



Hot Working Tool Steel

TG H-13
(DIN-1.2344)
TG H-13M
(DIN-1.2345)



Steel Properties : High hot-wear resistance, high hot tensile strength and toughness. Good thermal conductivity and insusceptibility to hot cracking. Can be water-cooled to a limited extent.

Applications : Hot-work tool steel for universal use. Pressure casting dies and metal extrusion tools for processing light metals, forging dies, moulds, screws and barrels for plastic processing, nitrided ejectors, hot-shear blades. Suitable for Aluminium Extrusion Die & Aluminium Copper Forging Dies.

H13 has high hard resistance and hardness.

Suitable for Aluminium Extrusion Die, and Aluminium Copper forging Die.

Similar Steel Grade :

CHINA	BRAZIL	AUSTRIA	GERMANY		SLOVANIA	ITALY	JAPAN			S.KORIA	TAIWAN	CHEZ. REP
TG	VILLARES	BOHLER	DEW	GRODITZ	RAVNE	LUCCHINI	HITACHI	NIPPON	SANYO	DOOSAN	GLORIA	POLDI
H13	VH13M	W302	1.2344	1.2344	UTOP.M02-EFS	ESKY052344	DAC	KDA	QD61	STD 61	GMH13 (ESR)	TLI EFS

Chemical Composition: (%)

Indian	Chemical Analysis Typical Value % (Min - Max)											Delivery Condition	
IS	C	S	P	Si	Mn	Ni	Cr	Mo	V	W	other	Heat Treatment	Hardness
H13	0.35-0.42	≤0.030	≤0.030	0.80-1.20	0.25-0.50	***	4.80-5.50	1.20-1.50	0.85-1.15	***	***	Annealed	≤HB235
H13M	0.47-0.52	≤0.030	≤0.030	0.80-1.20	0.25-0.50	***	4.80-5.50	1.20-1.50	0.85-1.15	***	***	Annealed	≤HB235

Production process:

Round Bar :

EAF→LF→VD→ESR→ (5TONS HAMMER) → [Forged Annealed & Turned : Φ81.0 - 810mm
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/Ground Bar	Hot Rolled Annealed & Peeled Bar	Forged + Annealed + Turned Bar
Φ2.0 - 14.4mm	Φ14.5 - 80.0mm	Φ81.0 - 810.0mm

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

Thickness	Width
5mm - 410mm	10mm - 810mm

HEAT TREATMENT CONDITION :

Quenching temperature : 1020-1050°C
Cooling Medium : air-cooling
Tempering temperature : 550-650°C
Tempering times : 2Times, the tempering temperature in the second time should be lower than in first time
Tempering Hardness : 47-48HRC.

Tempering °C	500°C	550°C	600°C
HRC	HRC56	HRC54	HRC50