

我国西北地区不同类型纤蛇纹石石棉的电镜研究

A Study of Different Types of Chrysotile Asbestos Fibers from Northwest China Using Electron Microscopy

中文关键词: [纤蛇纹石](#) [温石棉](#) [电镜研究](#) [西北地区](#)

英文关键词: [Chrysotile](#) [chrysotile asbestos](#) [electron microscopic study](#) [Northwest China](#)

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中文摘要:

作者对西北地区不同类型温石棉矿床的石棉进行了扫描电镜和高分辨率透射电镜研究, 拍摄到清晰的晶格象和电子显微象, 发现茫崖型和小八宝型的温石棉纤维的晶格条纹、晶格缺陷及纤维形貌有明显差异。这种差异与成棉地质条件和温度有关。

英文摘要:

The chrysotile asbestos deposits in ultramafic rocks of Northwest China can be divided into three types, i.e., Mangya type, Xiaobabao type and transition type. A number of chrysotile asbestos samples from different mineral deposits were studied by means of scanning electron microscopy and high-resolution transmission electron microscopy. As a result, the authors have obtained high-quality micrographs and lattice images for these samples. A contrastive study of the characteristics of electron micromorphology and lattice images of chrysotile asbestos fibers from different types of ore deposits shows that the asbestos fibers of Mangya type and Xiaobabao type differ rather obviously from each other in such aspects as cleanliness of fiber face, diameter of inner tube or [thickness of tube wall, filling state of inner tube and associated minerals among fibers, flexibility, properties of lattice images, and structural defects. The asbestos fibers from Northwest China might be divided into soft type and hard and stiff type. The fibers of Mangya are different from those of Xiaobabao in physical properties and uses. The tectonic Setting, fiber-forming temperature, stability of mineralogical geochemical process and media are basic factors affecting the growth of fibers and the crystallochemical characteristics of chrysotile asbestos, and this accounts for the differences mentioned above.

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