

Cold Working Tool Steel

TG X-6 (DC-53)

Smelting method : EAF+LF+VD+ESR

Main characteristics : Relatively high tenacity, high abrasion performance, little heat treatment dimension deformation, improved coarse carbides and excellent processing performance.

Major applications : • Mainly used for precision cold pressing molds: precision punching and cutting of line cutting processing, stamping dies of various applications, etc. • Long-life automobile covered piece molds: inlaid molds of key parts. • cut-off dies, edge rolling dies, wire drawing dies and screw dies.

Chemical constituent (%):

C	Si	Mn	Cr	Mo	W	V	P	S
0.93	0.95	0.40	7.8	1.90	-	0.25	≤0.03	≤0.010

Physical Property :

Room temperature density (Kg/m ³)	Specific heat of room temperature (J/Kg.K)	200°C thermal conductivity (W/m.K)	Elastic modulus (N/mm ²)	Linear expansivity (×10 ⁻⁶ /K)	
				20 ~ 200°C	20 ~ 400°C
7.85	0.45	20.5	218,000	11.9	12.3

Ultrasonic flaw detection: Electric furnace steel: flaw detection standard: as per SEP1921 - D/d flaw detection or GB/T4162 Class B, or as per customer requirements. Electroslag steel: flaw detection standard: as per SEP1921 - E/e flaw detection or GB/T4162 Class A, or as per customer requirements.

Purity : Electric furnace steel :

Class A		Class B		Class C		Class D	
Fine	Coarse	Fine	Coarse	Fine	Coarse	Fine	Coarse
1.5	1.0	2.0	1.5	1.5	1.0	1.5	1.5

Electroslag steel :

Class A		Class B		Class C		Class D	
Fine	Coarse	Fine	Coarse	Fine	Coarse	Fine	Coarse
1.0	0.5	1.5	1.0	1.0	1.0	1.5	1.0

Delivery state : (1) Delivery hardness: delivery under annealing state, ≤255HB; (2) Unevenness of eutectic carbide shall comply with Bole criteria;

Supply specification

Round Steel	Flat Steel	Module
Φ1-310mm	12~120x200~600mm	120~150x300~600mm

Thermal treatment

Softening annealing	Quenching	Tempering
Heating to 850°C for heat insulation; cooling to 650°C at 10°C/h air cooling	1,030-1,050 quenching gas cooling and oil cooling (simple shape)	Low temperature tempering: 180-200, tempering for twice High temperature tempering: 500-550, tempering for twice

