



## **As a real estate developer, what building material containing asbestos is most likely to be found in both commercial and residential properties?**

**Your Right!** Flooring materials such as floor tile, vinyl floor sheeting and linoleum are the most frequently found. **Good News**, removal of these materials only costs \$2.00-\$4.00 per square foot. Further, in most cases, flooring materials in good condition and not disturbed by renovations can be left in-place or carpeted over. Many states allow flooring materials to be left in-place during building demolition (do not require prior removal). Ask your environmental consultant for specifics regarding floor tile in your state.

OSHA's Asbestos Construction Standard 29 CFR 1926.1101 requires building and facility owners to treat resilient flooring materials in buildings constructed prior to 1981 as asbestos-containing. Bulk sampling of these flooring materials by an accredited inspector (followed by PLM analysis) is the only approved method to rebut the ACM designation.

**AET Experience:** Exposed flooring materials are easily identified, but flooring materials are often covered by carpeting or underlayments which limits identifying the exact location and quantities involved. Flooring materials are also present in multiple layers and sampling must incorporate all layers down to the floor substrate (wood, concrete, etc.). The extent of layering can vary from room to room and usually the bottom layer (oldest tile) are most likely to contain asbestos.

Floor tiles differ in size; 9"x9" tile almost always contain asbestos, 12"x12" tile at least 50% of the time contain asbestos. Asbestos is found in the paper backing of linoleum. Flooring materials containing asbestos usually contain 2-5% Chrysotile asbestos.

For sampling purposes, flooring materials are classified as miscellaneous suspect materials by the EPA. The EPA does not establish a minimum sampling requirement for miscellaneous materials to confirm negative asbestos content but allow the building inspector to utilize his training/experience for this purpose. AET recommends at least 2 samples of each type of flooring material be tested.

**Floor Tile Mastics:** The adhesive mastic which adheres the flooring materials to the substrate also often contains asbestos. Mastics can be asbestos containing regardless if the tile itself contains asbestos. Sufficient mastic must be collected during sampling either on the back of the tile or by taking a separate mastic sample to ensure proper identification. Mastic associated with sheet vinyl flooring or linoleum are typically cross contaminated from the residual paper layer.

**Non-friable Organically Bound (NOB) Materials:** Flooring materials are NOBs and usually contain small in length, thin in diameter, tightly bound chrysotile asbestos fibers in an asphalt or vinyl matrix. PLM analysis of NOBs does not provide consistently reliable results (false negatives occur). As such, AET recommends and the states of NY, NJ and SC **mandate** TEM analysis of flooring material demonstrating negative asbestos content by PLM.

**Conclusion:** If your building/residence was constructed prior to 1981, it is likely the flooring materials contain asbestos. Bulk sampling of representative flooring materials is the only way to confirm/deny asbestos content. Flooring materials in good condition do not require removal, but should be managed in-place in your building's Operations and Maintenance Asbestos Program. Consult your asbestos consultant prior to disturbing flooring materials, building renovations, building demolition or where damaged flooring materials are identified.

**When you need professional help or advice**, email Alan Sutherland, CIH, CHMM at [a.sutherland@aetinc.biz](mailto:a.sutherland@aetinc.biz) or call 610-891-0114. We provide nationwide services; phone consultations are free. Check out the full range of environmental contracting/consulting services on our website [www.aetinc.biz](http://www.aetinc.biz).