HABA C-STAHL

Unalloyed tempering steel
Milled plates cut to size

Material no.	1.1191
Steel quality	Tempering steel
Designation	C45E+N

Normalized heat-treated steel with good machinability, surface-hardenable and weldable within limits. Suitable for basic steel components in mechanical engineering, vehicle construction and toolmaking which are exposed to medium stress.

FINISHES

Thickness	milled ≤Ra3.2 (N8)
Tolerance	+/-0.2 mm
Parallelism	≤0.1 mm
Evenness	≤0.3 mm
Length/width	Ra6.3-12.5 cut with a precision circular saw
HABA standard tolerance	nominal size +/-0.3 mm
Customer-specific tolerance	within a tolerance field of 0.5 mm
Surface refinement	All metallic and non-metallic coatings

We also manufacture rolled and milled blanks on request as well as special thicknesses and tolerances.

TECHNICAL SPECIFICATIONS

Tensile strength	R_m	560-620 (N/mm²)
Yield strength	R_e	275-340 (N/mm²)
Breaking strain	(L_o = 5 d_o) A_5	14-16 %
Impact energy	A_V (J)	≥25
Brinell hardness	(HB30)	175-210
Density		7.85 kg/dm³
E-module		~210 kN/mm²
Thermal conductivity coefficient		35-45 (W/mK)
Thermal expansion coefficient		11-14 (10^{-6}/K)

MATERIAL IN USE

Apparatus construction
Special purpose machinery
Jig manufacturing
Mechanical engineering
Toolmaking
Mould construction
Plant construction

APPLICATIONS

Base plates
Table tops
Tools
Rack gears
Machined and engineered parts of all kinds
Jigs
Setting jigs

PROPERTIES

machinability	good
dimensional stability	good
impact resistance	high
weldability	limited
hardenable	flame hardening
	inductive hardening
	nitriding

CHEMICAL COMPOSITION

Carbon	C	0.42-0.50 %	Chromium	Cr	≤0.40 %
Silicium	Si	≤0.40 %	Molybdenum	Mo	≤0.10 %
Manganese	Mn	0.50-0.80 %	Nickel	Ni	≤0.40 %
Phosphor	P	≤0.035 %	(Cr + Mo + Ni)		≤0.63 %
Sulfur	S	≤0.035 %			

HABA Solutions in plates

V. 2019_07