



Grade:120Mn12 < W1.3401 - AISI A 128 (A) - GOST 110 F 13 L - JIS

SCMnH 1/11>

American standard US

A128 Europe standard

X120Mn12 China Mn13

ZGMn13 China cast steel

high manganese steel

hot rolled plate hot round bar

Chemical composition (%)

C	Si	Mn	P	S	Cr
1.1~1.3	0.3~0.5	12.0~13.0	≤0.100	≥0.040	(1.50)

mechanical properties

tensile strength Rm (Mpa)	yield strength Re (Mpa)	reduction of area A (%)	ballistic work Akv (J)
880~1130	≥410	≥40	124 (normal temperature)

Specification scope commer specification 6-30mm. Special specification 1-5mm.

Shipment data one and half month without any special situation. Mn13 we have the stocks Mn13 6,7,8,10,12,13,15,20,25,30 unit/mm.

Mn13 (X120Mn12) is the best choice for resist-high impact ,the material of big stress in wear-resistance.The high manganese steel have two biggest features: one is external impact more bigger ,the wear-resistance of using



for quick-wear part of low equipment and save the overhaul fee of equipment,so it improves the competition.

11 to 14% manganese steel with excellent work hardening properties. Suitable for wear applications where high impact/gouging abrasion leads to a work hardening effect. X120Mn12 manganese steel plate can be cut by plasma or laser profiling. The product is a non magnetic, work hardening abrasion resistant steel plate, supplied in full plates or as cut pieces.

#### Forming

Forming can be carried out without difficulty, as the plate in the supplied condition is ductile. To avoid cracking, edges which have been work hardened by shearing should have a 2 to 3mm chamfer ground along the edge to be formed. If possible, forming should be carried out in one operation in order to avoid work hardening.

#### Drilling:

High manganese steel is difficult to drill due to the 11 to 14% manganese content and will work harden very quickly. Heavy duty, very rigid machinery is required using either armour piercing drills in 8% cobalt high speed steel, or preferably, use special drills with replaceable carbide inserts. Avoid centre punching or allowing the drill to rub on the surface without the feed being engaged, as this has the effect of work hardening.

#### Welding:



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Welding should be carried out using E308Mo type austenitic stainless consumables. As a high manganese steel with high coefficient of thermal expansion and low thermal conductivity, welding should be carried out at a low thermal value. Prolonged time of the material in the temperature range of 300°C to 800°C can cause embrittlement due to carbide precipitation.

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