Respirable Silica Exposure Control Program

Purpose
The purpose of the Silica Program is to provide information, guidelines, control measures and training to eliminate exposures to respirable silica dust in the excess of the action levels established by OSHA.

Scope
This program covers all Olympic crew members who are engaged in silica releasing activities including, but not limited to, such activities as mixing, cutting, grinding, sanding, and drilling of concrete, stucco, fireproofing or other silica containing materials.

Policy
It is the policy of Olympic to control and minimize worker exposure to respirable silica to amounts not in excess of the action levels as established by OSHA. In this program, all fireproofing materials, masonry products and concrete products are presumed to contain trace amounts of silica as per their SDS. Olympic, in collaboration with the TCDSC, has completed air monitoring by a certified Industrial Hygienist to verify that our current practices have our crews working under permissible action levels.

OSHA uses a benchmark 8-hour, time-weighted average exposure of 0.050 mg/m3 of respirable silica as a point of reference for the permissible exposure limit and 0.025 mg/m3 as the action level related to airborne silica. Several recognized organizations (such as ACGIH and NIOSH) have recommended more stringent exposure levels for crystalline silica. Olympic’s Silica Protection Program will meet the OSHA standards, as the applicable law, at a minimum and Olympic will work toward processes and controls which take into consideration more stringent exposure recommendations.

If a dust producing activity, such as sweeping, drilling or mixing, is performed on a material known to contain silica, or when it is unknown whether such material contains silica, that dust producing activity must be performed in conjunction with adequate engineering controls, administrative controls and/or proper ergonomics to protect against exposures in excess of any action levels established by OSHA.
Policy (continued)
The physical disturbance of concrete products or any silica containing material, by tool or piece of equipment (drilling, mixing, etc.) will not be allowed unless engineering controls or administrative controls are put in place to reduce exposure levels below the action levels as established by applicable law. If site conditions make the use of engineering controls, such as wet method or vacuum systems, or administrative controls infeasible, a site-specific plan for associated dust control measures that are to be implemented must be reviewed and approved by the Safety Director.

Responsibilities

Project Manager
Ensure that contract documents adhere to this policy, and that Olympic employees working with silica containing materials are trained on the hazards and applicable standards.

General Superintendents
Ensure that plans assembled for installation or removal of silica containing materials address silica dust control measures for both the workers directly engaged in the work activity and those indirectly affected in adjacent areas.

Ensure that tools being used with silica containing materials are provided with a wet method, vacuum system, or alternate silica dust containment system.

When drilling or mixing silica containing materials, or creating dust during use of silica containing materials, ensure that an adequate initial exposure assessment is conducted and documented to verify actual exposure and validate the effectiveness of the controls implemented.

Ensure that crew members have been appropriately trained as required.

Foreman/Competent Person
Ensure that tools being used with silica containing materials are provided with a vacuum system or alternate silica dust containment system.

Ensure that tools / equipment are inspected and maintained in good working order with required dust control / suppression systems functioning per design.

Ensure that dust control requirements are understood by all employees and adhered to in practice.

Ensure that employees receive training on silica hazards and related tools.
Responsibilities (Continued)

Field Employees
Only use tools for which proper training has been provided or obtained. Inspect and test the functions of the tools before each use to ensure it is in safe working condition.

Do not work in areas of potential silica dust exposure without proper training on silica and sufficient controls as detailed in this section. If you are unsure if the work around you is exposing you to air borne silica, please contact your Foreman.

Training
Team Members who may come into contact with respirable silica (including craft workers and subcontractors) must be properly trained on the hazards associated with silica exposure. Training should include, but not necessarily limited to, the following:

1. What is silica? A description on what silica is and how it can be harmful
2. Associated health hazards
3. Action Levels & Permissible Exposure Limits as established by applicable law
4. Where silica is used / found?
5. How silica can be controlled
6. Tools & materials that can be used to protect against silica exposure
7. Standards, Instructions, Examples

On Olympic projects, respirable silica control must be attempted first through engineering controls, next through administrative controls, and finally using PPE if engineering and administrative controls prove to be ineffective.

This section addresses the recommended engineering controls for five common tools / activities which create potential exposures to respirable silica. This is not an all-inclusive list of potential exposures to respirable silica but rather provides a guide to Olympic project teams on creating protections to address dust producing activities related to silica containing materials. If there is a question as to a potential exposure, Olympic project teams should contact the Safety Director.

1. Mixing Operations (fireproofing/stucco)
2. Removal of fireproofing material
3. Use of Rotary Hammers and Similar Tools
4. Sanding taping materials
5. The use of sweeping compound and/or vacuum systems for cleanup activities
Mixing Operations
Cross ventilation is an effective control for silica dust generated during the dumping of a dry mix or spec-mix during mixing operations. The addition of air flow can be accomplished by use of a two-fan process supplied at the source of the dumping and where empty bags are disposed of. Cross ventilation is used to prevent the concrete mix from becoming airborne in the tenders breathing zone. As is true with all operations, effectiveness of engineering controls must be monitored.

At times, the mixing operation may have to be enclosed in poly to ensure the protection of others. In this case, contact your operating group safety professional for guidance.

Removing Fireproofing Material
A wet method should be used when fireproofing material is required to be removed for the installation of clips, kickers or other framing members. Employees shall use water to wet fireproofing material down before it is scraped and removed. Removed material shall be cleaned up and disposed of before it dries.

Orbital Vacuum System during sanding operations
Use of a vacuum system designed to capture silica dust. Such vacuum system should utilize a High Efficiency Particulate Air (“HEPA”) self-cleaning bagged filtering system. Verify the hoses and all connections in the vacuum system are in good working condition and free of holes or cracks. Use caution when disposing of bags. When using a vacuum dust collection system during clean-up it is recommended that a bag liner be used inside the vacuum. When emptying the contents, the bag can be closed and secured to greatly reduce the potential exposure to silica dust. The filter media should also be placed in a bag, closed and secured when disposing the filter media after the service life is met.
<table>
<thead>
<tr>
<th>TRADE/Task</th>
<th>Work Practices Administrative/Engineering Controls</th>
<th>Respiratory Protection Equipment</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carpenter</td>
<td>Layout</td>
<td>Using a broom along with sweeping compound to clean floor prior to layout activities.</td>
<td>No respiratory protection is needed for silica exposure</td>
</tr>
<tr>
<td>Carpenter</td>
<td>Framing</td>
<td>Using hammer drill for securing top track. Using a hammer drill to anchor door frames.</td>
<td>No respiratory protection is needed for silica exposure</td>
</tr>
<tr>
<td>Carpenter</td>
<td>Rocking</td>
<td>Using Roto-Zip tool to cut drywall to fit around piping electrical boxes.</td>
<td>No respiratory protection is needed for silica exposure</td>
</tr>
<tr>
<td>Carpenter</td>
<td>DUROCK Installation</td>
<td>Using electric shears to cut to length and hole saw to cut pipe openings. A 4&quot; grinder connected to HEPA self-cleaning bagged vacuum is used to cut electrical boxes.</td>
<td>No respiratory protection is needed for silica exposure</td>
</tr>
<tr>
<td>Taper</td>
<td>Sanding</td>
<td>Using sanding pole to prep wall for paint. Orbital Vacuum sanding head will be connected to self-cleaning HEPA Vac with debris collected in a sealed bag.</td>
<td>No respiratory protection is needed for silica exposure</td>
</tr>
<tr>
<td>Laborer</td>
<td>Clean up</td>
<td>Using a broom w/ sweeping compound to clean floor to turn over to next trade partner.</td>
<td>No respiratory protection is needed for silica exposure</td>
</tr>
<tr>
<td>Trade Partners</td>
<td>Working in the vicinity of Olympic Crews</td>
<td>Air monitoring was completed where Olympic crews were working to simulate other trade partners.</td>
<td>No respiratory protection is needed for silica exposure</td>
</tr>
<tr>
<td>TRADE / Task</td>
<td>Engineering Control Measures</td>
<td>Respiratory Protection Equipment</td>
<td>Comments</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>Plasterer</td>
<td>Installation of Stucco Products</td>
<td>Products are applied in wet form</td>
<td>No respiratory protection is needed for silica exposure</td>
</tr>
<tr>
<td>Sprayer</td>
<td>Spray applied Monokote Fireproofing Products</td>
<td>Products are applied in wet form</td>
<td>No respiratory protection is needed for silica exposure</td>
</tr>
<tr>
<td>Sprayer</td>
<td>Spray applied CAFCO Fireproofing Products</td>
<td>Products are applied in wet form</td>
<td>No respiratory protection is needed for silica exposure</td>
</tr>
<tr>
<td>Plaster Tender</td>
<td>Pumping Station of Stucco &amp; Fireproofing Products</td>
<td>At the Pump Station, Tenders will set up 2 fans for cross ventilation to divert the air away from employees breathing zone. #1 fan blows from east to west to remove flume of dust coming from the hopper opening of the mixer. #2 fan blows dust debris from south to north in the area where empty bags are disposed of. In the situation where trade partners are near our dust exhaust. Pump Station will be set up in a poly enclosure and air scrubbers will be used to prevent any silica exposure.</td>
<td>No respiratory protection is needed for silica exposure</td>
</tr>
<tr>
<td>Clean up</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>