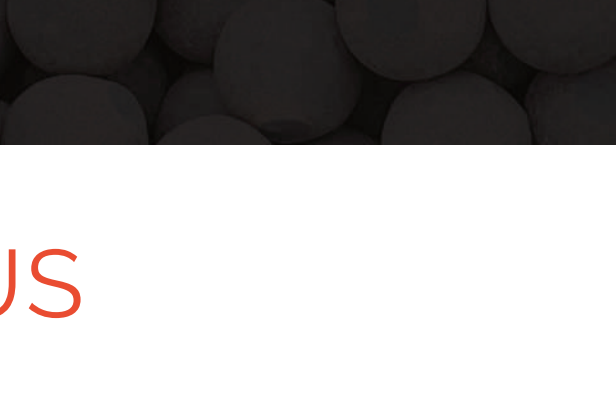


HIGH CHROME GRINDING BALLS



ABOUT US

OUR STORY

OBEREN was founded in 1929 in Bilbao, España. In 1990 started operations in México, with the main intention of satisfying mining and cement industry necessity through sale of high chrome grinding balls. Our factory is located in Estado de México.

With all of these years of experience OBEREN has developed strategic alliances with companies in the region in order to have comprehensive development and be able to satisfy our clients' necessity in a very efficient way.

OBEREN has developed and implemented a quality management system this is why we can proudly claim to be the leaders in quality, standardization and continuous improvement. We are certificated in ISO 9001:2015 ensuring the correct specifications at the end of all our processes and guaranteeing constant results to our customers.

CULTURE THAT MAKE US UNIQUE

MISSION

Our mission is to satisfy the needs of the national and international mining and cement industry through manufacturing of high quality high chrome grinding balls, endorsed for more than 90 years on the market. We offer the best service experience developing long term strategic alliances and committed to the development of our associates and collaborators.

VISION

Our vision is to be a sustainable company recognized for its professionalism, operational and cost efficiency, and being the business partner of first choice through continuous improvement and strategic alliances in the supply chain.

MORAL VALUES

- Discipline
- Respect
- Passion
- Commitment
- Integrity

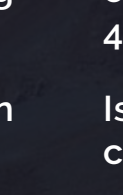
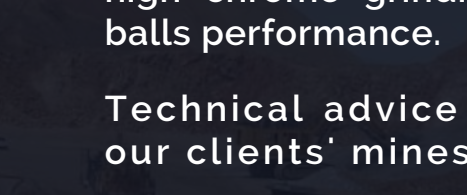
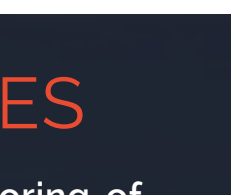
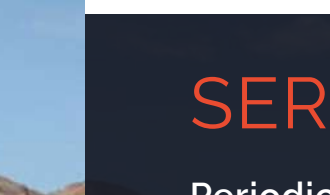
HIGH CHROME GRINDING BALLS

LEADERS IN PRODUCTION

Through our history, we have been improving the process year by year, ensuring our clients satisfaction. Our production capacity is 18,000 tons per year, having an extensive catalog of high quality high chrome grinding balls.

COMPANIES THAT TRUST IN US

We have worldwide clients who have trusted in our products to ensure and maintain their quality levels:



SERVICES

Periodic monitoring of high chrome grinding balls performance.

Technical advice in our clients' mines.

Ease of testing our products without affecting the economy.

Direct technical service on site in no more than 48 hrs.

Issuance of quality certifies our products.

ADVANTAGE OF OUR PRODUCTS IN WET GRINDING

- Unit consumption drops from 20% to 40% compared to forged ball.
- Less hours of work to dose ball due to low unit consumption.
- Savings in transport costs due to low unit consumption.
- Higher grinding production in most of the proven mills (5% to 6% more fines in grinding).
- Product parts are not thrown away.
- More dissolved oxygen in the pulp improves metallurgical results.



OBEREN stands out for its products, we take care of each of our high chrome grinding balls quality, from its chemical composition to its efficient heat treatment to ensure the expected performance in the grinding process.

APPLICATION: GRINDING MEDIA FOR MINING AND CEMENT INDUSTRY

CHEMICAL COMPOSITION

Diameter		%C		%Si		%Mn		%P	%S	%Cr		%Mo	
Mm	Inch	Min	Max	Min	Max	Min	Max	Max	Max	Min	Max	Min	Max
90mm	3.5"	2.80	3.50	0.40	0.80	0.60	1.20	0.05	0.05	15	16	0.10	0.25
80mm	3"	2.80	3.50	0.40	0.80	0.60	1.20	0.05	0.05	15	16	0.10	0.25
70mm	2.75"	2.80	3.50	0.40	0.80	0.60	1.20	0.05	0.05	15	16	0.10	0.25
60mm	2.5"	2.80	3.50	0.40	0.80	0.60	1.20	0.05	0.05	15	16	0.10	0.25
50mm	2"	2.80	3.50	0.40	0.80	0.60	1.20	0.05	0.05	15	16	0.07	0.15
40mm	1.5"	2.80	3.50	0.40	0.80	0.60	1.20	0.05	0.05	15	16	N/A	N/A
30mm	1.25"	2.80	3.50	0.40	0.80	0.60	1.20	0.05	0.05	15	16	N/A	N/A
25mm	1"	2.80	3.50	0.40	0.80	0.60	1.20	0.05	0.05	15	16	N/A	N/A
20mm	.75"	2.80	3.50	0.40	0.80	0.60	1.20	0.05	0.05	15	16	N/A	N/A

HARDNESS

Surface Hardness	Min (H Rockwell C)	Max (H Rockwell C)
0.75" (20 mm) a 3 1/2" (90 MM)	60	65

VOLUMETRIC HARDNESS

Mm	Inch	Average HRC
90mm	3.5"	61.72
80mm	3"	63.25
70mm	2.75"	61.66
60mm	2.5"	62.64
50mm	2"	62.04
40mm	1.5"	63.54
30mm	1.25"	61.01
25mm	1"	61.01
20mm	0.75"	61.01

MASS AND MEASUREMENTS

Diameter		Mass (kg)		Load density ton/m ³	Balls per ton	Surface area (cm ²)	Superficie específica (m ²)
Mm	Inch	Min	Max				
90mm	3.5"	2.901	2.965	4.025	341	254	8.68
80mm	3"	2.074	2.131	4.122	476	201	9.56
70mm	2.75"	1.374	1.423	4.200	715	154	11.01
60mm	2.5"	0.832	0.886	4.160	1164	113	13.17
50mm	2"	0.501	0.519	4.105	1961	79	15.40
40mm	1.5"	0.238	0.274	4.135	3906	50	19.64
30mm	1.25"	0.103	0.111	4.082	9346	28	26.42
25mm	1"	0.056	0.071	4.175	15748	20	30.92
20mm	.75"	0.0284	0.0306	4.208	34483	13	43.33

ALLOY DENSITY: 7.54 kg/dm³

ACCEPTABLE IRREGULARITIES

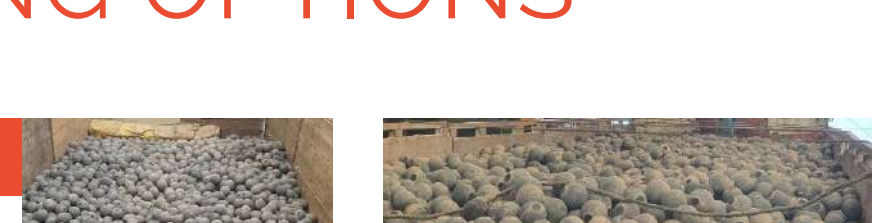
Casting line mark



Casting feeding mark



Marks of Casting sand



PACKAGING OPTIONS

BULK



DRUMS



BAGS

