

86CRMOV7, 1.2327, COLD WORKING TOOLS STEEL

The 86CRMOV7 1.2327 steel are the grades with high hardenability and fracture toughness, which are designed for large-section tools for cold and hot working in the metallurgical industry. The above mentioned species are distinguished by, among others, the content of Chromium in chemical composition. The more Chromium, the better the product is for the larger work piece.

86CRMOV7 1.2327 steels are used in the state of high temperature for the production of forged cold-rolling rolls with barrel diameters up to 700mm, resistance roll shirts, dies and other parts of hot and cold rolling mill. They differ from other tool steels in the chemical composition, which consists of Chromium, Vanadium, high carbon content, and in one species of Molybdenum especially.

Chemical Composition % of 86CRMOV7, 1.2327

C:	Mn:	Si:	P:	S:	Cr:	Mo:	V:
0.83 -	0.30 -	0.15 -	<0.03	<0.03	1.60 -	0.20 -	0.05 -
0.90	0.45	0.35			1.90	0.35	0.15

MECHANICAL PROPERTIES

Tensile Strength: Rm = 900-1050 N/mm²

Yield Strength: Rs min. 750 N/mm²

Elongation A min. (%) 13

REDUCTION RATIO

Min. 4:1

INCLUSIONS

According ASTM E45 st.D

Accepted type A, B, C, D, max 2,0 T - max 1,5

HAUSTENITIC GRAIN

According ASTM E112 ≥ 5

ULTRASONIC TEST

According SEP 1921, acceptability class D/d

Mechanical properties of 86CRMOV7, 1.2327

Hardness of 86CRMOV7 1.2327 steels in softened condition < 229 HB, after hardening and tempering min. of 62 HRC

Heat treatment of 86CRMOV7 1.2327

- Softening annealing below Ac1 w temperature 690 - 710°C with cooling in a box, ash or sand
- Softening annealing above Ac1 w temperature 750 - 770°C with cooling in a furnace up to 600°C with max. of 20°C/h
- Softening annealing above Ac1 at 750 - 770 °C with cooling with isothermal conversion at 670 - 710 °C
- Hardening at 810 - 850°C with cooling in oil Tempering at 100 °C in the air

Applications of 86CRMOV7 1.2327

Cold working rolls and back-up rolls, straightening rolls, cold plate leveller work and back-up rolls