

FOAMGLAS® Insulation Thermal Conductivity Values for the NAIMA 3E Plus Computer Program



The following values should be entered for the insulation representing PCC
FOAMGLAS® insulation:

Mean Temperature (°F)	Apparent Thermal Conductivity (k)	Mean Temperature (°F)	Apparent Thermal Conductivity (k)
-146.4	0.187	149.8	0.342
-101.0	0.205	251.3	0.417
-51.1	0.227	325.4	0.481
26.2	0.264	402.3	0.552
75.4	0.293	574.6	0.742

These values will result in the following polynomial:

$$k = 0.2507053 + 5.149464E-04 \times T_{\text{mean}} + 5.899428E-07 \times T_{\text{mean}} \times T_{\text{mean}}$$

NOTE: This curve, when compared to Pittsburgh Corning Corporation Energy Analysis results, will produce values that are within $\pm 1\%$ in the -125°F to 350°F **mean temperature range**. The results will be within $\pm 2\%$ in the -200° to 500°F **mean temperature range**.

INSTRUCTIONS

1. Open 3E Plus® Insulation Thickness Program version 4.0 and click on the **Options** tab.
2. Click the **INSULATION MATERIALS Maintenance** tab.
3. Click **ADD** to add a new insulation to the program
4. Enter "FOAMGLAS(R) Insulation"
5. Enter "900" in the **Max Temp (°F)** box and "-450" in the **Min Temp (°F) box**
6. Click the down arrow in the **Active** box and select "True"
7. Click the down arrow in the **Generic** box and select "Cellular Glass"
8. Select "Paired Data" in the **Conductivity Data Type Box**
9. Enter the data points from the table above then click **Apply**. "FOAMGLAS(R) insulation" will now appear as an option and the bottom of the programs material list.