

COLD WORK TOOL STEEL – AISI A2

AISI A2 Cold Work Tool Steel air hardening, with maximum dimensional stability during heat treatment, offering high abrasion resistance and good toughness. Generally supplied annealed to HB 231 max.

Typical Applications:

Brick mould liners, blanking, thread rolling, bending, cold heading, cold forging, crimping, stamping, forming and trimming dies, engraving dies and rolls, forming tools, guide pins, shear blades, slitting knives etc.

HEAT TREATMENT

Forge: at 900°C – 1100°C
Cool slowly and anneal immediately

Anneal: at 850°C – 870°C
Cool in furnace

Stress relieve: at 630°C – 650°C
Cool in furnace or still air

Typical Chemical Analysis

Carbon	1.00%
Silicon	0.30%
Manganese	0.50%
Chromium	5.00%
Molybdenum	1.00%
Vanadium	0.20%

Related specifications:

AS 1239	A2A
ASTM A681	A2 UNS T30102
BS 4659	BA2
BS EN ISO 4957	X100CrMoV 5
JIS G 4404	SKD 12
Werkstoff	1.2363 X100CrMoV5

Harden: Preheat at 650°C – 800°C
Raise to 930°C – 970°C
Cool in air, oil or into hot bath held at 500°C – 550°C and then air cool

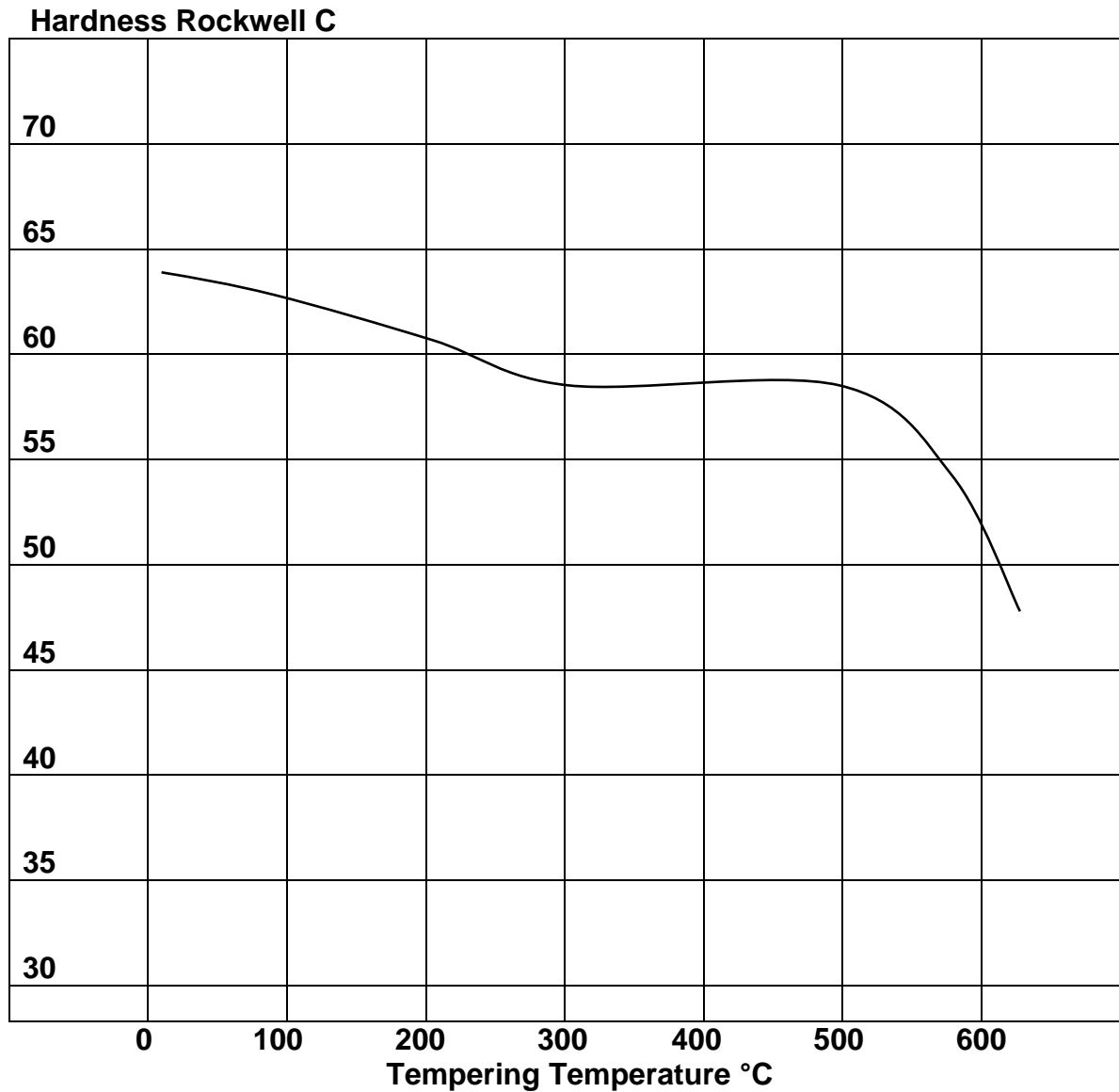
Temper: at 150°C – 550°C
Cool in still air
Double temper recommended

Typical Hardness / Applications - Air cooled at 930°C – 970°C & tempered.

Temper	HRC	Typical Applications
150°C	62 – 63	Brick mould liners, gauges, guide pins, thread rolling dies
	61 – 63	Blanking and bending dies, forming rolls
200°C	60 – 62	Crimping, cold heading and coining dies, paper slitters
	58 – 62	Forming tools and roller guide rolls, hobbing punches
250°C	58 – 60	Gripper and trimming dies, cold shear blades
	57 – 60	Cold forging dies, coining dies, knives
400°C	56 – 58	Shear blades, wire drawing grips
550°C	54 – 56	Parts requiring maximum toughness

Heat treatment and typical hardness for guidance only

TYPICAL TEMPERING CURVE – AISI A2



Section: 30mm – Air cooled at 930 – 970 °C

Double tempering recommended