



EXTRUDED POLYSTYRENE GENERAL XPS GRAFITAT TECHNICAL DATA SHEET

Manufacturer:

SC GMR HIDRO&THERMO DISTRIBUTION SRL

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AREAS OF USE:

- **Insulation of foundations and basement walls**
- **Outer and interior floor insulation**
- **Insulation of building facades**
- **Thermal insulation of interior walls**
- **Insulation of roof, terraces and pillars, beams and belts**
- **Manufacture of sandwich panels**
- **Construction of cooling rooms**

PRODUCT PERFORMANCES

| Performance Criteria | References | UM | Reference Level | Performance product (Rating) |
|-----------------------------|------------------|--------------------|--|---|
| Thermal resistance | SR EN 12667:2002 | m ² K/W | Min. 0.65 Max. 3.85 (by thickness) | G=20mm 0.65 (GIAS XPS 300) |
| | | | | G=30mm 0.90 (GIAS XPS 300) |
| | | | | G=40mm 1.20 (GIAS XPS 300) |
| | | | | G=50mm 1.45(GIAS XPS 300) 1.60(GIAS XPS 500) |
| | | | | G=60mm 1.85(GIAS XPS 300) 1.85(GIAS XPS 500) |
| | | | | G=70mm 2.05 (GIAS XPS 300) 2.00 (GIAS XPS 500) |
| | | | | G=80mm 2.55(GIAS XPS 300) 2.40(GIAS XPS 500) 2.25(GIAS XPS 700) |
| | | | | G=100mm 3.20(GIAS XPS 300) 3.20(GIAS XPS 500) 2.75(GIAS XPS 700) |
| | | | | G=120mm 3.85 (GIAS XPS 300) 3.85 (GIAS XPS 500) |
| | | | | G=140mm 4.50 (GIAS XPS 300) 4.89 (GIAS XPS 500) |
| | | | | G=150mm 4.85 (GIAS XPS 300) 5.17 (GIAS XPS 500) |
| | | | | G=160mm 5.00 (GIAS XPS 300) 5.00 (GIAS XPS 500) |
| Thermal conductivity (10°C) | | W/mK | Min. 0.027 Max.0.036 (by thickness) | G=20mm 0.030 (GIAS XPS 300) |
| | | | | G=30mm 0.032 (GIAS XPS 300) |
| | | | | G=40mm 0.033 (GIAS XPS 300) |

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|----------------------------------|------------------------|--------------|------------------------------------|---|
| | | | | G=50mm 0.034 (GIAS XPS 300) 0.031 (GIAS XPS 500) |
| | | | | G=60mm 0.032 (GIAS XPS 300) 0.032 (GIAS XPS 500) |
| | | | | G=70mm 0.034 (GIAS XPS 300) 0.035 (GIAS XPS 500) |
| | | | | G=80mm 0.031 (GIAS XPS 300) 0.033 (GIAS XPS 500) 0.034 (GIAS XPS 700) |
| | | | | G=100mm 0.031 (GIAS XPS 300) 0.031 (GIAS XPS 500) 0.036 (GIAS XPS 700) |
| | | | | G=120mm 0.031 (GIAS XPS 300) 0.031 (GIAS XPS 500) |
| | | | | G=140mm 0.031 (GIAS XPS 300) 0.027 (GIAS XPS 500) |
| | | | | G=150mm 0.031 (GIAS XPS 300) 0.027 (GIAS XPS 500) |
| | | | | G=160mm 0.031 (GIAS XPS 300) 0.031 (GIAS XPS 500) |
| Aparent density | SR EN 1602:2013 | Kg/m3 | Min 32 | ≥32 |
| Compression strength, a10 | SR EN 826:2013 | kPa | For class CS (10/Y)200:≥200 | G=20mm 204.6 (GIAS XPS 300) |
| | | | For class CS (10/Y)300:≥300 | G=30mm 374.3 (GIAS XPS 300) |
| | | | For class CS (10/Y)400:≥400 | G=40mm 372.0 (GIAS XPS 300) |
| | | | For class CS (10/Y):500≥500 | G=50mm 409.84 (GIAS XPS 300) 529.8 (GIAS XPS 500) |
| | | | FOR CLASS CS | G=60mm 489.12 (GIAS XPS 300) 595.0 (GIAS XPS 500) |

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|--|-------------------------|-------------------------------------|--|--|
| | | | (10/Y)700 | G=80mm 501.2(GIAS XPS 300) 597.0(GIAS XPS 500) ≥700 (GIAS XPS 700) |
| | | | | G=100mm 475.5 (GIAS XPS 300) 597.2 (GIAS XPS 500) ≥700 (GIAS XPS 700) |
| | | | | G=120mm ≥300 (GIAS XPS 300) ≥500 (GIAS XPS 500) |
| | | | | G=140mm ≥300 (GIAS XPS 300) ≥500 (GIAS XPS 500) |
| | | | | G=150mm ≥300 (GIAS XPS 300) ≥500 (GIAS XPS 500) |
| | | | | G=160mm ≥300 (GIAS XPS 300) ≥500 (GIAS XPS 500) |
| Bending resistance | SR EN 1602:2013 | kPa for BS 700 class>1100 | 779.3 | |
| Tensile strength perpendicular to faces | SR EN 1607:2013 | kPa | For TR 200 class >200 | 320 |
| Long-term water absorbtion by total immersion | SR EN 12087:2013 | % | For WL(T) 0.7 class: <0.7 | 0.165 |
| Resistance to freeze-thaw by: a. Determination of compressive aud10 reduction effort toward a10 b. Absorbtion of water by freeze-thaw - | SR EN 12091:2013 | | a. <10% from ai0 b. for FTC2 class wv<1 | a) 2.8 0.13 FTC12 b)0.13 FTC12 |

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|---|-----------------------------------|-------------------|-------------------------------------|-----------------------------------|
| wv (%volume) | | | | |
| Difusion resistant factor of water vapor (n) | SR EN 12086:1999 | - | Min. MU 200 | 233.3 MU 200 |
| Dimensional stability, variation of length-width variation-thickness variation | SR EN 1604:2013 | % | For DS (70.90)5 class <±5 | + 0.25 -0.23 -1.03 |
| Deformation under specified conditions of compressive load and temperature | SR EN 1605:2013 | % | For DLT(1)5 Class <±5 | 0.19 |
| Reaction to fire (class) | SR EN 135011:2007+A1 :2009 | EURO CLASS | - | F |

Unique identification code:

- XPS-EN 13164 T1-DS (70.90)5-DLT(1)5-CS(10/Y)200-WL(T)0.7-TR200-MU200-FTC12(g=20mm)
- XPS-EN 13164 T1-DS (70.90)5-DLT(1)5-CS(10/Y)300-WL(T)0.7-TR200-MU200-FTC12(g=30mm,40mm)
- XPS-EN 13164 T1-DS (70.90)5-DLT(1)5-CS(10/Y)300-WL(T)0.7-TR200-MU200-FTC12(g=50mm,60mm)
- XPS-EN 13164 T1-DS (70.90)5-DLT(1)5-CS(10/Y)500-WL(T)0.7-TR200-MU200-FTC12(for XPS 500, g=50mm)
- XPS-EN 13164 T1-DS (70.90)5-DLT(1)5-CS(10/Y)500-WL(T)0.7-TR200-MU200-FTC12(for XPS 500, g=60mm)
- XPS-EN 13164 T1-DS (70.90)5-DLT(1)5-CS(10/Y)300-WL(T)0.7-TR200-MU200-FTC12(g=80mm)
- XPS-EN 13164 T1-DS (70.90)5-DLT(1)5-CS(10/Y)500-WL(T)0.7-TR200-MU200-FTC12(for XPS 500,g=80mm)
- XPS-EN 13164 T1-DS (70.90)5-DLT(1)5-CS(10/Y)300-WL(T)0.7-TR200-MU200-FTC12(g=100mm)
- XPS-EN 13164 T1-DS (70.90)5-DLT(1)5-CS(10/Y)500-WL(T)0.7-TR200-MU200-FTC12(for XPS 500,g=100mm)

GENERAL INFORMATION

GENERAL XPS GRAFITAT is a trademark panels of extruded polystyrene foam insulation manufactured by SC GMR HIDRO&THERMO DISTRIBUTION SRL

CERTIFICATION

Extruded polystyrene insulation panels were tested according to standard (SR) EN 13164:2012+A1:2015 (System 3+4), tests have shown the performance is consistent with the reference. Apply the CE marking on the product label and accompanying documents.

PROCESS TECHNOLOGY:

Production is based on a physical expansion of melted general purpose polystyrene into the extruding machine where the temperature, pressure, amount of melt and blowing agents, D.M.E are controlled consitiously. Closed cell structure of the panels, obtained by this technology improves lot of technical characetristics to the insulation panels as:

- High mechanical strength
- Low thermal conductivity
- Homogeneous density
- High resistance to moisture
- Resistance to vapor diffusion
- Flexibility
- Resistance to freeze-thaw cycles
- The lack of capilaries
- Lightweight
- Easy cutting with common tools

QUALITY: according to SR EN 13164:2012+A1:2015

PACKING:

Panels are packed in the form of packages consisting of a number of panels, depending on panels thickness. Shrink wrapping is done.

MARKING:

panels are marked according to EN by labeling the package with the data:

- Production name, group name manufacturer, date of manufacture;
- Thermal conductivity
- Identification code according to SR EN 13164:2012+A1:2015
- CE Mark

TRANSPORTATION

XPS polystyrene panels can be transported with clean vehicles, covered, and provides load integrity during transport. Not permitted extruded polystyrene panels with other materials that can deteriorate (solvents, fuels, paints, materials that can move during the transport). Charges shall not exceed the gauge means of transport. No smoking is permitted and working with flames in the trailer loaded with extruded polystyrene panels.

WARRANTY:

XPS polystyrene panels are guaranteed a year after fabrication if the conditions for transport and storage are respected.

NOTES

- The characteristics of fire resistance and compressive strength are relevant according to the norms declared after completion of the ripening period;
- XPS extruded polystyrene are not biodegradable and pose no danger to the water and soil;
- Products can be recycled but should not be mixed with other polymers;
- Panels are stored in original packaging in clean and ventilated areas, away from direct sources of heat and fire, corrosive and hard objects that may affect the product and not expose to direct radiation of the sun;
- Without complete maturation period, a minimum of 30 days from the date of production, users must take into account a decrease in resistance to fire and combustion product easier.

DO NOT USE: Open flame when using XPS panels.

IMPORTANT: When installing XPS panels (after laying) will ensure their protection against the influence of external factors. Excessive heating by direct exposure to sunlight can cause deformation of panels. We recommend the immediate implementation of other system components.