

COLD WORK TOOL STEEL – AISI D2

AISI D2 Cold Work Tool Steel air or oil hardening, with maximum dimensional stability during heat treatment, offering very high hardness and abrasion resistance. Generally supplied annealed to HB 250 max.

Typical Applications:

Deep drawing and forming dies, cold drawing punches, hobbing, blanking, lamination and stamping dies, shear blades, burnishing rolls, master tools and gauges, slitting cutters, thread rolling & wire dies, extrusion dies etc.

HEAT TREATMENT

Forge: at 900°C – 1100°C

Cool slowly and anneal immediately

Anneal: at 830°C – 860°C

Cool in furnace

Stress Relieve: at 650°C – 700°C

Cool in furnace or still air

Typical Chemical Analysis

Carbon	1.55%
Silicon	0.30%
Manganese	0.35%
Chromium	12.00%
Molybdenum	0.75%
Vanadium	0.90%

Related specifications:

AS 1239	D2A
ASTM A681	D2 UNS T30402
BS 4659	BD2
BS EN ISO 4957	X153CrMoV 12
JIS G 4404	SKD 11
Werkstoff 1.2379	X155CrVMo 12-1

Harden: Preheat at 650°C – 850°C

Raise to 1000°C–1050°C

Cool in air, oil or into hot bath held at 500°C – 550°C and then air cool

Temper: at 150°C – 400°C

Cool in still air

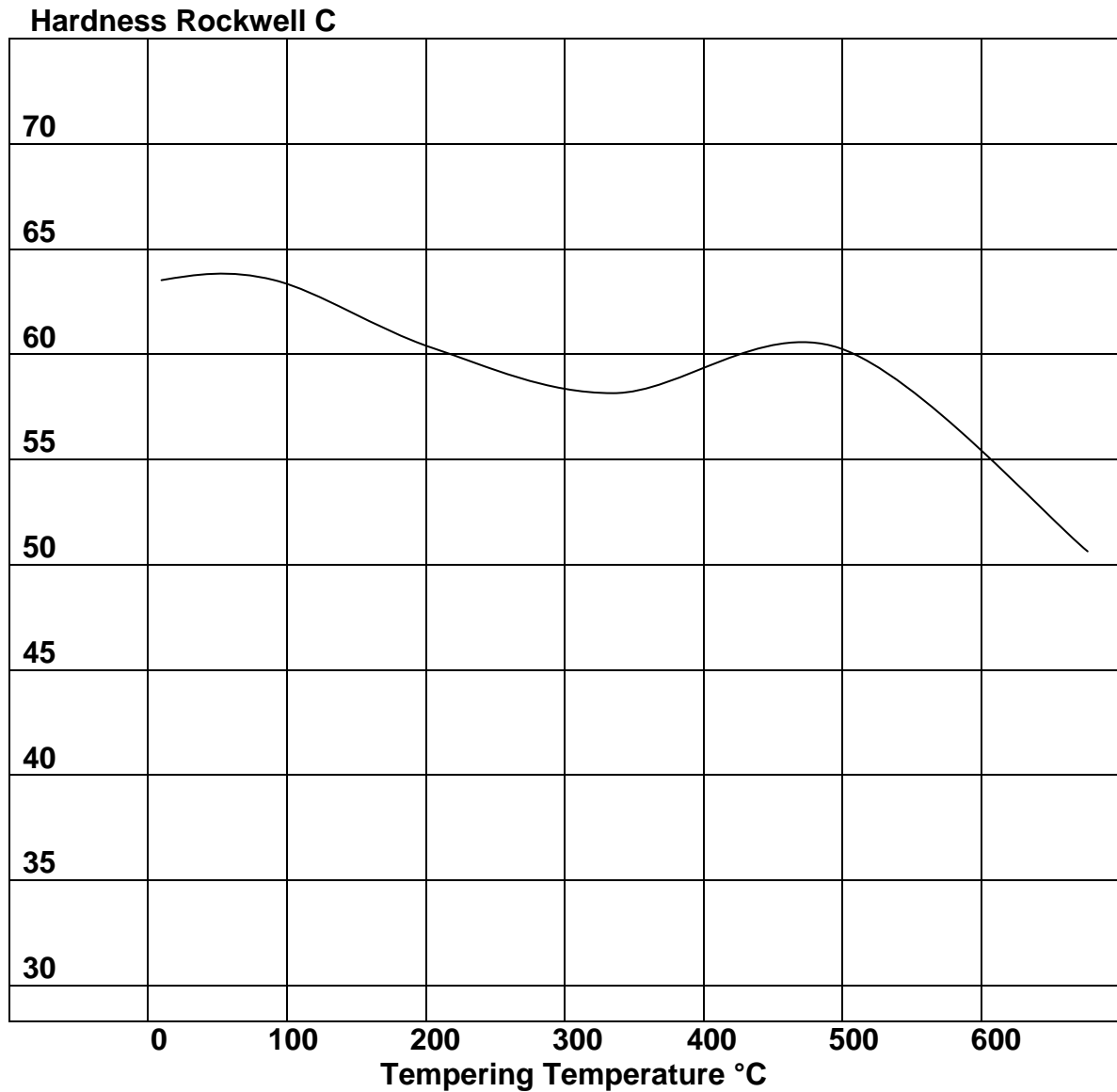
Triple tempering recommended

Typical Hardness / Applications – Air cooled at 1000°C-1050°C & tempered.

Temper	HRC	Typical Applications
150°C	63 – 64	Wire drawing, lamination and cold extrusion dies
	62 – 64	Deep drawing dies, moulding dies for abrasives, gauges
200°C	62 – 63	Knurling tools, thread rolling dies
	61 – 63	Blanking dies and punches, forming dies, burnishing rolls
220°C	57 – 62	Cold drawing punches, hobbing dies
300°C	58 – 59	Stamping dies, shear blades, plastic moulds and inserts
400°C	57 – 58	Cold forging dies and forming rolls

Heat treatment and typical hardness for guidance only

TYPICAL TEMPERING CURVE – AISI D2



Section: 30mm – Oil quenched at 1000 – 1050°C

Triple tempering recommended