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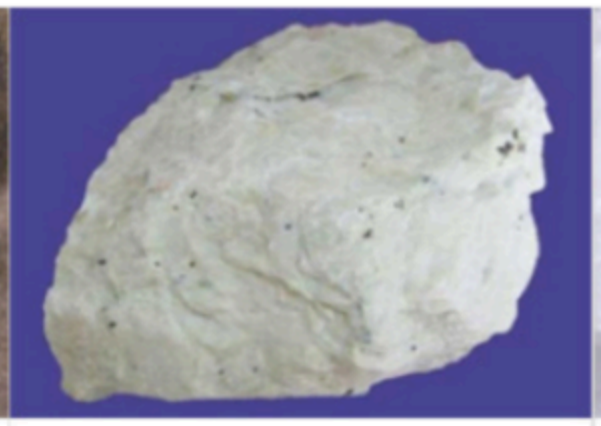
Shivashish Engro Industries

MINERALS

OUR PRODUCTS

Potash Feldspar

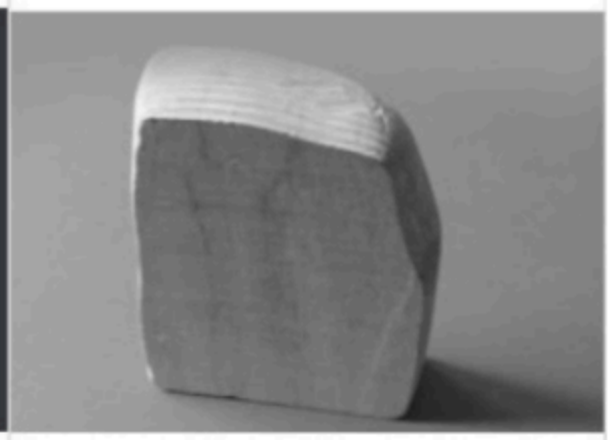


Soda Feldspar

Quartz

China Clay

Kaolin



Soapstone

Ball Clay

Slatestone

Sandstone

Cobbles

Bentonite

Garnet

Potash Feldspar Chips

Potash Feldspar Grain

Soda Potash Powder

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Potash Feldspar

In ceramic bodies, the main vitrifying (fluxing) agent is feldspar. The majority of white ware bodies contain good proportions of feldspar. It acts as a flux. In the ceramic industry, the flux is defined as that portion of the body which develops glass phase. This is provided mostly by feldspar. The amount of flux in a ceramic body should be only in such a proportion as to develop the desired amount of vitrification. If excess of flux is added, the fired body becomes very glassy and consequently, brittle.

One of the most important materials for medium and high temperature ceramic glazes. Potash feldspars are often not as pure and white as soda spars. A feldspar is typically referred to as 'potash' if there is significantly more potassium than sodium (typically there will be 2-5% Na2O).

If the amounts are closer to equal they are termed potash-soda feldspars (or vice versa). Of course, real potash feldspars also have small amounts of CaO, MgO, Fe2O3, etc.

Feldspar is generally used for Ceramics, Glass, Electrodes.

The glass and ceramic industries are the major consumers of feldspar and account for 95% of the total consumption.

We produce POTASH FELDSPAR (K-SPAR) in forms of :

Granular Particles

Powder (150-25 microns)

Lumps form 1 inches to 15 inches

POTASH FELDSPAR		**SODIUM-01**
Silica	SiO2	68% (+ 1%)
Alumina	Al2O3	18% (+ 1%)
Sodium Oxide	Na2O	2% (+ 0.5%)
Pottasium Oxide	K2O	11.50% (+ 0.5%)
Titanium Oxide	TiO2	Nil
Calcium Oxide	CaO	0.50%
Magnesium Oxide	MgO	Traces
Ferric Oxide	Fe2O3	0.08% (+ 0.05%)
Loss on Ignition	LOI	0.40%

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Soda Feldspar

In ceramic bodies, the main vitrifying (fluxing) agent is feldspar. The majority of white warebodies contain good proportions of feldspar. It acts as a flux. In the ceramic industry, the flux is defined as that portion of the body which develops glass phase. This is provided mostly by feldspar. The amount of flux in a ceramic body should be only in such a proportion as to develop the desired amount of vitrification. If an excess of flux is added, the fired body becomes very glassy and consequently, brittle.

Sodium Feldspar Is Generally Used For Three Purposes:

In making the body composition of several types of porcelain, china and earthenware and also in the preparation of glazes and enamel

As an important ingredient in the glass sand batch

As a bonding agent in the manufacture of bonded abrasives like wheels and discs of garnet, corundum, emery etc.

The glass and ceramic industries are the major consumers of feldspar and account for 95% of the total consumption.

Feldspar is generally used for Ceramics, Glass, Electrodes

We produce SODIUM FELDSPAR (NA-SPAR) in forms of :

Granular Particles

Powder (150-25 microns)

Lumps form 1 inches to 15 inches

POTASH FELDSPAR		**SODIUM-01**
Silica	SiO_2	68% (+ 1%)
Alumina	Al_2O_3	18% (+ 1%)
Sodium Oxide	Na_2O	9% (+ 1%)
Pottasium Oxide	K_2O	1.50% (+ 0.5%)
Titanium Oxide	TiO_2	Nil
Calcium Oxide	CaO	0.50%
Magnesium Oxide	MgO	Traces
Ferric Oxide	Fe_2O_3	0.08% (+ 0.05%)
Loss on Ignition	LOI	0.40%

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Quartz

Quartz is the most abundant and most common mineral on the Earth. It is found in almost every geological environment and also it is at least a component of almost every rock type. It has a hexagonal crystal structure and is made of trigonal crystallized silica. It is most varied in terms of varieties, colors and forms.

The most important distinction between the types of quartz is that one is of macrocrystalline, which is individual crystal visible to the unaided eye, and the other is microcrystalline or cryptodrystalline varieties, aggregates of crystals visible only under high magnification.

Chalcedony is the generic term for cryptocrystalline quartz. The transparent variety tends to be macrocrystalline and the cryptocrystalline varieties are either translucent or mostly opaque.

We produce Quartz in forms of :

Granular Particles
Powder (150-25 microns)
Lumps form 1 inches to 15 inches

Packing :

Standard Packing available in 50 kg. HDPE bags & 1 or 1.25 mt Jumbo bags with liner inside, or as per customer requirements.

Physical Properties Of Quartz

PROPERTY	PROPERTY
Color	Clear (in pure form)
Crystal habit	6-sided prism ending in 6-sided pyramid (typical)
Crystal system	Trigonal
Cleavage	None
Fracture	Conchoidal
Mohs scale hardness	7 - lower in impure varieties
Luster	Vitreous
Refractive index	1.544-1.553 - Dr +0.009 (B-G interval)
Streak	White
Specific gravity	2.65 constant; variable in impure varieties
Melting point	1650 (±75) 0C
Boiling point	22300C
Solubility	H2O insoluble

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China Clay

Leveraging our vast industrial experience and in-depth knowledge in this domain, we have been able to manufacture, supply and distribute a commendable range of China Clay. Offered product is processed keeping in mind its industrial applications and making us of premier-grade ingredients. Owing to its effectiveness and quality, offered product is widely used as a ceramic glazing and engobing, paint extenders, filler in paper as well as manufacturing of vitrified tiles.

We are a leading organization engaged in offering a wide range of China Clay which is available in different forms such as granule, powder and lumps. It is a natural mineral which can be denoted chemically by the hydrated aluminum silicate. We utilize highly reliable and advanced processes in order to formulate this product so as to ensure its wide industrial applications.

Applications:

Paint extenders
Filler in paper
Manufacturing of vitrified tiles
Ceramic glazing and engobing

We Offer China Clay Of Different Grades As Follows:

Kaolin Clay Micro White Powder
Kaolin Clay Levigated Ultrafine Powder
China Clay Super White Powder
China Clay 300,400 & 500 Mesh Powder
China Clay Crude Powder / China Clay Ordinary Powder
We also offer Calcined Clay as per specification.

Chemical/Typical Composition Of China Clay / Kaolin Clay & Calcined Clay

PARAMETERS	CHINA CLAY / KAOLIN CLAY	CALCINED CLAY
SiO2	44 to 47%	48%
Al2O3	35.85 to 39%	41%
Loss on Ignition	12%	Below 1%
Specific Gravity	2.7	2.41
Oil Absorption	25-32	42
pH	6.5 to 7	6.5 to 7

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Kaolin

Kaolin is a white, soft, plastic clay mainly composed of fine-grained plate-like particles. Kaolin is formed when the anhydrous aluminum silicates which are found in feldspar rich rocks, like granite, are altered by weathering or hydrothermal processes.

MINIMUM ORDER QUANTITY	250 TON
State	Solid
Packaging Type	Packet
Color	White

Description

A versatile material, kaolin has a multitude of traditional and industrial uses. Most of the kaolin mined today is used for making paper, ceramics, and in the manufacture of make-up and skin care products.

In cosmetics, kaolin helps to cleanse and exfoliate debris and skin cells on the surface of the skin. It does this by absorbing excess oil and water into itself as well as making a paste when mixed with water that has a texture. It is used for these benefits in fresh cleansers and face masks. We blend this soft clay with all sorts of beautiful essential oils and fresh ingredients, mixing it into a versatile paste that can be unpackaged such as our fresh roll cleansers, or gently baked to create solid self-preserving Toothy Tabs.

Its ability to absorb moisture into itself means it is an excellent ingredient to support product formulas that are self-preserving, by hiding water within itself away from bacteria, yeasts or molds. Clays and powders like Kaolin are highly valuable as natural preservatives: hiding excess water that may be active within a formula. By carefully mixing up ingredients in a process called dispersion, microorganisms cannot grow and reproduce, enabling products to stay fresh and clean for longer.

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Soapstone

(Chemical Name: Hydrated Magnesium Silicate (3MgO.4SiO2H2O)

Talc / Soapstone also known as Steatite Powder in pulverized form is whiter in appearance. We offer Talc in varying fineness, from 200 Mesh to size of 700 Mesh. Talc / Soapstone is used as a filler in paper, rubber, textile, paints, face and talcum powder, soap, fireproof roofing, foundry facings, lubricants, linoleum and oilcloth, electrical insulation, and pottery.

Interesting Soapstone Facts:

Soapstone is primarily composed of talc. It shares many physical properties with that mineral and make it valuable for many different uses. It is non-porous, heat resistant, non-absorbent, soft and easy to carve, high specific heat capacity and resistant to acids and alkalis.

The mineral composition in this rock can vary. It depends upon the parent rock material and pressure/temperature conditions of its metamorphic environment.

As early as 8,000 years ago, Native Americans used the rock to make carved sculptures and cooking bowls. In the Late Archaic Period, Native Americans from North America made bowls, smoking pipes, cooking slabs and ornaments.

We offer Talc / Soapstone in different grades as per Customers requirements as follows:

Talc Powder Ultrafine
Talc Powder Microfine
Talc Powder 400 Mesh
Talc Powder 300 Mesh
Talc Powder Off White

Chemical/Typical Composition

SIO2	**60%**
MgO	30%
CaO	3.0%
Whiteness	From 70% to 94%
Oil Absorption	35-40
Bulk Density	25-32
pH	0.3-0.45 gm/ml

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Ball Clay

We offer a wide variety of Ball Clay, which is composed of 10-25% mica, 20-80% kaolinite and 6-65% quartz. Our experts manufacture it using latest processing techniques and quality ingredients. It is highly appreciated for its composition, strength, and plasticity. It also plays an important role in a ceramic manufacturing industry, Sanitaryware, Electrical Porcelain insulators, Wall and floor tiles etc. Our clients can avail it in diverse customizations as per their specific needs.

Ball clay is an extremely rare mineral found in very few places around the world. Its name dates back to the early methods of mining when specialized hand tools were used to extract the clay in rough cube shapes of about 30 cm. As the corners were knocked through handling and storage these cubes became rounded and 'ball' shaped. It also is sometimes referred to as plastic clay.

Ball clays consist of ultra fine clay particles. This helps to make them sticky (or 'plastic') and easily shaped when damp (the word 'clay' is derived from the Old English 'claeg', meaning sticky). Some also have fluid properties that are valuable in the casting of large ceramic pieces such as toilet bowls. BALL CLAY is a variety of Kaolinite, like china-clay. It differs from china-clay in having high plasticity and less refractoriness.

Ball clay is essential for ceramic production because of its high plasticity and strength.
Key ball clay properties include:

High plasticity
High unfired strength
Highly controlled rheological properties
Controlled organic content

Chemical/Typical Composition

SR NO.	CONSTITUENTS	RANGE%
1.	SiO2	40-44
2.	Al2O3	32-36

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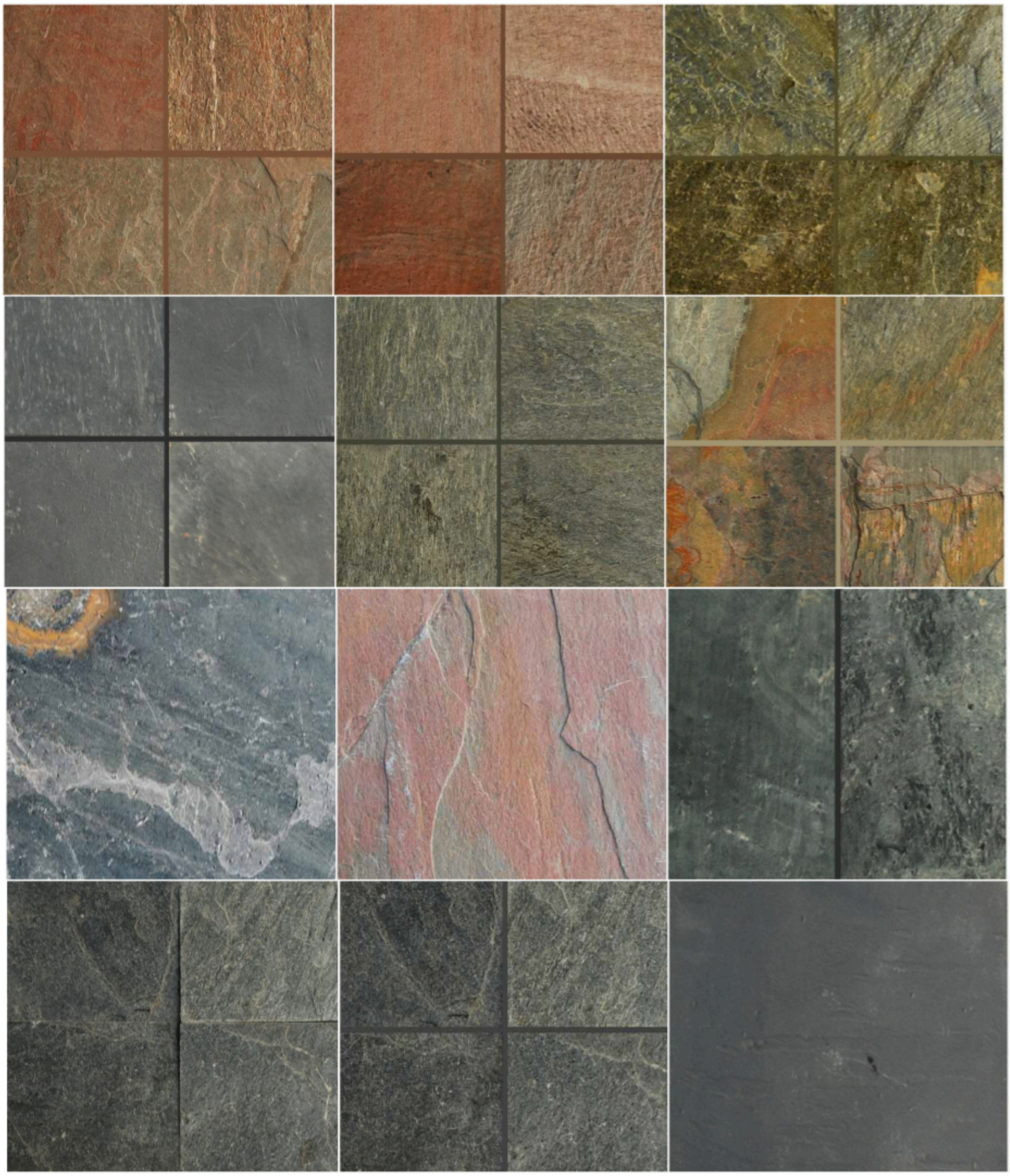
Slatestone

Slate is a fine-grained, foliated, homogeneous, metamorphic rock. Slate can be made into roofing slates, also called roofing shingles. Slate tiles are often used for interior and exterior flooring or wall cladding. Tiles are installed and set on mortar and grouted along the edges. Sealants are often used on tiles to improve durability and appearance, increase stain resistance, reduce efflorescence, and increase or reduce surface smoothness.



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Sandstone

Sandstone is a sedimentary rock composed mostly of quartz sand, but it can also contain significant amounts of feldspar, and sometimes silt and clay. Sandstone that contains more than 90% quartz is called quartzose sandstone. When the sandstone contains more than 25% feldspar, it is called arkose or arkosic sandstone. When there is a significant amount of clay or silt, geologists refer to the rock as argillaceous sandstone.

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Cobbles

Our cobbles and decorative pebbles are great for all landscaping projects and offer an exceptional decorative presence in any garden. Whether you want to fill a large or small area, cobbles and decorative pebbles can add a stylish and elegant feel to an outdoor space. The Stone Warehouse range has an emphasis on versatility and is available in a wide variety of styles, colours and sizes.

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Bentonite

Bentonite is a highly colloidal clay mineral which gets its name from the place where its presence and usages were first discovered – Fort Benton, America. The multiple properties of bentonite namely hydration, swelling, water absorption, viscosity, thixotropy make it a multi-application product for diverse industries. Primarily two varieties of bentonite are available - sodium bentonite (high swelling, gelling and thermal durability) and calcium bentonite .

Bentonite clay is superior grained material, extremely soft and more or less rational when plastic or dry and retentive of water when wet. It has a powerful earthy odor when breathed upon moisture and consists essentially of hydrous alumina silicate with impurities. Bentonite now generally describes clay which consists essentially of the selective mineral montmorillonite regardless of its origin occurrence.

Types Of Bentonite:

Sodium bentonite
Calcium bentonite
Potassium bentonite

CHEMICAL ANALYSIS OF BENTONITE

SR NO.	CONSTITUENTS	RANGE%
1.	SiO_2	37-46
2.	Al_2O_3	22-28

USES:

Bentonite has high swelling properties along with good viscosity and liquid limit. These properties are highly valued in most of the industrial applications. Sodium bentonite is well suited as a binder in the preparation of pellets, and in foundry and oil - well drilling mud. Bentonite also acts as a suspending agent in oil - well drilling fluids.

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Garnet

The name "garnet" is derived from the Latin "granatum" meaning "pomegranate" because the crystals resemble the fruit's red color and seed-like form. Most people think of the garnet as a red gemstone, but in fact, it exists in all kinds of colors – such as black – as well as many shades of red and green. It can even be colorless. The garnet's variety of colors comes from metals such as manganese, iron, calcium, and aluminum.

Garnets are commonly found as small pebbles in streams, where the igneous and metamorphic rocks that contain them have weathered away. They're found in many places around the world, including North and South America, Australia, India, Asia and Spain.

Description

Garnet is usually thought of as a gemstone but most garnet is mined for industrial uses. A very small number of garnets are pure and flawless enough to be cut as gemstones. The majority of garnet mining is for massive garnet that is crushed and used to make abrasives. Garnet is a silicate mineral group; in other words, garnet's complex chemical formula includes the silicate molecule (SiO_4). The different varieties of garnet have different metal ions, such as iron, aluminum, magnesium and chromium. Some varieties also have calcium.

CHEMICAL ANALYSIS OF BENTONITE

CHEMICAL ANALYSIS OF BENTONITE	$Fe_3Al_2Si_3O_{12}$ (almandine)
HARDNESS	6.5-7.5
SPECIFIC GRAVITY	3.6-4.3
TRANSPARENCY	Transparent to opaque
COLOUR	Variable - most commonly red, reddish brown
STREAK	White
LUSTRE	Vitreous to resinous
CLEAVAGE/FRACTURE	Non-Existent / Conchoidal

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SHIVASHISH ENGRO INDUSTRIES

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Thank You