



### Applications of OpaZr

Zircon sand finds applications to be used in ceramics, refractory, foundry, electronics, zirconium compound and other fields, it is also used in the preparation of nuclear reactor structural materials and control rod with zirconium and hafnium as irreplaceable raw minerals making it a strategic mineral.

It is used in Ceramics, as a major end-user, zircon sand is used as glaze emulsion in ceramics such as glazed floor tiles, wall tiles, sanitary ware, tableware.

### Advantage of OpaZr

High Opacity

Superior whiteness

High Refractive Index

Low Grinding time because it is even size

High melting point

Very low TiO<sub>2</sub> content

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VV MINERAL

# OpaZr<sup>TM</sup>

Natural Zircon Sand





# OpaZr™

Natural Zircon Sand

OpaZr Natural Zircon Sand is an established brand from the house of V.V.Mineral, India's Largest exporter of heavy Minerals. V.V.Mineral is a fully integrated Exploration, Mining, Minerals Benefication & Logistics operations company that provide the world's most sought after Heavy minerals.

V.V.Mineral has an installed capacity to process 3 million tons of ore per annum and is the world's second largest producer of Garnets and is India's first private producer of ilmenite and Zircon Sand.

OpaZr is produced from a dedicated plant that beneficiates Zircon & Natural Rutile sand from residual sand after processing for garnet and ilmenite. The Process is state-of-the-art, that uses an electric kiln for the first time in India.



## Properties of Zircon Sand

Zircon is crystal and shows a structure of the quarter column. It usually occurs with ilmenite rutile, sillimanite, etc.. in beach sand and is refined by water, electricity and magnetic beneficiation process.

Pure zircon is a colorless and translucent crystal. It appears yellow, Orange, red and brown with different origins. Its hardness is 7.8, specific gravity 4.6-4.71, refractive index 1.93-2.01 and melting point of 2550°C.

## Chemical Analysis

Elements	Guaranteed	Typical
ZrO <sub>2</sub> +HfO <sub>2</sub>	66.00% Min	66.48%
TiO <sub>2</sub>	00.15% Max	0.110%
Fe <sub>2</sub> O <sub>3</sub>	00.10% Max	0.060%
SiO <sub>2</sub>	32.70% Max	32.46%
Al <sub>2</sub> O <sub>3</sub>	01.00%Max	0.520%
V <sub>2</sub> O <sub>5</sub>	00.02% Max	0.010%
P <sub>2</sub> O <sub>5</sub>	00.10% Max	0.070%
U (ppm)	300 Max	242ppm
Th (ppm)	200 Max	121ppm

## Mineralogical Report

Elements	Guaranteed	Typical
Zircon	98.50% Min	99.00 %
Rutile	00.20% Max	00.10 %
Sillimanite	01.20 % Max	0078 %
Quartz	00.30% Max	0012 %

## Particle Size Analysis Report

MM	Mesh	Guaranteed Retained%	Typical Retained%
0.600	30	Nil	0
0.425	40	<1	0.02
0.600	50	1~5	1.34
0.250	60	1~10	3.82
0.212	70	5~15	10.22
0.180	80	10~25	15.31
0.150	100	20~40	26.77
0.125	120	15~40	30.34
0.106	140	4~15	10.48
0.090	170	0~5	1.52
	-170	<3	0.18

