dyna INTERNATIONAL

Dynabeads

Grinding Media for your Bead Mill

www.dynamech.com

- Extremely Low Wear and Tear
- Round and Smooth
- Premium Material
- Polished Surface

DYNAMECH INDUSTRIES (M) SDN BHD (531545-K) Group of Jintai (M) Sdn Bhd

Dynabeads

ZRY (Yittria Stabilished Zirconium Oxide)

Dynabeads ZRY stand out to be the most hardness, most durable and most wear resistant ceramic grinding media in the markets. ZRY beads have extremely outstanding surface roundness and smoothness, excellent crushing strength and resistant to virtually all acids, alkali and chemicals. ZRY is most recommended if high quality of grinding performance is required for pigments, dyes pharmaceutical and cosmetic products. It provides longer life spent, higher productivity and higher grinding efficiency. These beads give a higher wear rate in water base solution.

Chemical Composition		**Physical Parameter**		**Beads Faction Size** (mm)
ZrO_2	95%	Specific Gravity	6.0 gm/cc	∅ 0.2-0.3
$Y2O_2$	5%	Bulk Density	3.6 kg/ltr	∅ 0.5-0.7
		Moh's Hardness	8 - 9	∅ 0.9-1.1
		Vicker Hardness (HV10)	1300	∅ 1.4-1.6
		Crushing Load (KN)	2.5	∅ 2.0-2.2
		Sphericity	>0.98	
		Wear Rate (15hrs milling)	0.034	

Data above provided for reference purpose only. We reserve the right to change or modify any particular without prior notice.

ZRC (Ceria Stabilised Zirconium Oxide)

Dynabeads ZRC is a Ceria Stabilized Zirconium Oxide beads. ZRC is produced from a mixture of different rare earths using fine crystalline zirconium oxide. It has very high crushing strength and low wear rates. ZRC beads mill 6-8 times faster than glass beads and 2-3 times than Zirconium silicate beads. It is suitable for high viscosity pigment grinding. ZRC is widely used in the paint and ink industries for its high grinding performance and efficiency. Applicable for CaCo3 grinding and dispersion using the vertical/horizontal bead mill, suitable also for water based products, chemicals, dyes etc.

Chemical Composition		**Physical Parameter**		**Beads Faction Size** (mm)
ZrO_2	80%	Specific Gravity	6.1 gm/cc	∅ 0.4-0.7
CeO_2	15%-20%	Bulk Density	3.9 kg/ltr	∅ 0.7-1.2
Others	2%	Moh's Hardness	8 - 9	∅ 1.2-1.7
		Vicker Hardness (HV10)	1200	∅ 1.7-2.4
		Crushing Load (KN)	2.0	∅ 2.4-2.8
		Sphericity	0.96	∅ 2.8-3.3
		Wear Rate (15hrs milling)	0.054	

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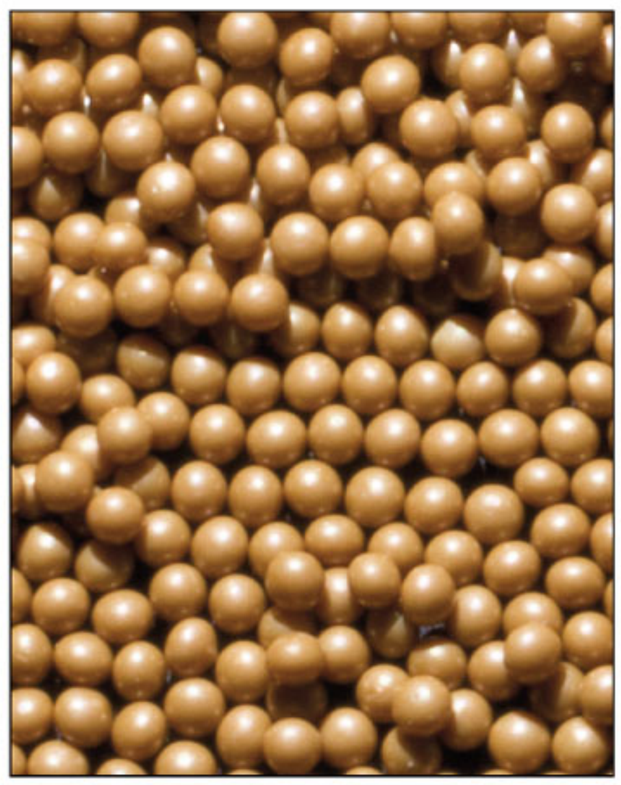

ZRA (Zirconium Oxide + Aluminium Oxide)

Dynabeads ZRA produced from a mixture of different rare earths using a sintered Zirconium Oxide or Aluminium oxide. These beads are very high crushing strength, especially designed for high performance. These beads as well provide high wear resistance to ensure a very long life span and contamination free grinding can be realized.

Chemical Composition		**Physical Parameter**		**Beads Faction Size** (mm)
ZrO_2	75%-80%	Specific Gravity	5.4 gm/cc	∅ 0.6-0.8
AiO_2	5%-10%	Bulk Density	3.3 kg/ltr	∅ 0.9-1.2
SiO_2	7%-12%	Moh's Hardness	7 - 8	∅ 1.4-1.6
		Vicker Hardness (HV10)	1050	∅ 1.8-2.0
		Crushing Load (KN)	1.5	∅ 2.4-2.6
		Sphericity	>0.98	
		Wear Rate (15hrs milling)	0.054	

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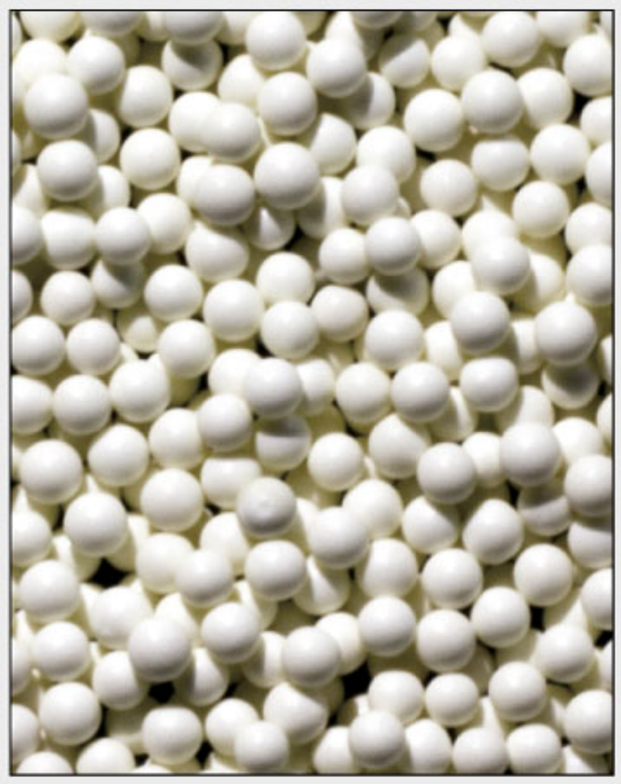

ZRS (Zirconium Silicate)

Dynabeads ZRS are made of sintered Zirconium Silicate. These beads are very dense with a homogeneous structure as a result of our specialised production method, especially developed grinding media for best use in mills with medium performance as well as for grinding and dispersing low and medium product viscosiy. Compared to others high grand milling media, ZRS provide economic advantages.

Chemical Composition		**Physical Parameter**		**Beads Faction Size** (mm)
ZrO_2	59%	Specific Gravity	4.0 gm/cc	∅ 0.6-0.8
SiO_2	35%	Bulk Density	2.4 kg/ltr	∅ 1.0-1.2
Others	6%	Moh's Hardness	6 - 7	∅ 1.4-1.6
		Vicker Hardness (HV10)	800	∅ 2.0-2.2
		Crushing Load (KN)	0.8	∅ 2.4-2.6
		Sphericity	0.95	
		Wear Rate (15hrs milling)	0.383	

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GLS (Glassbeads)

Dynabeads GLS are produced through a special thermal rounding process. The particularity of this way of production is that it needs much less energy than other traditional melting processes. The low wear rate of the agitator disc and of the grinding chamber allows to reduce the production costs. The advantages that it brings to the cost benefit aspect are evident. Glassbeads media is the perfect choice for your bead milling process if you are grinding thinner suspensions, light colours and lower viscosity products.

Chemical Composition		**Physical Parameter**		**Beads Faction Size** (mm)
SiO_2	61%-67%	Specific Gravity	2.5 gm/cc	∅ 1.5
Al_2O_3	3%-8%	Bulk Density	1.5 kg/ltr	∅ 2
CaO	5%-10%	Moh's Hardness	5 - 6	∅ 2.5
MgO	0.5%-3%	Vicker Hardness (HV10)	600	∅ 3
Na_2O	10%-18%	Crushing Load (KN)	0.9	∅ 3.5
B_2O_3	1%-5%	Sphericity	0.98	
		Wear Rate (15hrs milling)	3.728	

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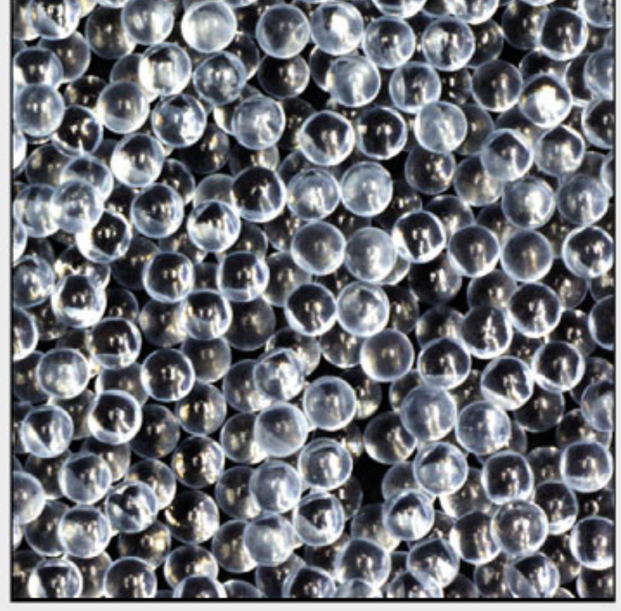

CSS (Chrome Steal Shot)

Dynabeads CSS is series of high quality glass ideally suited and widely used in the continuous production bead mills. CSS beads have almost perfect spherical shape and closely controlled diameters. The beads have almost perfect spherical shape and closely controlled diameters. The beads are treated thermally and chemically to ensure good surface polish and extreme impact and wear resistance properties. The beads properties and design reduces its wear rate against the bead mill and the grinding chamber, thus reducing the bead mill maintenance costs. CSS beads are the perfect choice for your bead milling process if you are grinding thinner suspensions, light colours and lower viscosity products.

Chemical Composition		**Physical Parameter**		**Beads Faction Size** (mm)
Fe	>95%	Specific Gravity	7.87 gm/cc	∅ 1
Cr	1.3%–1.6%	Bulk Density	4.7 kg/ltr	∅ 2
C	0.98%-1.1	Hardness (HRC)	60 - 67 min	∅ 3
Mn	0.25%-0.45%	Tensile Strength	190 kgs/mm^2	∅ 4
Si	0.15%-0.35%	Sphericity	>0.98%	∅ 5
P	0.025%	Wear Rate (15hrs milling)	Not Available	∅ 6
S	0.025%			∅ 7-50

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You can also order beads quickly and easily by e-mail to our sale department as the following contact:

MALAYSIA (Head Office)

Dynamech Industries (M) Sdn Bhd
11-1, Jalan Puteri 4/1,
Boulevard,
Bandar Puteri,
47100 Puchong, Selangor,
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Tel : +603-8060 0008
Fax : +603-8060 8878
Email : sales@dynamech.com
Website : www.dynamech.com

SINGAPORE

Dynamech Marketing (S) Pte Ltd
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Fax : +65-6358 0200
Email : singapore@dynamech.com

CHINA

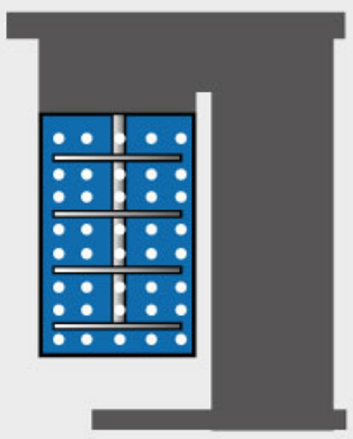
Jintai International Trading (Shanghai) Co. Ltd
Tel : +8621-5869 2659
Fax : +8621-5869 2658
Email : shanghai@dynamech.com

Fill your Bead Mills with the World's Most Advanced Ceramic Media

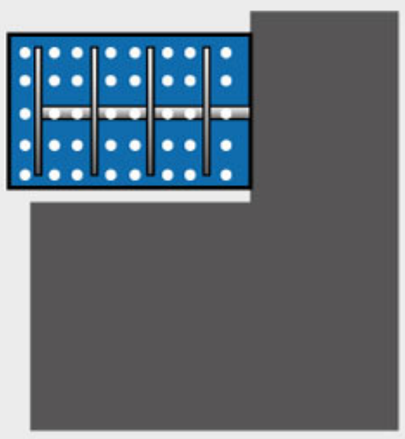
Dynabeads are applicable for the following:

- Dielectric, piezoelectric
- Paint coating - pigmentmetics
- Printing Inks
- Agrochemcials
- Calcium carbonates
- Cosmetics
- Dyestuff
- Pharmaceuticals
- other mineral

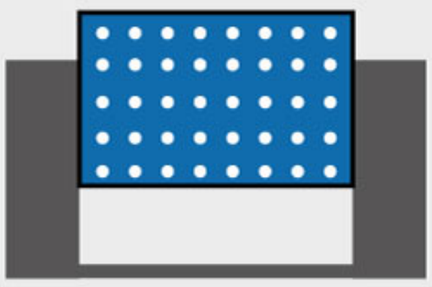
Mill Types



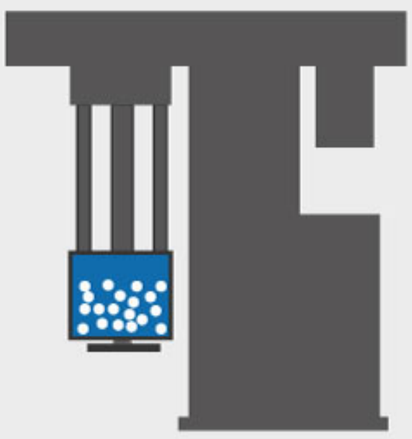
Vertical bead mills (Sand mill)



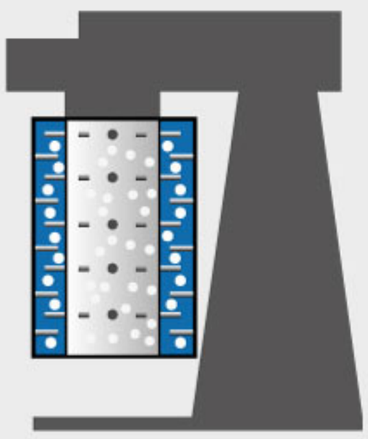
Horizontal bead mills



Ball mill



Basket mill



Vertical pin mill