AUDAY GrindCo

TECHNICAL SPECIFICATION – High Chromium Alloy

DESCRIPTION

High chromium alloy cast ball is widely used in cement building materials, metal mines, coal pulp thermal power, chemical engineering, ceramic coatings, light industry paper, magnetic materials and other industries for powder system preparation and ultra-fine processing.

The product hardness is high, has low wear, exhibits high toughness, and has minimal crushing. This product whilst in use improves the surface hardness of the sphere with the wear resistance being enhanced. This allows improved production capacity within the mill, with increased concentrate recovery rate.

CHARACTERISTICS

The three-way high chromium steel ball has high wear-resistant and is more than 2 times that of ordinary low-chromium ball and forged steel ball. The high-chromium ball wear performance implies wear consumption is low, grinding efficiency is high, grade stability is good, thereby increasing the fineness of mineral powder, improves the yield over time, but also to ensures good quality of the output ore powder.

USE

Suitable for large, medium, and small ball mill production process.

Chemical Composition

Type	Make	Chemical Composition							
		C	Si	Mn	Cr	P	S	Mo	Al
High Chrome Ball	AGCr10	2.2 - 3.2	≤1.0	≤1.5	10.0 -12.0	≤0.08	≤0.06	≤1.1	Trace
	AGCr12	2.2 - 3.2	≤1.0	≤1.5	12.0 -14.0	≤0.08	≤0.06	≤1.1	Trace
	AGCr15	2.2 - 3.3	≤1.0	≤1.5	14.0 -18.0	≤0.08	≤0.06	≤1.1	Trace
	AGCr20	2.2 - 3.3	≤1.0	≤1.5	18.0 -23.0	≤0.08	≤0.06	≤1.1	Trace
	AGCr26	2.2 - 3.3	≤1.0	≤1.5	23.0 -30.0	≤0.08	≤0.06	≤1.1	Trace

Mechanical Properties and Microstructure

Type	Make	Surface and Core Hardness (HRC)	Impact Value Ak (J/cm^2)	Microstructure	Times of Falling Balls
High Chrome Ball	AGCr10	60 - 64	≥3.5	M + C	≥18,500
	AGCr12	60 - 64	≥3.5	M + C	≥18,500
	AGCr15	60 - 64	≥3.5	M + C	≥18,500
	AGCr20	60 - 64	≥3.5	M + C	≥18,500
	AGCr26	60 - 64	≥4.0	M + C	≥18,500

C – Carbide, M – Martensite

High Chrome Alloy Grinding Media Ball Specification

Diameter (mm)	Weight per Ball (kg)	Quantity per Ton	Diameter (mm)	Weight per Ball (kg)	Quantity per Ton
20	0.034	31,100	90	2.900	345
25	0.063	15,880	100	4.000	250
30	0.110	9,100	110	5.300	188
40	0.260	3,895	120	6.800	148
50	0.510	2,000	125	7.750	130
60	0.860	1,155	130	8.740	115
70	1.370	730	160	13.50	75
80	2.050	488			

Chemical composition of all products listed above can be adjusted as per clients' requirements.