

## TECHNICAL DATA SHEET

### Description

FIBRANxps 400-L, is a thermal insulation board made of extruded polystyrene, having a smooth surface and edges in the shape of letter "L" to prevent the formation of thermal bridges.



### Applications

Thermal insulation gives unconditional protection in humid environment or under extremely heavy mechanical load.

- Inverted warm flat roofs
- DUO roofs (low energy and passive houses)
- PLUS roofs (renovations, energy – class upgrade)
- Warm flat roofs
- Green roofs
- Roof terraces
- Extra loaded floors
- Cold rooms
- Perimeter basement walls, even if ground water is present
- Foundation slabs

### Quality

Products are tested in accordance with:

- EN 13164,
- EN 13501-1,
- EN ISO 11925-2: 2002

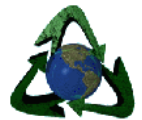
At the following notified laboratory:

- ZAG Ljubljana
- FIW München
- MPA BAU Hannover



### Environmental protection

- Products FIBRANxps are produced with environmentally friendly blowing agents
- 100% recyclable



### Technical Characteristics

#### XPS - EN 13164 - T1 - CS(10)400 - DS(TH) – DLT(2)5 – WL(T)0.7 – WD(V)3 – FT2

Properties		Measure units	EN standard	400-L
Shape of profile				L
Surface				Smooth
Board dimension		mm	EN 822	2500/600
Thickness tolerance			EN 823	T1
Declared value of compressive strength at 10% deformation		kPa	EN 826	400
Declared thermal conductivity (after 25 years)	100mm ≤ d ≤ 200mm	W/(m*K)	EN 12667	0,035
Long term water absorption by immersion	Smooth surface	vol. %	EN 12087	0,3
Water absorption by diffusion		vol. %	EN 12088	1,5
Water vapour diffusion resistance factor		-	EN 12086	150-50
Temperature of use		°C		From -50 to +75
Reaction to fire		Class	EN 13501-1	E

#### Designation code under EN 13164:

- XPS – abbreviation for EXTRUDED POLYSTYRENE
- EN 13164 – number of the European standard for extruded polystyrene thermal insulation material
- T1 – declared level of thickness tolerance
- CS(10)Y – declared compressive strength at 10% deformation
- DS(TH) – declared rate of dimensional stability under specified temperature and humidity conditions
- TRi – Tensile strength perpendicular to faces  $\sigma_m$
- WL(T)i – declared rate of long-term water absorption by immersion
- WD(V)i – declared rate of long-term water absorption by diffusion
- MU – declared water vapor diffusion resistance factor

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### Packaging

thickness [mm]	width [mm]	length [mm]	boards in a package [pieces]	quantity in a package [m <sup>2</sup> ]
100	600	2500	4	6,00
120	600	2500	3	4,50
140	600	2500	3	4,50
160	600	2500	2	3,00



### Instructions for use

#### STORAGE AND HANDLING

FIBRANxps thermal insulation boards are resistant to cold, rain and snow, but not to long-term exposure to ultra-violet radiation, such as that caused by direct sunlight. The boards therefore need to be handled with care, and the protective foil should only be removed just before installation. Should FIBRANxps boards lose their original foil, they must be re-protected as quickly as possible.

Although FIBRANxps boards are among the toughest thermal insulation boards on the market, contact with hard objects or surfaces can damage or deform them.

FIBRANxps boards may be used up to a maximum temperature of 75°C. However, if they are stored in the open air, and exposed to direct sunlight or covered with dark foil, they may deform due to the resulting high temperatures.

FIBRANxps boards must not come into contact with solvents such as petrol, tar and formic acid, or with gases such as methane, ethane, propane and butane. If they are to be fixed using an adhesive, it is recommended that the material's resistance to it be first tested. Please consult our technical department if necessary. FIBRANxps boards are moderately resistant to substances such as mineral and food oils, paraffin, phenol and fats, which means that long-term exposure to these substances may affect the appearance or structure of its surface.

FIBRANxps boards are highly resistant to bitumen, lime, cement, plaster, sea-water, lyes, bleaches, most acids, inorganic gases, alcohol, and silicon. In doubtful cases it is recommended that a preliminary test be performed.

#### APPLICATION

During the installation of FIBRANxps boards all design requirements should be taken into account.

FIBRANxps boards should be applied to flat and clean surfaces. They can be easily cut with a sharp knife, a saw or a hot wire device.

Most edges of FIBRANxps products are rebated (L cut) or tongued-and-grooved (D cut). The boards are usually installed in a single layer. Double-layer application is desirable for boards with square (I) edges, thus preventing the formation of thermal bridges at joints. Thermal insulation boards must be fitted to inverted flat roofs in a single layer.

Naked flames must not be used during the installation of FIBRANxps boards. Where they are to be applied to waterproof membranes on basement walls, they should be fixed with special FIBRANstick sticker pads made of butyl rubber. In the presence of ground water the adhesive (e.g. a bitumen product) should be spread over the wall's entire surface.

When using FIBRANxps thermal insulation on larger surfaces, especially on warm flat roofs, expansion or contraction of the boards due to temperature changes should be taken into account. In these situations the inclusion of expansion joints made of mineral wool is recommended.

#### PROTECTION DURING APPLICATION

It is recommended that operatives cutting FIBRANxps boards by a wire in confined spaces wear protective respiratory masks and eye goggles.

The technical data and instructions included in this technical data sheet is the result of knowledge and experience from the company's R & D department as well as from the application of the product in practice. Recommendations and suggestions on the use of materials are made without guarantee, since the current conditions during the application are beyond the control of our company. The application, use and processing of products are beyond our control and therefore entirely your own responsibility. For this reason it is the user's responsibility to ensure that the material is suitable for the intended use and conditions of the project. The issue of this technical brochure invalidates any prior version for the same product.

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