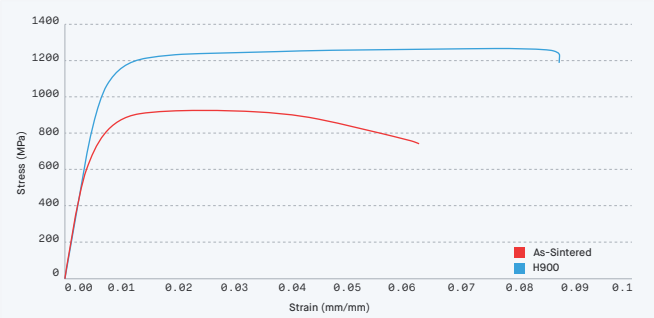
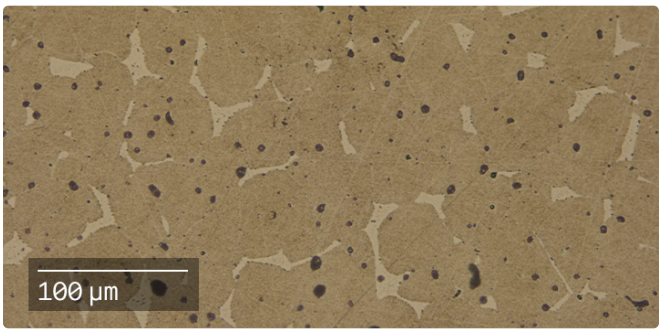
[Material Data Sheet]

17-4PH
Stainless Steel



COMPOSITION % (AISI/SAE 4140)

C	0.07 (max)
Cr	15.5 – 17.5
Ni	3 – 5
Cu	3 – 5
Mn	1.0 (max)
Nb+Ta	0.15 – 0.45
Fe	Balance



MECHANICAL PROPERTIES

	Standard	Studio System 2 As-Sintered	MIM - MPIF 35 min [2] As-Sintered	Studio System 2 H900 Heat Treated	MIM - MPIF 35 min [2] H900 Heat Treated
Yield strength – xy (MPa)	ASTM E8M	**695**	650	**1,110**	970
Ultimate tensile strength – xy (MPa)	ASTM E8M	**925**	790	**1,275**	1070
Elongation at break (%)	ASTM E8M	**5.3%**	4%	**8.1%**	4%
Hardness (HRC)	ASTM E18	**26**	27 (typ)	**39**	33 (typ)
Density (g/cc)	ASTM B311	**7.56**	7.5	**7.56**	7.5

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 [1]

- UNS S17400
- EN 1.4542
- ISO 4542-174-00-I

1. Listed designations are for reference purposes only. Composition and mechanical properties may vary.
2. Per MPIF Standard 35, Materials Standards for Metal Injection Molded Parts (MPIF 35-MIM, 2018).

End-use material performance is impacted (+/-) by certain factors including but not limited to part geometry and design, application and evaluation conditions, etc.
Tensile properties and density data reported are mean values minus 1 sigma.