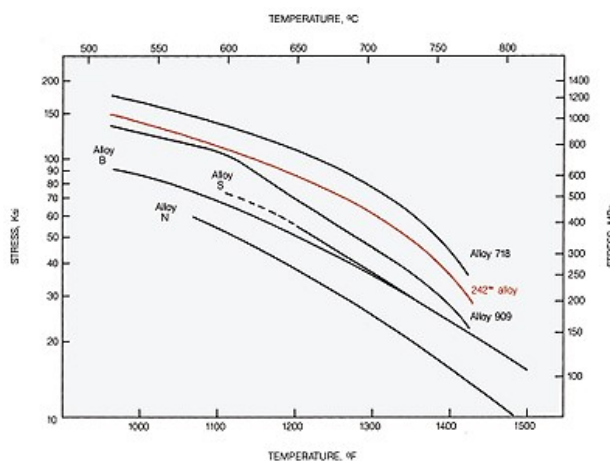


HAYNES[®] 242[®] alloy

Creep and Stress-Rupture Strength

HAYNES[®] 242[®] alloy is an age-hardenable material which combines excellent strength and ductility in the aged condition with good fabricability in the annealed condition. It is particularly effective for strength-limited applications up to 1300°F (705°C), where its strength is as much as double that for typical solid-solution strengthened alloys.

Comparison of 100 Hour Stress-Rupture Strengths*



*Alloy B and Alloy N sheet products. All others hot forged or rolled plate, bar, and rings.

242[®] Plate, Age-Hardened

Temperature		Creep	Approximate Initial Stress to Produce Specified Creep in							
			10 Hours		100 Hours		1,000 Hours		10,000 Hours	
°F	°C	%	ksi	MPa	ksi	MPa	ksi	MPa	ksi	MPa
1000	538	0.5	-	-	-	-	-	-	-	-
		1	-	-	-	-	-	-	-	-
		R	153	1055	138	952	122	841	109	752
1100	593	0.5	-	-	-	-	-	-	75	517
		1	-	-	-	-	-	-	79	545
		R	126	869	112	772	100	690	85	586
1200	649	0.5	-	-	82	565	62	427	38	262
		1	-	-	85	586	66	455	42	290
		R	105*	724*	91	627	75	517	48	331
1300	704	0.5	72	496	48	331	33	228	13*	90*
		1	75	517	53	365	37	255	17*	117*
		R	87*	600*	66	455	44	303	25	172
1400	760	0.5	24	165	12	83	-	-	-	-
		1	27	186	15	103	8.0	55	-	-
		R	46	317	29	200	18	124	-	-

*Significant extrapolation

242[®] Sheet, Age-Hardened

Temperature		Creep	Approximate Initial Stress to Produce Specified Creep in					
			10 Hours		100 Hours		1,000 Hours	
°F	°C	%	ksi	MPa	ksi	MPa	ksi	MPa
1000	538	0.5	-	-	-	-	-	-
		1	-	-	-	-	-	-
		R	-	-	133	917	125	862
1100	593	0.5	-	-	-	-	97	669
		1	-	-	-	-	102	703
		R	-	-	117	807	110	758
1200	649	0.5	-	-	79	545	58	400
		1	-	-	82	565	62	427
		R	110*	758*	90	621	69	476
1300	704	0.5	59	407	44	303	33	228
		1	64	441	47	324	35	241
		R	80	552	57	393	41	283
1400	760	0.5	21	145	12*	83*	-	-
		1	24	165	14	97	-	-
		R	41	283	25	172	15	103

*Significant extrapolation