

Chemical Composition %

Element	AMS 5737		AMS 5732		ASTM A453	
	Min	Max	Min	Max	Min	Max
C	-	0.08	-	0.08	-	0.08
Mn	-	2.00	-	2.00	-	2.00
Si	-	1.00	-	1.00	-	1.00
P	-	0.025	-	0.025	-	0.040
S	-	0.025	-	0.025	-	0.030
Cr	13.50	16.00	13.50	16.00	13.50	16.00
Ni	24.00	27.00	24.00	27.00	24.00	27.00
Mo	1.00	1.50	1.00	1.50	1.00	1.50
Ti	1.90	2.35	1.90	2.35	1.90	2.35
B	0.003	0.010	0.003	0.010	0.001	0.010
V	0.10	0.50	0.10	0.50	0.10	0.50
Co	-	1.00	-	1.00	-	-
Al	-	0.35	-	0.35	-	0.35
Cu	-	0.50	-	0.50	-	-
Fe	-	bal	-	bal	-	bal

Melt Practice

Specification	Practice
AMS 5737	EAF/AOD + VAR
AMS 5732	EAF/AOD + ESR
ASTM A453	EAF/AOD + ESR

Minimum Room Temperature Tensile Properties

Property	AMS 5737	AMS 5732	ASTM A453		
			Class A, B, C	Class D, ≤2.5"	Class D, >2.5"
Tensile Strength (ksi)	140	130	130	130	120
Yeild Strength (0.2% Offset)	95	85	85	105	95
Elongation in 4D (%)	12	15	15	15	15
Reduction of Area (%)	15	20	18	18	18
Hardness (HBW)	277 - 363	248 - 341	248 - 341	248 - 321	248 - 321

Heat Treatment

Specification	Solution Heat Treat	Precipitation Heat Treat
AMS 5737	<ul style="list-style-type: none"> - Heat to 1650±25°F - Hold at temperature* - Liquid quench - Product 0.25" and under may be air cooled. 	<ul style="list-style-type: none"> - Heat to 1300-1400°F - Hold for minimum 16 Hrs - Air cool
AMS 5732	<ul style="list-style-type: none"> - Heat to 1800±25°F - Hold at temperature* - Liquid quench or other medium acceptable to purchaser. 	<ul style="list-style-type: none"> - Heat to 1300-1400°F - Hold for minimum 16 Hrs - Air cool or equivalent
ASTM A453 Class B	<ul style="list-style-type: none"> - Heat to 1800±25°F - Hold 1 hour - Liquid quench 	<ul style="list-style-type: none"> - Heat to 1325±25°F - Hold 16 hours - Air Cool
ASTM A453 Class D	<ul style="list-style-type: none"> 1) Heat to 1650±25°F - Hold for 2 Hrs 2) Heat to 1800±25°F - Hold for 1 Hr 1+2) Liquid quench 	<ul style="list-style-type: none"> 1) Heat to 1325±25°F - Hold for 16 hours - Air cool 2**) Heat to 1200±25°F - Hold for 16 hours - Air cool

*Hold at time commensurate with cross-sectional thickness **If necessary to achieve properties, second age

Minimum Stress Rupture Property Requirements at 1200 °F

Specification	Practice
AMS 5737 & AMS 5732	<p>Rupture testing shall be maintained at 1200°F with a load sufficient to produce at least 65 ksi for AMS 5737 and 70 ksi for AMS 5732. Rupture shall not occur in <23 hours. Elongation shall not be less than 5% if the specimen ruptures in ≤48 hours and not less than 3% if the specimen ruptures in >48 hours. This is the primary procedure. However, there is a second procedure located in both AMS 5737 & AMS 5732.</p>
ASTM A453 Class B.	<p>A test specimen is maintained at 1200°F with a load sufficient to produce 56 ksi or higher continuously and shall not rupture in <100 hours. The elongation after rupture shall not be <5%.</p>

This comparison is to be used only for general information regarding these specifications and is not to be used for final information. For complete details, see AMS 5737, AMS 5732, and ASTM A453.