| **Property** | | **Units** | **ASTM TEST** | **Type I** | **Type VIII** | **Type II** | **Type IX** | **Type XIV** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Density**, minimum | | pcf | D 303 or D 1622 | 0.90 | 1.15 | 1.35 | 1.80 | 2.40 |
| **Thermal Resistance R-Value\*** | at 25°F | at 1 inch thickness |  | 4.20 | 4.40 | 4.60 | 4.80 |  |
| at 40°F | 4.00 | 4.20 | 4.40 | 4.60 |  |
| at 75°F | 3.60 | 3.80 | 4.00 | 4.20 | 4.20 |
| **Strength Properties** | | | | | | | | |
| Compressive 10% Deformation | | psi | D 1621 | 10-14 | 13-18 | 15-21 | 25-33 | 40 |
| Flexural | | psi | C 203 | 25-30 | 30-38 | 40-50 | 50-75 | 60 |
| Tensile | | psi | D 1623 | 16-20 | 17-21 | 18-22 | 23-27 |  |
| Sheer | | psi | D 723 | 18-22 | 23-25 | 26-32 | 33-37 |  |
| Sheer Modulus | | psi |  | 230-320 | 370-410 | 460-500 | 600-640 |  |
| Modulus of Elasticity | | psi |  | 180-220 | 250-310 | 320-360 | 460-500 |  |
| **Moisture Resistance** | | | | | | | | |
| WVT | | perm. in. | E 96 | 2.0-5.0 | 1.5-3.5 | 1.0-3.5 | 0.6-2.0 | 2.5 |
| Absorption (vol.) | | % | C 272 | less than 4.0 | less than 3.0 | less than 3.0 | less than 2.0 | less than 2.0 |
| Capillarity | |  |  | none | none | none | none | none |
| **Coefficient of Thermal Expansion** | | in/(in.)(F) | D 696 | 0.000035 | 0.000035 | 0.000035 | 0.000035 | 0.000035 |
| **Maximum Service Temp** | | °.F |  |  | | | | |
| Long-term exposure | |  | | 167 | 167 | 167 | 167 | 167 |
| Intermittent exposure | |  | | 180 | 180 | 180 | 180 | 180 |
| **Oxygen Index** | | % | D 2863 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 |
| **Buoyancy** | | lb/ft3 |  | 60 | 60 | 60 | 60 | 60 |