with increasing degree of dispersion or rising fineness (0.5 g > 196 mesh per cm² $\triangleq$ 4.40 *MR*: 0.5 g < 6400 *mesh per cm²* $\triangleq$ *3.05 MR*). Although the magnetite component is of significance chiefly in the chrysotiles, the magnetite content and MR-values of all varieties of asbestos have been included in Table 5.

In line with their mode of formation and place of origin, the "low-iron" chrysotiles are frequently accompanied by carbonates (dolomite, calcite, etc.), so in determining the composition, therefore, it is necessary to take into account the amount of CaO (calcite) and/or MgO (dolomite) required to bind the found CO_2, and these amounts must then be subtracted from the total amounts of CaO or MgO found. The chemical investigation of samples of asbestos is likewise made more difficult by the need for analytically separating Ca, Mg, Fe, and Al, as well as by the necessity of determining the quantities of alkali metals present. These steps make it more difficult to obtain reproducible results and they also complicate the assessment or interpretation of the analytical findings or the calculation of the formula of the specimen — an operation that requires a knowledge of the complicated relationships and some experience in this field.

Of course an empirical formula can be set up for each asbestos on the basis of the found percentage composition. Such formulas often show the proportion of the individual ions (elements or substituents) in the molecule expressed in decimals. For example, the *anthophyllite asbestos of the* Bresimo Valley (Ortler group, Upper Italy) has been represented as being:

$$(Ca,Na,K)_{0.30}(Al,Ti,Fe^{3+},Fe^{2+},Mn,Mg)_{6.73}(Si,Al)_{8.00}(OH)_{1.33}O_{22.00}$$

Although such empirical formulas have proved of value for certain industrial purposes, it *nonetheless* is difficult to decide which portions of the analytical findings should be included in the formula.

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6.3 Fibers: Classification, standardization, disintegration

The various kinds of asbestos are subdivided, treated, and used in accord with the length of their fiber and their degree of disintegration, and consequently these characteristics are among the most important properties of the asbestoses. Among the cross-fiber deposits of all varieties of asbestos, a distinction is made fundamentally between the hand-selected crude asbestos and the mill fibers; both principal groups are further subdivided on the basis of length of fiber into classes and subclasses and then again according to their degree of disintegration or texture of fiber. For the sake of uniformity and simplification of the method of notation, properties, processing, and uses, the classification of the asbestoses has been partially standardized or accepted as binding