

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 grinded blanks on request as well as special thicknesses and tolerances.

TECHNICAL SPECIFICATIONS

Tensile strength R_m	560-620 (N/mm ²)
Yield strength R_e	275-340 (N/mm ²)
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/dm ³
E-module	~210 kN/mm ²
Thermal conductivity coefficient	35-45 (W/mK)
Thermal expansion coefficient	11-14 (10 ⁻⁶ /K)

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 %			

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

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