

Combining Competencies for Process Excellence

Comprehensive Platinum based solutions for the special glass industries

FKS Performance Materials



Tailored FKS Material Families



All our FKS grades do have one unique strength in common: Their defined material properties will never change anymore during the entire life time in a high temperature cycle – no matter how long the cycle lasts.

FKS Agilit

- » The choice for high creep elongation with reasonable creep rupture strength
- » Example: Components that are subject to frequent temperature cycling & components that are partially blocked due to their geometry thus material needs to deform without to crack

FKS Rigilit

- » The choice for high creep rupture strength at acceptable creep elongation
- » Example: Components that are subject to normal operational loads and local stress areas

FKS Saeculit

- » The choice for very high creep rupture strength with low relevance regarding creep elongation
- » Example: Components that are subject to very high operational loads

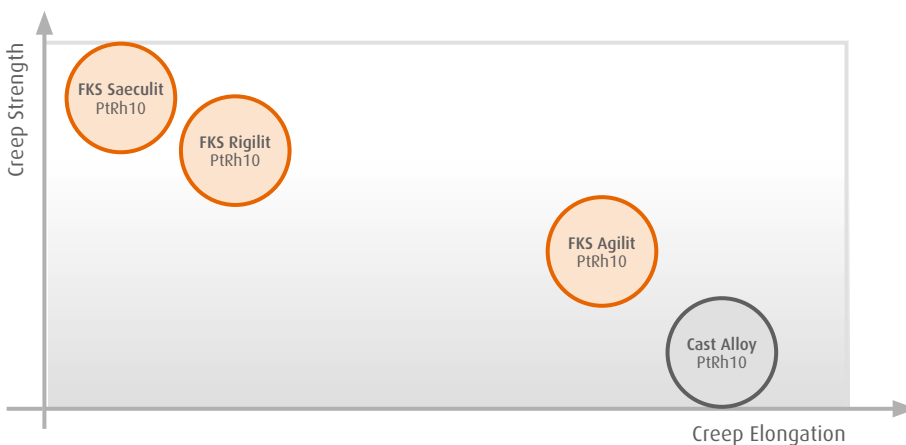
About FKS

- » FKS stands for “Fein Korn Stabilisiert”, which translates into “Fine Grain Stabilised”
- » Powdermetallurgical material families
- » Nano-sized particles inhibit grain growth
- » High Temperature mechanical strength is 4 to 8 times higher compared to identical cast alloys
- » Creep resistance of FKS PtRh10 is up to 10.000 times higher than that of an identical cast alloy
- » Superior forming behaviour enables fabrication of complex geometries
- » High chemical resistance against aggressive glass melts
- » Applicable to a wide range of alloys, e.g. PtRh, PtIr, PtAu, Pure Pt

Value in use

- » Significantly increasing component service times
- » Enabling Rhodium free solutions
- » Decreasing overall PGM requirement
- » Enabling advanced design solutions
- » Applicable to all special glass industry segments:
 - Technical Glass
 - Optical Glass
 - Fiber Glass
 - Display Glass
 - Crystal Glass

Correlation of different material grades @ 1400°C



Materials Technology & More

Being a materials technology group Umicore continuously develops new and improved material solutions based on the competence fields chemistry, metallurgy, and material science. As any design needs to be aligned with the respective material properties, it will always be the total system approach that finally leads to Process Excellence.

For inquiries and additional information please contact

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