

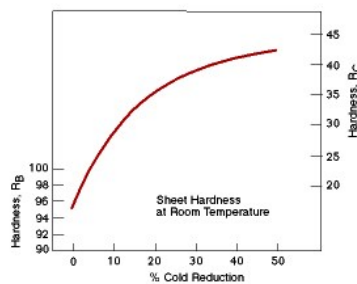
# HAYNES<sup>®</sup> 230<sup>®</sup> alloy

## Fabrication

### Heat Treatment

HAYNES<sup>®</sup> 230<sup>®</sup> alloy is normally final solution heat-treated at 2250°F (1230°C) for a time commensurate with section thickness. Solution heat-treating can be performed at temperatures as low as about 2125°F (1165°C), but resulting material properties will be altered accordingly. Annealing during fabrication can be performed at even lower temperatures, but a final, subsequent solution heat treatment is needed to produce optimum properties and structure. Please refer to following sections and publication [click here](#) for additional information.

### Typical Hardness Properties



### Effect of Cold Reduction Upon Room-Temperature Tensile Properties\*

Cold Reduction	Subsequent Anneal Temperature	Yield Strength 0.2% Offset		Ultimate Tensile Strength		Elongation
		ksi	MPa	ksi	MPa	
%						%
0	None	61.8	425	128.2	885	46.6
10		104.0	715	144.5	995	31.8
20		133.4	920	163.9	1130	16.8
30		160.1	1105	187.5	1295	9.7
40		172.4	1190	201.5	1390	7.5
50		184.6	1275	214.6	1480	6.0
10		1950°F (1066°C)	91.9	635	143.5	990
20	80.8		555	141.9	980	35.6
30	75.9		525	142.1	980	35.7
40	81.2		560	145.5	1005	32.3
50	86.1		595	147.7	1020	34.6
10	2050°F (1121°C)	80.8	555	139.0	960	36.5
20		65.4	450	135.7	935	39.2
30		72.0	495	140.0	965	37.6
40		76.1	525	142.3	980	35.5
50		80.8	555	143.9	990	36.3
10	2150°F (1177°C)	55.5	385	129.5	895	43.7
20		64.4	445	134.3	925	40.1
30		70.2	485	138.1	950	38.5

40		73.4	505	139.2	960	38.1
50		71.9	495	137.7	950	39.1

\*Based upon rolling reductions taken upon 0.120-inch (3.0 mm) thick sheet.

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