

Basalt

Basalt is a dark-colored, fine-grained, igneous rock composed mainly of plagioclase and pyroxene minerals. It most commonly forms as an extrusive rock, such as a lava flow, but can also form in small intrusive bodies, such as an igneous dike or a thin sill. It has a composition similar to gabbro. The difference between basalt and gabbro is that basalt is a fine-grained rock while gabbro is a coarse-grained rock.

- **Applications**

- 1- As an aggregate in construction projects.
- 2- Crushed basalt is used for road base, concrete aggregate, asphalt pavement aggregate, railroad ballast, filter stone in drain fields
- 3- Cut into dimension stone.
- 4- Thin slabs of basalt are cut and sometimes polished for use as floor tiles, building veneer, monuments, and other stone objects.

- **Product Specifications**

- **Physical Properties**

property	Density (g/cm ²)	Hardness (Mohs)	Compressive strength Mpa	Water absorption % by weight	Abrasion resistance (cm ³ /50cm ²)	Flexural strength (MPa)	Tensile strength (Mpa)	Shear strength (Mpa)	Porosity %
value	2.8 –3.0	6	100 -300	1.0 – 1.8	15-16	80 –82	10 -30	20 - 60	0.1 - 1

- **Chemical composition**

oxides	SiO ₂	TiO ₂	Al ₂ O ₃	Fe ₂ O ₃	MnO	MgO	CaO	Na ₂ O	K ₂ O	P ₂ O ₅	L.O.I
Min. %	40	2.0	11.0	5.0	0.1	8.0	9.0	1.0	0.5	0.5	0.5
Max. %	45	3.0	13.0	8.0	0.2	10.0	12.0	2.5	1.5	1.0	2.0

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