Wearable Ceramics

● Wearable Ceramics

Wearable Ceramics include lining plate, lining slice, welding brick, piping brick, circle brick, sleeve, axle sleeve and fashion parts. Wearable Ceramics are produced from high purity alumina, zirconia or silicon nitride, under process of high pressure molding and high temperature sintering.

Wearable Ceramics are with superexcellent properties of wear resistant, corrosion proof, high temperature resistant and super long working life, they are easily installed onto the components which require abrasion proof and corrosion proof for various industrial equipments by mechanical welding or binder sticking, especially for the usage of feeding and gathering the high temperature flue gas and granule materials, and sewerage treatment. So the wearable ceramics are widely applied for electric power, petrochemical, metallurgy, mining, cement, sewage disposal, foodstuffs, grain supply, and tobacco industries.

1. Characteristic：

1) . Hardness equal to diamond, higher than all the wear resistant metal. For the sliding wear, it is 5 times higher than the nickel-chromium hard cast iron.

2). Easily operating and installing, 3 times thinner than metal wearable materials.

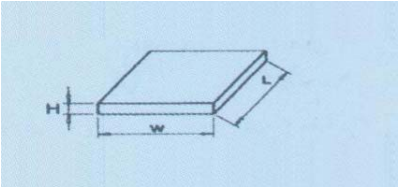
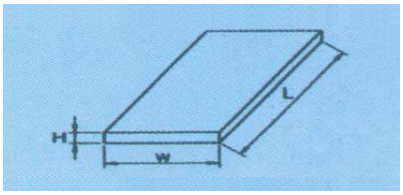
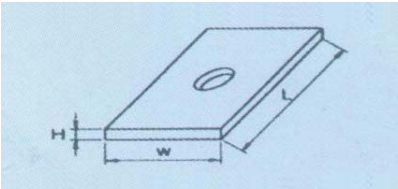
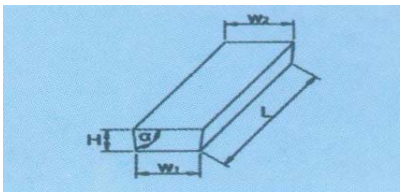
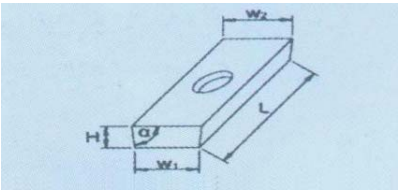
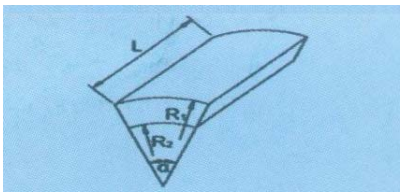
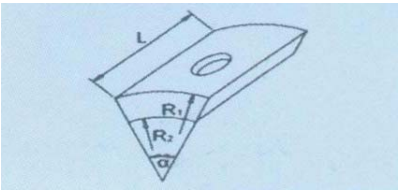
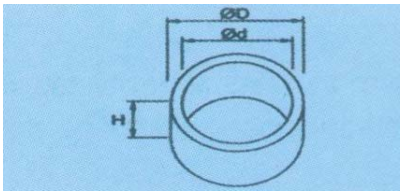
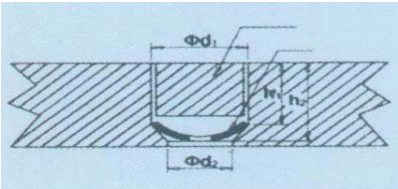
3). Wearable Ceramics can bear temperature higher than 1300℃.

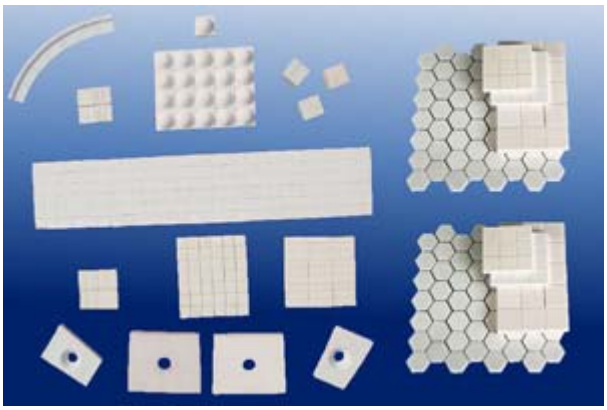
4). By selecting suitable material and thickness, the wearable ceramics' working life can be 8-30 years.

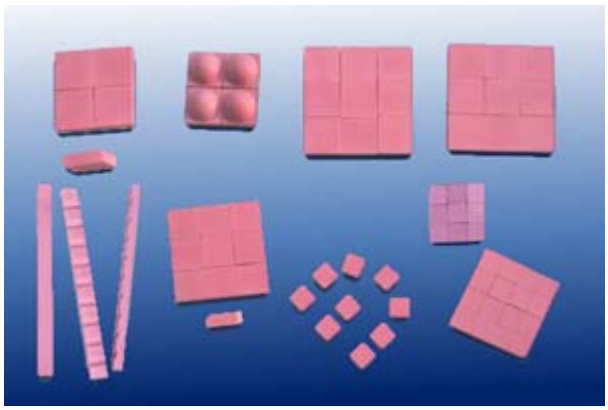
2. Main Technical Parameters

Items / Material		Al_2O_3				ZrO_2	Si_3N_4
Main Chemical Composition	Al_2O_3	>90%	>92%	>95%	>99%	-	-
	ZrO_2	-	-	-	-	>95%	-
	Si_3N_4	-	-	-	-	-	>20%
Density （g/cm3）		>3.5	>3.6	>3.7	>3.9	6.0	>3.2
Bending Strength (MPa) @20℃		340	345	350	520	1000	600
Compressive Strength(MPa)@20℃		>2.5	>2.5	>2.5	>2.5	>2.5	>2.5
Young's Modulus (GPa)@20℃		300	310	320	380	210	260
Rockwell Hardness(kg/mm^2)@20℃		90	92	94	98	—	—
Vickers Hardness (kg/mm^2) @20℃		—	—	—	—	1100	1300
Rupture Strength（MPa）@20℃		4	4	4	5	6	4
Thermal Shock Resistance（℃）		160	160	160	160	300	480
Main Properties		High wear resistance, High strength, High temperature resistance, Corrosion proof, High tenacity, Light deadweight					

● The Style of Wearable Ceramic Prodcuts

Sketch Map	Style	Specification	Application
	Lining Plate	LxWxH	For narrow dimension or heterotype surface
	Flat Brick	LxWxH	For non-vibrational surface
	Flat Welding Brick	LxWxH Welding Hole*: d1xd2xh1xh2	For vibrational surface or surface with special requirements.
	Piping Brick	LxW1/W2xH	For round or polygon wear resistant conduit
	Piping Welding Brick	LxW1/W2xH Welding Hole*: d1xd2xh1xh2	For wear resistant conduit With high requirement
	Circle Brick	LxR1xR2x α	For wear resistant conduit and cambered surface
	Circle Welding Brick	LxR1xR2x α Welding Hole*: d1xd2xh1xh2	For wear resistant conduit and cambered surface with high requirment
	Sleeve	DxdxH	For high grade or special requirement conduit
	*Sketch Map for Welding Hole On Welding Brick	d1xd2xh1xh2	Customized Design is available
	Fashion Part		Customized Design is available



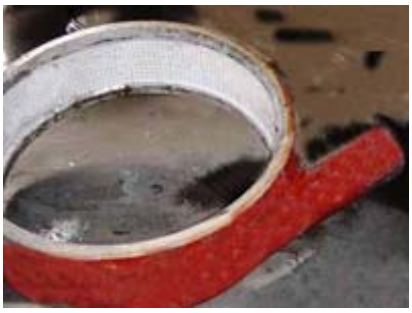


- Application of Wearable Ceramics

Burner Module

Wear Resistant Pipe

Blower Fan Impeller



Ceramic Damper

Ceramic Valve

Welcome to contact us for more details.

Astral Material Industrial Co.,Ltd.

Tel.: 0086 757 83030798 Fax: 82701478

E-mail: info@amic.biz sales@amic.biz