



Cold Working Tool Steel

TG D-3
(DIN-1.2080)



Steel Properties : Ledeburitic-high-carbon high-chromium tool steel, very high wear-resistance.

Applications : Tools for cutting sheets up to 4mm thickness, trimming dies, blanking dies for paper and plastics, long- and round-section shear blades for sheet thicknesses up to 2 mm, drawing and deep drawing tools. Woodworking tools, stone pressing tools, pressure pads and highly wear-resistant plastic moulds, profile rolls.

Similar steel grade :

CHINA	AUSTRIA	GERMANY	SLOVANIA	JAPAN	CHEZ REP
TG	BOHLER	DEW	RAVNE	SANYO	POLDI
D3	K100	1.2080	OCR12VM	QC1	2002

Chemical Composition: (%)

IS	Chemical Analysis Typical Value % (Min - Max)											Delivery Condition	
	C	S	P	Si	Mn	Ni	Cr	Mo	V	W	other	Heat Treatment	Hardness
D3	1.90-2.20	≤0.02	≤0.03	0.10-0.40	0.15-0.45	***	11.0-12.0	***	***	***	***	Annealed	≤Hb250

Production process:

Round Bar :

EAF→LF→VD→ESR→(5TONS HAMMER)→

[Forged Annealed Turned	: Φ 81.0-610mm]
]	Hot Rolled & Annealed Peeled	: Φ 14.5-80.0mm]
]	Cold Drawn / Centreless Ground	: Φ 2.0-14.4mm]

 → 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 : Rounds

Cold Drawn/Centreless Ground Bar	Hot Rolled & Annealed Peeled	Forged Annealed Turned
Φ 2.0 - 14.4mm	Φ 14.5 - 80.0mm	Φ 81.0 - 610.0mm

SIZE : Flats

Thickness	Width
5mm - 150mm	5mm - 810mm

SIZE : Sheets

Thickness	Width	Length
0.5mm to 12mm	810mm	2500mm

HEAT TREATMENT :

Soft annealing °C	Cooling	Hardness HB
800 - 840	furnace	max. 250
Hardening form °C	in	Hardness after quenching HRC
930-960 950-980	oil, hot bath 500-500 °C air (up to 30 mm thickness)	64

Tempering °C	100°C	200°C	300°C	400°C	500°C	550°C	600°C
HRC	63	62	59	57	54	54	46