



济南增泰重工
Jinan ZenTi Heavy Industry Co., Ltd

About Us

Jinan ZenTi Heavy Industries Co., Ltd. was established in March 2010 with a registered capital of 100 million (RMB), covering an area of 100,000 square meters. It boasts a team of more than 150 employees, including over 60 experts specialized in technical research and development. As a high-tech enterprise, we specialize in the production, testing, and sales of grinding media and foundation bolts.

Our products range from grinding balls, grinding cylpebs, grinding rods, and liners used in mines and building materials to high strength bolts. We are equipped with seven production lines that enable us to produce more than 80,000 tons of products annually. With more than 15 years of experience in heavy industry, our products have been exported to more than 30 countries and have gained high praise and reorders from our customers.

Product List for Forged Grinding Balls

1. General Information of Forged Grinding Balls

General Information	
Product Name	Forged Grinding Balls
HS Code	73261100
Size Range	10-160mm
Specification	45#, 50Mn, 60Mn, 65Mn, B2, B3, B4, B6, BL, BG
Surface Hardness	55-66HRC
Impact Value	>12J/cm2
Dropping Test	10,000-20,000 times
Packaging	Bags, Steel drums, Containers

2. Products Detail

For more product categories not shown below, please contact us. We accept customization.

Size and Weight (For more sizing info please contact us)			
Diameter mm (Inch)	Weight Per Ball (g)	Average Number of Balls Per Ton	Diametrical Tolerance (mm)
20 (0.79)	55	18,182	+2 -1
25 (0.98)	72	13,900	+2 -1
30 (1.18)	125	8,000	+2 -1
40 (1.57)	296	3,980	+1.5 -1
50 (1.97)	578	1,730	+1.5 -1
60 (2.36)	999	1,000	+2.5 -1.5
65(5.56)	1,270	790	+2.5 -1.5
70 (2.76)	1,586	630	+2.5 -1.5
80 (3.15)	2,367	420	+2.5 -1.5
90 (3.54)	3,371	300	+4 -1.5
100 (3.94)	3,964	250	+4 -1.5
120 (4.72)	7,989	125	+5 -3
140 (5.51)	11,250	89	+5 -3
150 (5.91)	13,800	70	+5 -3

Chemical Composition (%)						
Steel Specification	C	Mn	Si	Cr	S	P
60Mn	0.57-0.65	0.70-1.00	0.17-0.37	≤0.25	≤0.035	≤0.035
65Mn	0.62-0.72	0.90-1.20	0.17-0.37	≤0.25	≤0.035	≤0.035
B2	0.72-0.85	0.70-0.90	0.17-0.36	0.40-0.60	≤0.035	≤0.035
B3	0.52-0.65	0.40-1.00	1.33-1.85	0.78-1.20	≤0.030	≤0.030
B4	0.65-0.75	0.50-0.70	1.20-1.40	0.85-1.00	≤0.025	≤0.025
B6	0.75-0.90	0.80-1.02	0.17-0.37	0.88-0.98	≤0.035	≤0.035
BU	0.95-1.05	0.95-1.05	0.15-0.35	0.45-0.55	≤0.035	≤0.035
BL	0.55-0.75	0.65-0.85	0.15-0.35	0.70-1.20	≤0.035	≤0.035
BG	0.90-1.05	0.35-0.95	0.15-0.35	1.0-1.70	≤0.035	≤0.035

Physical Features				
Steel Specification	Impact Value (J/cm2)	Surface Hardness (HRC)	Core Hardness (HRC)	Diameter (mm)
60Mn	≥12	55-66	45-65	10-160
65Mn				
B2				
B3				
B4				
B6				
BU				
BL				
BG				

Product List for Grinding Rods

1. General Information of Grinding Rods

General Information	
Product Name	Grinding Rods
HS Code	73261100
Size Range	Length: 1500-6000mm, Diameter: 25-140mm
Specification	45#, 50Mn, 60Mn, 65Mn, B2, B3, B4, B6, BL, BG
Surface Hardness	45-60HRC
Impact Value	≥12J/cm2
Dropping Test	10,000-20,000 times
Packaging	Bundles, Bags, Steel drums, Containers

2. Products Detail

For more product categories not shown below, please contact us. We accept customization.

Size	
Diameter (mm)	Length (mm)
25-140	1500-6000

Chemical Composition (%)						
Steel Specification	C	Mn	Si	Cr	S	P
60Mn	0.57-0.65	0.70-1.00	0.17-0.37	≤0.25	≤0.035	≤0.035
65Mn	0.62-0.72	0.90-1.20	0.17-0.37	≤0.25	≤0.035	≤0.035
B2	0.72-0.85	0.70-0.90	0.17-0.36	0.40-0.60	≤0.035	≤0.035
B3	0.52-0.65	0.40-1.00	1.33-1.85	0.78-1.20	≤0.030	≤0.030
B4	0.65-0.75	0.50-0.70	1.20-1.40	0.85-1.00	≤0.025	≤0.025
B6	0.75-0.90	0.80-1.02	0.17-0.37	0.88-0.98	≤0.035	≤0.035
BU	0.95-1.05	0.95-1.05	0.15-0.35	0.45-0.55	≤0.035	≤0.035
BL	0.55-0.75	0.65-0.85	0.15-0.35	0.70-1.20	≤0.035	≤0.035
BG	0.90-1.05	0.35-0.95	0.15-0.35	1.0-1.70	≤0.035	≤0.035

Physical Features				
Steel Specification	Impact Value (J/cm2)	Surface Hardness (HRC)	Diameter (mm)	Length (mm)
60Mn	≥12	45-60	25-140	1500-6000
65Mn				
B2				
B3				
B4				
B6				
BU				
BL				
BG				

Product List for Casting Grinding Balls

1. General Information of Casting Grinding Balls

General Information	
Product Name	Casting Grinding Balls
HS Code	7325910000
Size Range	10-130mm
Specification	Cr (1%-32%) alloying grinding balls/ Ductile cast iron balls
Surface Hardness	45-65HRC
Impact Value	>4J/cm ²
Breakage Rate (%)	≤1% (some products lower than 2%)
Dropping Test	Stricter than Industrial standard
Packaging	Bags, Steel drums, Containers

2. Products Detail

For more product categories not shown below, please contact us. We accept customization.

Chemical Composition (%)							
Name	C	Si	Mn	Cr	Mo	S	P
Cr (23-30%) alloying grinding balls	2.0-3.3	≤1.2	0.3-1.5	23.1-30.0	≤3.0	≤0.06	≤0.10
Cr (18-23%) alloying grinding balls	2.0-3.3	≤1.2	0.3-1.5	18.1-23.0	≤3.0	≤0.06	≤0.10
Cr (14-18%) alloying grinding balls	2.0-3.3	≤1.2	0.3-1.5	14.1-18.0	≤3.0	≤0.06	≤0.10
Cr (10-14%) alloying grinding balls	2.0-3.3	≤1.2	0.3-1.5	10.1-14.0	≤3.0	≤0.06	≤0.10
Cr (7-10%) alloying grinding balls	2.1-3.3	≤2.2	0.3-1.5	7.0-10.0	≤1.0	≤0.06	≤0.10
Cr (4-6%) alloying grinding balls	2.1-3.3	≤1.5	0.3-1.5	4.0-6.0	≤1.0	≤0.10	≤0.10
Cr (1-3%) alloying grinding balls	2.1-3.6	≤1.5	0.3-1.5	1.0-3.0	≤1.0	≤0.10	≤0.10

Chemical Composition (%)							
Name	C	Si	Mn	Cr	Mo	S	P
Ductile cast iron balls (Bainite)	3.2-3.8	2.0-3.5	2.0-3.0	-	-	≤0.03	≤0.10
Ductile cast iron balls (Martensite)	3.2-3.8	0.5-1.5	0.5-1.5	-	-	≤0.03	≤0.10

Physical Features					
Name	Surface Hardness (HRC)	Core Hardness (HRC)	Impact Value (J/cm2)	Breakage Rate (%)	Diameter (mm)
Cr (23-30%) alloying grinding balls	58-65	55-65	≥4J	≤1.0	10-130
Cr (18-23%) alloying grinding balls	58-65	55-65	≥4J	≤1.0	
Cr (14-18%) alloying grinding balls	58-65	55-65	≥4J	≤1.0	
Cr (10-14%) alloying grinding balls	58-65	55-65	≥4J	≤1.0	
Cr (7-10%) alloying grinding balls	≥48	≥45	≥4J	≤1.9	
Cr (4-6%) alloying grinding balls	≥47	≥44	≥4J	≤1.9	
Cr (1-3%) alloying grinding balls	≥45	≥43	≥4J	≤2.0	
Ductile cast iron balls (Bainite)	≥50	≥48	≥4J	≤2.0	
Ductile cast iron balls (Martensite)	≥52	≥49	≥4J	≤2.0	

Product List for Grinding Cylpebs

1. General Information of Grinding Cylpebs

General Information	
Product Name	Grinding Cylpebs
HS Code	7325910000
Size Range	Length: 10-45mm, Diameter: 10-40mm
Specification	Cr (1%-32%) alloying grinding cylpebs/ Ductile cast iron cylpebs
Surface Hardness	55-65HRC
Impact Value	>4J/cm2
Breakage Rate (%)	≤1% (some products lower than 2%)
Dropping Test	10,000-20,000 times
Packaging	Bundles, Containers

2. Products Detail

For more product categories not shown below, please contact us. We accept customization.

Chemical Composition (%)							
Name	C	Si	Mn	Cr	Mo	S	P
Cr (23-30%) alloying grinding cylpebs	2.0-3.3	≤1.2	0.3-1.5	23.1-30.0	≤3.0	≤0.06	≤0.10
Cr (18-23%) alloying grinding cylpebs	2.0-3.3	≤1.2	0.3-1.5	18.1-23.0	≤3.0	≤0.06	≤0.10
Cr (14-18%) alloying grinding cylpebs	2.0-3.3	≤1.2	0.3-1.5	14.1-18.0	≤3.0	≤0.06	≤0.10
Cr (10-14%) alloying grinding cylpebs	2.0-3.3	≤1.2	0.3-1.5	10.1-14.0	≤3.0	≤0.06	≤0.10
Cr (7-10%) alloying grinding cylpebs	2.1-3.3	≤2.2	0.3-1.5	7.0-10.0	≤1.0	≤0.06	≤0.10
Cr (4-6%) alloying grinding cylpebs	2.1-3.3	≤1.5	0.3-1.5	4.0-6.0	≤1.0	≤0.10	≤0.10
Cr (1-3%) alloying grinding cylpebs	2.1-3.6	≤1.5	0.3-1.5	1.0-3.0	≤1.0	≤0.10	≤0.10
Ductile cast iron cylpebs (Bainite)	3.2-3.8	2.0-3.5	2.0-3.0	-	-	≤0.03	≤0.10
Ductile cast iron cylpebs (Martensite)	3.2-3.8	0.5-1.5	0.5-1.5	-	-	≤0.03	≤0.10

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Physical Features						
Name	Surface Hardness (HRC)	Core Hardness (HRC)	Impact Value (J/cm2)	Breakage Rate (%)	Diameter (mm)	Length (mm)
Cr (23-30%) alloying grinding cylpebs	58-65	55-65	≥4	≤1.0	10-40	10-45
Cr (18-23%) alloying grinding cylpebs	58-65	55-65	≥4	≤1.0		
Cr (14-18%) alloying grinding cylpebs	58-65	55-65	≥4	≤1.0		
Cr (10-14%) alloying grinding cylpebs	58-65	55-65	≥4	≤1.0		
Cr (7-10%) alloying grinding cylpebs	≥48	≥45	≥4	≤1.9		
Cr (4-6%) alloying grinding cylpebs	≥47	≥44	≥4	≤1.9		
Cr (1-3%) alloying grinding cylpebs	≥45	≥43	≥4	≤2.0		
Ductile cast iron cylpebs (Bainite)	≥50	≥48	≥4	≤2.0		
Ductile cast iron cylpebs (Martensite)	≥52	≥49	≥4	≤2.0		

Product List for Foundation Bolts

1. General Information of Foundation Bolts

General Information	
Product Name	Foundation Bolts
HS Code	7318159090
Size Range	Length: 400-1,800mm, Diameter: 16-55mm
Standard	DIN, ANSI, GB, JIS, BSW, GOST
Grade	8.8, 9.8, 10.9, 12.9
Packaging	Bundles, Containers

2. Products Detail

For more product categories not shown below, please contact us. We accept customization.

M24*400	M24*600	M24*800	M24*1000
M24*1100	M24*1200	M24*1300	M24*1400
M27*400	M27*600	M27*800	M27*1000
M27*1100	M27*1200	M27*1300	M27*1400
M30*400	M30*600	M30*800	M30*1000
M30*1100	M30*1200	M30*1300	M30*1400
M32*400	M32*600	M32*800	M32*1000
M32*1100	M32*1200	M32*1300	M32*1400
M36*400	M36*600	M36*800	M36*1000
M36*1100	M36*1200	M36*1300	M36*1400
M39*400	M39*600	M39*800	M39*1000
M39*1100	M39*1200	M39*1300	M39*1400
M42*400	M42*600	M42*800	M42*1000
M42*1100	M42*1200	M42*1300	M42*1400
M45*400	M45*600	M45*800	M45*1000
M45*1100	M45*1200	M45*1300	M45*1400
M48*400	M48*600	M48*800	M48*1000
M48*1100	M48*1200	M48*1300	M48*1400

Product List for High-Strength Bolts

1. General Information of High-Strength Bolts






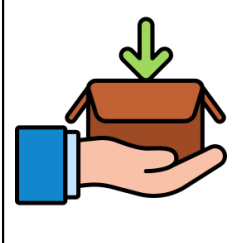
General Information	
Product Name	High-Strength Bolts
HS Code	7318159090
Size Range	Length: 100-600mm, Diameter: 16-55mm
Standard	DIN, ANSI, GB, JIS, BSW, GOST
Grade	8.8, 9.8, 10.9, 12.9
Packaging	Bundles, Paper Boxes, Containers

2. Products Detail

For more product categories not shown below, please contact us. We accept customization.

M18*145	M18*155		
M20*160	M20*165	M20*170	
M22*160	M22*165	M22*170	M22*175
M22*180	M22*190	M22*220	
M24*165	M24*185	M24*200	M24*230
M24*240	M24*250	M24*260	M24*280
M27*180	M27*185	M27*200	M27*210
M27*260	M27*270	M27*280	M27*290
M27*300	M27*310	M27*320	
M30*260	M30*280	M30*290	M30*300
M30*310	M30*320	M30*340	M30*350
M30*360	M30*380	M30*390	M30*400
M33*270	M33*320	M33*330	M33*345
M33*360	M33*370	M33*380	M33*390
M33*400	M33*410		
M36*150	M36*310	M36*330	M36*345
M36*360	M36*390	M36*400	

3. Packaging and Shipment

Packaging		Shipment	
Steel drums		Road transportation	
Bags		Ocean carriage	
Containers		Self collection	

4. Products Quality Control System

Our company have developed a new-style quality control system, which includes three main pillars:

Consistency

We keep our quality standard updated and always apply the newest and strict industrial standard in our quality control system. In addition, we frequently do the test and make sure all the tests are done fairly under supervision.

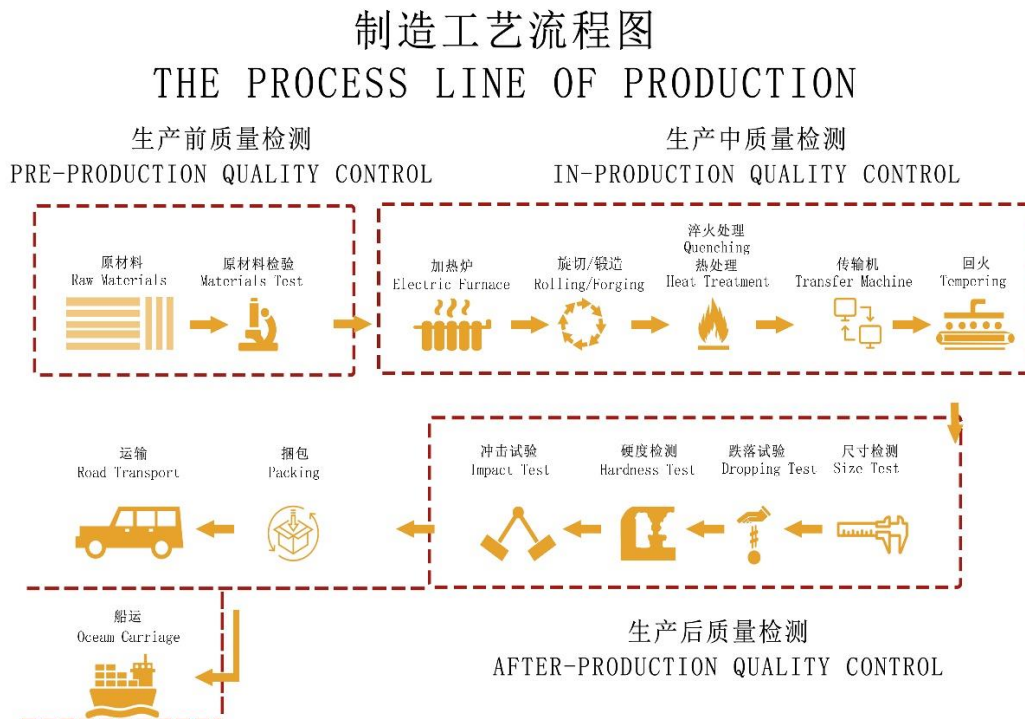
Independent

We encourage staff to report risk issues and provide anonymous reporting channels like hotlines and mailbox to protect our employees. Our Risk Control Department, isolated from any other departments, collaborates with third-party quality testing agency to guardian safety and quality.

Three lines of defense

Three lines of defense are respectively established in pre-production (raw material purchases) process, under-production process, and after-production process to identify and manage various quality issues.

➤ Quality Control Process



➤ **Quality Control Technology and Equipment**

Impact Value Tester



Dropping Tester



Spectrum Tester



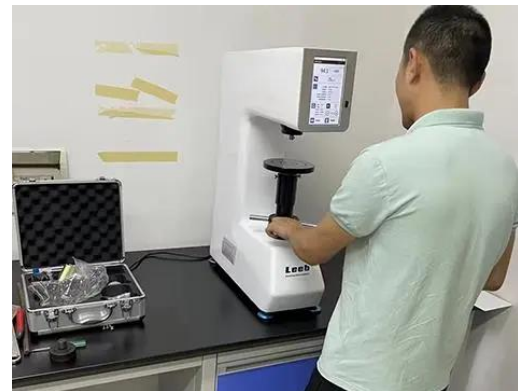
Third-party Laboratory



Metal Flaw Detector



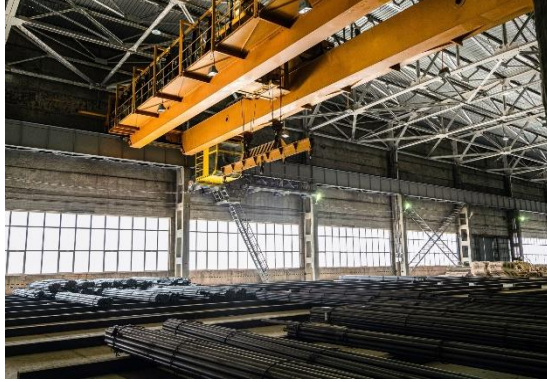
Hardness Tester



5. Our Factory

➤ Plant and Production Equipment

Warehouse



Forging Machine



Plants



Electric Heater



Full-Auto Steel Ball Machine



Thread Rolling Machine



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➤ **Our Products**

Rolled Grinding Steel Balls



Grinding Steel Rods



Forged Grinding Steel Balls



Foundation Bolts



Casting Steel Balls



High-Strength Bolts



➤ Certificates and Qualifications

ISO9001



High-tech Company



ISO 45001



ISO 14001



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