

GB/T 16270-1996

Chemical composition, %

Grade		C	Mn	Si	P	S	V	Nb	Ti	Cr	Ni	Mo	B
		Not larger than	Not larger than										
Q420	C	0.20	1.00~1.60	0.55	0.035	0.035	0.10	0.06	0.20	0.30	0.70	0.20	-
	D	0.18			0.030	0.030							
	E	0.18			0.025	0.025							
Q460	C	0.20	1.00~1.60	0.55	0.035	0.035	0.10	0.06	0.20	0.30	0.70	0.20	-
	D	0.18			0.030	0.030							
	E	0.18			0.025	0.025							
Q500	D	0.18	1.00~1.60	0.55	0.030	0.030	0.10	0.06	0.20	0.60	1.00	0.40	0.003
	E				0.025	0.025							
Q550	D	0.18	1.00~1.60	0.55	0.030	0.030	0.10	0.06	0.20	0.60	1.00	0.40	0.003
	E				0.025	0.025							
Q620	D	0.18	1.00~1.60	0.55	0.030	0.030	0.10	0.06	0.20	0.80	1.20	0.60	0.003
	E				0.025	0.025							
Q690	D	0.18	1.00~1.60	0.55	0.030	0.030	0.10	0.06	0.20	1.20	1.50	0.60	0.003
	E				0.025	0.025							

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Mechanical properties

Grade		Yield Strength (not smaller than)		Tensile Strength MPa	Elongation %	Impact Test		
		Thickness, mm				0 degree celsius	-20 degree celsius	-40 degree celsius
		<= 50	>50~100		Not smaller than			
Q420	C					40		
	D	420	400	520~670	18		40	
	E							27
Q460	C					40		
	D	460	440	550~710	17		40	
	E							27
Q500	D	500	480	610~770	16	-	40	
	E							27
Q550	D	550	530	670~830	16	-	40	
	E							27
Q620	D	620	600	720~890	15	-	40	
	E							27
Q690	D	690	670	770~940	14	-	40	
	E							27