

# Steel C45

C45E / CK45 / 1.1191 / AISI 1045 / BS 080M46 / AFNOR XC48 / UNE F1140

C45 steel (AISI 1045) is the best choice for strength and versatility! Exceptional tensile strength, excellent machinability and remarkable versatility.



## Material properties

<b>Density</b>		<b>7,8</b>	g/cm <sup>3</sup>
<b>Tensile strength</b>	ISO 6892	<b>650</b>	MPa
<b>Elongation at break</b>	ISO 6892	<b>15</b>	%
<b>Yield strength</b>	ISO 6892	<b>460</b>	MPa
<b>Elastic modulus</b>	ISO 6892	<b>210</b>	GPa
<b>Resilience</b>	ISO 148	<b>17,5</b>	kJ/m <sup>2</sup>
<b>Hardness</b>	ISO 6508	<b>175-230</b>	HB
<b>Melting temperature</b>		<b>1550</b>	°C
<b>Thermal conductivity (20°C)</b>		<b>40-45</b>	W/mK
<b>Electrical resistivity</b>		<b>0,02</b>	Ωmm <sup>2</sup> /m

### Main alloy elements

Iron - Carbon - Manganese - Silicon

### Maximum dimensions

300x300x150 mm (11.8x11.8x5.9 in)

### Tolerances

ISO 2768-1 fine (f) or medium (m) class

### Applications

Ideal for components requiring strong and durable materials, such as gears, shafts and axles. When heat-treated, it is suitable for applications where parts are exposed to friction, abrasion and wear, resulting in reduced maintenance costs and increased service life.

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