

Database of Steel and Alloy (Marochnik)

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Characteristics for grade A45E (A45E).

Grade :	A45E (A45E)
Classification :	Rolled steel of improved and high cutting machinability
Equivalent grades:	Is absent

Chemical composition in % for grade A45E (A45E)

C	Si	Mn	Ni	S	P	Cr	Cu	Se
0.42 - 0.5	0.17 - 0.37	0.5 - 0.8	max 0.25	0.06 - 0.12	max 0.04	max 0.25	max 0.25	0.04 - 0.1

Mechanical properties under T=20°C for grade A45E (A45E)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Blank	25		610	360	16			Normalizing

Brinell hardness for A45E (A45E) (hot-rolled) ,	HB 10⁻¹ = 241 MPa
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Specification :

Mechanical properties :

- σ_B - Tensile strength , [MPa]
- σ_T - Yield stress , [MPa]
- δ_5 - Specific elongation at fracture , [%]
- ψ - Reduction of area , [%]
- KCU** - Impact strength , [kJ / m²]
- HB** - Brinell hardness , [MPa]

Database of steels and alloys (Marochnik) contains information about chemical composition and properties more then 2500 steels and alloys (stainless steel, alloy steel, carbone steel, structural steel, tool steel, cast iron, aluminum alloy, titanium alloy, copper alloy, nickel alloy, magnesium alloy and others).
Helpfull for specialists in grade technology, structural engineer, mechanical engineer, metallurgy and metal trader

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