

COMPARABLE STANDARD

UNI	EURONORM	W Nr	DIN	AFNOR	AISI/SAE	BS
X155CrVMo121KU	X160CrMoV121	1.2379	X155CrMoV121	Z160CDV12	D2	BD2

COMPOSITION

C	Si	Mn	Cr	Mo	V
1,55	0,3	0,3	12,0	0,8	0,9

CHARACTERISTICS OF THE PRODUCT

This steel is characterized by good dimensional stability on thermal treatment and capability of deep hardening. After thermal treatment very high values of compression strength and wear resistance are obtained.

PRODUCT APPLICATIONS

This steel is particularly suitable for the manufacturing of both cutting tools and cold-forming tools, i.e. shear blades, blanking and drawing punches, die plates (spinnerettes), cold-rolling rolls, thread rolling dies and thread chasers, forming tools, wood milling cutters.

DELIVERY CONDITION

Annealed to HB ≤ 240.

HEAT TREATMENT

This steel is supplied in the annealed condition for optimum machinability. After the rough-machining (and possibly stress relieving) operations it is hardened and tempered according to the characteristics required by the application.

Soft annealing: heating to 860 ÷ 900°C, holding at temperature, furnace cooling to 650°C (10°C/hour), then cooling in stationary air.

Stress relieving after rough-machining, heating to 650 ÷ 680°C, holding at temperature, furnace cooling to 500°C, then cooling in stationary air.

Hardening: preheating at 650 ÷ 680°C, austenitization at 1010 ÷ 1040°C (curve 1) or to 1070 ÷ 1110°C (curve 2), air or oil quenching or in thermal bath at 450 ÷ 500°C.

Tempering: heating to 150 ÷ 180°C (highest hardness, curve 1), 250 ÷ 290°C (highest toughness, curve 1), 510 ÷ 580°C (medium-temperature use) (curve 2), holding at temperature. Make at least two tempering treatments after austenitization at 1070 ÷ 1110°C.

MECHANICAL CHARACTERISTICS

TEMP °C	150	200	300	400	500	600
DUREZZA HRC1	63	62	60	59	60	52
DUREZZA HRC2	61	60	57	58	62	56

