

## Asbestos

### *Testing for asbestos and inorganic fibres*

#### **Asbestos**

Asbestos is the collective name for a group of naturally occurring silicate minerals with microscopic fibres. It was widely used as a building material with more than 3,500 specific applications relating to its heat-resistant, wear-resistant, insulating and electrically non-conductive properties. However, the small fibres can penetrate the body and cause life-threatening illnesses such as asbestosis, lung cancer and mesothelioma. Due to these health risks the use and processing of asbestos-containing materials has been prohibited in the Netherlands since 1993.

#### **Legal context**

Asbestos can still be found in buildings, products and in the soil and remains a significant health risk. Extensive regulations have been put in place for the inventory (in accordance with SC-540), analysis and removal of asbestos. The leading standards in the field of asbestos testing are:

**NEN 2991** 'Determination of asbestos concentrations in indoor air and risk assessment in and around buildings, structures or objects containing asbestos materials' of which:

\* NEN-EN-ISO 16000-7 'Indoor air - sampling strategy for the determination of airborne asbestos fibre concentrations'

\* NEN-ISO 16000-27 'Indoor air - determination of settled fibrous dust on surfaces by SEM'

\* NEN-ISO 14966 'Ambient air – determination of numerical concentration of

inorganic fibrous particles – scanning electron microscopy method'

**NEN 5896** 'Qualitative analysis of asbestos in materials using polarized light microscopy'

**NEN 5898** 'Determination of the content of asbestos in soil, sediment, waste materials and demolition waste'.

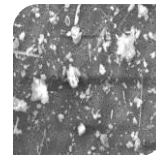
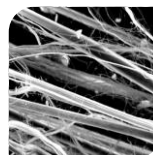


#### **Eurofins accredited testing**

The Eurofins laboratory is registered with the Dutch Accreditation Council (number L086) to test for asbestos in accordance with NEN 5896 and NEN 5898, NEN-ISO 16000-27 and NEN-ISO 14966.

There are several types of asbestos classified according to chemical composition, shape and properties. These are generally referred to by colour with white (chrysotile), brown (amosite) and blue (crocidolite) being most common.

Since asbestos cannot be recognized by the naked eye, suspect materials need to be examined in detail using microscopy.



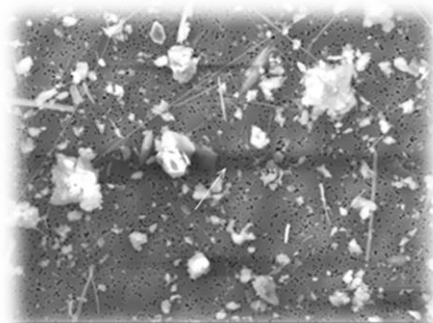
Eurofins is an independent laboratory accredited to test for asbestos using light and polarization microscopy (PLM) and scanning electron microscopy (SEM). These methods detect and determine the specific types of asbestos by analysing specific characteristics, such as morphology, refractive index and chemical structure.

The figures below show the image obtained by the electron microscopy of an adhesive and air sample with asbestos fibres.



*SEM adhesive sample chrysotile (white asbestos)*

In addition to giving a clear picture of asbestos fibres, the chemical composition can be determined using electron microscopy, providing conclusive evidence of the type involved. This is done by capturing X-rays resulting from the interaction between the SEM electron beam and the sample material.



*SEM air sample chrysotile on gold filter*

## Additional information

Eurofins is looking forward to carrying out your asbestos testing. For additional information concerning analyses, reporting, rates, delivery times, service and more, please contact us via your contact person or mail us at [info-env@eurofins.nl](mailto:info-env@eurofins.nl).

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