MOULD STEEL · HOT WORK DIE STEEL

1.2367 X38CrMoV5-3

Forged blocks and bars for die-casting dies, hot forging and extrusion tooling

8000 t + 1800 t	max 235 HB	53-57 HRC	EN 10204 3.1
Press and GFM forge	Delivery hardness	After quench	Every lot

GRADE DESIGNATION

System	Designation
ISO	X38CrMoV5-3
DIN (W.-Nr.)	1.2367
EN	X38CrMoV5-3
AISI (nearest)	H11 modified / H13 family
JIS (nearest)	SKD 62

SUPPLY RANGE

Form	Size range
Forged round bar	Ø150-1200 mm
Forged flat bar	100-600 x 300-2000 mm
Rolled round bar	Ø10-200 mm
Hot rolled plate	1-100 x 60-1600 mm

MECHANICAL AND PHYSICAL PROPERTIES

Property	Value
Delivery hardness	max 235 HB (soft annealed)
Hardness after quench	53-57 HRC
Tensile strength	1845-2140 N/mm2 (tempered 400-500 C)
Standard	BS EN ISO 4957-2000

HEAT TREATMENT

Step	Condition
Forging	1080-900 °C
Soft annealing	800-840 °C, max 235 HB
Stress relieving	650 °C, 1 h, air cool
Hardening	1030-1080 °C, air/oil/warm bath
Tempering	double temper, 500-550 °C for 53-56 HRC

CHEMICAL COMPOSITION (% BY MASS)

C	Si	Mn	P	S	Cr	Mo	V
0.35-0.40	0.30-0.50	0.30-0.60	0.030 max	0.030 max	4.70-5.20	2.70-3.30	0.40-0.70

NOTES FOR THE TOOL DESIGNER

- Molybdenum at 2.7-3.3 % gives a wider secondary hardening peak than 1.2344.
- ESR / EFS remelt route available for mirror-polish and high-cycle dies.

TYPICAL APPLICATIONS

- Aluminium and magnesium die-casting dies, inserts and cores
- Hot forging dies, press tools for light and heavy metal
- Extrusion mandrels, liners and container shells
- Wear-resistant tools running above 500 °C at the surface

QUALITY AND INSPECTION

Check	Scope
Mill certificate	EN 10204 3.1, chemistry and mechanical results
Ultrasonic test	SEP 1921 / ASTM A388 on request
Hardness survey	map across the block section on request
Dimensional report	thickness, width, length, squareness

ORDERING INFORMATION

- Grade and standard
- Form and size - thickness x width x length, or diameter and cut length
- Quantity in pieces or kilograms
- Delivery condition and hardness window
- Certificate and inspection requirements

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EN 10204 3.1 mill certificate with every shipment
Chemistry · mechanical properties · test results · heat number

Hardness map and ultrasonic inspection on request.
Values are typical for the grade; the certificate of the actual heat governs.