



EN 353 DIN 20NiCrMo5

C 0.18 Si 0.23 Mn 0.65 Ni 1.20 Mo 0.45

Steel properties

En 353 steel has a carbon content of 0.17% and the commonest form of steel as it provides material properties that are acceptable for several automobile applications such as significant duty gear, shaft, pinion, camshafts and gudgeon pins. It's neither outwardly brittle nor ductile due to its lower carbon content and lower hardness. Because the carbon content will increase, the metal becomes more durable and stronger.

Standards

AFNOR 20NCD

Physical properties

Thermal conductivity °C	20	350	700
W/(m • K)	11.3	13.3	14.5

Applications

Acceptable for many automobile applications such as heavy duty gear, shaft, pinion, camshafts, gudgeon pins and machining components.

Heat treatment

Soft annealing °C	Cooling	Hardness HB
630-670	Furnace	max. 270

Stress-relief annealing °C	Cooling
150-200	Furnace

1st pre-heating °C	2nd and 3rd pre-heating °C	Hardening' °C	Quenching	Tempering °C	Hardness after tempering HRC
up to approx. 400 in an air-circulating furnace	a) 780 b) 780 and 850	780-820	810 °C a) Oil b) Quench	at least twice 150-200	62-64

Tempering Graph

EFFECT OF TEMPERING ON CASE HARDNESS

