

Generalized Rock Identification Chart For Common METAMORPHIC ROCKS

TEXTURE	GRAIN SIZE	ROCK NAME <small>*modify rock name by adding name of prominent minerals (e.g., garnet schist, etc.)</small>	DESCRIPTION	INTERPRETATIONS	
				Common Protoliths <small>(original or "parent" rock)</small>	Metamorphic Grade / Type
Foliated <small>(layered)</small>	very fine	SLATE	layers break into thin plates (slaty cleavage), smooth surface, harder and more shiny than shale	mudstone	LOW low pressure (P) & low temperature (T) metamorphism (regional)
	fine	PHYLLITE	layers may be wrinkled (crenulated), silky sheen (phyllitic luster)	mudstone	low P & low T metamorphism (regional)
	medium to coarse	SCHIST	layers have flaky scales of mica (schistosity), index minerals are common (e.g., garnet, micas, kyanite, staurolite, sillimanite, amphibole, etc.) Amphibolite - abundant amphibole	volcanic rocks, mudstone	moderate P & T metamorphism (regional) many varieties from different protoliths form in different pressure & temperature conditions
	coarse	GNEISS	lighter and darker compositional layers (gneissic banding) Migmatite Mylonite Augen Gneiss	plutonic rocks, mudstone, etc.	HIGH high P & high T metamorphism (regional) Mylonite (formed from faulting or ductile shear) Migmatite (highest grade - partially melted)
	coarse	METACONGLOMERATE	breaks across clasts boundaries 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	typically massive, greenish color due to high chlorite content 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	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	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	interlocking calcite or dolomite crystals, easily scratched with a steel nail (H = 3), may react with HCl, variable color	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	very hard, variable color	many	high metamorphic grade low P & high T metamorphism (contact)
	n / a	ANTHRACITE COAL	hard, compact, shiny luster, dark color, >90% carbon	bituminous coal	low metamorphic grade low P & low T metamorphism (regional)