masonry, concrete, timber frame or light gauge steel frame. Fixings shall be in accordance with BS EN 14566 *Mechanical fasteners for gypsum plasterboard systems. Definitions, requirements and test methods*. Panels should be mechanically fixed in accordance with BS 8212 *Code of practice for dry lining and partitioning using gypsum plasterboard* and BS 8000-8 *Workmanship on building sites. Code of practice for plasterboard partitions and dry linings* using fixings appropriate to the substrate and in accordance with the Certificate holder's instructions.

The performance of Spacetherm Lining depends on correct handling and installation and it shall be installed strictly in accordance with the Certificate holder's installation instructions and the requirements of this Certificate. The quality of installation achieved on site is not covered by this certificate, therefore the quality of installation and workmanship should be subject to appropriate checks by a competent person for each installation.

Certification of Spacetherm Lining Type F is conditional upon the continuing validity of BBA Certificate 90/2439 (Fermacell gypsum-fibreboard).

Schedule for certificate number ABP007

2 Conformity with BPS 7006 Requirements

These tables and accompanying notes shall be read fully in conjunction with BPS 7006 Issue 1.0

Table 1: Typical properties for the Spacetherm Lining Type P and Type F

Performance requirement	Test method	Test result
Thermal insulation of typical wall constructions	U value calcs. to BS EN ISO 6946 & BR 443	Typical wall and roof construction, examined as described in Table 2.
Risk of condensation	BS 5250 and BS EN ISO 13788 for typical application	Typical wall and roof construction, examined as described in Table 2.
Fire resistance (classification) and fire resistance (test)	EN 13501-2 and EN 1365-1	No Performance Determined
Adhesive bond	BS EN 28510	No Performance Determined
Sound absorption	EN ISO 354 A1 & EN ISO 11654	No Performance Determined

Table 2: Calculations of U-values for wall and roof construction for Spacetherm F and Spacetherm P (calculated using BRE U-value calculator version 1.21a) and condensation risks

<p>Spacetherm linings are designated F(x) (Fermacell base) and P(x) (Plasterboard base) where (x) is the thickness of Aerogel (mm)</p> <p>Thermal resistances typical of the relevant materials have been used in the calculations</p> <p>The reported value of thermal conductivity for Aerogel when tested in accordance with BS EN 12667 is 0.013 W/m.K.</p>					
Wall construction	U-value (W/m ² K) ¹				Condensation risk ²
	Type F9	Type F36	Type P9	Type P36	
Filled cavity brick wall 10mm Fermacell board (F) or 9.5mm Duplex plasterboard (P) Foil 6mm plywood (P only) 9mm or 36mm Aerogel 105mm brick inner leaf 50mm cavity fill 105mm brick outer leaf	0.39	0.25	0.41	0.25	None
Unfilled cavity brick wall 10mm Fermacell board (F) or 9.5mm Duplex plasterboard (P) Foil 6mm plywood (P only) 9mm or 36mm Aerogel 105mm brick inner leaf 50mm cavity 105mm brick outer leaf	0.68	0.30	0.72	0.29	None
Solid brick wall 10mm Fermacell board (F) or 9.5mm Duplex plasterboard (P) Foil 6mm plywood (P only) 9mm or 36mm Aerogel 220mm brick outer leaf	0.84	0.32	0.90	0.31	None
<p><i>Notes are included at the end of the table on the next page</i></p>					

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Table 2: (continued)

Timber frame wall 10mm Fermacell board (F) or 9.5mm Duplex Plasterboard (P) Foil 6mm plywood (P only) 9mm or 36mm Aerogel 89mm timber stud frame, voids filled with insulation 12mm plywood sheathing Breather membrane 50mm unventilated cavity 105mm brick outer leaf	0.32	0.19	0.33	0.19	None
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Roof construction The reported value of thermal conductivity for Aerogel when tested in accordance with BS EN 12667 is 0.013 W/m.K.	U-value (W/m²K) ¹		Condensation risk²
	Type F12	Type P12	
Non-ventilated pitched roof (1) – insulated sloping ceiling³ 10mm Fermacell board (F) or 9.5mm Duplex plasterboard (P) Foil 6mm plywood (P only) 12mm Aerogel 125mm PUR insulation board between timber rafters Sarking felt 25mm air space 15mm clay tiles	0.20	0.20	None
Non-ventilated pitched roof (2) – insulated sloping ceiling³ 10mm Fermacell board (F) or 9.5mm Duplex plasterboard (P) Foil 6mm plywood (P only) 36mm Aerogel 75mm PUR insulation board between timber rafters 50mm air space Sarking felt 25mm air space 15mm clay tiles	0.19	0.19	None
	Type F18	Type P18	
Ventilated pitched roof (1) – insulated sloping ceiling³ 10mm Fermacell board Foil 18mm Aerogel 75mm PUR insulation board between timber rafters 50mm air space ventilated at ridge and eaves Sarking felt 25mm air space 15mm clay tiles	0.20		None
<i>Notes are included at the end of the table on the next page</i>			

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Ventilated pitched roof (2) – insulated sloping ceiling³ 12.5mm plasterboard (P) (standard wallboard) Foil 18mm Aerogel 108mm PUR insulation board between timber rafters 25mm air space ventilated at ridge and eaves Sarking felt 25mm air space 15mm clay tiles		0.19	None
Notes 1. Calculation method BS EN ISO 6946; 2. Calculation method BS EN ISO 13788; 3. Non-ventilated indicates that there is sufficient ventilation provided by the permeability of roof construction components used (if in doubt air permeability should be determined (refer to Annex L of BS 5534 for test/calculation method).			

3 Building Regulations

Spacetherm Lining Type P and Type F, when used in accordance with this certificate and the certificate holder's instructions can assist in demonstrating that the works in which they are installed meet the requirements of the following building regulations:

- The Building Regulations (England and Wales) 2000 (as amended)
 - C2 – Resistance to moisture
 - L1 - Conservation of fuel and power
 - Regulation 7 - Materials and workmanship
- The Building (Scotland) Regulations 2004
 - Regulation 8: Fitness and durability of materials and workmanship
 - Regulation 9: Construction Standards
 - Standard 3.15 – Condensation
 - Standard 6.2 – Building insulation envelope
- The Building Regulations (Northern Ireland) 2000
 - B2 - Fitness of materials and workmanship
 - C4 – Resistance to ground moisture and weather
 - C5 – Condensation
 - F - Conservation of fuel and power

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