



**ChovA**  
SISTEMAS DE IMPERMEABILIZACIÓN  
Y AISLAMIENTO

# INVERLOSA®

FILTERING TILE WITH INCORPORATED THERMAL INSULATION. FOR  
NON-INTENSIVE USE PASSABLE ROOFS

TECHNICAL DATA SHEET Nº 84140 – REV. 15/22 - 31/03/2022  
THIS REVIEW CANCELL ALL PREVIOUS. DIT 578R/21

## DESCRIPTION

Insulating tile made up of an extruded polystyrene sheet joined to a 35 mm upper layer of cement mortar, based on selected mineral aggregates and special additives. Available in **GRAY** color.

With a porous surface finish made up of inert minerals, of selected granulometry, from 2 to 4 mm, which act as a mechanical and draining protection layer. The upper layer of mechanical protection has beveled edges. Due to its configuration, it provides a rapid evacuation of water, after the rain, from the roof surface.

Its use is especially suitable for inverted roofs, for "passable-visitable" pedestrian use. Construction of access roads on "non-passable" roofs, with light protection or heavy protection with a gravel finish, etc.



## PRESENTATION

It is available in insulation thicknesses of 40, 50, 60 and 80 mm thick.

## THERMAL RESISTANCE. (Insulation)

Type XPS 40 mm	Thermal conductivity 0,034 (W/m K)	Thermal resistance (R <sub>D</sub> ) <b>1,20</b> (m <sup>2</sup> K/W) (EN 12667)
Type XPS 50 mm	Thermal conductivity 0,034 (W/m K)	Thermal resistance (R <sub>D</sub> ) <b>1,50</b> (m <sup>2</sup> K/W) (EN 12667)
Type XPS 60 mm	Thermal conductivity 0,034 (W/m K)	Thermal resistance (R <sub>D</sub> ) <b>1,80</b> (m <sup>2</sup> K/W) (EN 12667)
Type XPS 80 mm	Thermal conductivity 0,036 (W/m K)	Thermal resistance (R <sub>D</sub> ) <b>2,20</b> (m <sup>2</sup> K/W) (EN 12667)

**Informative note.-** The tile, **INVERLOSA®**, is included in the **DIT** of the **IETcc – CESIC**, according to document **No. 578R/21**. "WATERPROOFING SYSTEMS WITH MODIFIED BETUNE ASPHALT SHEETS FOR ROOFS WITH ZERO SLOPE. **DIT ChovA POLITABER / ChovAPLAST EXTRA**".

The filtering tile, **INVERLOSA®**, is considered a complex and not a "product" according to the specifications of the European Regulation, and therefore does not have an associated "CE Marking" or "DoP", since there is no UNE-EN reference standard.

If you have the insulation certification, XPS, and you can request it from ChovA, S. A. With CE Marking, associated "DoP" and AENOR Mark. (You can request the ChovAFOAM 300 M documentation, which includes all the values of the XPS characteristics).

Data from internal tests and from accreditation and/or certification tests. DIT of the IETcc - CSIC.

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## CHARACTERISTICS OF THE INVERLOSA®

Characteristics of the INVERLOSA®		
Dimensions (mm)	600 x 400 (± 3)	
Mass (kg)	17,5 (± 2)	
Density (kg/m <sup>2</sup> )	73 kg/m <sup>2</sup> (±8)	
Total thickness (mm)	75-85-95-115 (± 4%)	
Flexural breaking strength (MPa) (UNE-EN 1339)	≥ 2,5	
Flexural breaking strength (MPa) (UNE-EN 1339) After freeze/thaw cycles**	≥ 1,9	
Flexural breaking strength (MPa) (UNE-EN 1339) After heat/rain cycles**	≥ 2,5	
Flexural breaking strength (MPa) (UNE-EN 1339) After heat/rain and freeze/thaw cycles**	≥ 2,5	
Compressive strength at 28 days (MPa) (UNE-EN 1015-11) concentrated load on 15x15 cm	≥ 4	
Behavior to an external fire	B <sub>ROOF</sub> (t1)	
Interlayer tensile breaking stress (adhesion) at 28 days (MPa)	≥ 0,11	
Tensile rupture stress between layers (adhesion) at 28 days (MPa) (UNE-EN 1607) After heat/rain cycles **	≥ 0,11	
Tensile rupture stress between layers (adhesion) at 28 days (MPa) (UNE-EN 1607) After heat/rain and freeze/thaw cycles**	≥ 0,11	
Impact resistance 10 J (Ø mm)	≤ 14	
Impact resistance 10 J (Ø mm) heat/rain	≤ 12	
Impact resistance 10 J (Ø mm) heat/rain and freeze/thaw	≤ 11	
XPS Base features		
Thickness (mm)	40-50-60-80 (± 2)	
Dimensions: Length x width (mm)	600 x 400 (± 3)	
Density of XPS (kg/m <sup>3</sup> ) (*)	33 (± 3)	
Reaction to fire	E	
Thermal conductivity XPS, λ <sub>D</sub> (W/m K)	0,034 (4-5-6 cm) 0,036 (8 cm)	
Dimensional stability 70 °C, 90 % HR, 48 h	≤ 5 %	
Minimum compressive strength at 10% XPS strain (kPa)	> 300	
Deformation under load 40 kPa, 70 °C, 168 h	< 5 %	
Water absorption long term immersion 28 d	≤ 0,7 %	
Creep 50 kPa (25 years)	Thickness decrease (%)	< 2 %
	Creep (%)	>CC(2/1,5/25)50
Water absorption by diffusion %	Thickness ≤ 50 mm	≤ 5
	Thickness > 50 mm	≤ 3

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Characteristics of porous concrete	
Thickness (mm)	35 (± 3)
Dimensions: Length x width (mm)	597 x 397 (± 3)
Reaction to fire (Euroclase)	A
Breaking resistance to bending 28 days (MPa) (UNE-EN 1339)	≥ 2,50
Porosity interconnected pores	17
Slip resistance (PTV). 4S (dry/wet)	65/60

(\*) Indicative value, not included in the UNE-EN Standard.

(\*\*) The aging has been obtained from the method included in the EAD 040083-00-0404 (former ETAG 004).

-Values included in DIT No. 578R/21. Table 6, p. 8 and Table 10.2 (CSIC tests) – p. 25.

## USE AND APPLICATION OF INVERLOSA®

The **INVERLOSA®** insulation system is made up of an extruded polystyrene sheet joined to an upper layer of concrete based on selected mineral aggregates and special additives, which acts as a mechanical protection layer. The polystyrene plates, XPS-ChoVAFOAM, XPS are rigid insulating foam panels of high performance extruded polystyrene, manufactured with a foaming agent that has zero ozone depletion potential (ODP) and low global warming potential (GWP). The upper layer of mechanical protection has beveled edges.

The **INVERLOSA®** system is a thermal insulation solution specially designed for inverted flat roof systems, constituting the best solution for the insulation of this type of roof, whether they are roofs, residential buildings or others. It presents, in an integrated way, the solution for thermal insulation and protection against mechanical actions and ultraviolet radiation. The **INVERLOSA®** system is recommended for "non-intensive use passable" use, that is, accessible for the movement of people on restricted-use roofs such as roofs of private residential buildings, as well as for the realization of technical roofs or technical corridors, as be on landscaped roofs or with heavy gravel protection. In addition, **INVERLOSA®** is specifically recommended for the energy rehabilitation of roofs, where an improvement of the existing waterproofing is not required.

**INVERLOSA®** can be installed on roofs with slopes between 0% and 5%, according to the **DIT 578R/21** certification, "ChovA POLITABER/ChovA PLAST EXTRA". On the perimeter of the roof, the insulation must be protected from sunlight and direct wind action, by bays or other construction elements, with a minimum height that must be above the surface of the tile. The first row of tiles is placed next to the wall or breastplate, ensuring a perfect union of the plates. In the water outlets, changes of slope or singular points, the mortar of the tiles will be cut with conventional tools, according to the desired geometry and / or dimensions. A small oscillation of the tiles is admissible, however supports and levelers or drainage sheet can be used to allow the absorption of unevenness.

**Note.-** The tonality of the color of the porous concrete of **INVERLOSA®** may vary due to its nature. In this sense, for the execution of the pavement layer with **INVERLOSA®**, it is recommended to simultaneously place slabs from different pallets, to blur the possible differences in color tone. ChovA, S.A. understand that this aesthetic characteristic of the product is compatible with its use "non-intensive passable", "technical roof" or technical corridor", and will not be recommended for applications where the aesthetic finish is a priority over other design factors.

## PLACEMENT OF THE INVERLOSA®

The **INVERLOSA®** is placed on the waterproofing prior to the application of a separating geotextile, type GEOFIM. And they are placed without fixing. **INVERLOSA®** must be placed after the completion of the waterproofing works, in order to ensure mechanical protection and protection from the action of solar radiation on the waterproofing.

Note 1.- If, to comply with the DB-HE, a greater thickness of insulation is required, it is recommended to use type 35/40 and

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complement it with ChovaFOAM 300 M panels, extruded polystyrene, XPS, up to the necessary thickness according to draft. (Foreseen thickness minus 40 mm). These panels would be applied on the waterproofing and geotextile and the **INVERLOSA®** directly on them.

Note 2- Instead of a GEOFIM geotextile, **INVERLOSA** may be placed on a drainage sheet with an 8 mm nodule height geotextile incorporated, such as ChovADREN DD GARDEN (recommended) or ChovADREN DD (admissible). This drainage sheet with incorporated geotextile replaces the GEOFIM separating layer, and provides a non-ventilated air chamber, which guarantees a greater drainage of rainwater towards the drains, compared to a geotextile layer.

During installation of **INVERLOSA®**, contact with organic solvents and direct sources of flame or temperatures above 75° C (maximum temperature allowed) must be avoided, in order to avoid irreversible damage to the insulation. In conditions of strong wind, additional safety measures must be considered due to the dimensions of the plates, mainly with regard to traffic in places with unevenness or with openings of significant dimensions.

### STORAGE AND TRANSPORTATION

**INVERLOSA®** is supplied on pallets and they are packed with an extensible plastic film, and must be kept on their respective original pallets until application. On top of these pallets no other or any other material should be placed. The tiles should not be in their packaging in outdoor conditions for long periods of time. Insulating tiles must always be transported in their original packaging, requiring care in their handling, in order to avoid accidental deterioration. It must be unloaded by means of a stacker, crane or other mechanical means.

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

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