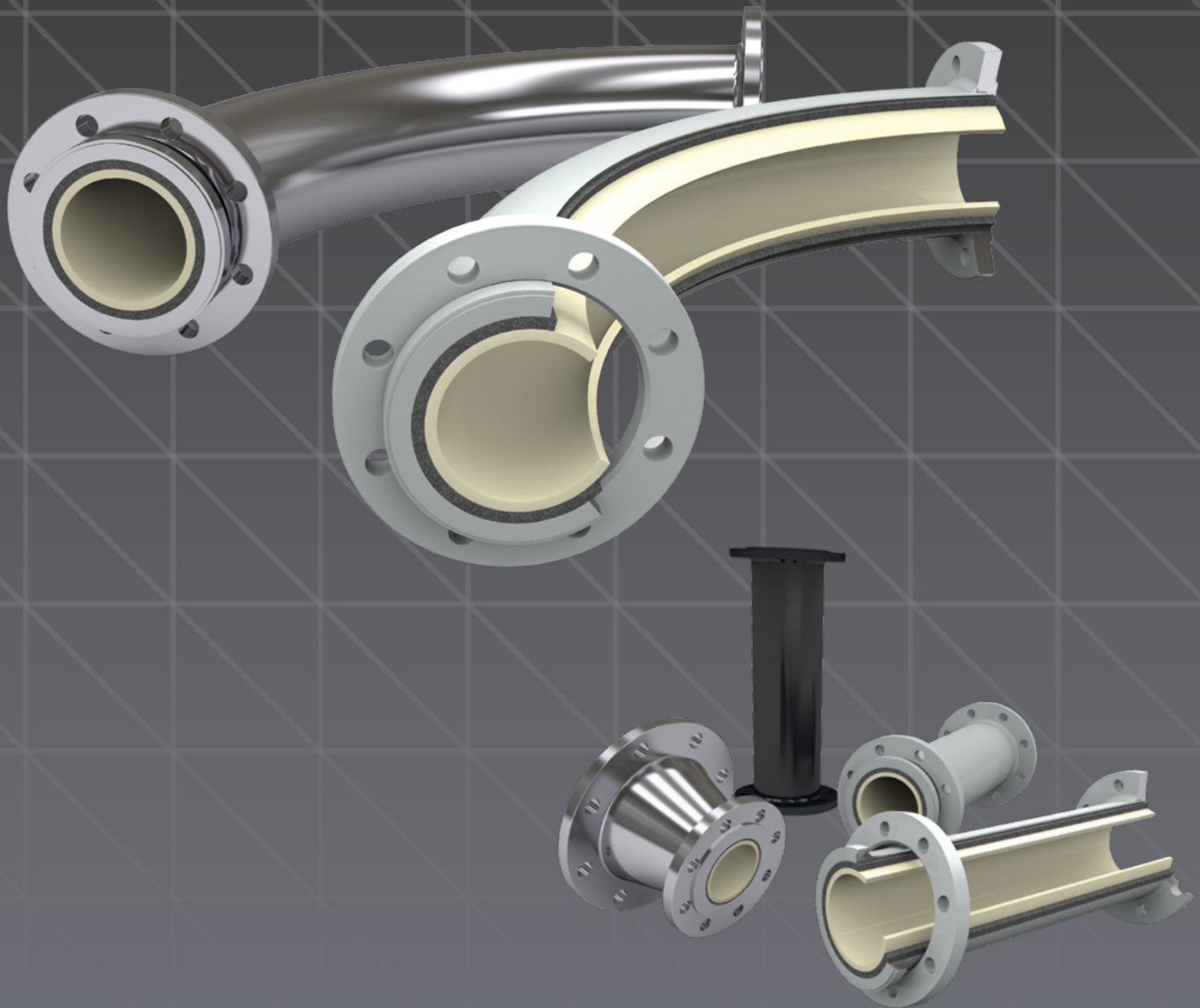


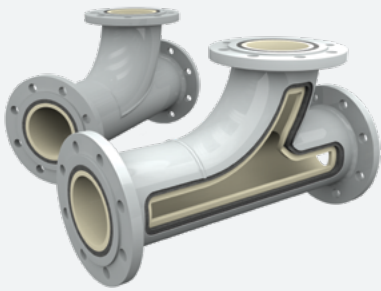


CERAMIC LINED PIPE

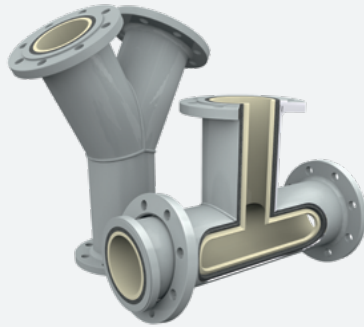
CERAPIPE®



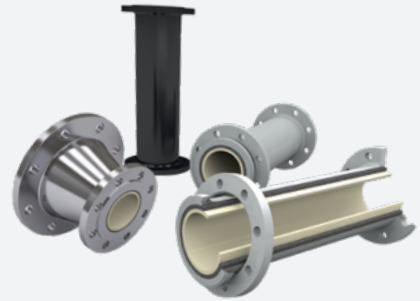
CERAPIPE® CERAMIC LINED PIPE



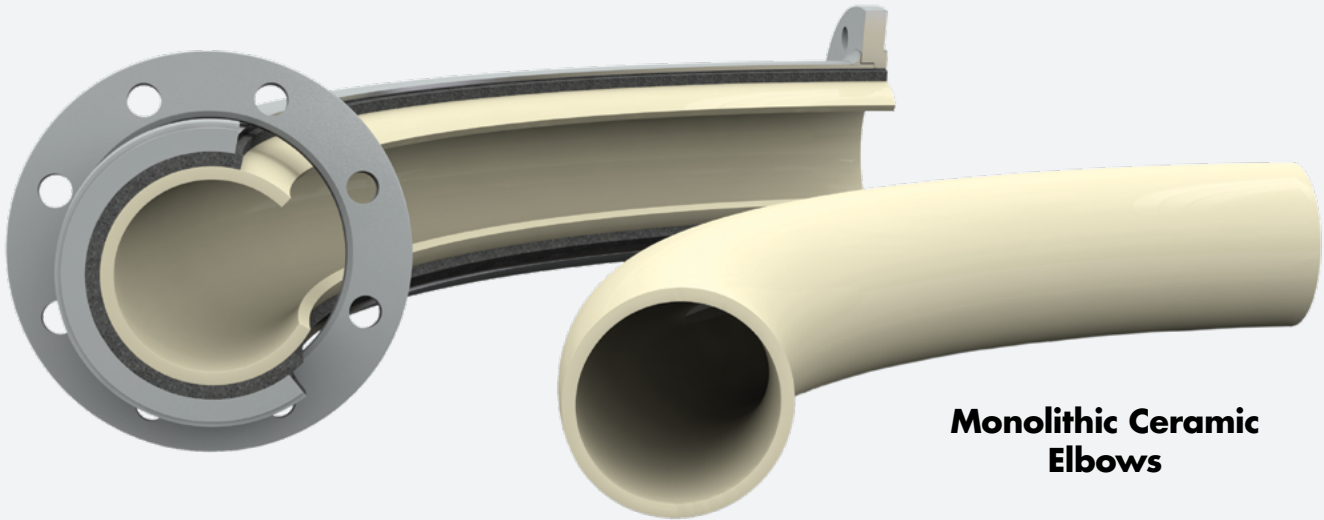
Ceramic Lined Pipe for Pneumatic Conveying



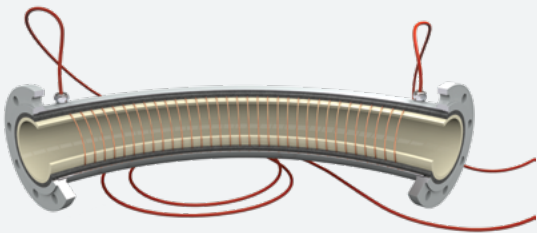
Ceramic Lined Wye & Tee Joints



Ceramic Lined Extensions & Reducers



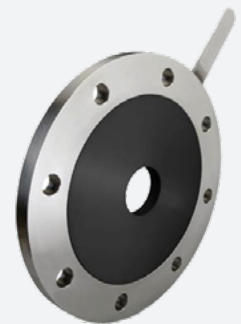
Monolithic Ceramic Elbows



Wear Monitoring



Ceramic Liner with GRP Housing



Ceramic Orifice Plate

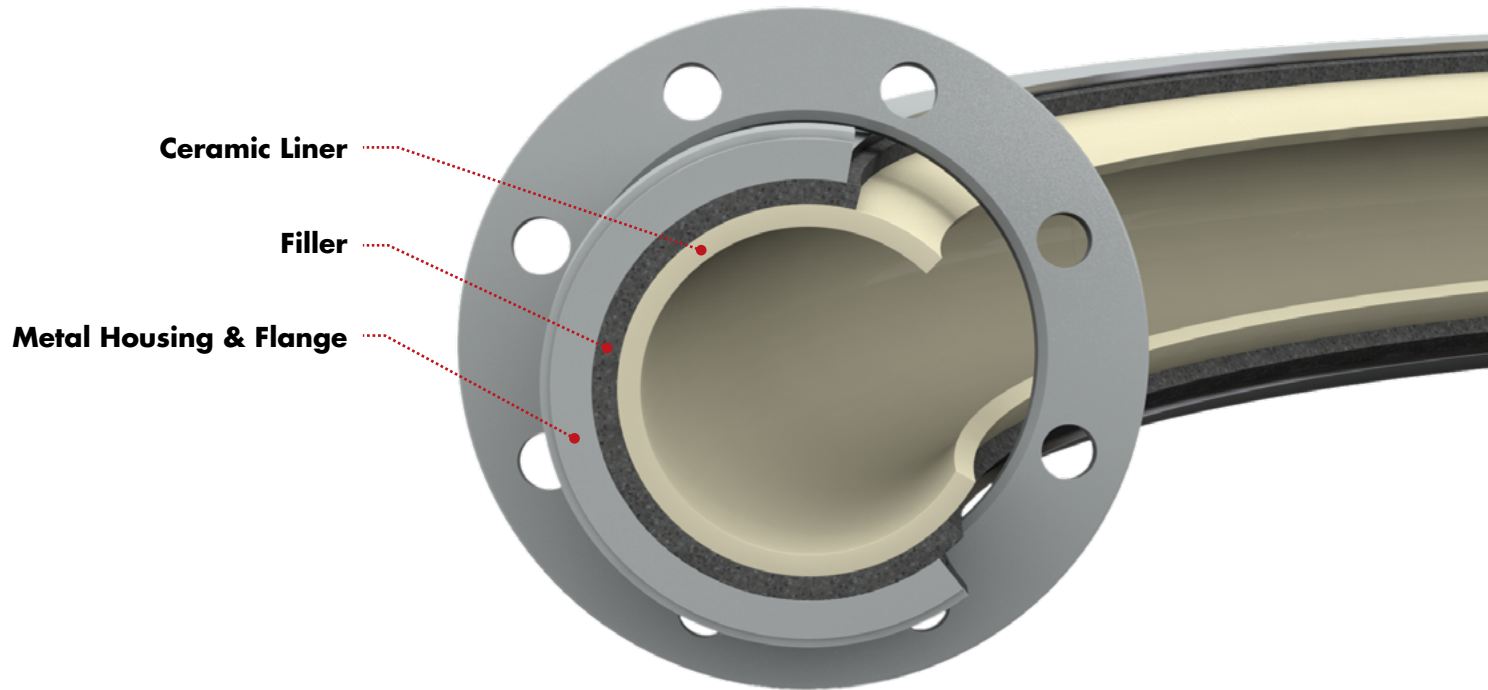


CERAFLEX® Flexible Ceramic Hose

FEATURES & BENEFITS

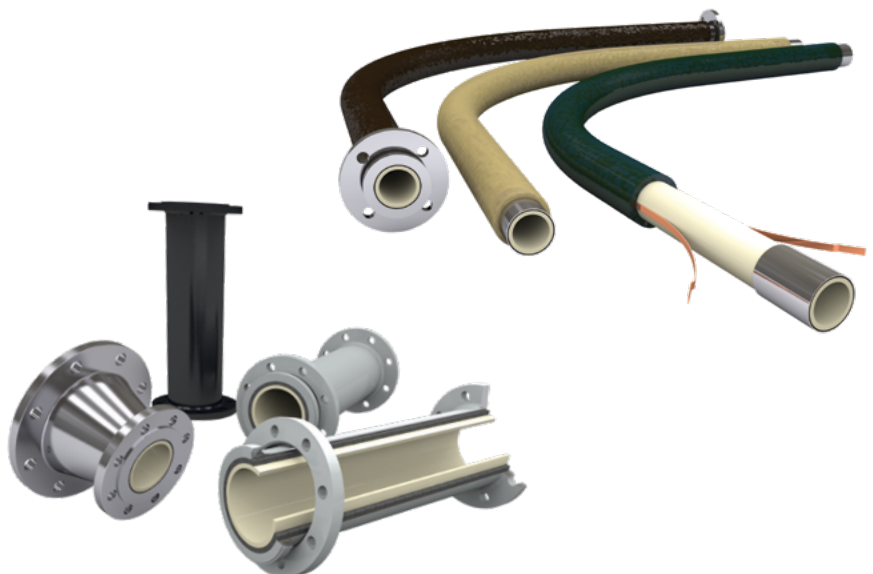
SOLID CERAMIC INTERNAL PARTS

- Abrasion resistant ceramics ensure a long service life
- Monolithic ceramic liners available in many sizes
- Ceramic liner of alumina Al₂O₃ or silicon carbide SiSiC
- Solid ¼" (6 mm) ceramic liner (no coating)



DESIGN OPTIONS AVAILABLE

- Suitable for replacement of both steel and lined pipe
- Inlet and outlet can be protected with a ceramic collar disk
- Flanges & housings available in various dimensions and materials
- Wide range of ceramic lined components to suit any requirement



COMMON APPLICATIONS

Steel Mills & Blast Furnaces

- Rutile, substitute fuels, soot (blast furnace)
- Sinter dust (sinter plant)
- Coat dust (PCI-EAF)
- Lime, magnesium (pig iron desulphurization)

Foundries

- Molding sand

Metal industry

- Suction systems (e.g. metal swarf)

Plastics Industry

- Pneumatic transportation of glass fiber reinforced plastics

Food Industry

- Pneumatic transportation of mineral feed, rice, and muesli

Sanitation

- Pneumatic transportation of enamel

Waste Incineration Plants

- Suspension in the HCL pre-washer
- Flue Dust

Glass Plants

- Shards, sand, quartz

Cement Plants

- Clinker dust, lime, cement, slag, flue dust, plaster

Pigment Production

- Titanium oxide, iron oxide

Dye Production

- Titanium oxide suspension
- Iron oxide suspension

Substitute For Deflection Pots

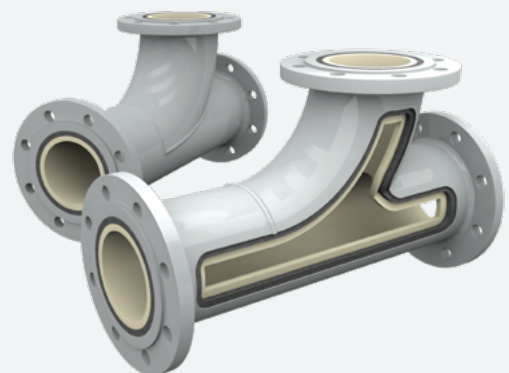
- Pipe elbows with small radii



Pneumatic conveying of copper concentrate in a copper smelter



Pneumatic conveying of soot from a blast furnace

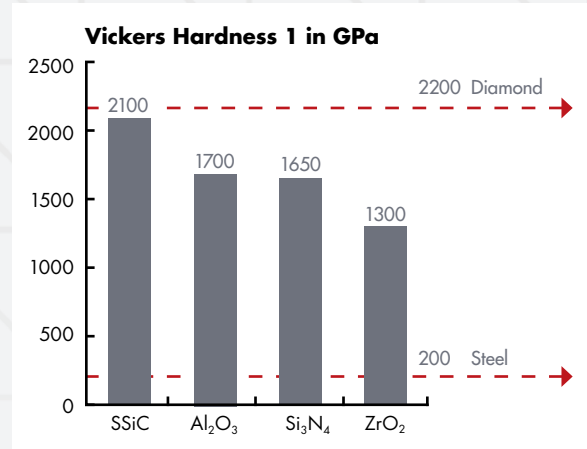


Ceramic Lined Pipe for Pneumatic Conveying/Transportation

CERAMIC MATERIALS

Hardness and Wear Resistance

Abrasion from entrained solids in liquid flows, high viscosity slurries, pneumatic conveying, and many other demanding services can drastically reduce the life of most traditional metal pipes. Lined pipes utilizing ceramic materials that exhibit hardness values substantially higher than most metals can maximize the life of the pipe.



Corrosion Resistance

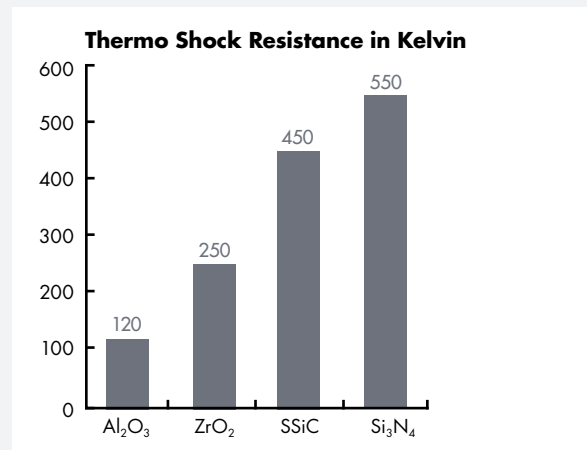
Compared to other wear resistant materials, ceramic materials are much more corrosion resistant and can be used in a broad range of corrosive applications. Ceramics are completely resistant to most solvents, aqueous brines, and acids, even at relatively high temperatures.

SSiC Silicon Carbide
Al₂O₃ Aluminum Oxide
Si₃N₄ Silicon Nitride
ZrO₂ Zirconium Oxide

Thermal Shock Resistance

Ceramic components maintain their shape and strength as well as physical characteristics up to extremely high temperatures. However, rapid changes in temperature (thermal shock) can prove challenging for ceramics.

CERAPIPE® ceramic lined pipes are available in several materials to handle even the most demanding applications.



TECHNICAL DETAILS

CERAMIC LINED ELBOW AND STRAIGHT PIPE	
Nominal Size	NPS ½ to 8
Pressure Rating	ANSI Class 150 and above
Temperature Range	-22 to 662°F (-30 to 350°C)
CERAMIC LINED HOSE	
Nominal Size	NPS ½ to 3
Pressure Rating	ANSI Class 150
Maximum Pressure	145 psi (10 bar)
Temperature Range	14 to 197°F (-10 to 90°C)
CERAMIC ORIFICE PLATE	
Nominal Size	NPS ½ to 14
Pressure Rating	ANSI Class 150 and above
Bore Diameter	On request
Temperature Range	-22 to 662°F (-30 to 350°C)

CERA SYSTEM is the leading technological pioneer in industrial valves and pipe components with ceramic linings. Conventional valve materials cannot meet the demands of all industrial applications. Where they fail, high-performance ceramic materials open up new opportunities. Ceramics prove to be beneficial wherever standard materials reach their limits with respect to wear resistance, corrosion, and high temperatures.

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