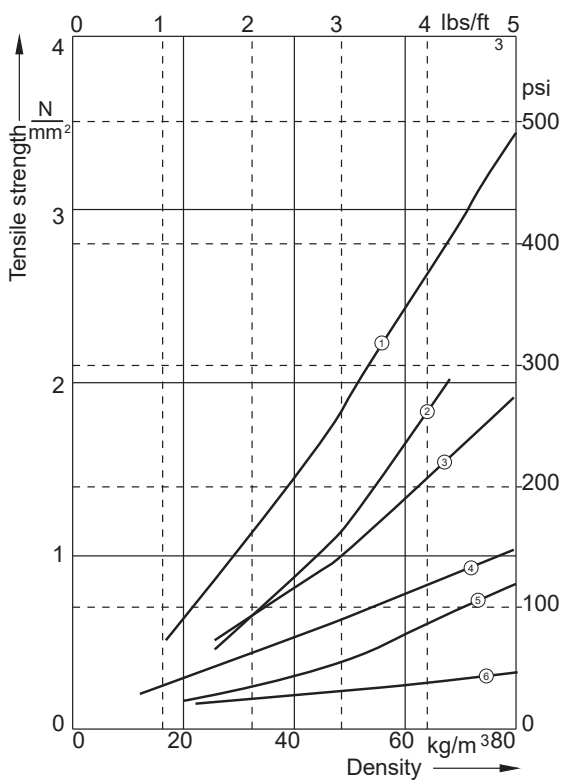


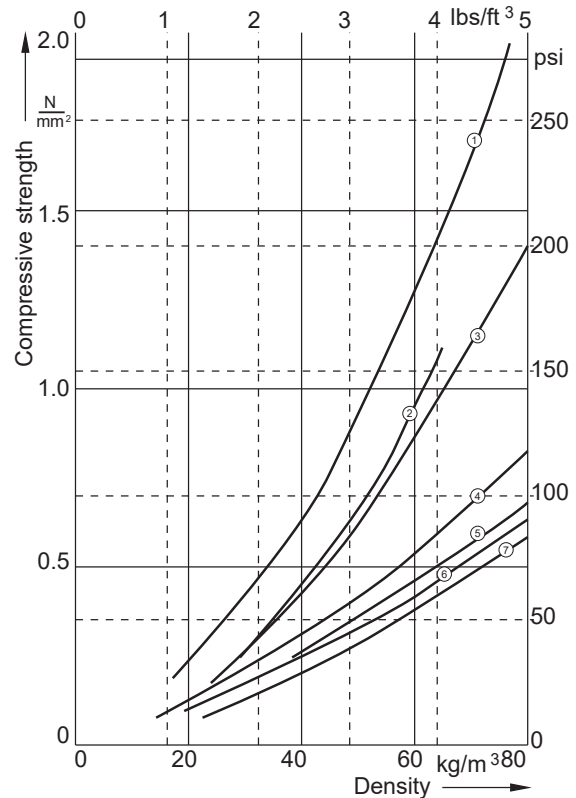
COMPARISON WITH OTHER FOAM PLASTICS

The majority of the values for the following graphs are derived from our own measurements. However, comprehensive literature values were also included so as to be able to form the best possible averages for the different makes of foam plastics. Neither the composition nor the manufacture of the types of foam plastics included in the comparison is uniform. As a result, there may be deviations from the given values, depending on the make. The properties are not rated. It is only intended to show where ROHACELL is to be classified.



Tensile strength according to ASTM D 638-68 of various rigid foams as a function of density at 68 °F (20 °C).

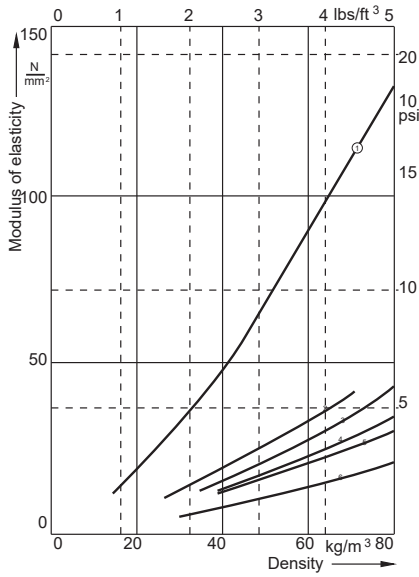
- 1 = ROHACELL
- 2 = PS (extruded)
- 3 = PVC (cross-linked)
- 4 = PS (foamed in a mold)
- 5 = PUR
- 6 = PF



Compressive strength according to ASTM 1621-64 of various rigid foams as a function of density at 68 °F (20 °C). For PS foamed in a mould the compressive strength at 10% compression was included for comparison's sake.

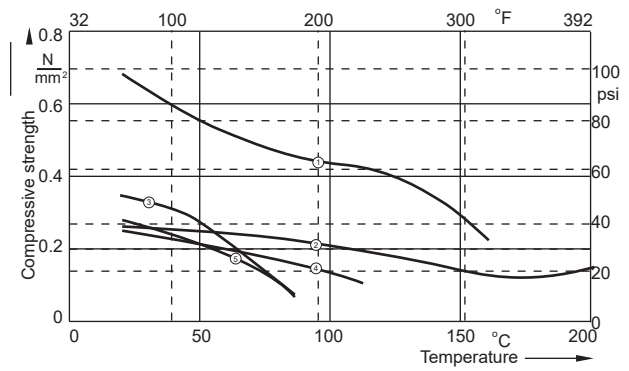
- 1 = ROHACELL
- 2 = PS (extruded)
- 3 = PVC (cross-linked)
- 4 = PS (foamed in a mold)
- 5 = PUR
- 6 = PF

ROHACELL FOAM TECHNICAL PRODUCT MANUAL



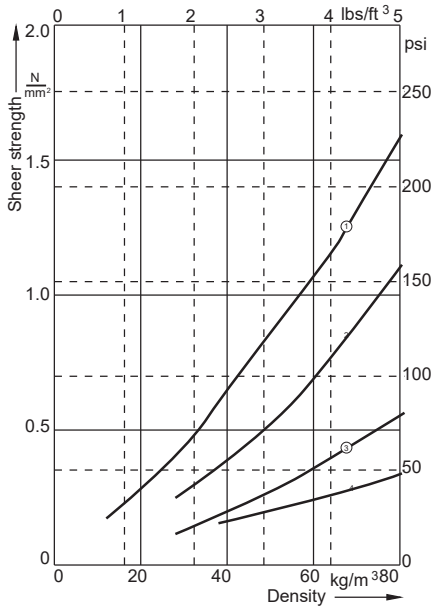
Modulus of elasticity according to ASTM D 638-68 of various rigid foams as a function of density at 68 °F (20 °C).

- 1 = ROHACELL
- 2 = PS (extruded)
- 3 = PVC
- 4 = PVC (not cross-linked)
- 5 = PF
- 6 = PUR



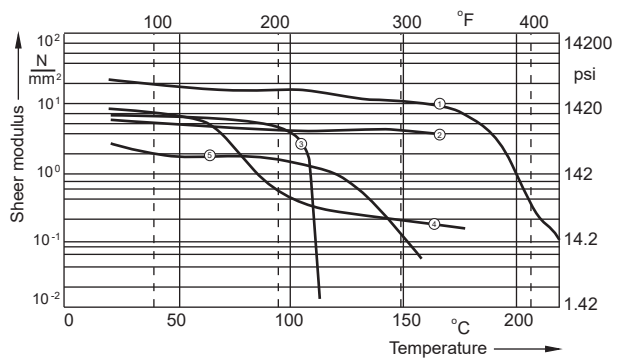
Compressive strength according to ASTM D 1621-64 of various rigid foams with a density of 2.5 lbs/ft³ (40 kg/m³) as a function of temperature. For PS foamed in a mold the compressive strength at 100 compression was included for the sake of comparison.

- 1 = ROHACELL
- 2 = PF
- 3 = PVC (cross-linked)
- 4 = PUR
- 5 = PS (foamed in a mold)



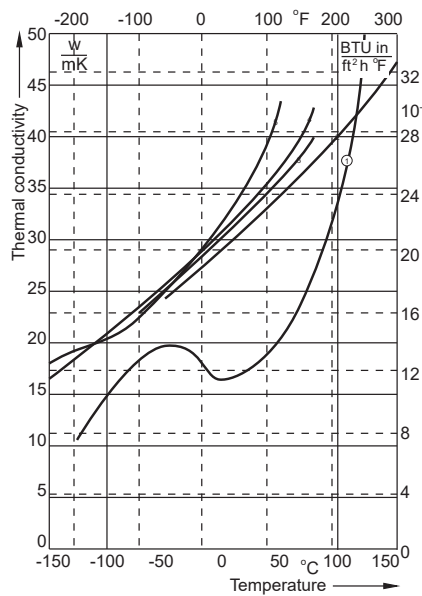
Shear strength according to ASTM C 273-61 of various rigid foams as a function of density at 68 °F (20 °C).

- 1 = ROHACELL
- 2 = PVC
- 3 = PUR
- 4 = PVC (not cross-linked)



Shear modulus according to ASTM D 2236-69 of various rigid foams with a density of 2.5 lbs/ft³ (40 kg/m³) as a function of temperature.

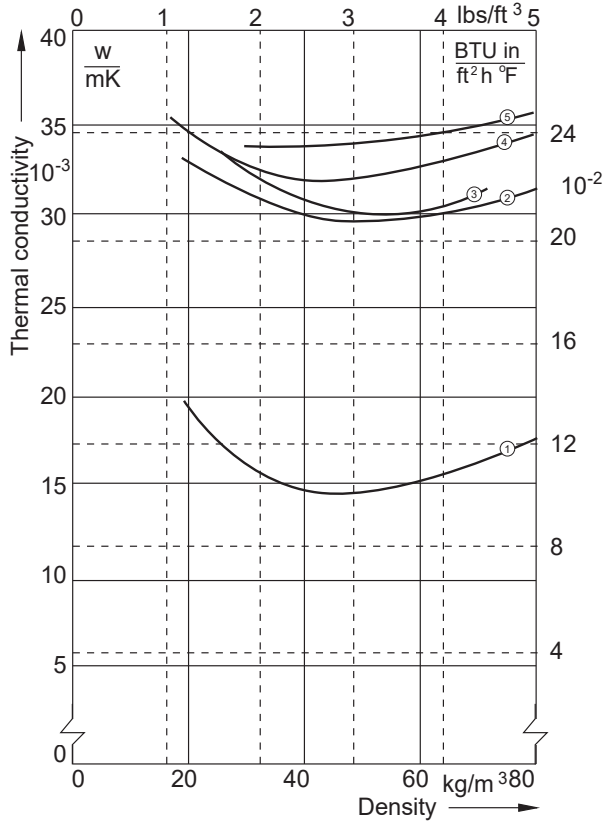
- 1 = ROHACELL
- 2 = PF
- 3 = PS (foamed in a mold)
- 4 = PVC (cross-linked)
- 5 = PUR



Thermal conductivity according to ASTM C 177-63 of various rigid foams as a function of temperature

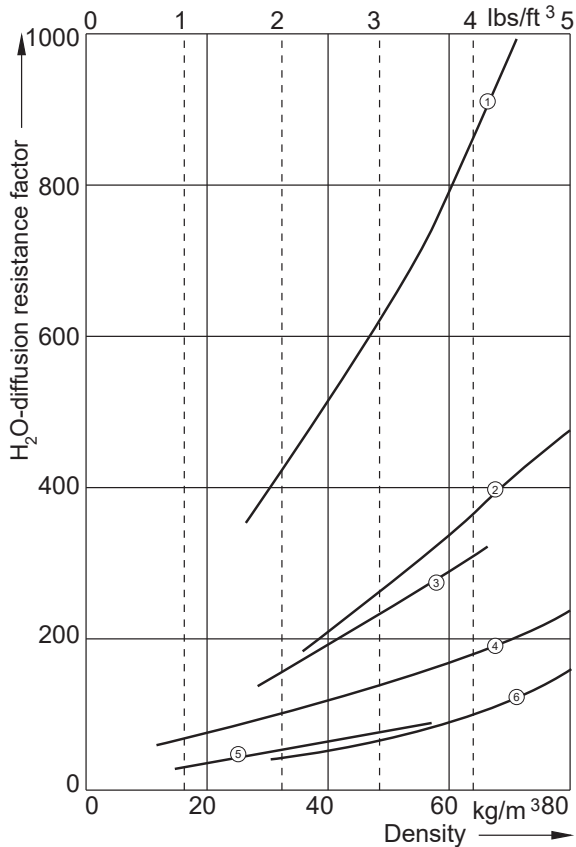
- 1 = PUR (density 2.5 lbs/ft³/40 kg/m³, foamed with fluorotrichloromethane)
- 2 = ROHACELL (density 2.2 lbs/ft³/35 kg/m³)
- 3 = PS (density 2.5 lbs/ft³/40 kg/m³, foamed in a mold)
- 4 = PF (density 2.5 lbs/ft³/40 kg/m³) (density 3.1 lbs/ft³/50 kg/m³, cross-linked)
- 5 = PUR

ROHACELL FOAM TECHNICAL PRODUCT MANUAL



Thermal conductivity according to ASTM C 177-63 of various rigid foams as a function of density.

- 1 = PUR foamed with fluorotrichloromethane)
- 2 = PF
- 3 = ROHACELL
- 4 = PS (foamed in a mold)
- 5 = PUR (foamed with CO2)



H₂O diffusion resistance factor of various rigid foams as a function of density, measured in a 0 - 85% r.h. gradient.

- 1 = ROHACELL
- 2 = PVC (cross-linked)
- 3 = PS (extruded)
- 4 = PS (foamed in a mold)
- 5 = PUR
- 6 = PF

TEST METHOD FOR ROHACELL®

The gross density of ROHACELL in lbs/ft³ (kg/m³) is determined according to ASTM D 1622. The specimens are taken from a ROHACELL sheet 4 in. x 4 in. x 1 in. The compressive strength of ROHACELL in psi (N/mm²) is determined according to ASTM D 1621. The dimensions of the test specimens are given in the table below.

| PROPERTIES | SPECIMEN SIZE | |
|------------|---------------|--------------|
| | in. | mm |
| 31 | 2 x 2 x 2 | 50 x 50 x 50 |
| 51 | 2 x 2 x 2 | 50 x 50 x 50 |
| 71 | 2 x 2 x 1.77 | 50 x 50 x 45 |
| 110 | 2 x 2 x 1.9 | 50 x 50 x 48 |

The elastic modulus from the tensile test in psi (N/mm²) is determined according to ASTM D 638. The specimens have a cross-section of 10 x 10 mm according to specimen type M.

The shear strength and the shear modulus are determined as per ASTM C 273 and stated in psi (N/mm²).

Specimen size is 7.87 x 1.97 x .78 in. (200 x 50 x 19.8 mm).