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

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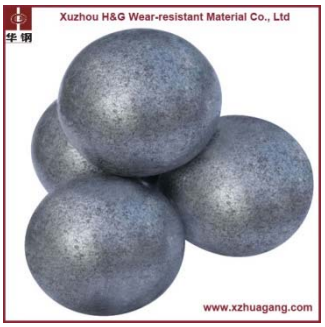
High Chrome Alloyed Grinding Balls

Products Description



Grinding Media is widely used in cement, metal mining, power plant and chemical industry etc. The hardness reaches up to 66HRC (the surface and core hardness tolerance could be controlled within 2HRC), which makes the optimum wear resistance against abrasion and corrosion.

There is no standard solution for mineral industry and wear rate of grinding media varies from mine to mine, ore to ore and even for the same ore time to time.

The choice of grinding media Spec is determined upon:

1.The mineral ground
2.The mill data and liner used
3.The wear mechanical (Impact, Abrasion, Corrosion)

Based on our world wide experience, H&G can help select optimum alloy for specific application ranging from Chromium 10 to 26% and Hardness ranging from 58 to 66 HRC.

Chemical Elements

Name	Chemical Elements (%)							
	C	Si	Mn	Cr	Mo	Cu	P	S
High Cr Balls	2.0-3.3	≤1.2	0.3-1.5	10-26	0-3.0	0-1.2	≤0.1	≤0.06
Low Cr Balls	2.1-3.6	≤1.5	0.3-1.5	1-6	0-1.0	0-0.8	≤0.1	≤0.1

Physical Property & Microstructure

Name	HRC	Ak(J/cm^2)	Microstructure	Times of Falling Balls	
High Cr Balls	≥60	≥4	M+C+A	≤Φ80	≥15000
				≥Φ80	≥10000
Low Cr Balls	≥46	≥2.5	P+C	≥10000	
M-Martensite C-Carbide A-Austenite P-Pearlite					

Note: The balls can be classified in 6 main categories ,each of which has a particular field of mining Application:

Item Name	Diameter(mm)	Cr% Range	Hardness	Application field
GBM-P1	**80-100mm**	**16-19%**	**60-66HRC**	**Primary Stage**
GBM-P2	**80-100mm**	**10-12%**	**58-62HRC**	**Primary Stage**

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GBM-P3	**80-100mm**	**2.5-4%**	**50-55HRC**	**Primary Stage**
GBM-S1	**30-60mm**	**12-14%**	**62-66HRC**	**Secondary stage**
GBM-S2	**30-60mm**	**10-12%**	**60-62HRC**	**Secondary stage**
GBM-R1	**20-40mm**	**12-14%**	**62-65HRC**	**Regrinding stage**

1.Low breakage rate => Breakage guarantee <0.5%

2.High degree of Grinding uniformity Ensured by Standard production process (Full automatic process).

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Forged Grinding Balls

Products Description

Forged grinding ball is used in cement, metal mining, power plant and chemical industry etc. The property- low wear rate, good toughness and less breakage, prolongs its life, improves the productivity of the ball mill, and lowers user's cost.

Products Features

In general, forged steel ball has high hardness: surface hardness to 55-68 HRC, volume hardness of 50-63 HRC

Chemical Elements

Material	Chemical Elements (%)					
	C	Mn	Si	Cr	S	P
50MN	0.48-0.56	0.70-1.0	0.17-0.37	≤0.25	≤0.035	≤0.035
60MN	0.57-0.65	0.50-0.80	0.17-0.37	≤0.25	≤0.035	≤0.035
65MN	0.62-0.70	0.90-1.20	0.17-0.37	≤0.25	≤0.035	≤0.035
75Mn	0.72-0.92	0.70-1.20	0.17-0.37	0.4-0.6	≤0.035	≤0.035
75MnCr	0.70-0.85	0.70-0.80	0.17-0.37	0.2-0.7	≤0.03	≤0.03
75SiMn	0.70-0.90	0.70-1.20	0.4-0.8	≤0.25	≤0.03	≤0.03
B2	0.70-0.85	0.70-0.80	0.17-0.37	0.2-0.7	≤0.035	≤0.035
40Cr	0.37-0.44	0.50-0.80	0.17-0.37	0.8-1.10	≤0.035	≤0.035
45#	0.42-0.50	0.50-0.80	0.17-0.37	≤0.25	≤0.035	≤0.035

Physical Property & Microstructure

Material	AK(J/cm2)	Falling Ball Times	Surface HRC	Core HRC	Microstructure
50MN	≥12	≥10000	≥56	≥48	M+C
60MN	≥15	≥12000	≥58	≥50	M+C
65MN	≥15	≥12000	≥60	≥50	M+C
75Mn	≥17	≥12000	≥60	≥52	M+C
75MnCr	≥16	≥12000	≥60	≥50	M+C
75SiMn	≥17	≥12000	≥60	≥54	M+C
B2	≥15	≥12000	≥60	≥50	M+C
45#	≥12	≥10000	≥52	≥45	M+C
M-Martensite C-Carbide					