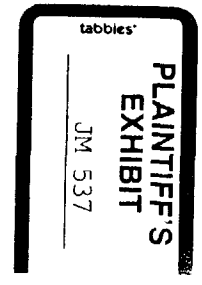
PHYSICAL PROPERTIES OF ASBESTOS

	CHRYSOTILE	AMOSITE	ANTHOPHYLLITE	CROCIDOLITE	TREMOLITE	ACTINOLITE
Specific Heat Btu/lb/°F	0.266	0.193	0.210	0.201	0.212	0.217
Tensile Strength lbs/sq in.	80,000 100,000	16,000 90,000	4,000 & less	100,000 300,000	1,000 8,000	1,000 & less
Temp. at Max. Ignition Loss °F	1800	1600 to 1800	1800	1200	1800	----
Filtration Properties	Slow	Fast	Medium	Fast	Medium	Medium
Electric Charge	+	-	-	-	-	-
Fusion Point °F	2770	2550	2675	2180	2400	2540
Spinnability	Very good	Fair	Poor	Fair	Poor	Poor
Resistance to Acids and Alkalies	Poor	Good	Very good	Good	Good	Fair
Magnetite Content	0-5.2	0	0	3.0-5.9	0	----
Mineral Impurities Present	Iron, Chrome, Nickel, Lime	Iron	Iron	Iron	Lime	Lime, Iron
Flexibility	High	Good	Poor	Good	Poor	Poor
Resistance to Heat	Good. Brittle at high temp.	Good. Brittle at high temp.	Very good	Poor, Fuses	Fair to good	----
Ionizable Salts Micro-Mhos (Relative Elec. Conductance)	1.82	1.34	0.58	0.84	----	----
Color	Green, Gray to white	Yellowish Brown	Yellowish Brown. Sometimes almost white.	Blue	White	Greenish



PROPERTIES OF ASBESTOS FIBRES

	ACTINOLITE	AMOSITE (FERRO ANTHOPHYLLITE)	ANTHOPHYLLITE	CHRYSOTILE	CROCIDOLITE	TREMOLITE
STRUCTURE	Reticulated long prismatic crystals and fibres	Lamellar, coarse to fine fibrous and asbestiform	Lamellar, fibrous, asbestiform	In veins of serpentine etc.	Fibrous in iron-stones +	Long, prismatic and fibrous aggregates
MINERAL ASSOCIATION	In limestone and in crystalline schists	In crystalline schists etc.	In crystalline schists and gneisses	In altered peridotite adjacent to serpentine & limestone near contact with basic igneous rocks	Iron rich afficious argillite in quartzose schists	In Mg limestones as alteration prod. of highly magnesian rocks metamorphic and igneous rocks
ORIGIN	Result of contact metamorphism	Metamorphic	Metamorphic usually from olivine	Alteration & metamorphism of basic igneous rocks rich in magnesian silicates	Regional metamorphism	Metamorphic
VEINING	Slip or mass fibre	Cross fibre	Slip, mass fibre unoriented and interlacing	Cross and slip fibres	Cross fibre	Slip or mass fibre
ESSENTIAL COMPOSITION	Ca, Mg, Fe, Silicate water up to 05	Silicate of Fe and Mg higher iron than anthophyllite	Mg silicate with iron	Hydrous silicates of magnesia	Silicate of Na and Fe with some water	Ca & Mg silicate with some water
THEORETICAL FORMULA	$Ca(Mg, Fe)_3 (SiO_3)_4 + H_2O$	$(Fe, Mg) SiO_3$ 1 - 05 H_2O	$(Mg, Fe)_7 Si_8O_{22}(OH)_2$	$3MgO\ 2SiO_2\ 2H_2O$	$Na\ Fe(SiO_3)_2 \cdot FeSiO_3 + H_2O$	$Ca_2Mg_5Si_8O_{22}(OH)_2$
CRYSTAL STRUCTURE	Long & thin columnar to fibrous	Prismatic, lamellar to fibrous	Prismatic, lamellar to fibrous	Fibrous and asbestiform	Fibrous	Long & thin columnar to fibrous
CRYSTAL SYSTEM	Monoclinic	Orthorhombic	Orthorhombic	Monoclinic (pseudo-orthorhombic?)	Monoclinic	Monoclinic
COLOR	Greenish	Ash gray, greenish, or brown	Grayish white, brown-gray or green	White, gray, green, yellowish	Lavender, blue, greenish	Gray-white, greenish, Yellowish, bluish
LUSTRE	Silky	Vitreous, somewhat pearly	Vitreous to pearly	Silky	Silky to dull	Silky
HARDNESS	5 5	5 5-6.0	5 5-6 0	2.5-4.0	4	5.6
SPECIFIC GRAVITY	3.0 3.2	3.1-3.25	2.85-3.1	2.4-2.6	3.2-3.3	2.9-3.2
CLEAVAGE	110 Perfect	110 Perfect	110 Perfect	010 Perfect	110 Perfect	110 Perfect
OPTICAL PROPERTIES	Biaxial negative extinction inclined	Biaxial & - extinction parallel	Biaxial positive extinction parallel	Biaxial positive birefringence parallel extinction	Biaxial & - extinction inclined	Biaxial negative extinction inclined
REFRACTIVE INDEX	1.63 ± weakly pleochroic	1.68 ±	1.5 ±	1.50 -- 1.55	1.7 pleochroic	1.6 ±
FUSIBILITY	Fusible at 4	Fusible at 6 Loses water at moderate temperatures	Infusible or difficultly fusible	Fusible in minute splinters	Fusible at 3	Fusible at 4
FLEXIBILITY	Brittle and nonflexible	Good, less than chrysotile	Very brittle, nonflexible	Very flexible	Fair to good	Generally brittle, sometimes flexible
LENGTH	Short to long	.4 to 11" Varies	Short	Short to long	Short to long	Short to long
TEXTURE	Harsh	Coarse but somewhat pliable	Harsh	Soft to harsh, also silky	Soft to harsh	Generally harsh, sometimes soft
TENSILE STRENGTH	Very weak	Fair, less than chrysotile	Very weak	Very good	Very good. Highest of all varieties	Weak
ACID RESISTANCE	Relatively insoluble in HCl	Fairly resistant to acids	Fairly resistant to acids	Soluble up to approximately 87%	Fairly resistant to acids	Fairly resistant to acids
SPINNABILITY	Poor	Fair	Poor	Best	Fair	Generally poor. Some are spinnable

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