

MATERIAL NO.:

1.1730

DESIGNATION: **DIN:** C 45 U
 AFNOR: XC 48
 UNI: -
 AISI: 1045

INDICATORY ANALYSIS: C 0.45
 Si 0.30
 Mn 0.70

STRENGTH: $\approx 640 \text{ N/mm}^2$

THERMAL CONDUCTIVITY AT 20°C: 50 $\frac{\text{W}}{\text{m K}}$

CHARACTER: » Unalloyed **tool steel** with excellent machinability; chilled cast steel, suitable for flame and inductive hardening

APPLICATION: » Unhardened parts for mould and jig construction or plates and frames for mould bases and die sets

TREATMENT BY: » Polishing, etching, EDM, nitriding, hard chrome plating: not usual

HEAT TREATMENT: » Soft annealing:
 680 to 710°C for about 2 to 5 hours
 slow controlled cooling of 10 to 20°C per hour to about 600°C; further cooling in air,
 max. 190 HB
 » Hardening:
 800 to 830°C
 quenching in water
 obtainable hardness: **58 HRC**
 hardening depth: 3–5 mm
 max. 15 mm through-hardening thickness
 » Tempering:
 slow heating to tempering temperature immediately after hardening, to 180 to 300°C depending on desired hardness
 1 hour per 20 mm: min. 2 hours

TEMPERING CHART:

