

HAYNES[®] 25 alloy

Tensile Properties

Solution-Annealed Plate

Test Temperature		0.2% Offset Yield Strength		Ultimate Tensile Strength		Elongation
°F	°C	ksi	MPa	ksi	MPa	%
RT		68.7	474	145.1	1000	58.8
1000	538	38.4	265	122.1	842	71.0
1200	649	33.4	230	123.5	852	64.3
1400	760	34.4	237	86.0	593	45.7
1600	871	32.0	221	48.3	333	104.7
1800	982	18.7	129	27.3	188	113.7
2000	1093	9.3	64	14.5	100	97.5

Solution-Annealed Sheet

Test Temperature		0.2% Offset Yield Strength		Ultimate Tensile Strength		Elongation
°F	°C	ksi	MPa	ksi	MPa	%
RT		69.0	476	144.5	996	54.7
1000	538	38.8	268	119.0	820	63.4
1200	649	37.2	256	119.3	823	54.2
1400	760	35.5	245	82.5	569	33.9
1600	871	33.5	231	46.3	319	97.8
1800	982	18.6	128	25.8	178	94.1
2000	1093	9.0	62	13.3	92	63.0

Hot-Rolled and 2250°F (1230°C) Solution-Annealed Bar*

Test Temperature		0.2% Offset Yield Strength		Ultimate Tensile Strength		Elongation
°F	°C	ksi	MPa	ksi	MPa	%
RT	RT	73	505	147	1015	60
1000	538	43	295	113	780	63
1200	649	43	295	105	725	49
1400	760	41	285	90	620	29
1600	871	34	235	54	370	29
1800	982	19	130	28	195	41

*Limited data

RT = Room Temperature

*Elevated temperature tensile tests for bar were performed with a strain rate that is no longer standard. These results were from tests with a strain rate of 0.005 in./in./minute through yield and a crosshead speed of 0.5 in./minute for every inch of reduced test section from yield through

failure. The current standard is to use a strain rate of 0.005 in./in./minute through yield and a crosshead speed of 0.05 in./minute for every inch of reduced test section from yield through failure.

[Print Page](#)