

Cold Working Tool Steel

TG A-2 (DIN-1.2363)



Steel Properties : Low change in size on heat treatment. High wear-resistance and toughness.

Applications : Blanking dies, rolls, shear blades, cold pilger mandrels, cold coining dies, Moulds for the processing of plastics.

Similar Steel Grade :

CHINA	BRAZIL	GERMANY	SLOVANIA	JAPAN
TG	VILLARES	DEW	RAVNE	NIPPON
A2	VA2	1.2363	OA2	KD12

Chemical Composition: (%)

	Chemical Analysis Typical Value % (Min - Max)											Delivery Condition	
IS	C	S	P	Si	Mn	Ni	Cr	Mo	V	W	other	Heat Treatment	Hardness
A2	1.90-1.05	≤0.35	≤0.35	0.20-0.40	0.40-0.70	***	4.80-5.01	0.40-0.70	0.10-0.30	***	***	Annealed	≤HB231

Production process:

Round Bar :

EAF→LF→VD→ESR→(5TONS HAMMER)→ Forged Annealed Turned : Φ81.0-610mm; Hot Rolled & Annealed Peeled : Φ14.5-80.0mm; Cold Drawn / Centreless Ground : Φ2.0-14.4mm → ANNEALED CONDITION

Flat Bar :

EAF→LF→VD→ESR→FORGED→HOT ROLLED (850)→ANNEALED CONDITION

UT STANDARD :
SEP 1921, (DEC.84)E/e

REDUCTION RATIO :
As 1:4 or 1:5

DELIVERY STATUS :
In Annealed Condition.

SIZE : Round

Cold Drawn/Centreless Ground Bar	Hot Rolled Annealed & Peeled Bar	Forged + Annealed + Turned Bar
Φ2.0 - 14.4mm	Φ14.5 - 80.0mm	Φ81.0 - 610.0mm

SIZE : Hot Rolled Flat Bars / Sand Blasted & Machined Straight

Thickness	Width
14mm - 100mm	200mm - 710mm

HEAT TREATMENT :

Soft annealing °C	Cooling	Hardness HB
800 - 840	furnace	max. 250

Hardening form °C	in	Hardness after quenching HRC
930-970	air, oil, hot bath 500 - 550 °C	63

Tempering °C	100°C	200°C	300°C	400°C	500°C	600°C
HRC	63	62	59	57	59	52