

TYPE	STANDARD	GRADE	thickness : t mm.	CHEMICAL COMPOSITION (max)								Tension Test				Impact Test ⁴⁾	
				C	Si	Mn min	P	S	Al (total) min	C+(Mn/6)	OTHER ELEMENTS	Yield Point (min)	Tensile Strength	Elongation min		Temp. (° C)	Absorb Energy min (Joule)
														Kgf / mm2 : [MPa, N/mm ²] : (ksi)	thick : t		
												mm.	mm.		GL = 200 mm.	(° C)	(Joule)
ORDINARY-STRENGTH HULL STRUCTURAL STEEL	ABS : THE AMERICAN BUREAU OF SHIPPING (2007)	AB-A	t ≤ 50	0.21	0.50	2.5 x C	0.035	0.035	-	0.40	[235]	[400 - 520]	5 < t ≤ 10	16	0 (For grade B)	25 < t ≤ 50 L = 27 T = 20	
		AB-B			0.35	0.80							10 < t ≤ 15	17			
ROLLED STEELS FOR HULL	BV : BUREAU VERITAS (2005)	BV-A		0.21	0.50	2.5 x C							15 < t ≤ 20	18			
		BV-B			0.35	0.80 ²⁾							20 < t ≤ 25	19			
ROLLED STEELS FOR STRUCTURAL (NORMAL STRENGTH)	DNV : DET NORSKE VERITAS (2003)	NV-A		0.21	0.50	2.5 x C							25 < t ≤ 30	20			
		NV-B			0.35 ¹⁾	0.80 ^{1),2)}							30 < t ≤ 40	21			
HOT ROLLED STEEL PLATE	GL ³⁾ : ERMANISCHER LLOYD (2005)	GL-A		0.21	0.50	2.5 x C							40 < t ≤ 50	22			
		GL-B			0.35	0.80 ²⁾											
ROLLED STEEL FOR HULL (HOT ROLLED STEEL PLATE)	CLASS NK : (NIPPON KAIJI KYOKAI)	KA		0.21	0.50	2.5 x C											
		KB			0.35 ¹⁾	0.80 ^{1),2)}											
ROLLED STEEL PLATE, STRIP, SECTIONS AND BARS	LR : LLOYD (2004)	LR-A		0.21	0.50	2.5 x C											
		LR-B			0.35	0.80 ²⁾											
HOT ROLLED STEEL FOR HULL (FOR SHIP PLATE)	ABS / BV / CLASS NK / DNV / GL / LR	D	Killed ⁵⁾	0.21	0.60	0.035	0.035	0.020 ⁷⁾	0.40	24	41 - 53	5 < t ≤ 10	16	-20	t ≤ 50		
		E	Killed and Fine grain treat	0.18	0.70					[235]	[400 - 520]	10 < t ≤ 15	17		27(L)20(T)		
										(34)	(58 - 75)	15 < t ≤ 20	18		50 < t ≤ 70		
												20 < t ≤ 25	19		34(L)24(T)		
												25 < t ≤ 30	20				
												30 < t ≤ 35	21				
												35 < t ≤ 50	22				

Where addition of any other elements have been made as part of the steelmaking practice, the content is to be indicated in the ladle analysis certificate, and when the amount does not exceed 0.02%, these elements may be reported as ≤ 0.02%