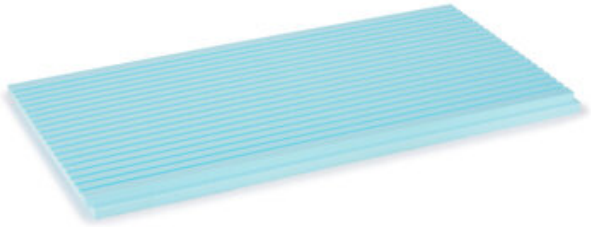
DANOPREN TL

Rigid extruded polystyrene (XPS) foam board for thermal insulation of pitched roofs.



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EPD S-P-00501

DANOPREN TL is a rigid extruded polystyrene (XPS) foam board with a grooved surface finish on one side with shiplap edges. Comes at various thicknesses. Manufactured without CFC's, HCFC's or HFC's.

Presentation

- Length (cm): 125
- Width (cm): 60
- Colour: Blue
- Thickness (mm): 50
- m² / package: 6
- Surface (m²): 0.75
- Product code: 483004

Technical Data

Concept	Value	Standard
water absorption by total immersion (Vol.%)	≤ 0,7	EN 12087
Specific heat (J/kg·K)	1450	-
Capillarity	NULA	-
Coefficient of linear thermal expansion (mm/m·K)	0,07	-
Thermal conductivity declared (W/mK)	0.033	EN 12667
Compression strength (kPa)	CS(10/Y)300	EN 826
Dimensional Stability (%)	≤ 5	EN 1604

Concept	Value	Standard
Water vapour diffusion resistance factor	≥ 80	EN 12086EN 12086
Flatness (mm/m)	6	EN 825
Reaction to fire	E	EN 13501-01
Squareness (mm/m)	5	EN 824
Compressive creep max 2% deflection after 50 years (kPa)	95	EN 1606
Traction resistance perpendicular of the faces (kPa)	NPD	-
Water absorption by freeze-thaw cycling (Vol. %)	≤ 1	EN 12091
Thermal Resistance (m²K/W)	1.5	EN 13164
Min. service temperatures (ºC)	-50	-
Máx. service temperatures (ºC)	75	-
Width Tolerance (± mm)	8	EN 822
Thickness tolerance (mm)	-2/3	EN 823
Length tolerance (± mm)	8	EN 822

Addtitional Technical Data

Concept	Value	Standard
water absorption by diffusion (Vol.%)	≤ 3	EN 12088
Density (kg/m³)	32	EN 1602
Edge treatment	Media madera	-
Surface	Lisa; ranurada cara bajo teja	-

Standards and Certification

- CTE DB-HE: Technical Building Code. Basic Document: Habitability. Energy saving
- In accordance with the UNE-EN 13164 standard for thermal insulation products for building applications. Manufactured extruded polystyrene (XPS) products.
- Complies with CE marking requirements.
- Directive 2010/31/EU. Energetic efficiency of the buildings
- Royal Decree 235/2013. Building energy certification
- BUREAU VERITAS company registration according to EN ISO 9001 granted to DANOSA's extruded polystyrene (XPS) manufacturing plant in Fontanar (Guadalajara).
- BUREAU VERITAS company registration according to EN ISO 9001 granted to DANOSA's extruded

polystyrene (XPS) manufacturing plant in Leiria (Portugal).
- EU Regulation 305/2011. Construction products.

Scope

- Thermal insulation for pitchedroofs, under tiles.

Advantages & Benefits

- Long-term low leverl of water absorption.
- High long-term compressive strength.
- Eventually, reuse of the plates may be feasible depending on the original installation system.
- Easy and safe handling of the irons: they are light, do not irritate the skin, do not release dust, maintain their physical integrity.
- Have a durability equal to the useful life of the building in which they are incorporated.

Instruction for Use

SLOPING ROOF

- The condition of the load-bearing substrate shall be checked to ensure that it is suitable for the various loads and overloads of the roof system.
- In case of a safety waterproofing on the load-bearing substrate, e.g. with double-sided self-adhesive sheets, the installation instructions for these products shall be followed. Maximum slopes in this case: 30 degrees (= 57%).
- The DANOPREN TL XPS insulation boards are installed on the substrate with the grooves parallel to the ridge in order to give the best possible anchorage to the mortar used to bond the tiles. The tiles are thus installed on the DANOPREN TL sheets in the traditional way, by a mortar bead, without the need to install an entire compression layer between the insulating sheets and the tiles.
- DANOPREN TL boards shall be mechanically fixed or bonded with a suitable adhesive to the substrate. Minimum fixing pattern: 4 fixings per board on the perimeter of the skirt and joints (e.g. chimneys); 2 fixings per board on the rest of the skirt. If adhesives are used, a similar distribution shall be maintained. Maximum slopes in this case: 45 degrees (= 100%). In any case, for each type of tile (curved, mixed, flat) the appropriate slope range shall be respected, according to the usual construction practice.
- A cavity shall be formed to cover the insulating sheets at gable ends and, above all, at the eaves, in order to retain them in case of possible movement or slippage.
- If the topographical situation is very exposed to wind, a special study is recommended to determine the best fixing system. In this case, however, the tile is always installed with mechanical fasteners (hooks, nails, etc.) and it is then necessary to interpose a screed, either fixed to the structural support by means of the DANOPREN TL sheets, or received with mortar to the sheets themselves.

Indications and Important Recommendations

- Check the continuity of the insulation, avoiding thermal bridges such as: outline of openings, perforations, perimeters, parapets, slabs, pillars, etc.
- Check for the existence of a voluntary quality mark, if stated in the project.
- Check for CE marking and Declaration of Performance.
- Check that the thermal insulation is as specified in the project.
- Check that the product has arrived on site in its original packaging, duly labelled and in perfect

condition.
- Check that the installation corresponds to the project definition, in particular the order of the layers of each enclosure and the correct position of the insulation layer in relation to the others.
- Check compliance with the project specifications in terms of dimensions, thickness, declared thermal conductivity, declared thermal resistance, water vapour diffusion resistance factor and reaction to fire.

Handling, storage and preservation

- DANOPREN XPS boards suffer irreversible dimensional changes if exposed for a long time at high temperatures. The maximum working service temperature is 75ºC.
- DANOPREN XPS boards, in direct contact with substances or materials containing volatile compounds, are exposed to solvents attack. The adhesive manufacturer's recommendations concerning its compatibility with polystyrene foam should be taken into account.
- DANOPREN XPS boards can be stored outdoors. They are unaffected by rain, snow or ice. Accumulated dirt can be easily washed. Stored for an extended period of time, the boards should be protected from direct sunlight, preferably in their original packaging. When kept indoors, it should be properly ventilated.
- The XPS boards must be kept away from heat or flames sources. DANOPREN products contain a flame retardant additive to inhibit accidental ignition from a small fire source, but the boards are combustible and, if exposed to an intensive fire, may burn rapidly. Fire classification is based on small scale tests, which may not reflect the reaction of the products in its end use state under actual fire conditions.
- For further information, please refer to the product safety data sheet.

Notice

- The information contained in this document and any other advice provided, are given in good faith, based on DANOSA's current knowledge and experience when products are properly stored, handled and applied, in normal situations and in accordance with the recommendations of DANOSA. The information applies only to the application (s) and the product (s) to which reference is expressly made. In case of changes in the parameters of the application, or in case of a different application, consult the DANOSA Technical Service before using the DANOSA products. The information contained herein does not exonerate the responsibility of the building agents to test the products for the application and intended use, as well as their correct application in accordance with current legal regulations. The product images used in our communications are indicative and may differ slightly in color and aesthetic appearance in relation to the final product.Orders are accepted in accordance with the terms of our current General Sales Conditions.DANOSA reserves the right to modify, without prior notice, the data reflected in this documentation.Website: **www.danosa.com** E-mail: **info@danosa.com** Telephone: **+34 949 88 82 10**