



Steel 1.0503/ C45

Steel C45 is a medium carbon steel designation assigned to steels that have a carbon content between 0.42 and 0.50 wt.%. While medium carbon steels are used in a variety of applications, they are particularly well suited for parts that require high wear resistance and strength such as gears, shafts, and bearings. A combination of size accuracy, straightness and concentricity result in minimal wear in highspeed applications.

Chemical Composition

Al	-	Cr	0.4%	Mn	0.65%	P	0.03%	Ti	-
Bi	-	Cu	-	Mo	0.1%	Pb	-	V	0.4%
C	0.46%	Fe	-	N	-	S	0.035%	Zn	-
Cd	-	H	-	Nb	-	Si	0.4%	Ni	0.4%
Co	-	Mg	-	O	-	Sn	-		

MEASUREMENT	STANDARD	ASTM/ PROCEDURE
Density	7,85 g/cm ³	WGE- Prod-067EN
Electrical conductivity	4.76 m/ Ω · mm ²	
Tensile Strength	560 MPa	DIN EN2002-1
Yield Strength	275 MPa	DIN EN2002-1
E- Modulus	2.050 MPa	DIN EN2002-1
Elongation at Break	16 %	DIN EN2002-1
Specific heat capacity	480 J/kg · K	
Hardness	255 HV	ISO 6597-1:03-2006
Tolerance	< 100 mm ± 0,125 mm > 100 mm ± 0,20 %	

Actual values may vary with build condition.
Maximum machine size: up to 2000x1200x800 mm

