

K700 - Manganese wear resistant steel

Typical Analysis (Ave. values %)	C	Si	Mn
	1.23	0.40	12.50
NEAREST STANDARD	DIN	AFNOR	UNI
	1.3401 X120Mn12	Z120M12	G X 120 Mn 12

DESCRIPTION	Special wear resistant manganese steel featuring high toughness and excellent weldability which acquires its working hardness (surface up to 600 BH) by strain hardening, thus being particularly suited for applications involving wear by impact or pressure.
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APPLICATIONS	Various components for crushing, bulk material handling, ore dressing and processing equipment such as crusher jaws, impact bars, impact plates, hammers, liners, elevator buckets, dredger teeth, bucket links, track rollers, armour plate for safes, reinforcement panels for strong rooms, jail bars, railway rolling stock axel box liners.
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HEAT TREATMENT	Quenching temperature	1000-1050 Water
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MECHANICAL PROPERTIES Quenched	Tensile Strength MPa	Yield Strength MPa	Elong. %	Red of area	Izod Impact J	Brinell Hardness
	800-1000	≥ 350	>35	>35	~100	~200
K700 obtains its characteristic properties by work hardening under impact and compressive stresses and it is not comparable with other hardenable steels.						

PHYSICAL PROPERTIES	Density kg/dm ³	7.90
	Modulus of elasticity 10 ³ N/mm ²	190
	Thermal conductivity W/(m.K)	13
	Electric resistivity Ohm.mm ² /m	0.68
	Specific heat capacity J/(kg.K)	500
	Thermal expansion 10 ⁶ m/(m.K)	18.2

WELDING	Pre-heating is not required for welding, however the heat input should be kept as low as possible by limiting the electrode dia. and amperage and by depositing in thin beads. Each bead must water cooled, in many cases the parts should be dipped into water with only the weld zones in the air. It is recommended that each bead is peened after cooling. Use Bohler FOX A7A, FOX CN29/9 A electrodes or A7-IG , CN29/9-IG wire
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SIZE RANGE	Round	20 mm
	Plate	2000 x 1000 x 1.5, 3, 5, 6, 6.35, 8, 10, 12 3000 x 1500 x 10, 12
	Profile	Sections available on request

<u>LOCATIONS</u>					
Bohler Uddeholm Australia Pty Ltd ABN 15000013052					
Sydney	129-135 McCredie Rd Guildford	2161	Ph (02) 8724 5554	Fax (02) 8724 5555	
Newcastle	3 Pavilion Pl Cardiff	2285	Ph (02) 4954 6611	Fax (02) 4956 5773	
Albury	1 Eames St Albury	2640	Ph (02) 6041 3399	Fax (02) 6041 1820	
Wollongong	40 Doyle Ave Unanderra	2526	Ph (02) 4272 6544	Fax (02) 4272 7563	
Marayong	1/21 Binney Rd Marayong	2148	Ph (02) 9831 4431	Fax (02) 9671 1682	
Melbourne	282-290 Greens Rd Dandenong	3175	Ph (03) 9767 5554	Fax (03) 9767 5555	
Bayswater	4 Ramage St Bayswater	3153	Ph (03) 9729 7356	Fax (03) 9738 0850	
Adelaide	1 Williams Cir Pooraka	5095	Ph (08) 8368 4554	Fax (08) 8368 4555	
Brisbane	12-18 Limestone St Darra	4076	Ph (07) 3712 9554	Fax (07) 3712 9555	
Townsville	9-11 Caldwell St Garbutt	4814	Ph (07) 4479 4800	Fax (07) 4725 1316	
Perth	29-33 Gauge Cir Canningvale	6155	Ph (08) 9455 8672	Fax (08) 9455 8673	
Kewdale	5 Beete St Welshpool	6106	Ph (08) 9350 9582	Fax (08) 9350 9683	
Launceston	20 Murphy St Invermay	7248	Ph (03) 6334 3542	Fax (03) 6331 4001	
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