Andalusite

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General Mineral Formula: Al_2SiO_5

Mineral Chemical Class: Neosilicates

Specific Gravity: 3.1-3.2

Hardness: 7-7.5

Cleavage: 2,1

Luster: Vitreous, dull

Streak: White

Characteristic Color(s): Pink, white, pinkish brown. Darker with Mn and Fe

Crystal System: Orthorhombic

Crystal Class: 2/m 2/m 2/m

Crystal Description (common forms, habit, etc.): Prismatic and blocky crystals and crystal groupings. Often with squared cross-sections. The crystal shape is usually rectangular and sometimes has beveled edges. Habits are often massive, grainy, columnar, radiating, as embedded outlines in a matrix.

Famous for it's X shape in cross section.

[1] Famous X in cross section wiht black graphite in between.
[2] Rectangular and forms in metamorphosed schists, gneisses, and hornfels.

Environment (where you find the material): Found in metamorphosed schists, gneisses, and hronfels. Also hydopthermal replacement deposits, granite pegmatites, and alluvial deposits.

Common Mineral Associations (in samples, also consult text, notes: Biotite, Almandine, Quartz, Microcline

Scientific Usage/Significance: Andalusite, kyanite, and sillimanite are polymorphs (i.e. have the same chemical formula) and are therefore very useful as metamorphic index minerals- since they crystalize at different temperatures and pressures (see Fig. 16.9 pg 347).

Industrial or Social Use/Significance: Minor gemstone and Christian Symbol.

Environmental Significance: None