

Heraeus

**PTRH10 DPH – FLEX**  
INFORMATION MATERIAL

M.C. HERAEUS

## WHAT IS DPH-FLEX?

### PtRh10 DPH-Flex / Pt-10%Rh DPH-Flex

PtRh10 DPH-Flex is an oxide dispersion hardened precious metal alloy specifically developed to combine creep strength and creep ductility. It is commonly used in demanding high temperature specialty glass applications, for example feeder cells or claddings. PtRh10 DPH-Flex offers significantly improved high temperature properties compared to standard alloys like Pt or PtRh through reinforcement via finely dispersed Zirconia particles. The modified DPH structure makes the material extremely resistant to corrosion especially under highly corrosive conditions like glass melts. Combination of the afore mentioned features of PtRh10 DPH-Flex allows for unparalleled degrees of freedom in designing and engineering of precious metal parts while simultaneously reducing the amount of precious metal needed in glass production.

- General Designation: PtRh10 DPH-Flex
- Applications: glass manufacturing, glass stirrers, plunger, casting dishes, crucibles, glass fibre bushings, thermocouples
- Product Forms: sheet, tube, wire
- Density (g/cm<sup>3</sup>): 19.7

## WHAT IS DPH-FLEX?

Yttria stabilized Zirconia reinforced Precious Metal alloy



Corrosion resistance



Thermal stability



Creep strength



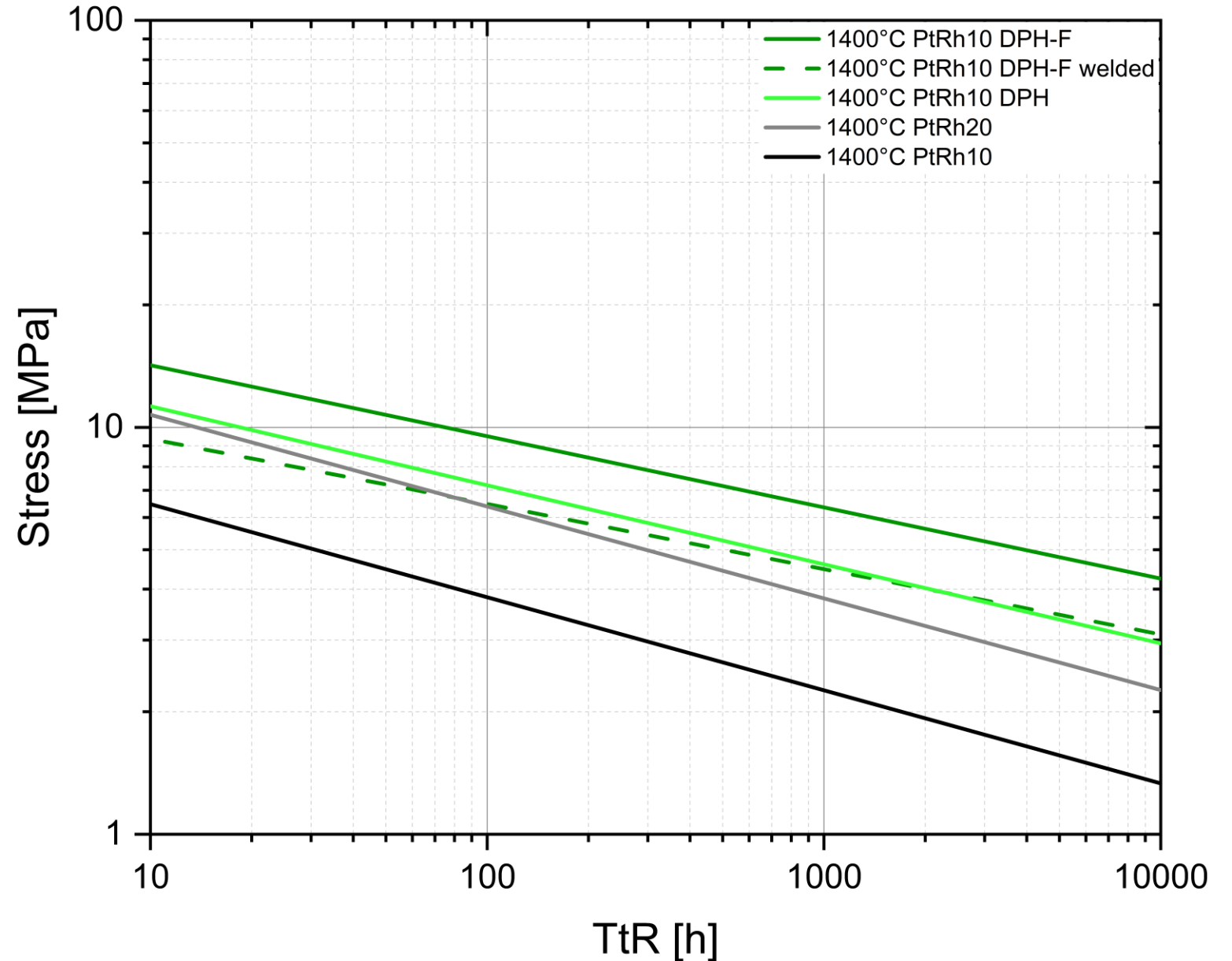
Ductility



Weldability

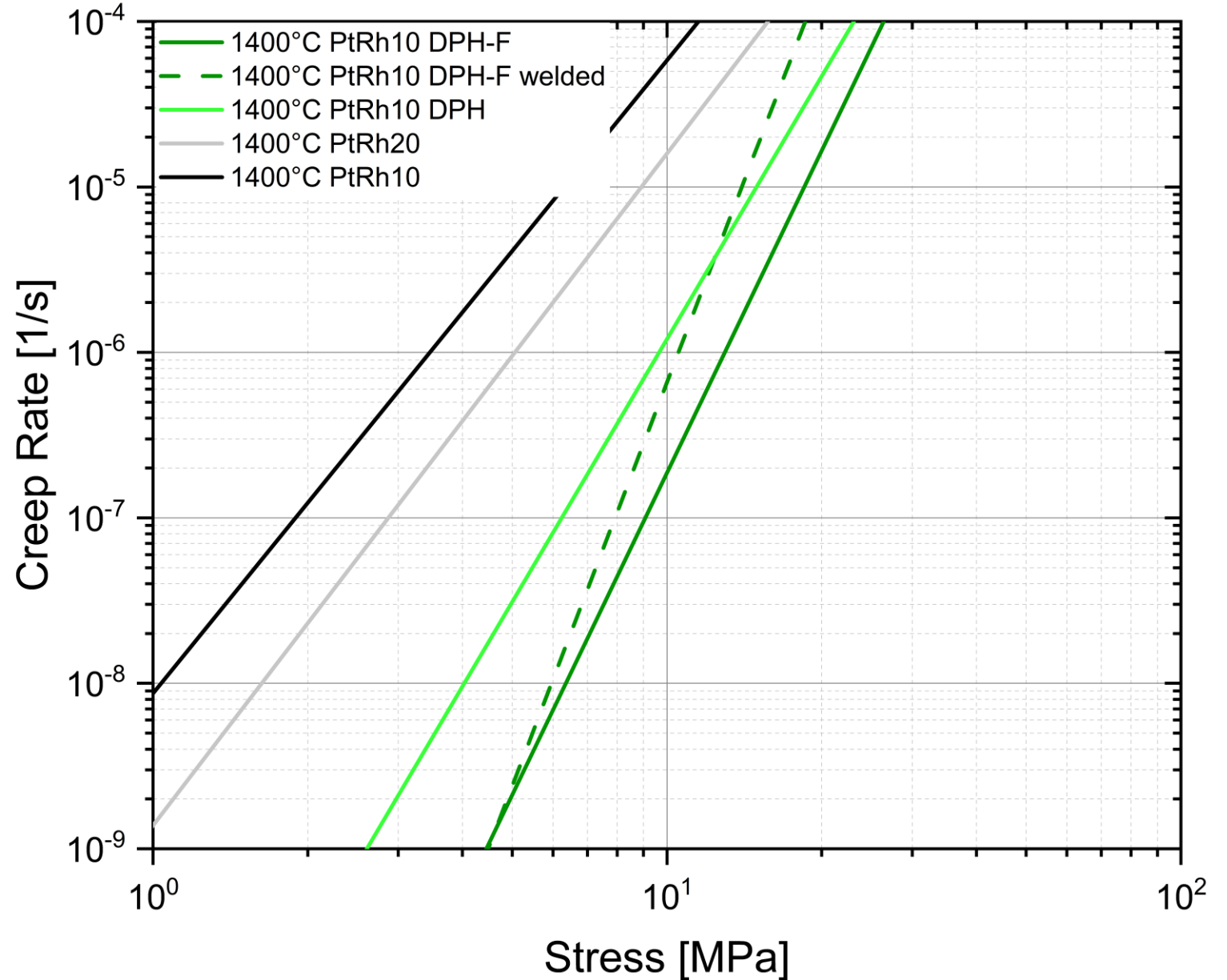
# DPH-FLEX PROPERTIES

- Improved Creep Strength
  - + 35% (vs DPH)
  
- Excellent Welding properties
  - Welded DPH-Flex shows the same creep strength as not welded DPH
  
- Excellent Creep Ductility > 20%



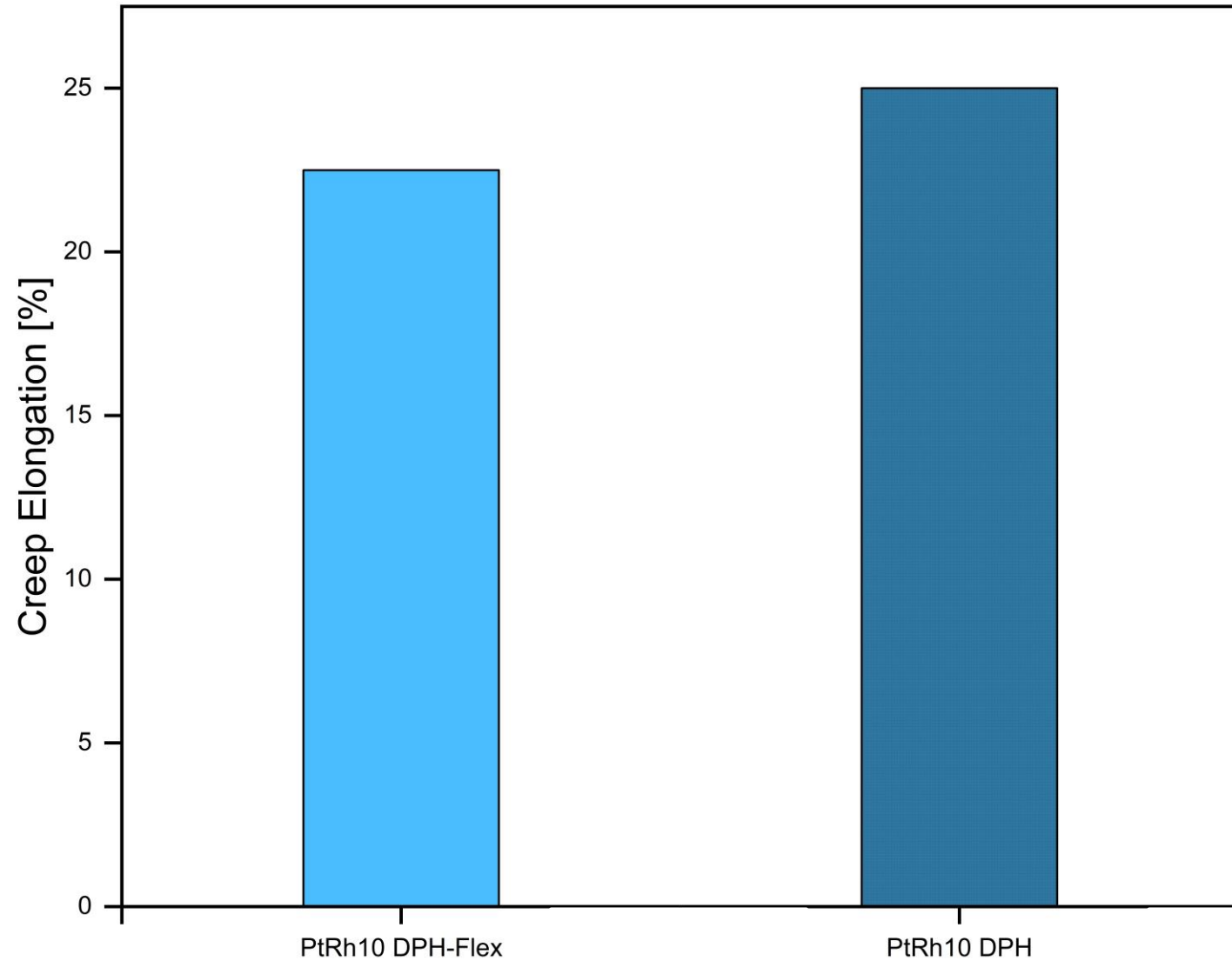
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## NEW DPH-PORTFOLIO

### DPH-Flex

- Newest addition to the family
- Excellent corrosion resistance
- Excellent thermal stability
- High creep strength
- High ductility
- Excellent weldability
- Available as PtRh alloy

Perfectly suited for medium stress applications with some allowance for deformation e.g. stirrer cells



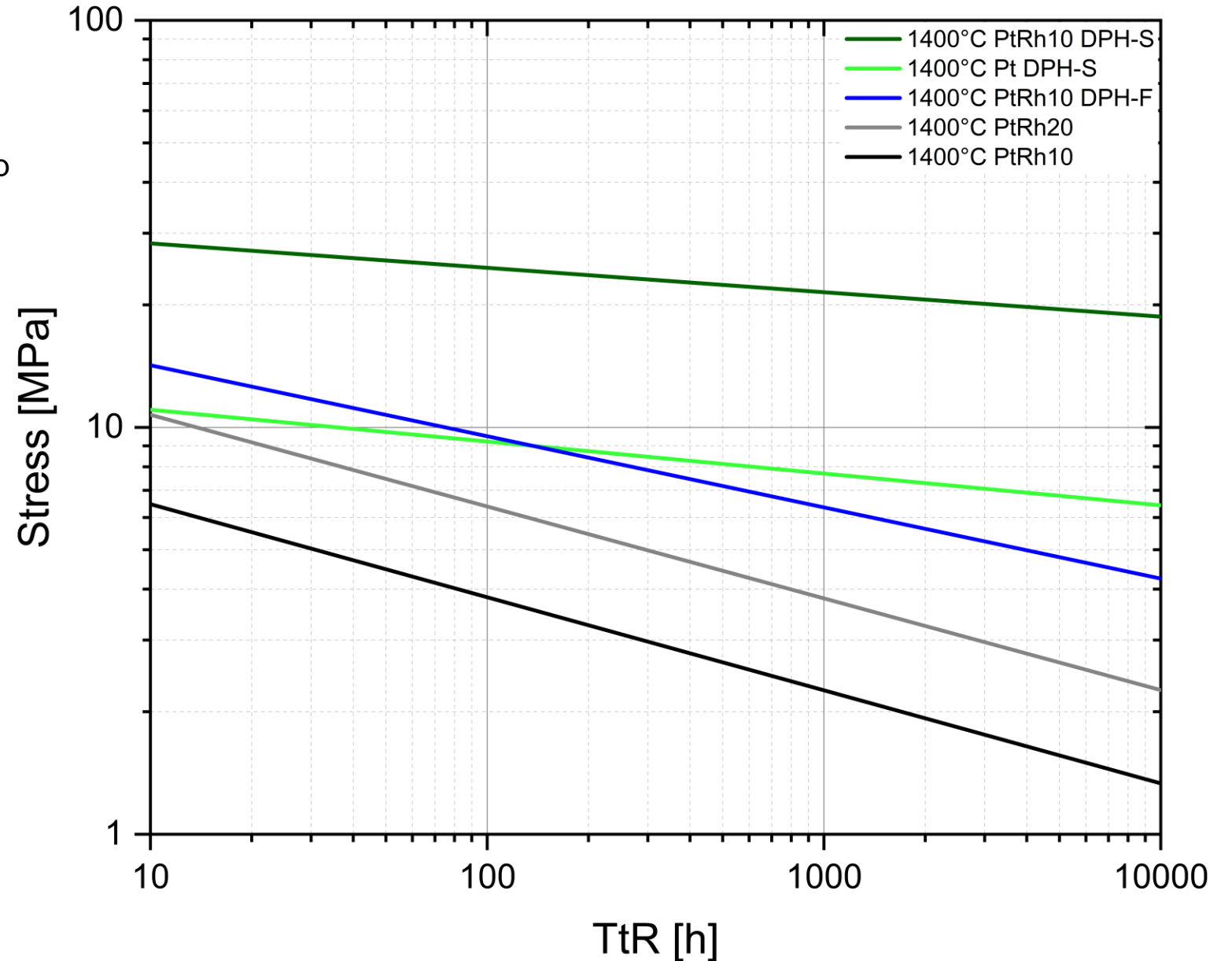
### DPH-STRONG

- Proven in glass industries
- Excellent corrosion resistance
- Excellent thermal stability
- Very high creep strength
- Good ductility
- Very good weldability
- Available as Pt & PtRh alloy

Perfectly suited for high stress applications with little allowance for deformation e.g. bushings or stirrers

## OLD VS NEW

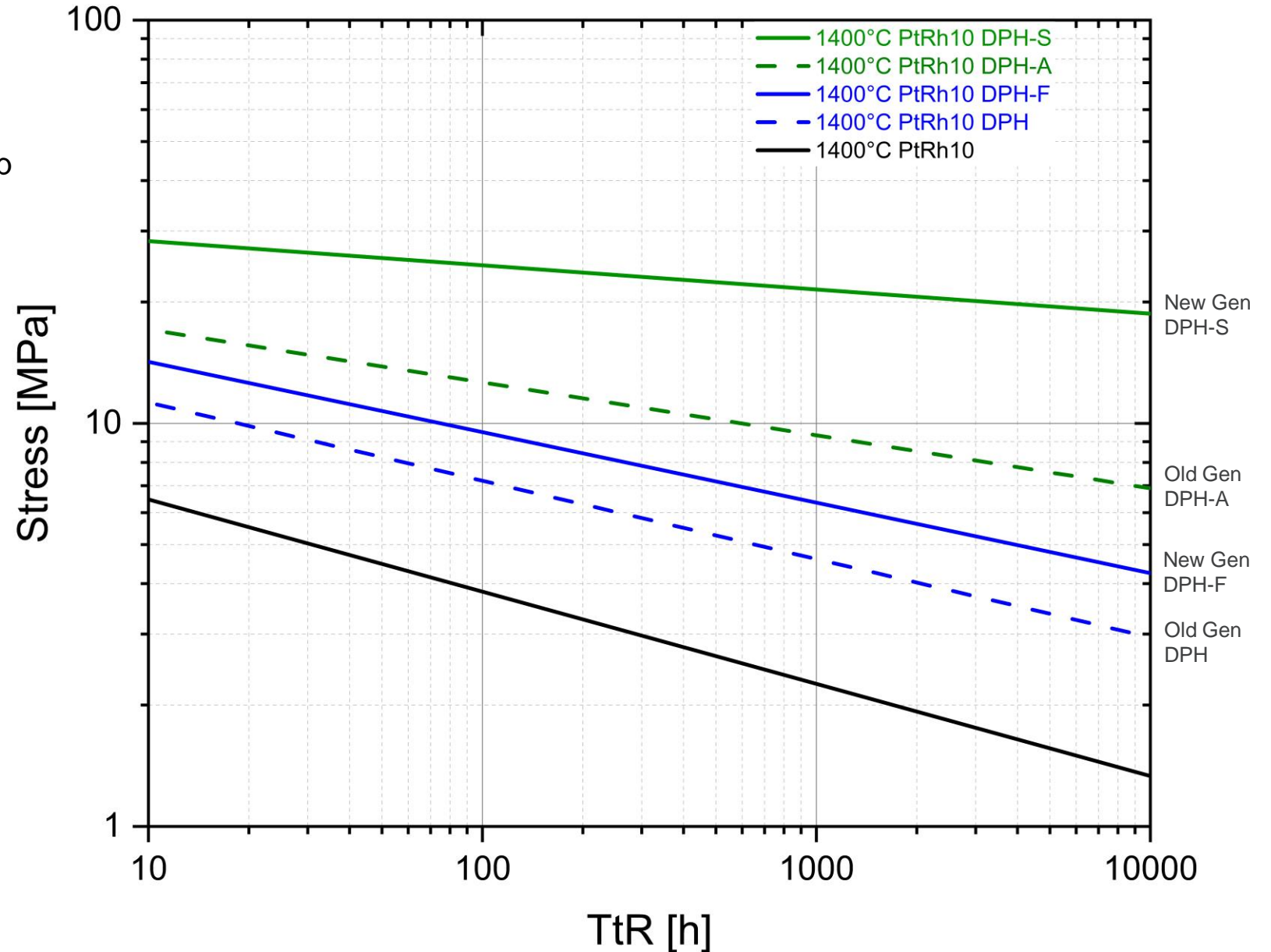
- The introduction of DPH-Flex rounds up Heraeus' new DPH portfolio, perfectly suited to meet the demands of the specialty glass industry
- Same principal chemical composition as DPH & DPH-strong (Yttria stabilized Zirconia)
- Well established in specialty glass industry (pharma, display, optical, etc.)





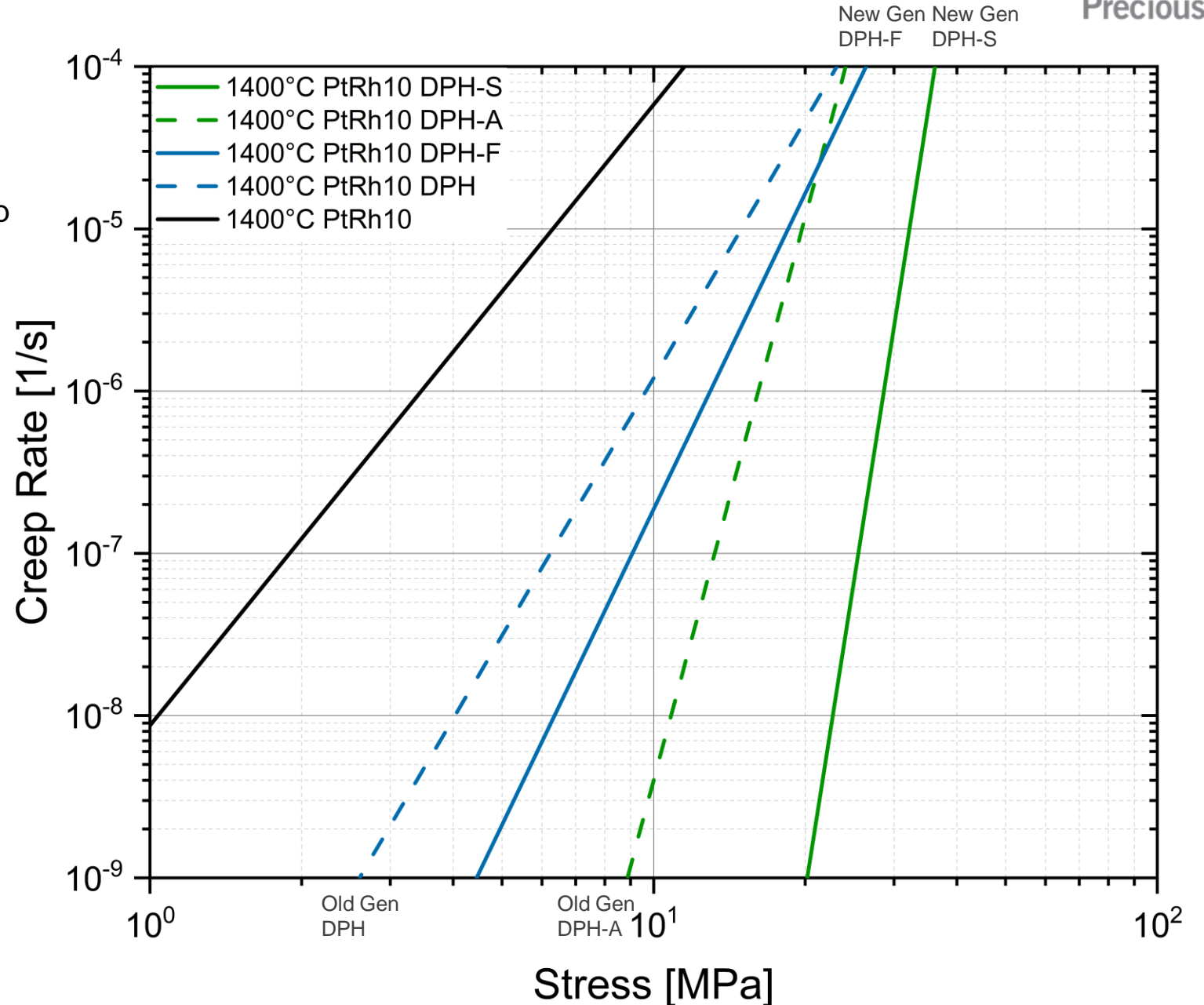
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