Liberty Steel Grade Groups - Minimum Yield Strength <265 or >=265MPa

Identifier	Sub-category	Grades	Standard	Standard Description	Min yield strength MPa	Thickness (mm)	Max %C	Max %Si	Max %Mn	Max %P	Max %S	Max %B	Max %Cu	Max %Ni	Max %Cr	Max %Mo	Max %V	Max % Nb	Max %Sn	Max %N	Max %CE
1	Minimum Yield Strength < 265MPa	SS400	CNS 2473 G3039-103 and JIS G3101-2010	Rolled steels for general structure	235-245		-	-	-	0.050	0.050	0.0008									
		A36	ASTM A36-08	Carbon structural steel	250		0.26	0.40	-	0.040	0.050										
		A709G36	ASTM A709-11	Specification for structural steels for bridges	250		0.26	0.40	-	0.040	0.050										
		S235JR	BS EN 10025-2:2004	Hot-rolled products of structural steel	225-235	t<=40	0.17	-	1.40	0.035	0.035		0.55							0.012	0.35
						40< t <=50	0.20														0.38
		SM400A	CNS 2497 G3057-103 and JIS G3106-2008	Rolled steels for welded structure	235-245		0.23	-	>=2.5%C	0.035	0.035	0.0008									
		SM400B	CNS 2497 G3057-103 and JIS G3106-2008	Rolled steels for welded structure	235-245		0.20	0.35	0.60-1.50	0.035	0.035	0.0008									
		SN400A	CNS 13812 G3262-103 and JIS G3136-2012	Rolled steels for building structure	235		0.24	-	-	0.050	0.050	0.0008									-
		SN400B	CNS 13812 G3262-103 and JIS G3136-2012	Rolled steels for building structure	235-355		0.20	0.35	0.60-1.50	0.030	0.015	0.0008									0.36
		SN400BF	?? Not in Standard/Tung Ho spec		235?																
2	Minimum Yield Strength >=265MPa	S275JR	BS EN 10025-2:2004	Hot-rolled products of structural steel	265-275	t<=40	0.21	-	1.50	0.035	0.035		0.55							0.012	0.40
						40< t <=50	0.22														0.42
		S275J0	BS EN 10025-2:2004	Hot-rolled products of structural steel	265-275	t<=40	0.18	-	1.50	0.030	0.030		0.55							0.012	0.40
						40< t <=50	0.18														0.42
		3679G300	AS/NZS 3679.1	Structural steel Part 1: Hot-rolled bars and sections	280-320		0.25	0.50	1.60	0.040	0.040										0.44
		G300S0	AS/NZS 3679.1	Structural steel Part 1: Hot-rolled bars and sections	280-320		0.25	0.50	1.60	0.040	0.040										0.44
		SM490A	CNS 2497 G3057-103 and JIS G3106-2008	Rolled steels for welded structure	325		0.20	0.55	1.65	0.035	0.035	0.0008									
		SM490B	CNS 2497 G3057-103 and JIS G3106-2008	Rolled steels for welded structure	325		0.18	0.55	1.65	0.035	0.035	0.0008									
		SM490BD	?? Not in Standard/Tung Ho spec		325?																
		SM490BM	?? Not in Standard/Tung Ho spec		325?																
		SN490B	CNS 13812 G3262-103 and JIS G3136-2012	Rolled steels for building structure	325-445	16<=t<=50	0.18	0.55	1.65	0.030	0.015	0.0008									0.44 (t<=40mm)
						50< t <=100	0.20														0.46 (t>40mm)
		SN490BD	?? Not in Standard/Tung Ho spec		325?																
		SN490C	CNS 13812 G3262-103 and JIS G3136-2012	Rolled steels for building structure	295-445	16<=t<=50	0.18	0.55	1.65	0.020	0.008	0.0008									0.44 (t<=40mm)
						50< t <=100	0.20														0.46 (t>40mm)
		G350L0	AS/NZS 3679.1	Structural steel Part 1: Hot-rolled bars and sections	330-360		0.25	0.50	1.60	0.040	0.040										0.44
		A709G50	ASTM A709-11	Specification for structural steels for bridges	345		0.23	0.40	1.35	0.040	0.050						0.01-0.15	0.005-0.05			
		S355JR	BS EN 10025-2:2004	Hot-rolled products of structural steel	355	t<=30	0.24	0.55	1.60	0.035	0.035		0.55							0.012	0.45
						30< t <=50	0.24														0.47
		S355J0	BS EN 10025-2:2004	Hot-rolled products of structural steel	355	t<=30	0.20	0.55	1.60	0.030	0.030		0.55								0.45
						30< t <=40	0.20													0.012	0.47
						40< t <=50	0.22														0.47
		S355J2	BS EN 10025-2:2004	Hot-rolled products of structural steel	355	t<=16	0.20	0.55	1.60	0.030	0.030		0.55								0.45
						16< t <=40	0.20														0.47
						>40	0.22														0.47
		SM490YA	CNS 2497 G3057-103 and JIS G3106-2008	Rolled steels for welded structure	365		0.20	0.55	1.65	0.035	0.035	0.0008									
		S450J0	BS EN 10025-2:2004	Hot-rolled products of structural steel	450	t<=30	0.20	0.55	1.70	0.030	0.030		0.55								0.47
						30< t <=40	0.20													0.012	0.49
						40< t <=50	0.22														0.49
		A572Gr50 (type1?)	ASTM A572-07	High-strength low-alloy columbium-vanadium structural steel	345		0.23	0.40	1.35	0.040	0.050						-	0.005-0.05			
		A572G50A (type 2?)	ASTM A572-07	High-strength low-alloy columbium-vanadium structural steel	345		0.23	0.40	1.35	0.040	0.050						0.01-0.15	-			
		A572G50B (type 3?)	ASTM A572-07	High-strength low-alloy columbium-vanadium structural steel	345		0.23	0.40	1.35	0.040	0.050						0.01-0.15	0.005-0.05			
		A992/A992M	ASTM A992-11	Specification for structural steel shapes	345-450		0.23	0.40	0.50-1.60	0.035	0.045		0.60	0.45	0.35	0.15	0.15	0.05	0.02	0.012	0.45
	These are plate grades for shipbuilding hulls - if no HRS shapes, should be excluded.	ABSGA	ABS (American Bureau of Shipping)	Grade A - common strength shipbuilding steel plate																	
		BVAH32	Bureau Veritas qualification for shipbuilding	Grade AH32 - high strength shipbuilding steel plate																	