Table 6.2.1.0(b). Design Mechanical and Physical Properties of A-286 Alloy

Specification	AMS 5525	AMS 5731 AMS 5732		AMS 5734 AMS 5737	
Form	Sheet, strip, and plate	Bar			
Condition	Solution treated and aged				
Thickness or diameter, in.	>0.004	≤2.499	2.500-5.000	≤2.499	2.500-5.000
Basis	S[a]	S	S	S	S
Mechanical Properties:					
F_{tu}, ksi:					
L	...	130	130	140	140
LT	140	130[b]	130	140[b]	140
ST	...	...	130	...	140
F_{ty}, ksi:					
L	...	85	85	95	95
LT	95	85[b]	85	95[b]	95
ST	...	...	85	...	95
F_{cy}, ksi:					
L	...	85	85	95	95
LT	95	...	...	...	...
F_{su}, ksi	91	85	85	91	91
F_{bru}, ksi:					
(e/D = 1.5)	210	195	195	210	210
(e/D = 2.0)	266	247	247	266	266
F_{bry}, ksi:					
(e/D = 1.5)	142	127	127	142	142
(e/D = 2.0)	171	153	153	171	171
e, percent:					
L	...	15	15	12	12
LT	15	15[b]	15	12[b]	12
ST	...	...	15	...	12
RA, percent:					
L	...	20	20	15	15
LT	...	20[b]	20	15[b]	15
ST	...	...	20	...	15
E, 10^3 ksi	29.1				
E_c, 10^3 ksi	29.1				
G, 10^3 ksi	11.1				
μ	0.31				
Physical Properties:					
ω, lb/in.^{3}	0.287				
C, K, and α	See Figure 6.2.1.0				

a Test direction longitudinal for widths less than 9 inches; transverse for widths 9 inches and over.
b Applicable to widths ≥2.500 inches only.

Table 6.3.5.0(c). Design Mechanical and Physical Properties of Inconel 718 Bar and Forging

Specification	AMS 5662 and AMS 5663								AMS 5664	
Form	Bar							Forging	Bar	Forging
Condition	Solution treated and aged per indicated specification									
Thickness, in.	0.250-1.000	1.001-1.500	1.501-2.000	2.001-2.500	2.501-3.000	3.001-4.000	4.001-5.000	≤5.000	≤10.000	≤10.000
Basis	S	S	S	S	S	S	S	S	S	S
Mechanical Properties:										
F_{tu}, ksi:										
L	185	185	185	185	185	185	185	185	185	180
LT[a]	180	180	180	180	180	180	180	180	180	180
ST[a]	...	...	...	...	180	180	180	...	...	180
F_{ty}, ksi:										
L	150	150	150	150	150	150	150	150	150	150
LT[a]	150	150	150	150	150	150	150	150	150	150
ST[a]	...	...	...	...	146	150	150	...	...	150
F_{cy}, ksi:										
L	156	156	156	156	156	156	156	...	...	...
ST	...	...	...	156	156	156	156	...	...	...
F_{su}, ksi	111	114	116	118	119	121	123	...	...	...
F_{bru}[b], ksi:										
(e/D = 1.5)	309	309	309	309	309	309	309	...	...	...
(e/D = 2.0)	394	394	394	394	394	394	394	...	...	...
F_{bry}[b], ksi:										
(e/D = 1.5)	216	216	216	216	216	216	216	...	...	...
(e/D = 2.0)	257	257	257	257	257	257	257	...	...	...
e, percent:										
L	12	12	12	12	12	12	12	12	10	12
LT[b]	6	6	6	6	6	6	6	10	10	12
ST[b]	...	...	...	...	6	6	6	...	10	12
RA, percent:										
L	15	15	15	15	15	15	15	15	12	15
LT[b]	8	8	8	8	8	8	8	12	12	15
ST[b]	...	...	...	...	8	8	8	...	12	15
E, 10^3 ksi:	29.4									
E_c, 10^3 ksi:	30.9									
G, 10^3 ksi	11.4									
μ	0.29									
Physical Properties:										
ω, lb/in.^{3}	0.297									
C, K, and α	See Figure 6.3.5.0									

a Applicable providing LT or ST direction is ≥2.500 inches.
b Bearing values are "dry pin" values per Section 1.4.7.1.