

Steel Grade: C45E/Ck45   Material No: 1.1191								
CHEMICAL COMPOSITION								
C(%)	Si(%)	Mn(%)	P(%)	S(%)	Cr(%)	Mo(%)	Ni(%)	Other(%)
0.42~0.50	≤0.40	0.50~0.80	0.035	0.035	≤0.40	≤0.10	≤0.40	Cr+Mo+Ni < 0.63%
HARDNESS AND HEAT TREATMENT								
Hot Working/°C	Annealing/°C	Normalizing/°C	Quench/°C			Temper/°C	Annealing hardness HBS ≤	
1100~850	650~700	840~870	820~850	Water	830~860	Oil	540~680	207
MECHANICAL PROPERTIES								
Size/mm	Tensile Strength   $\sigma_b$ /Mpa	Yield Strength   $\sigma_s \geq$ /Mpa	Extensibility   $\delta_5$ (%) $\geq$	Reduction of Area   $\psi$ (%) $\geq$		Ballistic   akv/J <sup>③</sup>		
≤16	700~850	500	14	35		30		
17~40	650~800	430	16	40		30		

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