

Types of Insulation

Rockwool / Mineral Wool Temperature Range 20 to 1200 Deg F Density: 6-8 lbs/cf
R-Value 3.5-4.0 per inch Fabrication Tools: Knife

This insulation is most often used in high temperature environments that can operate up to 1200 Deg F. Mineral Wool takes basalt rock or steel slag and spins it into a fiber. It is non combustible and typically denser than most fiberglass insulations. It comes in pre-formed pipe and fitting sizes and is excellent for steam applications. It is also available in a board and curved tank wrap which can be used on breeching, vessels, tanks, and heat exchangers. In commercial and residential applications, it is installed in walls and ceilings as a cost effective acoustical and thermal insulation, with excellent fire stopping capabilities.

Calcium Silicate Temperature Range 50 F to 1200 Deg F Density 15 lbs/cf
R-Value 2.6 per inch Fabrication Tools: Saw

This insulation has a chalk like appearance and is typically used in high temperature industrial applications. It is non-combustible. For industrial applications it comes in pre formed pipe sizes and block which can be used to insulate breeching, tanks, vessels and heat exchangers. For commercial applications it is used under pipe support hangers or saddles to prevent compression of lighter density insulations. It is commonly used for exhaust systems on back-up generators due to its non-combustibility and stability at high temperatures.

Perlite Silicate Temperature Range 50F to 1200 Deg F Density 13 lbs/cf
R-Value 2.6 Fabrication Tools: Saw

This product is similar to Calcium Silicate, but has a much better water-resistant rating. It has excellent performance ratings for inhibiting corrosion under insulation especially in austenitic Stainless steel cracking conditions. Due to its high density, it is often supported with pipe support hangers or saddles.

Foamglas / Cellular Glass Temperature Range: -267 F to 600 Deg F Density 9 lbs/cf
R-Value 3.0 – 3.4 Fabrication tools: Saw

This dense insulation with a closed cell glass structure is water impermeable and highly resistant to hydrocarbons, acids, caustics and other corrosive chemicals. Due to its cell structure, density and stability it covers a wide range of temperature applications and has a strong track record for a long-lasting solution in brine / chill water conditions. It comes in pre formed pipe sizes as well as block and curved segments for tanks, vessels and irregular shaped equipment. Due to its high compressive strength and low water-absorption it is often specified for use in direct burial applications, where it both insulates and protects the piping below ground. It is mold and bacteria resistant and has no burn off or smoke release in fire situations.

Polyisocyanurate/ Phenolic Foam / Extruded Polystyrene Temperature Range: -267 F to 300 F
Density 2.0 to 5.0 lbs/cf R-Value 5.0 - 7.4 Fabrication tools: Knife

This family of rigid closed cell water resistant foams typically have higher thermal ratings than most insulations and are effective in condensation control in cryogenic and cold storage applications. These insulations are specified frequently for food processing and pharmaceutical applications where low temperature control is required plus mold and bacterial growth are limited. It comes in pre-formed pipe sizes, boards and curved segments.

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Fiberglas: Temperature Range: 20 F to 1000 F Density: 3-6 lbs/cf
R-Value 4.0 Fabrication tools: Knife

Fiberglas is a light weight, low density insulation which is cost effective and easy to field fabricate. It is manufactured using recycled glass and spun into a fiber. For both industrial and commercial uses it comes in a preformed pipe sizes, boards and curved segment. It is also available in a flexible low density (0.75-1.5 lbs/cf) blanket which is wrapped around rectangular and round ductwork. It is non-combustible, but can wick water and water vapor which will reduce the R-value. Fiberglas insulation can be used for low temperature below ambient applications, but must maintain a proper vapor barrier to be effective.

ArmaFlex / Elastomeric Rubber: Temperature Range: -297 F to 250 F Density: Flexible
R-Value 3.7 Density: 4.0 lbs/cf Fabrication tools: Knife

Elastomeric rubber is a fiber free, flexible insulation with a low water vapor absorption design. It comes in preformed pipe sizes, sheets and rolls. Its unique flexible form, water resistance and good thermal rating allows it to be often specified for chillers and HVAC equipment. In tight spaces with limited room for thicker insulations, the use of elastomeric rubber can be more effective for condensation control on piping and ductwork.