

HASTELLOY[®] C-22HS[®] alloy

Thermal Stability

Effects of Thermal Exposure on Tensile Properties of 0.5 in Diameter,
Cold-worked (43%) Bar

Initial Material Condition	Thermal Exposure	Test Temperature		0.2% Offset Yield Strength		Ultimate Tensile Strength		Elongation	R.A.
		°F	°C	ksi	MPa	ksi	MPa	%	%
43% Cold-worked Bar	-	RT	RT	195.1	1345	200.4	1382	18.0	65.2
		500	260	181.0	1248	181.1	1249	14.1	60.8
43% Cold-worked Bar	500°F/4000h/AC	RT	RT	205.8	1419	212.6	1466	16.0	62.6
		500	260	176.0	1214	178.5	1231	15.0	61.1
43% Cold-worked Bar	500°F/8000h/AC	RT	RT	209.9	1447	209.9	1447	16.0	60.7
		200	93	192.8	1329	192.8	1329	17.0	63.8
		500	260	186.6	1287	186.6	1287	13.4	60.7

AC=Air Cool

RT= Room Temperature

R.A.= Reduction of Area

Effects of Thermal Exposure on Impact Strength of 1 in Diameter, Cold-worked (44%) Bar

Initial Material Condition	Thermal Exposure	Charpy Impact Energy	
		ft.ibf	J
		RT	-75°F (-59°C)
44% Cold-worked	-	146 (198)	153 (207)
44% Cold-worked	500°F/4000h/AC	136 (184)	135 (183)

AC= Air Cooled

RT= Room Temperature