



Xuzhou H&G Wear-resistant Material Co., Ltd.

Add: Liu Bang Industrial Park, Peixian, Xuzhou, Jiangsu, China Web: www.xzhuagang.com
E-mail: kelly@xzhuagang.com Tel: +86-021-68407982 Fax: +86-021-68409065

SCMN11 liner plate

Products Description:



SCMN11 mill liner plate in general refers to a kind of casting steel with the Mn content at 11%~22%, the carbon content at 0.9%~1.5%, mostly higher than 1.0%. Under low impact load, can achieve HB300~400, Under high impact load, can achieve HB500~800. Different impact load, the surface hardening layer depth can be up to 10~20 mm. High hardness of hardening layer can resist the wear of grinding media. Under the condition of strong impact abrasive wear, high manganese steel has excellent anti-wear performance, so it is widely used in mining, aggregates, coal industries as wear-resistant parts.

SCMN11 Mill liners need to protect the mill shell from damages due to wear and transmit the energy from the rotating mill to the ball charge.

The rules that guide the design of a liner depend on the grinding mechanisms required for the specific mill. They can be classified either as impact/cataracting for very coarse to coarse grinding, cascading for coarse to medium grinding or attrition for medium to fine grinding.

In any case the design of a liner is a compromise between lifetime and grinding efficiency.

Note: Depending upon the various application, we propose suitable profile with appropriate alloy ranging from 12 to 25% .

Chemical Elements

Name	Chemical Elements (%)							
	C	Si	Mn	Cr	Mo	Ni	P	S
SCMN11	0.9-1.5	0.3-1.0	11-22	0-2.5	0-0.5	≤0.05	≤0.05	≤0.05

Physical Property & Microstructure

Name	HB	Ak(J/cm ²)	Microstructure
SCMN11	≤240	≥100	A
A: Austenite			

Size

Size	Hole Dia.(mm)		Liner Length(mm)	
	≤40	≤40	≤250	≤250
Tolerance	+2 0	+3 0	+2	+3



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SAG mill liner for Mining

Products Description:



Sag Mill liner from H&G use Cr-Mo materials (AS2074 Standard) , provides superior impact and wear resistance in all semi-autogenous milling applications. The material of SAG mill liners use low or high Carbon Cr-Mo Alloyed steel,the carbon content depends on the working condition of the mill.

To choose the right material for the right application is our mission , we are always working together with our customer to achieve this .

The right material is upon to :

1. The mineral ground
2. Milling data information
3. Maximum grinding media diameter (mm)
4. Grinding media filling degree (%)

In general ,Item M1 used for high impact condition ,P1 used for low impact condition. It shall change according to your mineral processing .

Spec Available

Code	Chemical Elements (%)							
	C	Si	Mn	Cr	Mo	Cu	P	S
P1	0.6-0.9	0.4-0.7	0.6-1.0	1.8-2.1	0.2-0.4	0.3-0.5	≤0.04	≤0.06
M1	0.3-0.45	0.4-0.7	1.3-1.6	2.5-3.2	0.6-0.8	0.3-0.5	≤0.04	≤0.06

Physical Property & Microstructure

Code	Hardness (HB)	Ak (J/cm ²)	Microstructure
P1	325-375	≥50	P
M1	350-400	≥75	M

M-Martensite,C-Carbide,A-Austenite,P-Pearlite



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White iron Liner plate



Products Description

High Chrome alloyed casting iron in general refers to the alloy white iron with the chromium content at 12%~26%, the carbon content at 2.0%~3.6%. Its distinctive features is that the M7C3 type eutectic carbide micro hardness is HV1300~1800. The eutectic carbide is distributed on the base, martensite(the most hard metal matrix organization), in discontinuous network and isolation, which reduces the fragmentation of the matrix effect. As a result, the high chromium mill liner has high strength, strong toughness and good wear resistance features , which is widely used at Mining ,Cement and power industry .

White iron liner is recommended to be using at low impact working condition such as :

1. Belt conveyer liner for Mining industry.
2. Cement plant ball mill .
3. Chemical industry ball mill .

Chemical Elements

Name	Chemical Elements (%)							
	C	Si	Mn	Cr	Mo	Cu	P	S
High Cr Liner	2.0-3.3	0-0.8	≤2.0	12-26	≤3.0	≤1.2	≤0.06	≤0.06

Physical Property & Microstructure

Name	HRC	Ak(J/cm ²)	Microstructure
High Cr Liner	≥58	≥3.5	M+C+A
M-Martensite C- Carbide A-Austenite			



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High / Medium Carbon steel Chrome&Mo Ball mill liner



Products Description

High Carbon steel Chrome & Mo ball mill liner in general refers to a kind of casting steel with the chromium content at 4%~6%, the carbon content at 0.8%~1.2%. Its distinctive feature is to adopt multivariate alloy design. It increases carbide content in the medium carbon alloyed steel, through increasing the Cr & Mo content, the strong carbide forming elements, so as to improve its heat-resisting, wear-resisting performance. As a result, its high strength, strong toughness and good wear resistance properties represent the relatively high level of metal wear resistant materials.

The material is widely used for power coal mill ,cement mill .

Spec available :

High Cabon Cr&Mo alloyed :

Name	Chemical Elements (%)							
	C	Si	Mn	Cr	Mo	Cu	P	S
High C Cr & Mo Liner ZG75Cr5MoRe	0.8-1.2	≤1.0	0.8--1.2	4-6	0.3-1	>0.2	≤0.06	≤0.06

Medium Carbon Cr&Mo alloyed :

Name	Chemical Elements (%)							
	C	Si	Mn	Cr	Mo	Cu	P	S
Medium C Cr & Mo Liner ZG45Cr5MoRe	0.4-0.8	≤1.0	0.6--1.2	3-5	0.3-1	>0.2	≤0.06	≤0.06

Physical Property & Microstructure:

Name	HRC	Ak(J/cm2)	Microstructure
High Cr & Mo Liner ZG45Cr5MoRe	≥48	≥25	M+C
Medium C Cr & Mo Liner ZG45Cr5MoRe	≥42	≥50	M+C
M-Martensite C- Carbide			