



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 appearance is more higher; another is with the gradually abrasion of densified laminated appearance, new densified laminated process is formed continually.

Mn13 (X120Mn12) wrought-steel plate have wonderful abrasion resistance of high impact abrasion and big stress abrasion, when using it will not appear crash. It also has the excellence of easy for cutting, welding, curving and other mechanical properties for process. The traditional used high chrome forging only have the good wear-resistance of moving abrasion. Mn13 (X120Mn12) rolled plate is reduced the cost 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:

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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