

# HABA EC80

Case-hardened steel  
Grinded plates cut to size

Normalised and additionally low-tension annealed case-hardened steel with excellent machinability and high dimensional stability. Suitable for mechanical engineering parts such as gear wheels and gear parts with a hard, wear-resistant surface and a tough core.

## FINISHES

Thickness	grinded $\leq Ra1.6$ (N7)
Tolerance	+0.4/+0.3 mm
Parallelism	$\leq 0.05$ mm
Evenness	$\leq 0.15$ mm
Length/width	Ra6.3-12.5 cut with a precision circular saw
HABA standard tolerance	nominal size +0.8/+0.3 mm
Customer-specific tolerance	within a tolerance field of 0.4 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	$R_m$	ca. 700 (N/mm <sup>2</sup> )
Yield strength	$R_e$	ca. 550 (N/mm <sup>2</sup> )
Breaking strain	$(L_o = 5 d_o) A_5$	9-11 %
Impact energy	$A_V$ (J)	$\geq 34$
Brinell hardness	HB	138-187
Density		7.85 kg/dm <sup>3</sup>
E-module		$\sim 210$ kN/mm <sup>2</sup>
Thermal conductivity coefficient		35-45 (W/mK)
Thermal expansion coefficient		11-14 (10 <sup>-6</sup> /K)

## CHEMICAL COMPOSITION

Carbon	C	0.14-0.19 %	Chromium	Cr	0.80-1.10 %
Silicium	Si	$\leq 0.40$ %	Molybdenum	Mo	-
Manganese	Mn	1.00-1.30 %	Nickel	Ni	-
Phosphor	P	$\leq 0.035$ %	Vanadium	V	-
Sulfur	S	$\leq 0.035$ %	Nitrogen	N	-

Material no.	1.7131
Steel quality	Case-hardened steel
Designation	16MnCr5

## MATERIAL IN USE

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

## APPLICATIONS

Feeders  
Gear-wheels  
Piston rods  
Sliding rods  
Equipment base plates  
Clamping and hole grid systems  
Bending beams  
Edging tool

## PROPERTIES

machinability	very good
dimensional stability	very good
hardenable	case hardening nitriding

