

Luster: NONMETALLIC DARK MINERALS (last updated 2023)

Name	Formula	Color	Streak	Hard	Breakage	Mineral group	Mineral Structure	Specific Gravity	Uses & Special properties
Apatite	$\text{Ca}_5(\text{PO}_4)_3\text{F}$	<i>Glassy: varies</i> , greenish yellow, blue, brown, purple, white	White	5.0	Cleavage poor basal, fracture conchoidal	Sulfide	Hexagonal	3.1-3.2	Sometimes used as a gem source of phosphorus for fertilizers, phosphoric acid, detergents
Bauxite	Hydrous aluminum Oxide compound	<i>Dull</i> : gray, red, white, brown	Gray	1.0-3.0	Uneven Fracture	Oxide	None	2.0-2.5	Ore of Aluminum; used in paints, aluminum foil, and airplane parts; Smell of clay when wet
Mica (Biotite)	$\text{K}(\text{Mg}, \text{Fe})_3\text{AlSi}_3\text{O}_{10}(\text{OH})_2$	<i>Pearly</i> : black, brown, dark green	Colorless, white to gray.	2.5-3.0	Perfect Basal cleavage	Silicate	Monoclinic	2.7-3.4	Mica family peels in large Elastic thin sheets. Insulator and in electrical devices
Copper (native)	Cu	Copper red	Copper red	2.5-3.0	Hackly fracture	Native Element	Cubic (rare)	8.5-9	Used in coins, pipes, wire, cooking utensils, jewelry
Corundum	Al_2O_3	<i>Adamantine to Glassy</i> : colorless, brown, green, white, pink, blue, red, brilliant	Colorless, white	9	Fracture	Oxides	Hexagonal	4.0	Used in jewelry, industrial abrasives, lasers, mechanical watches, and other precision instruments: red gemstones: Rubies; Blue: Sapphires
Garnet	Fe Mg Ca Al	<i>Varies and dk red and reddish brown</i>	White or shade	7.0-7.5	Cleavage none	Silicate	Isometric	3.4-4.2	Gemstone (pyrope (red) and Andradite (green))
Hornblende	$\text{Ca Na}(\text{Mg}, \text{Fe})_4(\text{Al}, \text{Fe}, \text{Ti})_3\text{Si}_6\text{O}_{22}(\text{O}, \text{OH})_2$	<i>Glassy</i> : green, black	White to gray	5.0-6.0	Cleavage in two directions @ 60 & 120 degree	Silicate	Monoclinic	3.0-3.5	Common material found in igneous rocks; Black strips like Long Prism
Limonite	Hydrous Iron Oxides	<i>Glassy: Dark Brown, to black</i>	Yellow Brown	5.0-5.5	Fracture (varies)	<i>Oxide</i>	None	3.5-4.0	Ore of Iron; also known as “yellow orcher” pigment
Olivine	$(\text{Mg}, \text{Fe})_2\text{SiO}_4$	<i>Olive-green to yellowish (white rich in Ca)</i>	White or gray	6.5-7.0	Cleavage indistinct	Silicate	Orthorhombic	6.5-7.0	Refractory bricks
Serpentine	Mg, Al SiO_3	<i>Dk green to black fibrous forms and platy</i>	White	2.0-3.0	Cleavage none	Silicate	Monoclinic	2.5-2.6	Asbestos: fire-resistant
Smoky quartz	SiO_2	<i>Glassy</i> : white, colorless, gray, black	Colorless	7.0	Shell like fracture, conchoidal	Silicate	Hexagonal	2.6	Used in optical equipment, glass manufacture electronic equipment, Most common mineral