



## Pingxiang Baisheng Chemical Packing Co., Ltd



### Product Brochure

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## **Contents**

**Company Profile**

**Organizational Structure**

**Production Equipment**

**Research and Development**

- 1. Catalyst**
- 2. Ceramic ball**
- 3. Molecular Sieves (selected)**
- 4. Activated Alumina (selected)**
- 5. Environmental Filter (selected)**
- 6. Honeycomb Ceramic (selected)**
- 7. Ceramic Packing (selected)**
- 8. Plastic Packing (selected)**
- 9. Metallic Packing (selected)**
- 10. Anti-corrosion Packing (selected)**
- 11. Tower Internals (selected)**
- 12. Ceramic Drag Roller (selected)**
- 13. Package Type (selected)**

## Company Profile

Pingxiang Baisheng Chemical Packing Co., Ltd located at Ceramic Industrial Park of Pingxiang city, sharing beautiful environment, convenient transport, which has 40 years' production experience with advanced production and test equipments as well as strict quality assurance system. We mainly produce Catalysts and Tower Packings for Petroleum and Chemical Industries, including molecular Sieve, Activated Alumina, Ceramic, Metal, Plastic Tower Packings, Tower Trays and Internals, Ceramic Balls, Thermal Storage Packings, Environmental-friendly Filtering Material, Grinding Ceramic, etc.

Baisheng, with a floor area of 30,000 square meters, a fixed asset of RMB 60 million and more than 200 employees, has an annual output capacity of 30,000M3 of various products at the present. In order to strengthen the internal management, Baisheng fully implements the ISO9001:2000 international quality management standard. Its products are widely used in steel, petrochemical, coal chemical, fertilizer, metallurgy, electricity, medicine and environmental protection industries. Baisheng has export its products to South Korea, India, Japan, Denmark, Russia, the United States, Iraq and other countries, and have won much prize from customers.

Baisheng, in the enterprising spirit of Credibility, Practicability, Science, Innovation and Development.

Especially, one of Baisheng's founder took part in establishing ceramic industry standard in 2000, we have great benefit to supply you competitive products and service with our professional quality!



## Organizational Structure





## Production Equipment



金属填料生产  
Production of metallic packing



分子筛生产  
Production of molecular sieves



塑料填料生产  
Production of Plastic packing



隧道窑炉  
Tunnel kiln



陶瓷原料制备  
Preparation of Ceramics Materials



搪球  
Production of Ceramic Balls



真空炼泥机  
Vacuum pugmill



雷蒙磨  
Raymond mill



办公楼  
Office building

## Research and Development



化学分析仪  
Chemical analyzer



强度测试  
Strength analysis



KNA分析仪  
Flame photometer



干燥箱Loft drier



高温试验炉  
High-temperature Sample

## Catalyst

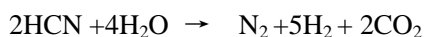
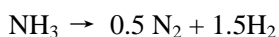
### AD-946 Ammonia Decomposition Catalyst

#### 1. Product Description

AD-946 Ammonia Decomposition Catalyst is developed by Baisheng and Chemical Physics Research institute in Dalian of Chinese Academy of Sciences. This product can directly replace Germany G-117 catalyst with unique performance of great catalytic activity, high mechanical strength, and excellent thermal and coking resistance. It is used in the ammonia decomposing furnace to decompose the  $\text{NH}_3$  and  $\text{HCN}$  etc into  $\text{N}_2$ ,  $\text{H}_2$  and  $\text{CO}_2$ , and so as to effectively purify the coke-oven gas for the sake of environmental protection and prevent the equipment from corrosion.

#### 2. Technical Feature

##### (1) Chemical reaction



##### (2) Technical Indexes

Type Item	AD-946	AD-946 A	AD-946 B
Color	Grey and Black		
Shape	Cylinder	Rasching Ring	Honeycomb
Size, mm	$\Phi 18 \times 20$	$\Phi 18 \times 20 \times 5$	$\Phi 18 \times 20$
Ni Content, %	$\geq 6$	$\geq 6$	$\geq 6$
Bulk density, g/ml	1.4 ~ 1.6	1.3 ~ 1.5	1.2 ~ 1.5
Surface area, $\text{m}^2/\text{g}$	1 ~ 3	2 ~ 4	2 ~ 5
Crushing strength, N	$\geq 1000$	$\geq 1000$	$\geq 1100$
Thermal resistance, $^{\circ}\text{C}$	$\geq 1350$	$\geq 1350$	$\geq 1350$

#### 3. Normal Operating Conditions

Operating Temperature	1000~1200 $^{\circ}\text{C}$
Maximum Temperature	1350 $^{\circ}\text{C}$
Pressure	0. 1~1MPa
Space Velocity	1000~3000 $\text{h}^{-1}$
$\text{NH}_3$ Decomposing Rate	$\geq 95\%$

#### 4. Product image



## Sulfur Recovery Catalyst

### 1. Product Description

PSR Sulfur Recovery Catalyst is used to treat with the acid gases containing H<sub>2</sub>S for the sake of recovery sulfur element and environmental protection in oil refinery, chemical factory, Iron & steel plant and natural gas treatment processes. The conversion of sulfur can reach to 65~75% in a ordinary burner, for two stages Claus processes can reach 92~95%, for three Claus reactors can be higher than 98%.

### 2. Technical Specification

Type Item	PSR-1	PSR-21	PSR-31	PSR-41	PSR-51
Size & Shape,mm	Φ4-6 Sphere	Φ4-6 Sphere	Φ4x5-15 Bar	Φ4-6 Sphere	Φ3x4-15 Trifolium
Color	White	White	White	Brown	Blue
Chemical composition,%	Al <sub>2</sub> O <sub>3</sub> ≥93 Na <sub>2</sub> O≤0.3	Al <sub>2</sub> O <sub>3</sub> ≥85 TiO <sub>2</sub> 3-6	TiO <sub>2</sub> ≥85	Al <sub>2</sub> O <sub>3</sub> ≥80 FeO≥6	CoO 2.5-3.0 MoO <sub>3</sub> 10-11
Bulk density, g/ml	0.65-0.72	0.72-0.75	0.85-1.0	0.70-0.82	0.65-0.80
Surface area,m <sup>2</sup> /g	≥300	≥260	≥100	≥260	≥200
Pore volume, ml/g	≥0.4	≥0.4			
Crushing strength, N	≥150	≥140	≥100	≥140	≥160
Abrasion loss,%	≤0.3	≤0.3	≤1	≤0.3	≤1.0
Major function	Universal catalyst for sulfur recovery in acid gas	With high hydrolysis and conversion of COS and CS <sub>2</sub>	Catalyst with high sulfate resistance and conversion	Catalyst with protection of oxygen leakage	Catalyst for Tail gas hydrotreatment

### 3. Product photo





## **Methanol Conversion Catalyst**

### **1. Product Description**

#### **☉ ZH107 Catalyst**

ZH107 Catalyst is sintered conversion catalyst with active component of Ni. This catalyst is suitable for the steam reforming methanol preparation device, the coke oven gas, natural gas, oil associated gas and light oil as the raw material of gaseous hydrocarbons with plus air, oxygen or pure oxygen.

#### **☉ BH108 Thermal Protection Catalyst**

BH108 Thermal Protection Catalyst is heat resistant thermal catalyst which is made from sintered MgO carried with small amount of nickel as the active component. Matching it with ZH107 catalyst for thermal protection at the top of the steam reformer of air, oxygen or pure oxygen. The use of performance is adapted to specific operating conditions and environment of the top reformer, and can better resistant high temperature and air flow erosion.

### **2. Technical Specification**

Color	Dark gray
Shape	Single hole or Multi-holes Cylinder
Radial compressive strength	$\geq 400\text{N/pc}$
Service temperature	650℃-1400℃
Outlet residual of CH <sub>4</sub>	$\leq 0.37\%$

### **3. Product image**



## Guard catalyst for environmental protecting

### 1. Product Description

This product is kind of catalyst covering & bearing catalyst agent, being made using high purity alumina as main material and special composition. Special structure with slot opening around increasing its surface area and void fraction beside enough crushing strength. Having 40-50% void fraction, this product can effectively filter impurity of oil such as particle, colloid, asphaltene, heavy metal etc. Part of impurity can be strained out after raw materials filter, while some particle and ferric ion smaller than 25um still exist in oil. Filling guard catalyst in top of reactor can filter all of above impurity and protect catalyst from coking, as well as extend reactor's cycle process.



Catalyst with different specs can be used according to impurity content and size. Some other activity material like Mo, Ni and Co can be added depends on clients demand, in order to protect catalyst from coking or poisoning.

Application in petrochemical industries shows that this catalyst also increase the flow area of oil, reduce the system drop pressure under 1 Mpa, improve the handling capacity of the device by 26. 5%, and increase the infiltration rate of catalytic diesel up to 37%-40%.

### 2. Chemical & Physical property:

Model Item	BS-I-1	BS-II-1	BS-III-1
Chemical compositon.%	Al <sub>2</sub> O <sub>3</sub> : 30-90		
Water absorption,%	<3		
Porous diameter,μm	0.5-35	40-100	110-1000
Porous radi,%	30-40	25-35	20-30
Penetrability m3.cm/m2.h.10Pa	0.2-0.8	1-6	7-30
Anti-acid, %	≥98	≥98	≥97
Anti-alkali ,%	≥85	≥85	≥82
Spalling resistancee, TC	-20-800	-20-800	-20-800
Crushing strength ,N/PC	100-20000 Depend on specification and size		
Appearance	Yellowish brown	Light yellow	Light gray
Bulk density (g/mL)	1.2-1.3	1.1-1.2	1.1-1.25
Specific Pore Volume (ml/g)	0.5-0.6		
Spalling resistancee ( T C)	-2-500	-2-600	-2-600
Crushing strength,N/pc	250-3500 Depend on specification and size		
Al <sub>2</sub> O <sub>3</sub> content,%	≥65	≥45	≥45
Fe <sub>2</sub> O <sub>3</sub> content,%	<0.4	<0.5	<0.5
Active compisition	NiO·MoO <sub>3</sub>	NiO·WO <sub>3</sub>	CoO·MoO <sub>3</sub>

### 4. Size

Size,mm	Φ 6x4	Φ 8x6	Φ 10x7	Φ 13x9	Φ 16x12	Φ 20x15	Φ 25x18	Φ 35x20
Hole Diameter,mm	1.2	1.5	2.0	2.5	3.0	4.0	5.0	6.0
Concave diameter,mm	1.5±0.5	2.0±0.5	2.5±0.5	2.5±0.5	13.0±0.5	4.0±0.5	5.0±0.5	6.0±0.5

## **Pre-hydrogenation Catalyst**

### **1. Product Description**

Pre-hydrogenation Catalyst is used in crude benzene hydrogenation two-stage fixed-bed pre-hydrogenation reactor at low temperature, for removing carbon disulfide, styrene and olefins and other unsaturated compounds and other substances.

### **2. Technical Specification**

Item	Value	
Color	Light yellow	
shape	φ2.5mm Bar	φ2-3mm Sphere
Crushing strength	≥25N/cm	≥50N/pc
Surface area	≥200m <sup>2</sup> /g	
Pore volume	≥0.5ml/g	
Bulk density	≥0.7g/ml	
Water adsorption	≥50%	
Service temperature	185℃-230℃	

### **3. Product image**



## **Main hydrogenation Catalyst**

### **1. Product Description**

Main hydrogenation Catalyst is used in crude benzene hydrogenation two-stage fixed bed main reactor at low temperature, for further hydrogenate the materials which after the pre-reactor, thiophene sulfides, oxides and nitrogen converse to hydrocarbons, hydrogen sulfide, water and ammonia and other ingredients.

### **2. Technical Specification**

Item	Value	
Color	Light blue	
shape	φ2.5mm Bar	φ2-3mm Sphere
Crushing strength	≥25N/cm	≥50N/pc
Surface area	≥200m <sup>2</sup> /g	
Pore volume	≥0.5ml/g	
Bulk density	≥0.7g/ml	
Water adsorption	≥50%	
Service temperature	270℃-350℃	

### **3. Product image**



## Hydrogenation conversion Catalyst

### 1. Product Description

Hydrogen is one of the basic raw material of oil refining and synthetic ammonia industry, at domestic and overseas have widespread use of the hydrocarbons into hydrogen, raw material steam legal system for natural gas, light oil and oil refinery by product of refinery gas, but these materials contains high of organic sulfur, usually higher as high as approximately 100 to 200 PPM , it can not use desulfurizer eliminate, such as into the next working procedure so that lose the activity in the steam conversion, transformation and the methane conversion agent produce harm. At the same time refinery gas also contains some olefins, these olefins conversion into steam as furnace steam reforming catalyst carbon and damage the furnace pipe. In order to make conversation the organic sulfur and olefins conversion for hydrogenation, catalytic hydrogenation can effectively reduce the hydrocarbon organic sulfur and alkene, cooperate to use ZnO desulfurizer, can satisfy the requirements of raw materials into steam.

Hydrogenation Conversion Catalyst, using  $\text{Al}_2\text{O}_3/\text{TiO}_2$  with large specific surface area and big pore volume as compound carrier, is made of activated composition as Co, Mo and a little auxiliary agent. It has good abrasion-resistance, high hydrogenation conversion activity, and good low-temperature activity and has double roles of hydro-desulfurization and Olefins saturation, and it can be widely applied in the process of hydro-purification of hydrocarbon raw materials.

### 2. Technical Specification

Item	Value
Shape	$\Phi 3 \times 4$ -10mm Trifolium
Surface area	180-200m <sup>2</sup> /g
Thiofuran conversion	≥80%
Service temperature	220-400℃
Pore volume	0.4-0.5ml/g
Bulk density	0.65-0.85kg/l
Crushing strength	≥82N/cm <sup>2</sup>
Product Type	BS-201 BS-202

### 3. Product image



## **HNMCC-A Catalyst**

### **1. Product Description**

The catalyst is produced by using honeycomb ceramics material as the supporter, special material as the coat and noble metals (Palladium and platinum) as the active component, which possesses the advantages of high catalytic activity, high thermal stability, long life, low pressure drop and high intensity et al. The performance of the catalyst is comparable to that of roughly identical foreign products. The catalyst can be widely applied in the purification and deodorization of organic waste gas, which releases from chemical industry, manufacture of oil paint, enameled wire, metal printing, multicolor printing and leather, pharmaceutical industry and municipal sewage. The catalyst can be especially applied in the treatment of the waste gas from acrylonitrile production device.

### **2. Technical Specification**

Item	unit	Index
size	mm	100×100×40,50×50×50
Surface area	m <sup>2</sup> /g	15~25
Crushing strength	MPa	≥10
Apparent density	g/mL	0.65~0.75

### **3. Technological Condition**

Item	unit	Index
Application temperature of catalyst	℃	≤600
Operating pressure	MPa	≤0.5
Gas airspeed	h-1	15000~25000
Residual oxygen content (v/v)	%	≥0.5

### **4. Product image**





## **BSMS-309 Methanol Synthesis Catalyst**

### **1. Applications and Characteristics**

BSMS-309 Methanol Synthesis Catalyst are widely used in coal, oil and natural gas with gas and oil as raw material of low-pressure methanol synthesis reaction device (low pressure tubular column pipe and cold shock type synthesis tower, cold tube type synthesis tower etc other types of reactors). This product has the catalytic activity of low temperature, good thermal stability, selectivity high characteristic, the technical indexes have reached the international advanced level.

### **2. Chemical Compositions**

This type of catalyst mainly composed of CuO, ZnO, Al<sub>2</sub>O<sub>3</sub> and other special additives.

### **3. Physical Properties**

Item	Value
Shape	cylinders with black luster
Size, mm	5×(4~5) or 6×(3~4)
Bulk Density, kg/m <sup>3</sup>	1300-1500
Crush Strength, N/cm	200
Surface Area, m <sup>2</sup> /g	80-100

### **4. Technological Conditions**

Item	Value
Operation Temperature, °C	190-300
Best Working Temperature, °C	210-260
Operation Pressure, Mpa	3.0-15.0
Space Velocity, h <sup>-1</sup>	4000-20000

### **5. Standard of Quality**

Beginning Activated: space time yield of methanol  $\geq 1.30$  g/ml•h.

Thermal stability: 350°C, after high temperature heat-resistant, space time yield of methanol  $\geq 1.00$ g/ml•h.

### **6. Product image**



## **WNZS-1 Hydrotreating Catalyst**

### **1. Characteristics**

Hydrotreating Catalyst takes promoted alumina as carrier material with such metal components and auxiliaries as tungsten and nickel, featuring good activity of HDS, HDN aromatics saturation and hydrodecolloid in low pressure, and having high resistance to compression and attrition. it can be reused after regeneration. This catalyst contains no easily lapsed active components, so it won't corrode equipment and have good activity stability.

### **2. Application**

Hydrotreating Catalyst can be used in the hydrotreating of poor secondary processed gasoline and diesel. under medium and low operating pressure, catalyst WNZS-1 does very well in hydrotreating all sorts of FCC diesel and coked diesel to produce high quality diesel oil with low sulphur and low aromatics.

### **3. Physical-chemical properties**

Item	Target	Item	Target
appearance	Trilope extrudates	Pore volume, ml/g	Min0.30
Particle size, mm	Φ1.6*5-15	Chemical composition	WO <sub>3</sub> -NiO-promoter-alumina
Crushing strength, N/cm	Min 150	Packing density, kg/l	0.80 to 0.85
Surface area,m <sup>2</sup> /g	Min 120		

### **4. Product image**



## Ceramic Ball

### Inert Alumina Ceramic Ball

#### 1. Product Description

Inert ceramic balls have the advantages of high strength, high stabilities to chemical and thermal circumstances. It can resistant to acid alkali, salt and all organic solvents. Being used as a support and a covering material in reactors in oil refinery, chemical, fertilizer, natural gas and environment protection industries, it can improve the distribution of gas and liquid, protect the catalyst from shocking by the rushing fluids.

#### 2. Technical Specification

Item \ Type		Feldspar	Feldspar-Mullite	Mullite	Mullite-Corundum	Corundum
Chemical composition, %	Al <sub>2</sub> O <sub>3</sub>	20-30	30-45	45-70	70-90	≥90
	Al <sub>2</sub> O <sub>3</sub> +SiO <sub>2</sub>	≥90				
	Fe <sub>2</sub> O <sub>3</sub>	≤1				
Water absorption %		≤5				
Acid resistance, %		≥98				
Alkali resistance, %		≥80	≥82	≥85	≥90	≥95
Thermal resistance, °C		≥1300	≥1400	≥1500	≥1600	≥1700
Crushing Strength N/pc	Φ 3	≥400	≥420	≥440	≥480	≥500
	Φ 6	≥480	≥520	≥600	≥620	≥650
	Φ 8	≥600	≥700	≥800	≥900	≥1000
	Φ10	≥1000	≥1100	≥1300	≥1500	≥1800
	Φ13	≥1500	≥1600	≥1800	≥2300	≥2600
	Φ16	≥1800	≥2000	≥2300	≥2800	≥3200
	Φ20	≥2500	≥2800	≥3200	≥3600	≥4000
	Φ25	≥3000	≥3200	≥3500	≥4000	≥4500
	Φ30	≥4000	≥4500	≥5000	≥5500	≥6000
	Φ38	≥6000	≥6500	≥7000	≥8500	≥10000
	Φ50	≥8000	≥8500	≥9000	≥10000	≥12000
	Φ75	≥10000	≥11000	≥12000	≥14000	≥15000
Bulk density, kg/m <sup>3</sup>		1300-1400	1400-1500	1500-1600	1600-1800	≥1900
Note: The data of bulk density is given for reference only, not as the acceptance criterion						

#### 3. Size

Diameter, mm	Φ6	Φ8	Φ10	Φ13	Φ16	Φ20	Φ25	Φ30	Φ38	Φ50	Φ60	Φ75
Tolerance, mm	±1.0		±1.5			±2.0			±3.0			

#### 4. Product Standard

Chemical Industry Standard HG/T 3683.3 - 2000 Industrial Ceramics Ball 1  
-Inert Ceramic ball.

#### 5. Product image



## SW Activated Ceramic Ball

### 1. Product Description

SW activated ceramic ball is a new support material for catalyst. It is processed by adding a small amount of transition metal oxide into the inert ceramic ball. It preserves the property of high - temperature resistance and strength of the inert ceramic ball, in addition, it has adequate catalytic activity when used in the process of olefin hydrogenation. If been set on the top of catalyst bed in the reactor, the activated ceramic ball can make the olefin in the secondary processing fraction pre-hydrogenated and, keep the catalyst from coking. Similarly, if been set on the bottom, it can remove the thio-alcohol caused in the reaction process. On the whole using the SW activated ceramic all can not only save the space in reactor, but also protect the catalyst from poisoning or sintering and, consequently prolong the service life of catalyst.

### 2. Technical Specification

<div>Type</div> <div>Item</div>		(Ni-Mo)	(Ni-W)	(Co-Mo)
		SW-1	SW-2	SW-3
Active component		NiO 0.5-1.0 MoO2 1.5-2.5	NiO 0.5-1.0 WO2 1.5-2.5	CoO 0.5-1.0 MoO2 1.5-2.5
Color		Yellowish brown	Faint yellow	Light grey
Pore volume, ml/g		0.1-0.2		
Thermal resistance, °C		≥800		
Abrasion loss, %		≤5		
Crushing strength  N/pc	Φ3-10	≥150		
	Φ13-20	≥500		
	Φ25-50	≥1200		
	Φ75	≥3500		
Bulk density , Kg/m3		1100-1300		
Note: The data of bulk density is given for reference only, not as the acceptance criterion				

### 3. Size

Diameter, mm	Φ6	Φ8	Φ10	Φ13	Φ16	Φ20	Φ25	Φ30	Φ38	Φ50	Φ60	Φ75
Tolerance, mm	±1.0			±1.5			±2.0			±3.0		

#### 4. Catalytic Propert

Item \ Type	SW-1		SW-2			SW-3		
	275	300	300	320	350	300	320	350
Reaction temperature, °C	275	300	300	320	350	300	320	350
Hydrogen pressure, MPa	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Liquid velocity, h-1	10	10	4.2	4.2	4.2	4.2	4.2	4.2
Ratio of hydrogen/oil	600	600	450	450	450	450	450	450
Sulfur content, Wt%	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Olefin content, Wt%	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5
Rate of desulfation, %	76	95	40	60	77	36	54	63
Olefin saturation, %	58	95	10	33	45	7	19	42

#### 5. Product Standard

Chemical Industry Standard HG/T 3683.2 - 2000 Industrial Ceramics Ball – Activated Ceramics Ball.

#### 6. Product image





## Embossed Slot Perforated Efficient Ceramic Ball

### 1. Product Description

Embossed Slot Perforated Efficient Ceramic Ball is developed on the basis of KK perforated ceramic ball by slotting on the sphere, and by forming lot of knobs uniformly on the sphere of the ball. It can increase the surface area and free volume, and decrease the bulk density, It can increase flux of the fluids and decrease the resistance of the system. As a new efficient support and covering material of catalyst. It can be widely used in oil refinery, chemical, fertilizer, natural gas and environmental protection industries.

According to user requirement, it can be done microporous embossed Slot Perforated Efficient Ceramic Ball, add molybdenum, nickel, cobalt and other active ingredients to prevent catalyst coke coking and poisoning.

### 2. Technical Specification

Item \ Type		Feldspar	Feldspar-Mullite	Mullite	Mullite-Corundum	Corundum
Chemical composition, %	Al <sub>2</sub> O <sub>3</sub>	20-30	30-45	45-70	70-90	≥90
	Al <sub>2</sub> O <sub>3</sub> +SiO <sub>2</sub>	≥90				
	Fe <sub>2</sub> O <sub>3</sub>	≤1				
Water adsorption, %		≤5				
Acid resistance, %		≥98				
Alkali resistance, %		≥80	≥82	≥85	≥90	≥95
Thermal resistance, °C		≥1300	≥1400	≥1500	≥1600	≥1700
Crushing strength N/pc	Φ10	≥1000	≥1100	≥1300	≥1500	≥1800
	Φ13	≥1500	≥1600	≥1800	≥2300	≥2600
	Φ16	≥1800	≥2000	≥2300	≥2800	≥3200
	Φ20	≥2500	≥2800	≥3200	≥3600	≥4000
	Φ25	≥3000	≥3200	≥3500	≥4000	≥4500
	Φ30	≥4000	≥4500	≥5000	≥5500	≥6000
	Φ38	≥6000	≥6500	≥7000	≥8500	≥10000
	Φ50	≥8000	≥8500	≥9000	≥10000	≥12000
	Φ75	≥10000	≥11000	≥12000	≥14000	≥15000
Bulk density, kg/m <sup>3</sup>		1100-1200	1200-1300	1300-1400	1400-1550	≥1550
Note: The data of bulk density is given for reference only, not as the acceptance criterion						

### 3. Size

Diameter, mm	Φ10	Φ13	Φ16	Φ20	Φ25	Φ30	Φ38	Φ50	Φ60	Φ75
Tolerance, mm	±1.0	±1.5			±2.0			±3.0		
Diameter of hole, mm	2-3	3-5			5-8			8-10		

### 4. Product Standard

Chemical Industry Standard HG/T 3683.3 - 2000 Industrial Ceramics Ball  
– Inert Ceramics ball.

### 5. Product image



## MH Porous Ceramic Balls

### 1. Product Description

MH Porous Ceramic Ball is also called filtering ball. It is made by make 20~30% pores inside the inert ceramic balls. Therefore it can be used not only for supporting and covering the catalyst, but also for filtering and eliminating the impurities of grain, gelatin, asphaltine, heavy metals and iron ions of less than 25 $\mu$ m. If the porous ball is set on the top of a reactor, the impurities fail to be eliminated in former process could be adsorbed in the pores inside the balls, thereupon protect the catalyst and prolong the operating cycle of the system. As the impurities present in the materials are different, the user can select the product by their sizes, pores and porosity, or if necessary, add molybdenum, nickel and cobalt or other active components to prevent the catalyst from coking or poisoning.

### 2. Technical Specification

Type Item		MH-1	MH-2	MH-3
Chemical Composition, %	Al <sub>2</sub> O <sub>3</sub>	20-80		
	Al <sub>2</sub> O <sub>3</sub> ±SiO <sub>2</sub>	≥90		
	Fe <sub>2</sub> O <sub>3</sub>	≤1		
Pore size,um		0.5-35	40-100	110-1000
Porosity %		20-30	15-25	15-25
Air permeability ,m <sup>3</sup> .cm/m <sup>2</sup> .h.10Pa		0.2-0.8	1-6	7-50
Acid resistance, %		≥98	≥98	≥96
Alkali resistance, %		≥85	≥85	≥80
Thermal shocking resistance, ( 800-20℃)				
Crushing strength, N/pc		100-12000 Different upon types and sizes		
Bulk density, kg/m <sup>3</sup>		1200-1500		

### 3. Size

Porous ceramic balls are divided into 12 grades by reference to Al<sub>2</sub>O<sub>3</sub> content varied from 25% to 80%, and every more 5% constitutes a grade, but 12 sizes by reference to the diameter, such as Φ3,Φ6,Φ8,Φ10,Φ13,Φ16,Φ20,Φ25,Φ30,Φ38,Φ50 andΦ75.

The products in other grade and sizes can be designed and manufactured if to the user's request.

### 4. Product image



## Heat Storage Ceramic Ball

### 1. Product Description

BS-XR Heat storage ceramic ball are characterized by its high strength, low abrasion loss, large heat capacity and thermal conductivity result in efficient heat storage performance, excellent resistance to high temperature and the thermal shock. The balls have been effectively used in recuperator in air separation process and also used to pre-heat the gas and the air in coal gas heating furnace in iron & steel plant.

### 2. Technical Specification

Item \ Type		BS-XR-1	BS-XR-2
Chemical Composition, %	Al <sub>2</sub> O <sub>3</sub>	20-30	60-65
	SiO <sub>2</sub> ±Al <sub>2</sub> O	≥90	≥90
	Fe <sub>2</sub> O <sub>3</sub>	≤1	≤1.5
Size, mm		φ10-12/φ12-14	φ16-18/φ20-25
Heat capacity, J/kg.k		≥836	≥1000
Thermal conductivity, w/mk		2.6-2.9	
Thermal shock resistance, °C		20~800	20~1000
Refractoriness, °C		1550	1750
Abrasion loss, %		≤0.1	≤0.1
Mohs' hardness, Scal		≥6.5	≥6.5
Crushing strength, N		800-1200	1800-3200
Bulk density, kg/m <sup>3</sup>		1300-1400	1500-1600

In order to improve the heater's storage and release effectiveness and prolong the using life. We developed roughness groove-opening hole high effective heat storage ceramic ball and applied patent.

This kind of heat storage ceramic ball open the hole as diameter for axes and set up groove at the surface, making the ball surface convavo-convex, for which the specific area and void volume can be increased, and its exchange area is doubled 1.8 than normal thermal storage ceramic ball. It will enhance the pre-cut spalling resistance ability and the bulk density will be decreased by 15%. The materials distribution and flux will be further increased, while system's resistance is reduced, block of the powder also get reduced.

### 3. Product Standard

Chemical Industry Standard HG/T3683.1-2000 Industrial Ceramics Ball-Inert Ceramics Ball

### 4. Product image



## Refractory ceramic ball

### 1. Product Description

Refractory ceramic ball is made from industrial alumina and other rawrefractory materials, and processed by mixing, shaping and firing.It has properties of High strength and long working life; High chemical stability, and never react with the feeding materials; xcellent resistance to high temperature up to1900 °C.

Refractory ceramic ball can be used as support and covering packings for catalyst in shift converter, reformer , hydro converter,desulfurizer, and methanator, and can also be used as packings in hot blast heater and heat transformer iniron and steel industries.

### 2. Technical Specification

Item \ Type		General BS-RF-1	Corundum BS-RF-2	Low silicate BS-RF-3
Chemical Composition %	Al <sub>2</sub> O <sub>3</sub>	30-90	90-98	≥99
	SiO <sub>2</sub>	5-62	0.5-5.0	≤0.3
	Fe <sub>2</sub> O <sub>3</sub>	≤1	≤0.5	≤0.1
Refractoriness, °C		≥1450	≥1750	≥1850
Thermal shock resistance, °C		600	800	800
Crushing strength, N		100-20000 Different upon types and sizes		
Mohs' harness		≥7	≥8	≥9
Acid resistance, %		≥95	≥98	≥98
Acid resistance, %		≥85	≥95	≥98
Bulk density, kg/m <sup>3</sup>		1200-1600	1800-2000	2000-2200

### 3. Product image



## Grinding Ceramic Ball

### 1. Product Description

The alumina grinding ball has been widely used in ball mills as abrasive media for ceramic raw materials and glaze materials in ceramic factories, cement factories, enamel factories and glass work owing to the excellence of high density, high hardness, high wear resistance. During the abrasive/grinding processing, ceramic balls will not be broken, it will not pollute the 95% material to be grinded.

### 2. Technical Specification

Item	Bulk density (g/cm <sub>3</sub> )	Al <sub>2</sub> O <sub>3</sub> (%)	Water absorption (%)	Abrasion (%)	Mohs' hardness (scal)
High alumina grinding ball	3. 65	92	≤0.02	≤0.15	9
	3. 68	95	≤0.01	≤0.10	9
Middle alumina grinding ball	2. 8-2. 9	60-70	<0.01	<0.01	≥8

### 3. Size

Item	size (mm)
High alumina grinding ball, 92%	φ30.40.50.60
High alumina grinding ball, 95%	φ30.40.50.60
Middle alumina grinding ball, 60~70%	φ30.40.50.60

### 4. Product image





# Package type



## 铁桶 Steel Drum

主要用于分子筛、活性氧化铝、催化剂、填料的包装。  
For molecular sieves, activated alumina, catalyst, support media.



## 纸箱 Carton Box

主要用于陶瓷散堆填料或规整填料的包装  
For ceramic random/structured packing



## 吨袋 Jumbo bag

主要用于散堆填料的包装。  
For all kinds of random packing, support media.



## 编织袋 Weaving Bag

主要用于散堆填料、瓷球的包装。  
For all kinds of random packing, ceramic ball.



## 木箱 Wooden box

主要用于蜂窝陶瓷的包装。  
For honeycomb ceramic.



## 纸桶 Carton Drum

主要用于分子筛、活性氧化铝、催化剂的包装。  
For molecular sieves, activated alumina, catalyst.