Load Cycle Stability for Phenol Resin-impregnated Graphite

Technical Information

Alternating stress calculations for phenolic resin-impregnated graphite cannot be used for life-time estimation. In this case, graphite differs too much from ductile materials like ferritic or austenitic steel.

These steel materials are conceived for alternating stress calculations in compliance with AD 2000-Merkblatt S1/S2.

High safety margins are advised in the AD 2000-Merkblatt N2, where calculations account for ceramic materials.

S = 9 @ max. permissible operating pressure / temperature

S‘ = 6,6 @ design pressure

These safety factors are much higher than the values for steel. Our instructions for shock pressure and for the max. temperature difference are still valid.

For more information please also see the following technical information:

TI 001	Water Hammer from Fast Acting Valves
TI 002	Safety Equipment Layout for Protecting Graphite Heat Exchangers from Pressure Shocks
TI 016	Pressure Shocks from Air Bubbles in the Coolant
TI 022	Maximum Allowable Temperature Difference

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