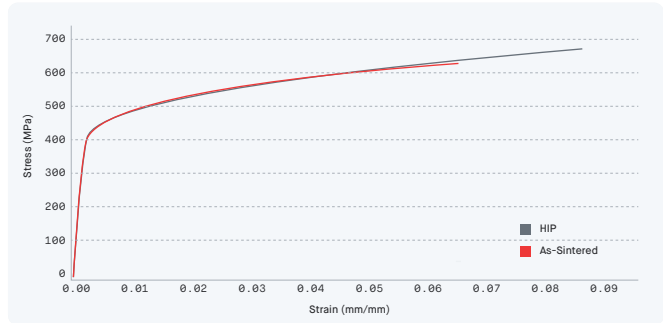


[Material Data Sheet]

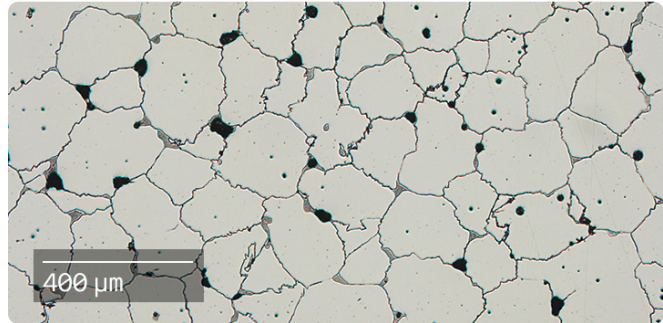
CoCrMo

Cobalt Chrome



COMPOSITION %

| | |
|----|---------|
| Co | Balance |
| Cr | 27 - 30 |
| Mo | 5 - 7 |
| Mn | <1 |
| Si | <1.3 |
| Fe | <0.75 |
| Ni | <0.5 |
| C | <0.35 |
| N | <0.25 |



MECHANICAL PROPERTIES ¹

| | Standard | Shop System™ As-Sintered | ISO 22674 type 4 | Shop System™ Sintered and HIP ² | ASTM F75 as cast |
|--------------------------------------|-----------|-----------------------------|---------------------|-----------------------------------------------|---------------------|
| Ultimate tensile strength - xy (MPa) | ASTM E8M | 600 ± 13 | — | 672 ± 21 | 655 |
| Yield strength - xy (MPa) | ASTM E8M | 424 ± 11 | 360 | 445 ± 9 | 450 |
| Elongation - xy (%) | ASTM E8M | 6.0 ± 2.0 | 2 | 8.5 ± 1.9 | 8 |
| Young's modulus - xy (GPa) | ASTM E111 | 231 ± 7 | — | 231 ± 7 | — |
| Hardness (HRC) | ASTM E18 | 17.9 ± 2.2 | — | 22.5 ± 0.9 | — |
| Density (g/cc) | ASTM B311 | 8.0 ± 0.1 | — | 8.28 ± 0.02 | — |

ATTRIBUTES & APPLICATIONS

Dental industry
 High temperature applications (e.g. fuel nozzles)
 Jewelry

OTHER STANDARD DESIGNATIONS ³

Cobalt-28 Chromium-6 Molybdenum
 ASTM F75
 UNS R30075
 ISO 5832-4

1. Mechanical properties noted represent mean values +/- 1 standard deviation across Xy & Yz orientations for as-printed samples.
 2. Samples were hot isostatic pressed at 1200C in 1000 bar argon for 4 hours.
 3. Listed designations are for reference purposes only. Composition and mechanical properties may vary.
 End-use material performance is impacted (+/-) by certain factors including but not limited to part geometry and design, application and evaluation conditions, etc.