PtRh10 DPH-Strong

Pt-10%Rh DPH-Strong

PtRh10 DPH-Strong is an oxide dispersion hardened grade of PtRh10.
It is commonly used in applications which require a structural material with the highest degree of stiffness under service conditions. Main characteristics are its high creep strength at temperatures of up to 1700°C. Optimized material properties contribute to meet the requirements for the shafts of stirrers, stirrer plungers and hollow active parts.
The hardening which results from the oxide particles, represents the most effective strengthening mechanism of the material. Due to the modified microstructure, DPH is considerably less sensitive to corrosion processes along the grain boundaries than comparable materials. These characteristics allow for extended life and results in the precious metal to be used more economically. An example would be reduced wall thicknesses of PtRh10 DPH-Strong compared to PtRh10 or increased lifetime.

General information

Applications	glass manufacturing, glass fibre bushings, plunger, casting dishes, crucibles, stirrers
Product Forms	tube, sheet, wire
Density, g/cm³	19.83
Melting Range, °C	1840 - 1870

Forming Processes

Material Behaviour	ductile
Forming Process	machinable, formable

Mechanical Properties

Young's Modulus, GPa	209
Hardness, HV	130 - 190
Tensile Strength, MPa	-
Yield Strength, MPa	-
Elongation, %	-

Contact
precious.metals@heraeus.com | www.heraeus-precious-metals.com
Heraeus Precious Metals GmbH & Co. KG | Heraeusstrasse 12-14 | 63450 | Hanau | Germany

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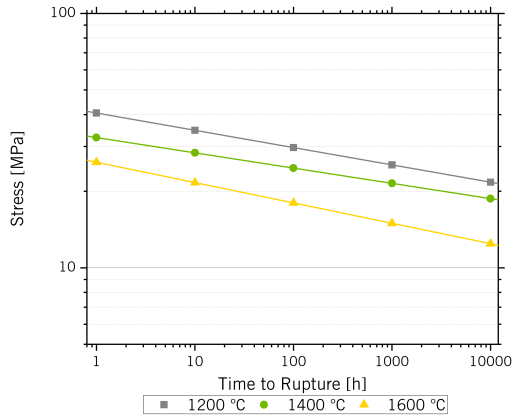
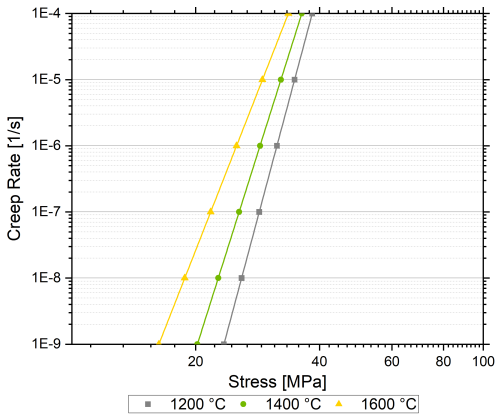
Creep Rupture



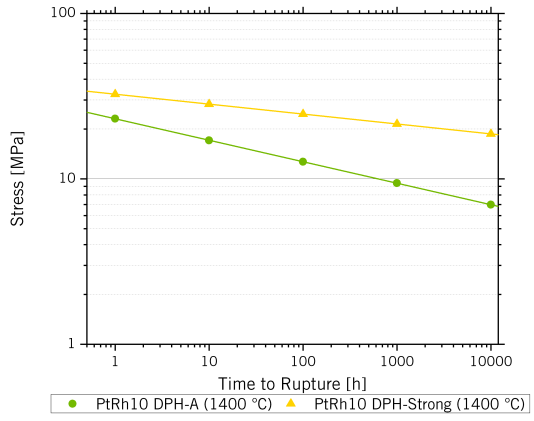
source: measured and extrapolated

Norton



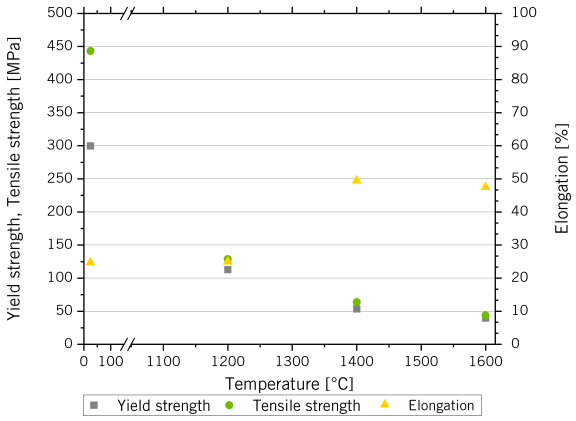
source: measured and extrapolated

Creep Rupture – Comparison



source: measured and extrapolated

High Temperature Tensile Test



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