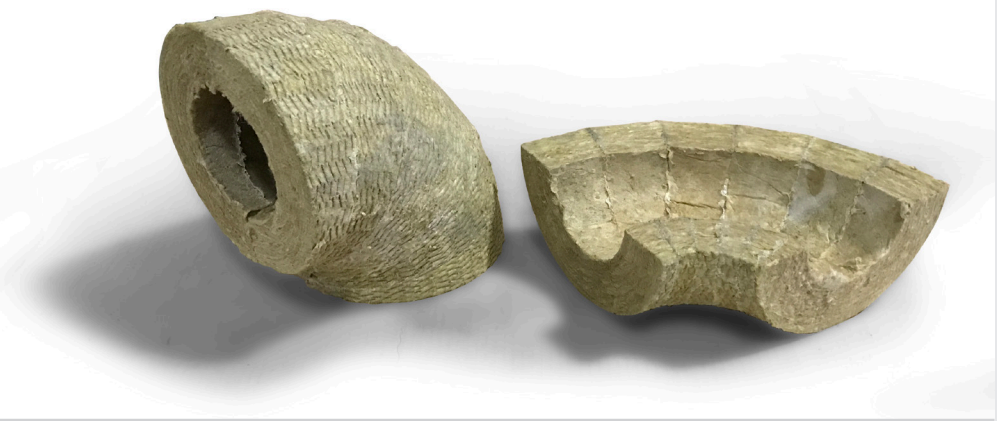
GLT Fabricators

TECHNICAL INFORMATION

GreatROC® Fittings
Stone Wool Fabricated Insulation



THERMALLY EFFICIENT-LIGHTWEIGHT STONE WOOL FABRICATED INSULATION FITTINGS

GreatROC™ Fittings are fabricated from mandrel wound stone wool insulation with a high temperature binder using one of three ROCKWOOL® Technical Insulation products. These fittings can be fabricated from ProRox® SL 460NA, ProRox® PS 960NA or ProRox® PS 980NA. The ProRox PS line offers an innovative water repellant binder to mitigate the risk of corrosion under insulation (CUI). All fittings conform to ASTM C450. The many options available from GLT Fabricators are suitable for thermal and acoustical insulation for industrial and mechanical piping.

Stone Wool Max Temp and Density

ProRox® SL 460NA - 1200°F - 6.5 lb/ft^3
ProRox® PS 960NA - 1200°F - 8.0 lb/ft^3
ProRox® PS 980NA - 1400°F - 11.25 lb/ft^3

Jacketing Options:

Plain (or glass mat is available for segmented and large pipe covering).

Fitting Shape Options:

Elbow, tees, curved sidewall segments. Mitered fittings fabricated from ProRox® PS 960 or ProRox® PS 980 with WR Tech.

Properties:

- Dimensionally (thermally) stable
- High impact resistance
- Low moisture absorption
- Fire resistant
- Excellent sound properties
- Excellent thermal resistance
- Non-corrosive
- Chemically inert
- Water repellant
- Sound absorbent

Consult manufacturer for limitations under elevated temperature conditions. ProRox® is a registered trademark of ROCKWOOL® Technical Insulation.

ProRox® SL 460 NA Product properties in accordance with ASTM C612

Properties	Performance								Norms
Thermal conductivity	T_m (°F)	100	200	300	400	500	600	700	ASTM C177
	λ (BTU.in/hr.ft ^{2}.°F)	0.24	0.30	0.35	0.38	0.46	0.55	0.66	
	T_m (°C)	38	93	149	204	260	316	371	
	λ (W/mK)	0.035	0.043	0.050	0.055	0.067	0.079	0.095	
Maximum Service Temperature	Hot Surface Performance: 1200°F- (650°C) Non-Combustible								ASTM C411 ASTM E136 / CAN4 S114
	Linear Shrinkage: ≤ 0.4 % at 1200°F- (650°C)								ASTM C356
Reaction to fire	Surface burning characteristics Flame spread index = passed ; Smoke development index = passed								ASTM E84 (UL 723) CAN/ULC S102
Density	Actual Density = 6.5 lb/ft^3 - (Density 105 kg/m^3), Nominal 8.0 lb/ft^3								ASTM C303
Corrosion resistance **	Stress Corrosion Cracking Tendency of Austenitic Stainless Steel = Passed Corrosion of Steel = Passed								ASTM C692 ASTM C665
Chemical Analysis **	(Salts: Cl^-, Fl^-, Na^+, SiO_4^{4+}) Results fall within acceptability limits of ASTM C795								ASTM C795 / ASTM C871
Thermal Resistance	R-Value / inch @ 75°F RSI value / 25.4mm @ 24°C					4.2 hr. ft ^{2}.°F/BTU 0.74 m ^{2} K/W			ASTM C518 (C177)
Water Absorption/ Vapor Sorption	< 1 % Weight								ASTM C1104
Compressive strength	720psf (34.4kPa) @ 10 % compression								ASTM C165

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GreatROC® Fittings

Stone Wool Fabricated Insulation

ProRox® SL 960NA Product properties in accordance with ASTM C612

Properties	Performance								Norms
Thermal conductivity	T_m (°F)	100	200	300	400	500	600	700	ASTM C177
	λ (BTU.in/hr.ft ^{2}.°F)	0.24	0.29	0.35	0.41	0.47	0.56	0.68	
	T_m (°C)	38	93	149	204	260	316	371	
	λ (W/mK)	0.035	0.042	0.050	0.059	0.068	0.081	0.098	
Maximum Service Temperature	Hot Surface Performance: 1200°F- (650°C) Non-Combustible Linear Shrinkage: ≤ 1 % at 1200°F- (650°C)								ASTM C411 ASTM E136 / CAN4 S114 ASTM C356
Reaction to fire	Surface burning characteristics Flame spread index = 0 ; Smoke development index = 0								ASTM E84 (UL 723) CAN/ULC S102
Density	Nominal Density = 8.0 lb/ft^3								ASTM C303
Corrosion resistance **	Stress Corrosion Cracking Tendency of Austenitic Stainless Steel = Passed Corrosion of Steel = Passed								ASTM C692 ASTM C665
Chemical Analysis**	(Salts: Cl^-, Fl^-, Na^+, SiO_4^{4-}) Results fall within acceptability limits of ASTM C795								ASTM C795 / ASTM C871
Thermal Resistance	R-Value / inch @ 75°F RSI value / 25.4mm @ 24°C				4.2 hr. ft ^{2}.°F/BTU 0.74 m^2 K/W				ASTM C518 (C177)
Water Absorption/ Vapor Sorption	< 1 % Weight								ASTM C1104
Compressive strength	167psf (8kPa) @ 10 % compression								ASTM C165
Compliance	Complies with Type: IVB								ASTM C612

ProRox® PS 980 with WR-Tech specifications in accordance with ASTM C547

Properties	Performance								Norms
Thermal conductivity at mean temperature	T_m (°F)	100	200	300	400	500	600	700	ASTM C335
	λ (BTU.in/hr.ft ^{2}.°F)	0.27	0.31	0.36	0.41	0.47	0.54	0.61	
	T_m (°C)	38	93	149	204	260	316	371	
	λ (W/mK)	0.039	0.045	0.052	0.059	0.068	0.077	0.089	
Maximum use temperature	1,400°F (760°C)								ASTM C447
Sag resistance	≤ 2% at 1,400°F (760°C)								ASTM C411
Linear schrinkage	≤ 1% at 1,400°F (760°C)								ASTM C356
Surface burning characteristics	Flame spread index = 0; Smoke development index = 0								ASTM E84
Reaction to fire	Non combustible								IMO 2010 FTPC
Nominal density	≥ 11.25 lb/ft^3 / ≥ 180 kg/m^3								ASTM C303
Corrosion resistance	Evaluation on external stress corrosion cracking tendency of austenitic stainless steel = Passed Chemical analysis for Cl^-, Fl^-, Na^+, SiO_4^{4-}: Results fall within acceptability limits of ASTM C795 Trace quantity of water leachable chloride ions: ≤ 10 ppm								ASTM C692 / ASTM C795 ASTM C871 / ASTM C795 EN 13468
Water absorption	≤ 0.04 lb/ft^2 (≤ 0.2 kg/m^2) ≤ 0.04 lb/ft^2 (≤ 0.2 kg/m^2) (After 24 hrs. pre-heating at 482°F (250°C))								EN 13472
Vapor sorption	< 1% Weight								ASTM C1104
Compressive strength	8psi (53kPA) at 10 % compression								ASTM C165
Influence on coating systems	Free from substances (e.g. silicone oil) that might impair surface wetting								VW 3.10.7

Fitting types available for fabrication

90° Elbows	45° Elbows	Tees	Pipe Covering	Segmented
				

Photos are representive of the types of fittings available. They are fabricated from stone wool and do not show fittings fabricated from the ProRox® line.