

RA330 Advantages

- The microstructure and chemical content of RA330 is very tightly controlled to enable it to withstand the effects of carburization as well as thermal shock and thermal fatigue, making it a prime candidate for thermal processing applications.
- RA330 can handle temperatures up to 2100°F which is higher than or comparable to other alloys with almost twice as much nickel. Alloys like 625 (1800°F) & 600 (2100°F) have significantly higher cost and little if any significant advantage.
- RA330 has been assigned to ASME P number 46 and can be welded using RA330-04 or 82 weld fillers.

RA 253 MA Advantages

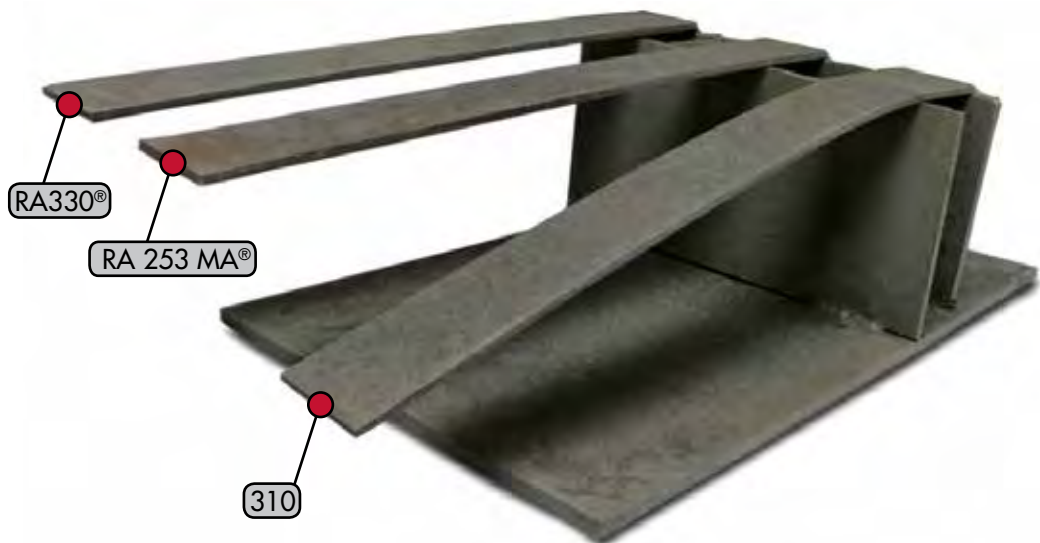
- RA 253 MA has a leaner nickel content that allows it to remain very cost effective versus nickel base alloys.
- RA 253 MA has great high temperature strength, similar to high nickel alloys like alloy 601, and superior to other lower nickel stainlesses.
- RA 253 MA has been assigned to the same P group in ASME Section IX as 309 stainless and welded using standard practices (P - 8, Group 2).

Chemical Composition, %

	UNS	W.Nr	Cr	Ni	Si	Mn	C	Ce	N	Fe
RA330 [®]	N08330	1.4886	19	35	1.25	1.0	0.06	—	—	balance
RA 253 MA [®]	S30815	1.4835	21	11	1.7	0.6	0.08	0.04	0.17	balance

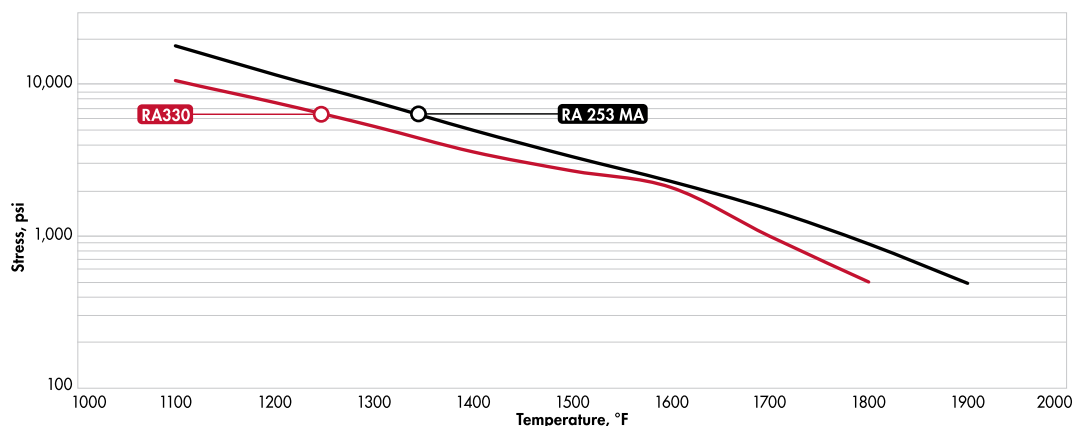
Cantilever Testing

3 x 6 hour cycles at 2000°F



Average Stress

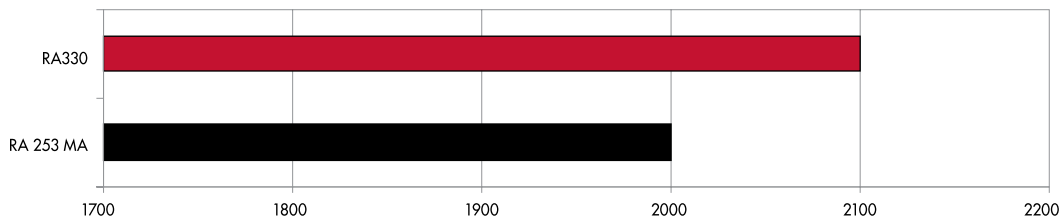
0.0001% Per Hour
Minimum Creep Rate



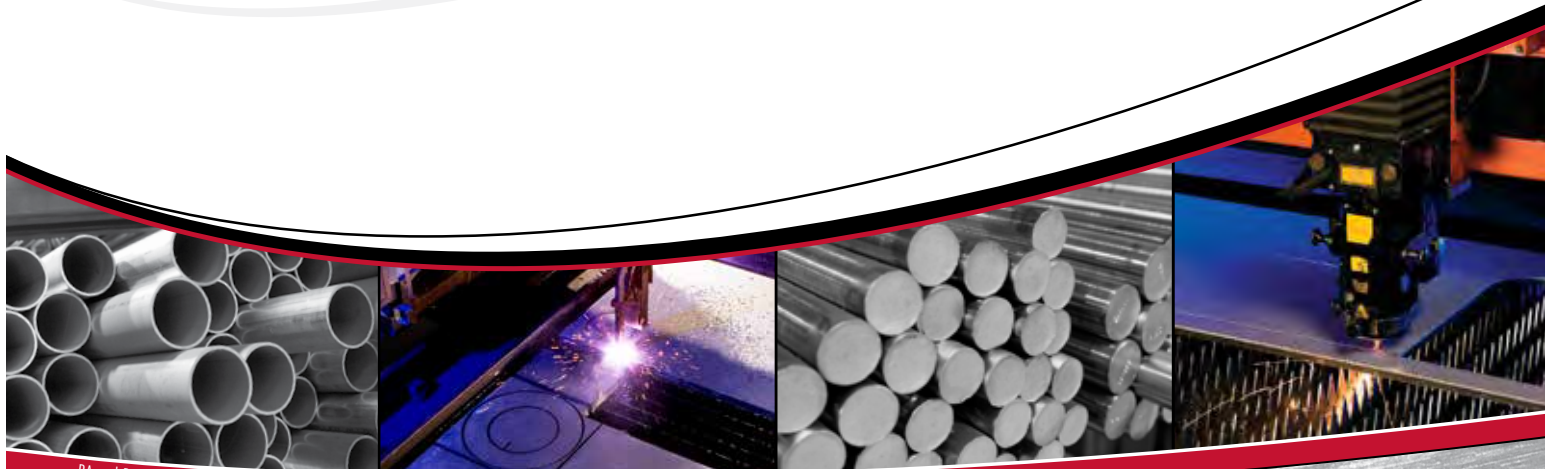
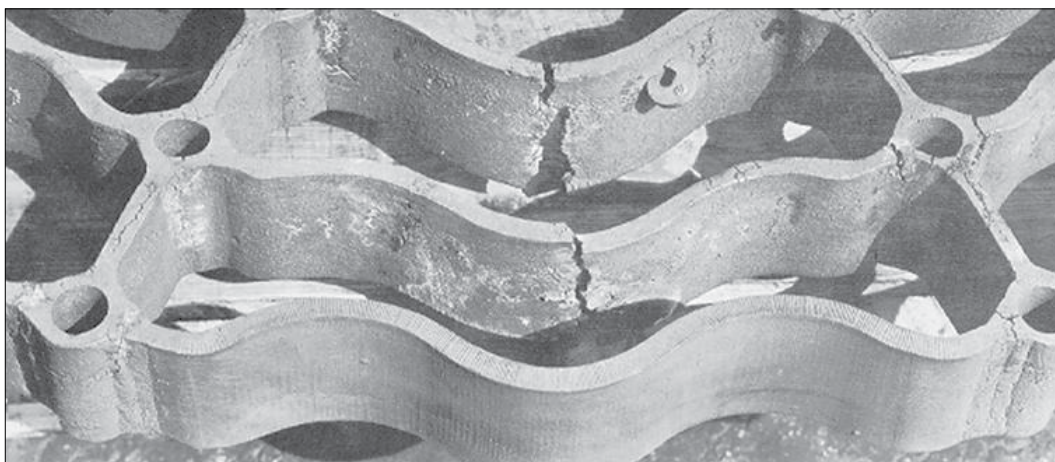
ASME Section VIII Div. 1
Maximum allowable
design stresses, ksi

	1100°F	1200°F	1350°F	1500°F	1650°F
RA330	7.8	4.7	2.4	1.1	0.48
RA 253 MA	9.0	5.2	2.4	1.3	0.71

**Maximum Suggested
Temperature Limit in Air**



Thermal Fatigue
RA330 vs cast



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