

Table 2.3.1.0(c₁). Design Mechanical and Physical Properties of Air Melted Low-Alloy Steels

Alloy	AISI 4130		AISI 4135		AISI 8630	
Specification [see Tables 2.3.1.0(a) and (b)]	AMS 6360 AMS 6373 AMS 6374 AMS-T-6736 AMS-S-18729		AMS 6365 AMS-T-6735 ^a		AMS-S-18728 ^a	
Form	Sheet, strip, plate, and tubing		Tubing		Sheet, strip, and plate	
Condition	Normalized and tempered, stress relieved ^b					
Thickness or diameter, in. ...	≤0.188	>0.188	≤0.188	≤0.188	≤0.188	≤0.188
Basis	S	S	S	S	S	S
Mechanical Properties:						
F_{tu} , ksi	95	90	100	95	95	90
F_{ty} , ksi	75	70	85	80	75	70
F_{cy} , ksi	75	70	89	84	75	70
F_{su} , ksi	57	54	60	57	57	54
F_{bru} , ksi:						
(e/D = 1.5) .....	...	...	...	...	...	...
(e/D = 2.0)	200	190	190	180	200	190
F_{bry} , ksi:						
(e/D = 1.5) .....	...	...	...	...	...	...
(e/D = 2.0)	129	120	146	137	129	120
e , percent	See Table 2.3.1.0(d)					
E , 10 ³ ksi	29.0					
E_c , 10 ³ ksi	29.0					
G , 10 ³ ksi	11.0					
μ	0.32					
Physical Properties:						
ω , lb/in. ³	0.283					
C , K , and α	See Figure 2.3.1.0					

a Noncurrent specification.

b Design values are applicable only to parts for which the indicated F_{tu} has been substantiated by adequate quality control testing.

Table 2.3.1.0(c₂). Design Mechanical and Physical Properties of Air Melted Low-Alloy Steels

Alloy	AISI 4130		
Specification [see Tables 2.3.1.0(a) and (b)]	AMS 6361 AMS-T-6736	AMS 6362 AMS-T-6736	AMS-T-6736
Form	Tubing		
Condition	Quenched and tempered ^a		
Thickness or diameter, in. ...	≤0.188	≤0.188	All Walls
Basis	S	S	S
Mechanical Properties:			
F_{tu} , ksi	125	150	180
F_{ty} , ksi	100	135	165
F_{cy} , ksi	109	141	173
F_{su} , ksi	75	90	108
F_{bru} , ksi:			
(e/D = 1.5)	194	231	277
(e/D = 2.0)	251	285	342
F_{bry} , ksi:			
(e/D = 1.5)	146	210	257
(e/D = 2.0)	175	232	284
e , percent	See Table 2.3.1.0(e)		
E , 10 ³ ksi	29.0		
E_c , 10 ³ ksi	29.0		
G , 10 ³ ksi	11.0		
μ	0.32		
Physical Properties:			
ω , lb/in. ³	0.283		
C , K , and α	See Figure 2.3.1.0		

^a Design values are applicable only to parts for which the indicated F_{tu} has been substantiated by adequate quality control testing.

Table 2.3.1.0(g₁). Design Mechanical and Physical Properties of Low-Alloy Steels

Alloy	AISI 4130		AISI 4135		AISI 8630		AISI 8735	
Specification [see Tables 2.3.1.0(a) and (b)]	AMS 6350 AMS 6528 AMS-S-6758		AMS 6352 AMS 6372		AMS 6281		AMS 6357	
Form	Sheet, strip, plate, bars, and forgings		Sheet, strip, plate, and tubing		Tubing		Sheet, strip, and plate	
Condition	Normalized and tempered, stress relieved ^a							
Thickness or diameter, in.	≤0.188	>0.188	≤0.188	>0.188	≤0.188	>0.188	≤0.188	>0.188
Basis	b							
Mechanical Properties:								
F_{tu} , ksi	95	90	95	90	95	90	95	90
F_{ty} , ksi	75	70	75	70	75	70	75	70
F_{cy} , ksi	75	70	75	70	75	70	75	70
F_{su} , ksi	57	54	57	54	57	54	57	54
F_{bru} , ksi:								
($e/D = 1.5$)	...	...	...	...	...	...	...	...
($e/D = 2.0$)	200	190	200	190	200	190	200	190
F_{bry} , ksi:								
($e/D = 1.5$)	...	...	...	...	...	...	...	...
($e/D = 2.0$)	129	120	129	120	129	120	129	120
e , percent	See Table 2.3.1.0(d)							
E , 10 ³ ksi	29.0							
E_c , 10 ³ ksi	29.0							
G , 10 ³ ksi	11.0							
μ	0.32							
Physical Properties:								
ω , lb/in. ³	0.283							
C , K , and α	See Figure 2.3.1.0							

a Design values are applicable only to parts for which the indicated F_{tu} has been substantiated by adequate quality control testing.

b There is no statistical basis (T_{99} or T_{90}) or specification basis (S) to support the mechanical property values in this table. See Heat Treatment in Section 2.3.0.2.