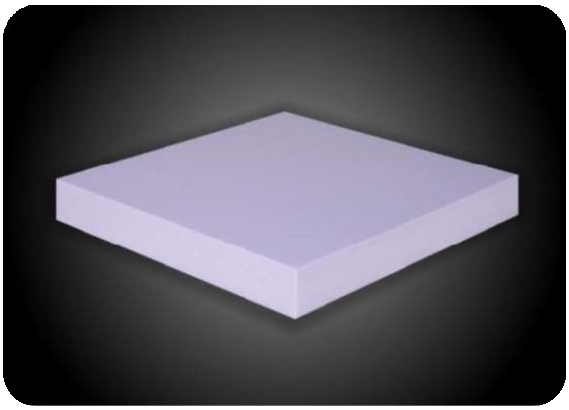
# X-FOAM HBT500

EXTRUDED POLYSTYRENE BOARD
[XPS - without HCFC - without HFC]



**X-FOAM® HBT500** is a thermal insulation sheet made of indigo-coloured single-layer extruded polystyrene, with extrusion skin and 4 straight edges. The sheets declare compressive strength values ≥ 500 kPa, and have a width of 600 mm, length of 1250 mm and thicknesses available from 50 to 240 mm. **X-FOAM® HBT500** is fire classified EUROCCLASS E according to the European standard EN 13501-1. **X-FOAM® HBT500** complies with the Minimum Environmental Criteria (CAM).

**APPLICATION WITH X-FOAM® HBT500: inverted roof not practicable, inverted roof practicable, inverted garden roof, pitched roof over ventilated sheath, underground wall, insulation under load, foundation slab, inter-storey attic, floor with heating system, industrial and cold room floor.**

| CHARACTERISTIC | STANDARD | UNIT | VALUES |
|---|---|---|---|
| **Thicknesses** | EN 823 | mm | 50 - 240 |
| **Thickness tolerances**<br><br>Th from 50 mm to 120 mm<br>Th from 140 mm to 240 mm | EN 823<br>EN 13164 | mm | T1<br><br>-2/+3<br>-2/+6 |
| **Length** | EN 822 | mm | 1250 |
| **Width** | EN 822 | mm | 600 |
| **Length (l) and width (b) tolerances** | EN 822<br>EN 13164 | mm | l o b ≤ 1500: +/- 8<br>l o b > 1500: +/- 10 |
| **Orthogonality tolerance (Sb)** | EN 824<br>EN 13164 | mm/m | 5 |
| **Flatness tolerance (Smax)** | EN 825<br>EN 13164 | mm/m | 6 |
| **Density** | | $kg/m^3$ | 36 +/- 10% |
| **Average closed cell** | | % | >96 |
| **Specific heat** | | J/kgK | 1450 |
| **Dimensional stability at 70°C and 90% RH Changes in thickness, length and width** | EN 1604 | % | ≤ 5 – DS(70,90) |

| CHARACTERISTIC | STANDARD | UNIT | VALUES | |
|---|---|---|---|---|
| **Thermal conductivity ($\lambda_D$) and Thermal resistance ($R_D$)** | | | $\lambda_D$ | $R_D$ |
| Thickness 50 mm | EN13164<br>EN 12667 | $\lambda_D$: W/mK $R_D$: $m^2K/W$ | 0,033 | 1,52 |
| Thickness 60 mm | EN13164<br>EN 12667 | $\lambda_D$: W/mK $R_D$: $m^2K/W$ | 0,033 | 1,82 |
| Thickness 80 mm | EN13164<br>EN 12667 | $\lambda_D$: W/mK $R_D$: $m^2K/W$ | 0,032 | 2,50 |
| Thickness 100 mm | EN13164<br>EN 12667 | $\lambda_D$: W/mK $R_D$: $m^2K/W$ | 0,033 | 3,03 |
| Thickness 120 mm | EN13164<br>EN 12667 | $\lambda_D$: W/mK $R_D$: $m^2K/W$ | 0,033 | 3,64 |
| Thickness 140 mm | EN13164<br>EN 12667 | $\lambda_D$: W/mK $R_D$: $m^2K/W$ | 0,034 | 4,12 |
| Thickness 160 mm | EN13164<br>EN 12667 | $\lambda_D$: W/mK $R_D$: $m^2K/W$ | 0,034 | 4,71 |
| Thickness 180 mm | EN13164<br>EN 12667 | $\lambda_D$: W/mK $R_D$: $m^2K/W$ | 0,034 | 5,29 |
| Thickness 200 mm | EN13164<br>EN 12667 | $\lambda_D$: W/mK $R_D$: $m^2K/W$ | 0,034 | 5,88 |
| Thickness 220 mm | EN13164<br>EN 12667 | $\lambda_D$: W/mK $R_D$: $m^2K/W$ | 0,035 | 6,29 |
| Thickness 240 mm | EN13164<br>EN 12667 | $\lambda_D$: W/mK $R_D$: $m^2K/W$ | 0,035 | 6,86 |
| **Compressive stress at 10 % deformation** | EN 826 | kPa | ≥ 500 – CS(10/Y)500 | |
| **Compressive creeo after 50 years with crushing ≤ 2 %** | EN 1606 | kPa | CC(2/1,5/50)180 | |
| **Deformation behavior. Condition test 70° C, 168 h, 40 kPa** | EN 1605 | % | ≤ 5 – DLT(2)5 | |
| **Water absorption by immersion (28 days)** | EN 1604 | Vol % | ≤ 0,7 – WL(T)0,7 | |
| **Water absorption by diffusion (28 days)** | EN 12087 | Vol % | ≤ 3% – WD(V)3 sp.< 60<br>≤ 2% – WD(V)2 sp. 60<br>≤ 1% – WD(V)1 sp.> 60 | |
| **Resistance to water vapor diffusion (μ)**<br>Th. 50 mm to 240 mm | EN 12088 | | MU 100 | |
| **Frost behavior (freeze - thaw alternation) after water absorption by long-term diffusion** | EN 12086 | Vol % | ≤ 1 – FTCD1 | |
| **Reaction to fire** | EN 12091 | Euroclasse | E | |
| **Limit temperature of use** | | °C | 75 | |
| **Closed cell average** | | % | > 96 | |
| **VOC (Volatile Organic Compounds)** | EN 16516 /<br>ISO 16000 | Class/Protocol | A+, Leed, Well, Breeam | |