

Potential Economic Impact of Crystalline Silica Regulations on Roofing Materials

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Three Regulations Reducing Worker Exposures to Crystalline Silica: Two Final, One Potential

OSHA General Industry standard

- Final, most compliance due by June, 2018
- Affects \approx 30 industries including Asphalt Roofing Materials
- Reduces PEL from 100 $\mu\text{g}/\text{m}^3$ to 50 $\mu\text{g}/\text{m}^3$

OSHA Construction standard

- Final, compliance due already
- Affects all construction industries and many construction activities, though roofing is not identified or analyzed separately
- Reduces PEL from 250 to 50

Possible MSHA mining standard

- Obama Administration was near proposal; not likely under Trump
- Would affect all mining, reducing PEL from 100 to 50

What Employers Will Need to do to Meet These Regulatory Requirements

- Implement “engineering controls” to reduce exposures of all workers to below the new PEL
 - Reduce generation of and exposure to dust containing crystalline silica: water sprays, local exhaust ventilation, vacuums, enclosures, etc.
 - For asphalt roofing manufacturing: mostly enclosures and ventilation at points where silica-containing materials (sand, ground slate, granite, mica, talc, limestone, trap rock, etc.) are managed and then added into the process
- Perform administrative activities: exposure monitoring, medical surveillance, provide respirators, training, record-keeping, etc.

Estimated Compliance Costs for Industries Related to Roofing Materials

OSHA General Industry standard:

Industry Sector	Costs/yr -- industry (in millions)	Costs/yr -- OSHA (in millions)	Costs as % of revenues -- industry	Costs as % of revenues -- OSHA
Asphalt Shingle and Coating Materials	\$180.6	\$3.9	1.7%	0.04%
Concrete Products (concrete tile & pavers)	\$920.6	\$32.7	6.3%	0.22%
Cut Stone and Stone Products (slate)	\$163.8	\$15.2	4.7%	0.43%
Clay Building Materials and Refractories (clay tile)	\$527.9	\$22.4	10.3%	0.44%

OSHA Construction standard:

- Costs have not been estimated in a manner that identifies roofing activities or roofers specifically, but
- Total compliance costs for Construction standard are in same ballpark as for General Industry standard

Potential MSHA mining standard:

- Costs for all mined materials likely to increase by < 1%

Potential Cost Impacts of Three Crystalline Silica Standards on Various Roofing Materials

Roofing Material	Possible MSHA Standard Impact on Raw Materials Costs	OSHA Gen'l Industry Standard Impact on Manufacturing Costs	OSHA Construction Standard Impact on Installation Costs
Asphalt shingles and roll	+	+	
Clay tiles	+	+++	+++
Concrete tiles and pavers	+	++	++
Metal			
Slate	+	++	
Wood shingles and shakes			
Synthetic			

- + Cost increase likely less than 1%
- ++ Cost increase likely 1% or so
- +++ Cost increase likely several %