

SECTION 072000

BOARD INSULATION

PART 1

GENERAL

1.1 DESCRIPTION

- A. Work of this section, as indicated on the drawings and specified herein, pertains to the fabricating, furnishing and installing of cellular glass insulation board for use as thermal barrier in walls, roofs and any other locations indicated in the documents.

1.2 REFERENCES

- A. The minimum standards for products specified in this section shall be including as under but not limited to the following. Except as otherwise specified herein, perform work in accordance with specifications, codes and standards cited therein, and their latest applicable addenda and supplements. Where there is conflict between the reference standards the most stringent of the conditions/requirements shall be applicable.

- B. American Society for Testing and Materials - ASTM:

C165/240/522	-	compressive strength
C177/518	-	thermal conductivity
C240	-	absorption of moisture
C303	-	density
E84	-	flame spread and smoke development
E96	-	water-vapor permeability
E136	-	combustibility

- C. European Norm, according EN13167 - EN:

EN1602	-	density
EN12667/12939	-	thermal conductivity
EN13501-1	-	reaction to fire
EN826	-	compressive strength
EN1609/12087	-	water absorption
EN12086	-	water vapor transmission

1.3 SUBMITTALS

- A. The following Submittals shall be submitted.
1. Product data and samples.
 2. Method of installation
 3. EPD Environment Product Declaration according ISO14025

1.4 WARRANTY

- A. Provide a warranty of 20 for not absorbing moisture, retaining insulation performance and dimensional stability under normal conditions and use.

PART 2

PRODUCTS

2.1 PRODUCTS SUPPLIERS AND MANUFACTURERS

- A. Pittsburgh Corning Europe N.V., Tessenderlo - Belgium
B. FOAMGLAS® Dubai, United Arabian Emirates
C. Or equal

2.2 MATERIALS

A. **Floor insulation internal or external superstructure.** In slabs or boards according to supplier recommendation. Thickness according to the drawings or spec. Rigid cellular glass insulation with following characteristics.

1. Type: FOAMGLAS® T4+ in slabs or boards or equivalent
2. Density: 115kg/m³. ASTM C303, EN 1602
3. Thermal conductivity at 10° C: 0.041W/mK, ASTM C-518/C177, EN 12667/12939/10456
4. Compressive strength: >600 kPa, ASTM C165/C240/C552, EN 826
5. Water Absorption: 0.2% (only moisture retained is that adhering to surface cells after immersion), ASTM C240, EN1609/12087
6. Water vapor permeability shall be 0.0 (zero) per inch, ASTM E96
7. Reaction to fire: Non-combustible, ASTM E136, Flame spread 0 (zero) and smoke development 0 (zero), ASTM E84. Euro class A1, EN13501
8. Ecology: Produced with minimum recycling glass content > 60% and low emission to full fill environment requirement and enable LEED credits.

B. **Floor insulation internal or external superstructure for higher load.** In slabs or boards according to supplier recommendation. Thickness according to the drawings or spec. Rigid cellular glass insulation with following characteristics.

1. Type: FOAMGLAS® S3 in slabs or boards or equivalent
2. Density: 130kg/m³. ASTM C303, EN 1602
3. Thermal conductivity at 10° C: 0.045W/mK, ASTM C-518/C177, EN 12667/12939/10456
4. Compressive strength: >900 kPa, ASTM C165/C240/C552, EN 826
5. Water Absorption: 0.2% (only moisture retained is that adhering to surface cells after immersion), ASTM C240, EN1609/12087
6. Water vapor permeability shall be 0.0 (zero) per inch, ASTM E96
7. Reaction to fire: Non-combustible, ASTM E136, Flame spread 0 (zero) and smoke development 0 (zero), ASTM E84. Euro class A1, EN13501
8. Ecology: Produced with minimum recycling glass content > 60% and low emission to full fill environment requirement and enable LEED credits.

C. **Floor insulation internal or external superstructure for highest load.** In slabs or boards according to supplier recommendation. Thickness according to the drawings or spec. Rigid cellular glass insulation with following characteristics.

1. Type: FOAMGLAS® F in slabs or boards or equivalent
2. Density: 165kg/m³. ASTM C303, EN 1602
3. Thermal conductivity at 10° C: 0.050W/mK, ASTM C-518/C177, EN 12667/12939/10456
4. Compressive strength: >1600 kPa, ASTM C165/C240/C552, EN 826
5. Water Absorption: 0.2% (only moisture retained is that adhering to surface cells after immersion), ASTM C240, EN1609/12087
6. Water vapor permeability shall be 0.0 (zero) per inch, ASTM E96
7. Reaction to fire: Non-combustible, ASTM E136, Flame spread 0 (zero) and smoke development 0 (zero), ASTM E84. Euro class A1, EN13501
8. Ecology: Produced with minimum recycling glass content > 60% and low emission to full fill environment requirement and enable LEED credits.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify substrate, adjacent materials, etc. are ready to receive insulation.

- B. Verify substrate and adjacent are ready to receive insulation. Are flat, free of honey comb, fins, irregularities and materials or substances that may impede adhesive bond and are free of matter detrimental to installation of uniform layer of insulation.

3.2 **INSTALLATION**

A. **Application of floor Insulation:**

Follow the supplier recommendation. Apply a thin leveling course from stabilized sand or chippings, using a screed board. Cellular glass insulation boards are laid dry, with staggered and well-butt joints. Alternative the cellular glass board can be adhered with hot melt bitumen or with cold adhesive if requested or noted in the drawings.

3.3 **PROTECTION OF INSTALLED CONSTRUCTION**

- A. Do not permit work to be damaged prior to covering insulation.

END OF SECTION