

### JISG4051 S45C steel plate high carbon steel

S45C steel plate, JISG4051 S45C steel plate, under JISG4051 standard, we can regard S45C steel plate as high carbon steel.

S45C steel plate is one mainly of high carbon steel, S45C is suitable for shafts studs, keys etc. Available as rolled or normalised. Supplied as square bar, or round bar or flat. They are excelling in weldability & machinability, and they can be subjected to various heat treatments which is based on JIS G 4051-2009.

The equivalent standards of S45C steel

S45C JIS G 4051	Comparison of steel grades	
	DIN	1C45
	AISI	1045
	UNI 7846	-
	BS 970	-
	UNE 36011	-
	SAE J 403-AISI	-

Chemical Composition of S45C steel

Grade	C	Si	Mn	P(%) max	S(%) max	Cr(%) max	Ni(%) max	Cu(%) max
S45C	0.42-0.50	0.17-0.37	0.50-0.80	0.035	0.035	0.25	0.25	0.25

Mechanical Properties of S45C steel

Tensile Strength $\sigma_b$ (MPa)	Yield Strength $\sigma_s$ (MPa)	Elongation Ratio $\hat{\epsilon}_5$ (%)	Reduction of area Psi(%)	Impact merit AKV (J)	Resilient value AKV(J/ cm <sup>2</sup> )	Degree of hardness	Annealed steel	Test Specimen Size (mm)
≥600	≥355	≥16	≥40	≥39	≥49	≤229HB	≤197HB	25

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