T45CR5SI3

T45Cr5Si3 is Alloyed Cold Work Tool Steels acc. to IS 1570-6-96, High strength, good toughness, good hardenability, good stability against overheating, Used in the manufacture of medium-speed, heavy-duty, high-strength, high-toughness parts and high-strength components. It is mostly used to manufacture various important parts with high load and high speed, such as gears, shafts, clutches, sprockets, grinding wheel shafts, bushings, bolts, nuts, etc. It is also used to manufacture parts with wear resistance and low working temperature, variable load Welded components such as high-pressure blower blades, valve plates, and non-corrosive pipes. welding and riveting structural parts working under vibration load, such as high-pressure blower blades, valve plates and high-speed and high-load shafts, gears, sprockets, clutches, bushings, bolts, nuts, etc.

Chemical Composition

Grade	Chemical composition WT %					
	C	Si	Mn	P	S	Cr
T45Cr5Si3	0.4-0.50	0.8-1.10	0.55-0.75	max 0.035	max 0.035	1.20-1.60

Mechanical Properties

Tensile strength σb (MPa): ≥1620(165)

Yield strength σs (MPa): ≥1275(130)

Elongation δ5 (%): ≥9

Reduction of area ψ (%): ≥40

Impact energy Akv (J): ≥31

Impact toughness value αkv (J/cm2): ≥39(4)

Sample size: sample

Heat Treatment

Quenching:

950℃ for the first time,

890℃ for the second time, oil cooling; tempering 230℃, air cooling, oil cooling;

880 ° C isothermal quenching at 280 ~ 310 ° C.

https://longhaisteel.com