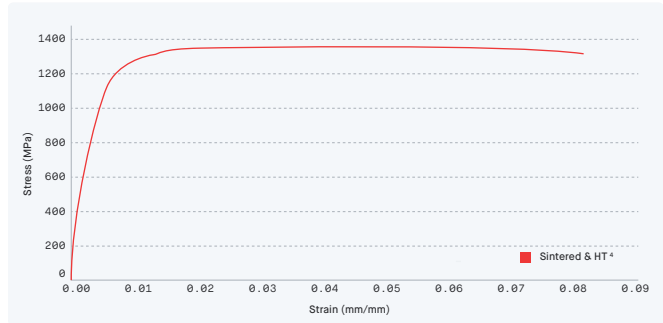


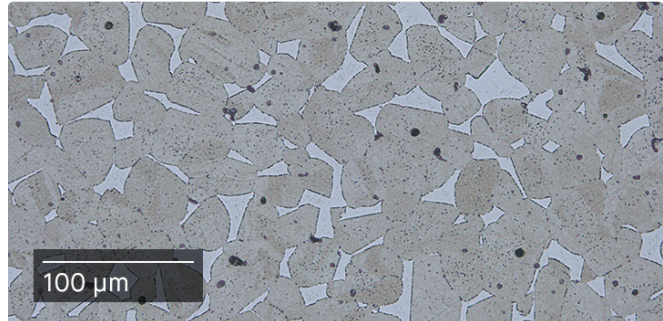
[Material Data Sheet]

17-4 PH Stainless Steel



COMPOSITION %

Fe	Balance
C	0.07 (max)
Cr	15.5 - 17.5
Ni	3.0 - 5.0
Cu	3.0 - 5.0
Mn	1.0 (max)
Nb + Ta	0.15 - 0.45
Si	1.0 (max)
S	0.03 (max)



MECHANICAL PROPERTIES

	Standard	Production System™ As-Sintered	ASTM B883 / MPIF 35 min As-Sintered	Production System™ H900 Heat Treated / ASTM A564	ASTM B883 / MPIF 35 H900 Heat Treated / ASTM A564
Ultimate tensile strength ¹ (MPa)	ASTM E8M	900 ± 20	790-900	1,315 ± 45	1,070-1,190
Yield strength ¹ (MPa)	ASTM E8M	655 ± 26	650-730	1,130 ± 42	970-1,090
Elongation at break (%)	ASTM E8M	10.9 ± 0.9	4-6	8.4 ± 2.4	6
Young's modulus ² (GPa)	ASTM E8M	-	180-190	-	-
Hardness (HRC)	ASTM E18	29.5 ± 1.5	27	42.5 ± 0.4	35
Density	g/cm ³	7.7	7.5	7.7	7.5
Surface roughness ³ (µm Ra)	ISO 4287	3-8	-	3-8	-

ATTRIBUTES & APPLICATIONS

- Acid & corrosion resistant
- High strength, hardness & elongation
- Surgical tooling / end-of-arm components (e.g. grippers, cutters)
- Mechanical components (static & dynamically loaded)
- Impact components (e.g. golf iron heads)

OTHER STANDARD DESIGNATIONS

- UNS S17400
- EN 1.4542

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1. YS & UTS properties noted represent mean values across Xy & Yx orientations.
2. Modulus available upon request.
3. Surface roughness measured in Z direction after sintering & sand blasting.
4. Stress strain curve reported in X print orientations after H900 heat treatment.