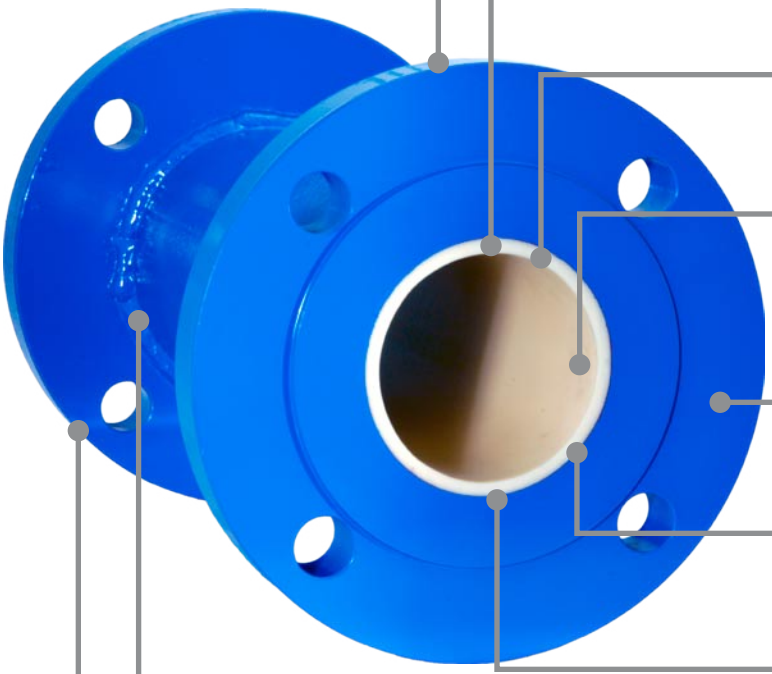
Ceramic-Lined Pipe Spools

Designed to Endure

Ceresist ceramic lined fittings are designed to outlast linings such as glass, rubber, basalt, hardfacings, coatings, trowelable linings, cure-in-place linings, and plastics that are commonly used to extend the life of piping systems. These materials are only a fraction of the hardness and wear resistance of our ceramics, and with the introduction of a corrosive into the process or high temperatures, most linings become severely incompatible and their use is extremely limited. Ceresist fittings feature ceramics that approach diamond in hardness, are chemically inert to almost all corrosives, and may be installed in services where temperatures exceed 1,100°F.



Engineer's Review

Our engineers review every application, cross-reference the process with our installation history and corrosion/wear charts, and will only recommend a ceramic material that is both cost-effective yet will yield years of trouble-free service.

Technical Ceramics

Ceresist fittings are available with 99.5% or 99.8% purity alumina, reaction-bonded silicon carbide, or sintered silicon carbide ceramics. All of these ceramics are extremely corrosion and wear resistant materials, and their preference is based upon the severity of the process.

Full Pipe Diameter ID

Ceramic linings are never smaller than the ID of the mating piping system. Ceresist fittings will therefore not constrict or choke flow, and will not protrude into the flow path.

Seamless Interior

All straight pipe spools, flange adapters, and reducers are manufactured out of a single-piece ceramic tube. Fitted ceramic seams go through an extra contact surface polishing procedure to ensure a perfect fit with absolutely no leakage between seams.

Exterior Protection

Carbon steel fittings are sandblasted, degreased, and coated with a corrosion and abrasion resistant finish for added protection and longevity in harsh environments.

Minimal Transition

The ceramic OD and flange ID are perfectly matched to minimize gaps and to keep epoxy exposure to an absolute minimum.

Perfect Matching

Our innovative manufacturing methods ensure a smooth, perfectly matched and level sealing surface without any length difference between the flange face and the ceramic lining.

Certified Welds

All welds are performed by certified weld operators, and conform to all applicable ASME specifications.

ASME Conformance

All flanged fittings meet or exceed ASME B16.5 requirements for pressure-temperature ratings, materials, dimensions, tolerances, marking, and testing.

Ceresist

Applications

Control Valve at 20% Open
Most wear caused by a control valve occurs when the valve is controlling at a low percent open position, and usually within 1½ diameters downstream.

Ceresist ceramic lined pipe spools are our best-selling product. With numerous installations spanning a vast variety of industries, we are able to provide our customers with a pipe spool that will be cost-effective, and provide years of trouble-free service.

Where to Use

Ceramic pipe spools are most commonly used downstream of control valves, pumps, bends, or after any flow element that creates diverted or turbulent flow.

Ceramic Materials

Reaction-bonded silicon carbide, alumina, and sintered silicon carbide are all available in straight pipe spools. The selection of each particular ceramic depends upon the corrosiveness and wear factor of each process. Both reaction-bonded silicon carbide and alumina are approximately 8.5x harder than carbon steel, with sintered silicon carbide being about 16.5x harder.

Housing Materials

In addition to our standard carbon steel housing, stainless steel 316 or 304, FRP, and vinyl ester wrapping, other custom housing materials may be supplied. For added protection, a corrosion and abrasion–resistant epoxy coating is applied to carbon steel housings to offer longevity in harsh environments as well.

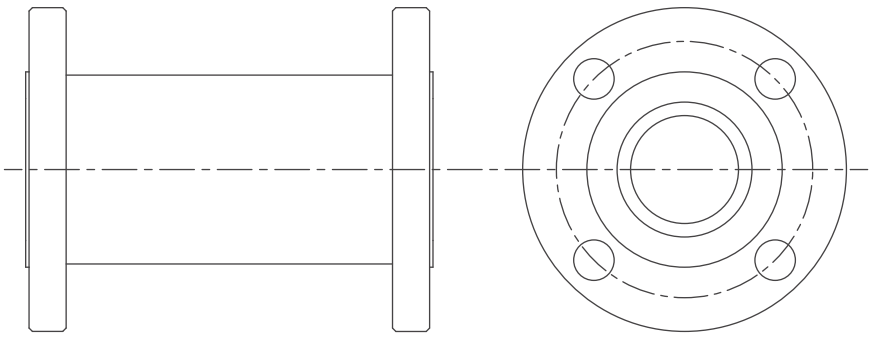
Variations

In addition to being equipped to custom-manufacture straight pipe spools to our customer's exact specifications, the following are just some of the common straight-pipe spool variations:

Different Flanges Each End - For connecting piping systems to machinery or systems that have larger flanges. It is preferred that fluid flows to the larger flange to avoid piping restrictions caused by the ceramic lined pipe spool.

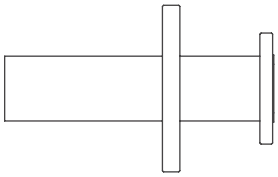
One Flange Offset From End - Commonly used to terminate piping into a tank or similar equipment that is flanged, whilst having the pipe spool act as a nozzle.

Nozzle-Type - Used when terminating flow into an open tank.

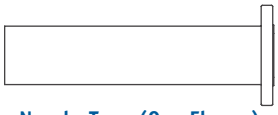


Standard Pipe Spool

Different Flanges Each End



One Flange Offset From End



Nozzle-Type (One Flange)

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