

that the action of the fire had rendered the fibre so brittle that its tenacity was almost entirely destroyed, and the mitten was of no further use. In order to explain then the seeming inconsistency between the two cases, it may be stated that what is known as the Quebec asbestos of commerce, and the true asbestos, are two distinct substances, and belong to two distinct groups of minerals. Thus asbestos proper belongs to what is known as the pyroxene or hornblende group, while that obtained from the Quebec mines belongs to the talc or serpentine group. The former is classed among the igneous rocks proper, such as syenites, granites, syenites, porphyries, etc., and embraces among other varieties augite, diallage, hornblende, etc. Some asbestiform minerals are augitic, but the greater number belong to the hornblende family, and are known by several names, such as amianthus, asbestos, byssolite, tremolite, actinolite. In the variety known as pilolite, which is also a division of the hornblende group, several curious forms of asbestos occur, such as mountain paper and mountain leather, in which the fibres have become felted together in a somewhat uniform consistency, and are in the form of thin sheets; mountain or rock cork, which is a more massive form, and in which the specific gravity ranges from .68 to 1.34, and mountain wood, the name of which is derivable from its ligniform or woody aspect. The chemical composition of these several asbestiform minerals varies considerably, but for the most part they may be classed as silicates of alumina and magnesia, with varying proportions of lime and iron and occasionally a little water. The varieties known as mountain cork and leather contain a considerable proportion of water, amounting some times to 23 per cent.

A peculiar bluish variety known as crocidolite, and found in South Africa, Norway, and at several other points, contains a very considerable proportion of iron protoxide, sometimes as much as 35 per cent., in addition to silica, magnesia, and soda, and contains also a small percentage of water. This mineral is more properly a silicate of iron, and has great tensile strength as compared with the ordinary form of asbestos, though deficient in fire-resisting properties.

These minerals occur for the most part in serpentinous rocks in the oldest formations. In Canada, the variety known as actinolite occurs