



TEPHREX® Basalt Sleeves

Extreme temperature TEPHREX® basalt knitted sleeves provide excellent thermal protection, withstanding continuous exposure to temperatures of up to 1382°F (750°C). The dense, single-wall knitted construction is expandable, durable, and lightweight, enabling ease of assembly over tubes and pipes with a wide range of geometries while providing optimal coverage and preventing snagging or tearing. TEPHREX® sleeves help maximize heat retention in exhaust systems, allowing OEMs to meet strict emission regulations.

Product Applications

- Exhaust gas recirculation (EGR) tubes
- Exhaust system components
- Insulation and heat containment



Knitted Basalt Sleeve

TEPHREX® Basalt Sleeve

NOMINAL I.D.		DAVLYN PART NUMBER
1"	25 mm	M-E21630-16-xx
1 1/2"	38 mm	M-E21630-24-xx
2"	51 mm	M-E21630-32-xx
2 1/2"	64 mm	M-E21630-40-xx
3"	76 mm	M-E21630-48-xx
3 1/2"	89 mm	M-E21630-56-xx
4"	102 mm	M-E21630-64-xx
5"	127 mm	M-E21630-80-xx
6"	152 mm	M-E21630-96-xx

Davlyn's TEPHREX® sleeve is 15% denser than the competition's, resulting in a lower skin temperature. In addition, the sleeve can expand up to 1.5 times its normal diameter.

MATERIALS

Basalt

MAXIMUM CONTINUOUS TEMPERATURE

1382°F (750°C)

AVAILABLE CONSTRUCTION OPTIONS

Knitted

SIZE RANGE

1" (25mm) – 6" (152mm)

AVAILABLE OPTIONS

Custom cutting and sewing

TYPICAL INDUSTRIES

On-Highway Commercial Vehicles, Off-Highway Commercial Vehicles, ATVs, UTVs, Power Generation

Basalt Engineering Data

Basalt Sleeve Performance Testing

TEST	RESULT	TEST SPECIFICATION
Thermal Testing		
700°C soak test	Passed	Internal
Flammability and burn tests	No Ignition	SAE J369
	Passed	FMVSS 302
	Passed	CMVSS
	Passed	ISO 3795
	No Ignition	ASTM D5132

Salt Spray Testing

ASTM G85-11 Annex 2 Cyclic acidified salt spray	Passed	ASTM G85-11
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Basalt Yarn Technical Characteristics

Thermal

Maximum application temperature	982°C
Sustained operating temperature	750°C
Minimum operating temperature	-260°C
Thermal conductivity	0.031 – 0.038W/(m·K)
Virtification conductivity	1050°C
Glow loss	1.91%
Thermal expansion coefficient	8.0 ppm/°C

Acoustics

Sound absorption coefficient	0.9 – 0.99%
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Electrical

Specific volume resistance	1 ^{10x12} ohm.m
Loss angle tangent frequency	0.005 (1 MHz)
Relative dielectric permeability	2.2 (1 MHz)

Physical / Mechanical

Density	2.75 g/cm ³
Filament diameter	9 – 23 microns
Tensile strength	4840 MPa
Compression	550,000 psi
Elastic modulus	89 GPa
Elongation at break	3.15%
Absorption of humidity (65% RH)	<0.1%
Stability at tension (20°C)	100%
Stability at tension (200°C)	95%
Stability at tension (400°C)	82%

Chemical Resistance

Percentage weight loss after 3 hrs boiling in:

H ₂ O	0.20%
2N NaOH (Sodium Hydroxide)	5.00%
2N HCL (Hydrochloric Acid)	2.20%

The information contained herein is believed to be reliable. Users should make their own evaluations on the products and materials to determine the suitable applications.

