

# PASARGAD ALLOY STEEL

MATERIAL SPECIFICATION SHEET



## PASCO-C45E

<b>Material No:</b> 1.1191	<b>Material Group</b> Special Structural Steels	<b>International Steel Grades</b>	
		USA	1045
		DIN	CK45
		AFNOR	XC45

Chemical composition is according to the DIN EN 10083-2.

<b>Chemical Composition:</b> (Typical Analysis in Wt. %)	Steel Grade	C	Mn	Si	P	S
	C45E	0.44%	0.65%	0.2%	0.015%	0.005%

**Application:** gears, shafts, axles, and manufacturing parts

<b>Hot Forming and Heat Treatment Temperature</b>	Hot Working	850-1100 °C
	Soft Annealing	650-710°C/Furnace
	Austenitizing	870°C
	Quenching Media	Oil/Water
	Quenching	820-860 °C
	Tempering	550-680 °C

<b>Delivery Condition</b>	As Rolled
<b>Dimensional Tolerance</b>	According to the EN 10060
<b>ASTM Grain Size Number</b>	5-10
<b>Cleanliness Test</b>	K3<5 according to the DIN 50602
<b>Bulk Hardness Test (HBW)</b>	180-240
<b>Surface Quality</b>	Class D according to the EN 10221

### Tensile Test

Size mm	Normalizing Temperature	Yield Strength Re	Tensile Strength Rm	Elongation A
mm	°C	N/mm <sup>2</sup>	N/mm <sup>2</sup>	%
>16-100	840	305	580	25
>100-250	840	440	635	16