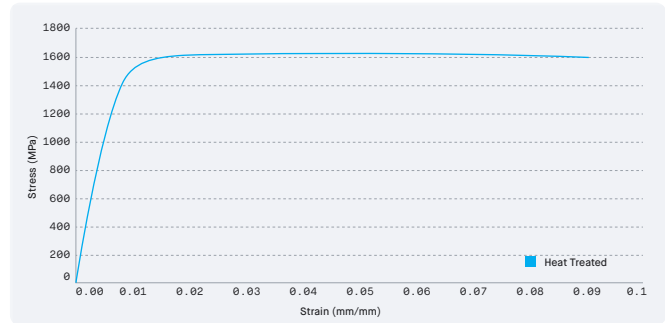


[Material Data Sheet]

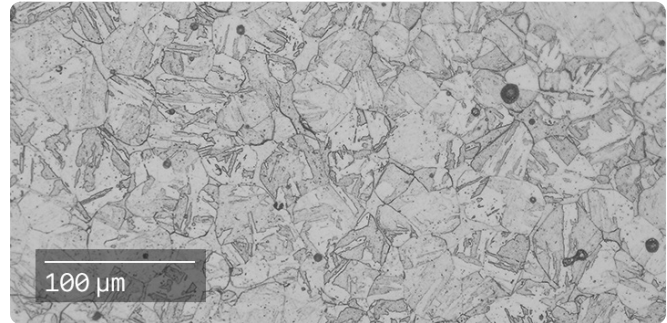
DM HH-SS

High Strength & Hardness Stainless Steel



COMPOSITION %

Fe	Balance
Cr	11 – 13
Ni	8.4 – 10
Mo	1.1 – 1.7
Al	1.2 – 2.0
Mn	0.4 (max)
Si	0.4 (max)
C	0.05 (max)



as-sintered microstructure

MECHANICAL PROPERTIES

	Standard	Production System™ Solutionized & Aged ASTM A564
Ultimate tensile strength ¹ (MPa)	ASTM E8M	1,595 ± 33
Yield strength ^{1,2} (MPa)	ASTM E8M	1,480 ± 32
Elongation at break (%)	ASTM E8M	8.9 ± 1.9
Young's modulus (GPa)	ASTM E8M	197
Hardness (HRC)	ASTM E18	49.1 ± 0.9
Charpy impact strength (J)	ASTM E23	133 ± 23
Density (g/cc)	-	7.54 ± 0.01
Surface roughness ³ (μm Ra)	ISO 4287	3 – 8

OTHER STANDARD DESIGNATIONS

UNS 13800 Modified

ATTRIBUTES & APPLICATIONS

Tooling-grade steel that combines good corrosion resistance with high strength and hardness while maintaining high elongation

Excellent wear and fatigue resistance

Wide range of applications from tooling to high-volume, end-use components

1. YS & UTS properties noted represent mean values across Xy orientations.
 2. 0.2% Offset Yield Strength
 3. Surface roughness measured in Z direction after sintering & sand blasting.
 Stress strain curve reported in X print orientations after heat treatment.