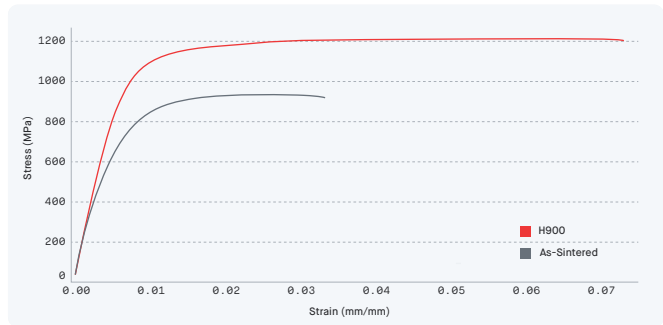


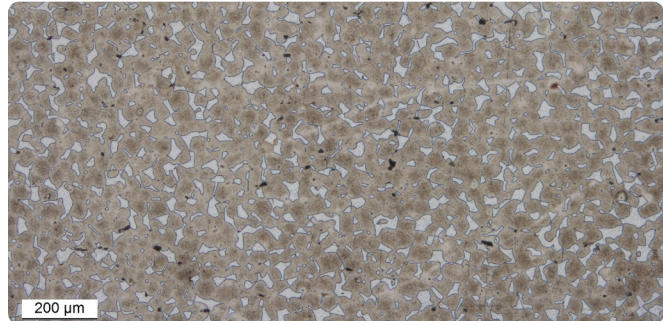
[Material Data Sheet]

# 17-4 PH Stainless Steel



### COMPOSITION %

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



### MECHANICAL PROPERTIES <sup>2</sup>

	Standard	Shop System™ As-Sintered	MIM - MPIF 35 min <sup>2</sup> As-Sintered	Shop System™ H900 Heat Treat	MIM - MPIF 35 min <sup>2</sup> H900 Heat Treat
Yield strength (MPa)	ASTM E8M	<b>660±40</b>	650	<b>981±50</b>	970
Ultimate tensile strength (MPa)	ASTM E8M	<b>912±35</b>	790	<b>1205±35</b>	1070
Elongation at break (%)	ASTM E8M	<b>5.9±2</b>	4	<b>11.9±5</b>	4
Young's modulus (GPa)	ASTM E8M	<b>178±30</b>	190 (typ)	<b>185±20</b>	190 (typ)
Hardness (HRC)	ASTM E18	<b>26.4±1</b>	27 (typ)	<b>40.5±2</b>	35 (typ)
Density (g/cc)	ASTM B311	<b>7.5-7.66</b>	7.5	<b>7.5-7.66</b>	7.5

### SURFACE ROUGHNESS (@ 75 μM LAYER THICKNESS)

xy (μm Ra)	<b>4.1</b>
z (μm Ra)	<b>8.0</b>

### OTHER STANDARD DESIGNATIONS <sup>1</sup>

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.

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