SPECIFICATION GUIDE

– The FOAMGLAS® thermal insulation Wallboard of 1200 x 600mm x ... mm are comprised of alumino silicated cellular glass having a density of 105 kg/m³ and a thermal conductivity at 10ºC of k = 0.040 W/mK.

– The two primary surfaces of the boards have a polyethylene facing sheet, factory applied with a bitumen film. They shall be temporarily adhered to the surface to be insulated (description of its eventual preparation), using the blob method and an adhesive which complies with the specifications of the cellular glass manufacturer. If required, this adhesive can be used to fill the joints between boards in order to make the whole system totally impermeable to water-vapour.

– The insulation must then be fixed into the supporting masonry (or other) structure by means of mushroom-type fixing devices every 600mm in both directions. (Coverage: approximately 3-3.5 fixings/m²).

– Any external finish panels shall be fastened to appropriate timber battens, these being fixed through the thermal insulation into the supporting structure by means of screws and plugs. Their type, length and fixing centres must provide firm, safe fixing of the finish panels.

– The FOAMGLAS® thermal insulation slabs of 600 x 450mm x ... mm are made of alumino silicated cellular glass composition. Type T4 WDS has a density of 115 kg/m³ and a thermal conductivity at 10ºC of k = 0.040 W/mK.

– The substrate shall be clean, dry and free of any irregularities in excess of 5mm over 2m. If required, an appropriate levelling coat shall be applied.

– The FOAMGLAS® T4 WDS shall be temporarily adhered to the surface to be insulated, using the blob method and an adhesive which complies with the specifications of the cellular glass manufacturer. If required, this adhesive can be used to fill the joints between the slabs in order to make the whole system totally impermeable to water-vapour.

– The insulation must then be fixed into the supporting masonry (or other) structure by means of a mushroom-type fixing device, two per slab.

– A water-based paint finish can be roller or spray applied to the surface of the FOAMGLAS®.

– Any external finished panels shall be fastened to appropriate timber battens, these being fixed through the thermal insulation into the supporting structure by means of screws and plugs. Their type, length and fixing centres must provide firm and safe fixing of the finished panels.

– Metal faced panels are installed as the Symgrid Suspended Ceiling System in its own support system which is fixed to the underside of the deck/soffit.

Metal faced ceiling panels are manufactured by:
Panel Projects
Stancold Plc, Portview Road, Avonmouth, Bristol BS11 9LQ
Tel: 0117 316 7020 Fax: 0117 316 7001
email: pdenford@panelprojects.com

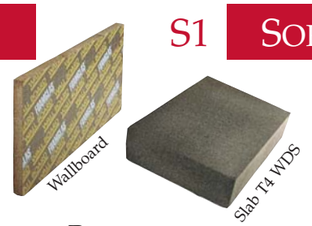
Pittsburgh Corning (UK) Limited
63 Milford Road, Reading
Berkshire RG1 8LG
Tel: 0118 950 0655 Fax: 0118 950 9019
email: info@foamglas.co.uk
www.foamglas.co.uk

PITTSBURGH CORNING

FOAMGLAS

Designed and Produced by **SEL Ltd.** Birmingham.

INSULATION OF CEILINGS AND SOFFITS, WITH AND WITHOUT FINISHES – NEW BUILD OR RENOVATION



USE OF FOAMGLAS®

FOAMGLAS® is completely impervious to water-vapour and is therefore ideal for insulation of ceilings to eliminate condensation within the structure and on the surface. The insulation value of FOAMGLAS® remains constant for the lifetime of the building. Relatively high humidity can be experienced in areas such as bathrooms and kitchens but even in these conditions, FOAMGLAS® will not slump or deform and any internal finish will therefore not be affected by it. When used with separate internal finish boards or panels, FOAMGLAS® Wallboard/slab T4 WDS insulation applied to ceilings requires only a simple batten lattice for the fixing of the finish panels. This almost eliminates cold bridging. FOAMGLAS® is totally non-combustible and cannot contribute to a fire nor give off toxic fumes or smoke; it is also totally free from HCFC, HFA and pentane.

APPLICATIONS

Thermal insulation of the underside of floor slabs e.g., basements, cellars, passages etc. The slab will be one of the following:
– precast concrete
– prefabricated elements
– hollow brick or hollow-pot concrete
NB: Freezer rooms are excluded from this application.
Important: thermal insulation to the underside of a concrete slab forming a roof structure causes greater thermal changes in the slab and its covering. Please contact PITTSBURGH CORNING (UK) LIMITED for advice if this is being considered.

PRELIMINARY CONDITIONS

The substrate has to be sufficiently solid and in sound condition in order to allow firm anchoring of mechanical fixings. Any expansion or movement joints present in the supporting structure of the building must be continued through the thermal insulation and finish. No additional joints will be required.

LIMITATION OF THERMAL BRIDGING

Thermal insulation applied internally cannot completely avoid the existence of thermal bridges such as wall junctions. Nevertheless, the influence of the thermal bridge can be reduced, by applying FOAMGLAS® Wallboard/slab T4 WDS to the adjoining walls to a depth of 600mm below the underside of the slab or floor.

Metal finished ceiling panel available plain or perforated and in stainless steel or colour coated galvanised steel

www.foamglas.co.uk

FOAMGLAS®
CELLULAR GLASS INSULATION

BUILDING REGULATIONS, Part L & J

All FOAMGLAS® systems meet the requirements of Building Regulations, with regard to air tightness of the building, the avoidance of cold bridging and sustainable construction. FOAMGLAS® systems will continue to fully perform for the lifetime of the building.

FOAMGLAS®
WALLBOARD/SLAB T4 WDS

PREPARATION OF THE SUBSTRATE

The surface(s) to be treated should be as smooth as possible. Major irregularities should be mechanically removed or rendered over to give the desired prepared surface.

THICKNESS OF FOAMGLAS® TYPE WALLBOARD/T4 WDS

The tables opposite gives the mean overall U-values obtained for various thicknesses of FOAMGLAS® Wallboard/slab T4 WDS which can be used in a variety of situations, without risk of interstitial condensation according to the following design criteria:
– floor temperature of room areas ≥ 18ºC
– ceiling temperature below insulation ≥ 0ºC
– relative humidity above structure ≤ 55%.

ADHESIVES

Adhesives are usually used to temporarily position the FOAMGLAS® Wallboard/slab T4 WDS prior to mechanical fixing and/or where water-vapour tight joints are necessary PITTSBURGH CORNING (UK) LIMITED recommends the use of its proprietary adhesives:
PC 56 - a two component adhesive hardening within 30-60 minutes
PC 88 - a two component bitumen-urethane adhesive offering long-term flexibility
PC PITTCOTE 300 - a single component adhesive hardening over a period of several months. Under dry surface conditions either PC 56 or PC 88 plus primer or PC 300 can be used. For damp surface conditions, PC 56 or PC 88 plus primer should be used. These adhesives should not be stored or used below freezing point (0ºC).
Coverage:
Approximately 0.7-1.5 kg/m², dependent upon condition of substrate, thickness of the Wallboard/slab T4 WDS, cutting requirements and the site conditions.
Please contact PITTSBURGH CORNING (UK) LIMITED should further advice be required.

Figures in bold type indicate minimum thicknesses required to meet Part L & J of UK Building Regulations dependent upon building usage.

Supporting Structure				Overall U-values for various thicknesses of **FOAMGLAS® WALLBOARD/T4 WDS,** metal or without finish							
Type	L mm	R $\frac{(m^2K)}{W}$	Floor Finish	50	60	70	80 $\frac{W}{m^2K}$	100	120	140	150
Reinforced concrete	200	0.143	Carpeting	0.56	0.49	0.44	0.40	0.33	0.28	**0.25**	0.23
"Hollow pot" concrete	200	0.211	Carpeting	0.54	0.48	0.43	0.38	0.32	0.28	**0.24**	0.23

Supporting Structure				Overall U-values for various thicknesses of **FOAMGLAS® WALLBOARD/T4 WDS,** with plasterboard inside finish							
Type	L mm	R $\frac{(m^2K)}{W}$	Floor Finish	50	60	70	80 $\frac{W}{m^2K}$	100	120	140	150
Reinforced concrete	200	0.143	Carpeting	0.54	0.47	0.42	0.38	0.32	0.28	**0.24**	0.23
"Hollow pot" concrete	200	0.211	Carpeting	0.52	0.46	0.41	0.37	0.32	0.27	**0.24**	0.23

Ecologically FOAMGLAS® cellular glass meets the most stringent demands for an environmentally sound material. In manufacturing, 66% post-consumer waste glass is utilised, combined with a manufacturing process which minimises energy. The result is an insulation material which provides high performance throughout the lifetime of the building, through to its eventual disposal as an inert material or its re-use. FOAMGLAS® is totally free from HCFC, HFA and pentane, exceeds the requirements of the Building Regulations and has Agrément Certification.

MECHANICAL FIXINGS

Many types of proprietary fixings (with a minimum head diameter of 35mm) can be used to secure the FOAMGLAS® Wallboards/slab T4 WDS to the supporting structure:
Nylon (solid or reinforced core)
PVC or similar
Steel (galvanised or coated)
Stainless steel
NB: Approximately 4 fixings per board should be allowed; minimum 150mm from any edge.
It is important to check the following:
– Suitability of the substrate and method of installation.
– Correct length of fixing for 50mm embedment in substrate.
– Test sample has proved satisfactory on site.

STORAGE OF THE INSULATION

The cellular glass insulation should be dry during application. For this reason, the FOAMGLAS® packs should be protected from the weather or poor site conditions and should be stacked on edge and clear of the ground.

FOAMGLAS® INSTALLATION

FOAMGLAS® Wallboard/slab T4 WDS is easily cut with a rigid saw, trowel or craft knife. The adhesive should be applied in blobs to the Wallboard/slab T4 WDS and NOT spread out. The boards/slabs should be positioned using a slight rotational movement to spread the blobs of adhesive at the points of contact. If required, adhesive may be applied to the edges of boards already in place to seal the joints completely. If no additional finish is planned, mechanical fastenings should be installed as given under mechanical fixings heading.

SUPPORT BATTENS FOR FINISHES

For applications where an additional finish is required, British Standards and Building Regulations recommend the treatment of externally applied timber. If timber is treated with fungicide, its compatibility with the bitumen bonded polyethylene facing of FOAMGLAS® Wallboard/slab T4 WDS should be checked. Recommended maximum spacings of battens is 600mm, but refer to cladding manufacturer's specifications. For metal decking, please refer to PITTSBURGH CORNING (UK) LIMITED. Battens should be fixed through with screws and plugs suitable for the thickness of FOAMGLAS® Wallboard/slab T4 WDS and the type of substrate. "Pull-out" strength should be tested on-site by the fixing manufacturer, should this factor be in question (e.g., with "No-Fines" concrete substrate). The number of fixings depends upon the following:
- the pull-out resistance of the substrate
- the weight of the selected finish and shear strength of the fixings.

The manufacturer of the fixings will be able to provide advice.

INSTALLING THE BATTENS

Drilling
Diameter of hole to correspond to outside diameter of plug; fixing heads may need to be driven into the battens to a pre-determined depth to minimise fixing length. Each batten is placed in position and fixed at the required spacings from the preceding batten. When all plugs are in place, screws are initially started by tapping into place, leaving sufficient screwing depth, then driven home for a permanent fixing.

METAL FINISHED PANELS

The Symgrid Suspended Ceiling system with metal facing in stainless steel or painted finish is available; please consult the manufacturer.

FOAMGLAS® T4 WDS slab should be used when the insulation is required to be totally non-combustible to Euro Class A1. A water based paint finish can be roller or spray applied on to the surface of the T4 WDS.