

Generalized Rock Identification Chart For Common METAMORPHIC ROCKS

TEXTURE	GRAIN SIZE	ROCK NAME <i>*modify rock name by adding name of prominent minerals (e.g., garnet schist, etc.)</i>	DESCRIPTION	INTERPRETATIONS	
				Common Protoliths <i>(original or "parent" rock)</i>	Metamorphic Grade / Type
Foliated (layered)	very fine	SLATE	<i>layers break into thin plates (slaty cleavage), smooth surface, harder and more shiny than shale</i>	mudstone	LOW low pressure (P) & low temperature (T) metamorphism (regional)
	fine	PHYLLITE	<i>layers may be wrinkled (crenulated), silky sheen (phyllitic luster)</i>	mudstone	low P & low T metamorphism (regional)
	medium to coarse	SCHIST	<i>layers have flaky scales of mica (schistosity), index minerals are common (e.g., garnet, micas, kyanite, staurolite, sillimanite, amphibole, etc.)</i> Amphibolite - abundant amphibole	mudstone volcanic rocks	moderate P & T metamorphism (regional) many varieties from different protoliths form in different pressure & temperature conditions
	coarse	GNEISS	<i>lighter and darker compositional layers (gneissic banding)</i> Migmatite Mylonite Augen Gneiss	mudstone plutonic rocks etc.	HIGH high P & high T metamorphism (regional) Mylonite (formed from faulting or ductile shear) Migmatite (highest grade - partially melted)
	coarse	METACONGLOMERATE	<i>breaks across clasts boundaries</i> Stretched Pebble Conglomerate - original clasts deformed into cigar-shaped rods (stretching lineation)	conglomerate	variable metamorphic grade variable P & T metamorphism (regional) may become foliated from stretching during tectonic shear
	fine	METABASALT	<i>typically massive, greenish color due to high chlorite content</i> Greenstone - a common Precambrian rock type	basalt	low metamorphic grade low P & low T metamorphism (regional) may become foliated (greenschist) under higher pressure & temperature conditions
	fine to coarse	QUARTZITE	<i>interlocking quartz break across grain boundaries, very hard (H = 7), not scratched by steel, will not react with HCl, variable color, relict sedimentary structures may be preserved</i>	quartz arenite	variable metamorphic grade low P & high T metamorphism (contact) may also form from regional metamorphism (no foliation due to lack of platy minerals)
	medium to coarse	MARBLE	<i>interlocking calcite or dolomite crystals, easily scratched with a steel nail (H = 3), may react with HCl, variable color</i>	limestone dolostone	variable metamorphic grade low P & high T metamorphism (contact) may also form from regional metamorphism (no foliation due to lack of platy minerals)
	very fine	HORNFELS	<i>very hard, variable color</i>	many	high metamorphic grade low P & high T metamorphism (contact)
	n/a	ANTHRACITE COAL	<i>hard, compact, shiny luster, dark color, >90% carbon</i>	bituminous coal	low metamorphic grade low P & low T metamorphism (regional)

Non-Foliated
(massive or no layering)