



# Minnesota Electrical Association

## Electrical Toolbox Talks

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### Asbestos

#### Asbestos Terminology

**ACM:** Asbestos-Containing Material (>1% by weight)

**HEPA:** High Efficiency Particulate Air

**Friable:** Can be reduced to dust by normal hand pressure

#### More than 3000 products in use today contain asbestos.

- pipe and duct insulation
- wall and ceiling panels
- roofing materials
- patching and spackling compounds
- brake pads and linings
- floor tiles
- textured paints
- toasters and other household appliances
- building insulation
- carpet underlays
- artificial fireplaces and materials
- potholders and ironing boards
- hair dryers
- electrical wires
- cements
- furnaces and furnace door gaskets

#### Response Actions

- repair
- O&M
- encapsulation
- enclosure
- removal

### Three Most Common Types of Asbestos

#### 1) Chrysotile

- a.k.a. “white asbestos”
- fine, silky, flexible white fibers (most commonly used asbestos in the U.S.)
- approximately 95% of building materials contain chrysotile
- mined in Canada

#### 2) Amosite

- a.k.a. “brown asbestos”
- straight, brittle fibers that are light gray to pale brown
- most commonly used in thermal system insulation
- mined in Africa

#### 3) Crocidolite

- straight blue fibers
- high temperature insulation applications
- mined in South Africa

# Asbestos Diseases

## Asbestosis

- scarring (fibrosis) of the lung
- scarring impairs the elasticity of the lung tissue
- hampers the lungs' ability to exchange gases
- restricts breathing; decreased lung volume
- latency period 20-30 years

## Lung Cancer

- malignant tumor of the bronchi covering
- tumor grows through surrounding tissue invading and often obstructing air passages
- persistent cough, bronchitis, reduced breathing capacity
- latency period 20-30 years

	Non-Smoker	Smoker
Not exposed to asbestos	x	10x
Exposed to asbestos	5x	50-90x

*Lung cancer risk and the effects of smoking.*

## Mesothelioma

- cancer of the mesothelium (lining of the chest of abdominal wall)
- rarest form of disease
- few symptoms
- cancer spreads rapidly and always fatal
- latency period 20-30 years

# Regulations on Asbestos

- OSHA 1910.1001 (General Industry)
- establishes minimum requirements for working with asbestos
- exposure monitoring, engineering controls, PPE, training, hygiene, medical surveillance
- incorporates housekeeping after renovations under the construction standard (1926.1101)



## Classes of Asbestos Work

- Class I: Removal of TSI and surfacing ACM and PACM
- Class II: Removal of wallboard, floor tile, sheeting, roofing, siding
- Class III: Repair and maintenance operations
- Class IV: Maintenance and custodial work where contacting but not disturbing ACM

## Training Requirements

- Class I: Four-day course with 16 hours hands-on training with one-day annual refresher.
- Class II: Four-day course with 16 hours hands-on training with one-day annual refresher.
- Class III: 16 hours with one-day annual refresher.
- Class IV: Two hours with annual refresher.