

# Safe Job Procedure Concrete Core Drilling

Department of Facilities Management

<p><b>Sponsor</b> Assistant Vice Facilities Management</p>	<p><b>Responsible Unit</b> Trade Services</p>
<p><b>Effective Date</b></p>	<p><b>Latest Revision Date</b> August 14, 2018</p>
<p style="text-align: center;"><b>Known Hazards</b></p> <ul style="list-style-type: none"> <li>• Wet slippery floor</li> <li>• Unsafe grip or stance</li> <li>• Unsafe start or stop procedures</li> <li>• Worn or damaged coring bits</li> <li>• Wrong type of coring bit</li> <li>• Insufficient flow of water for coolant and dust suppression</li> <li>• Incompatible bit and drilling equipment</li> <li>• Improperly secured drill bit</li> <li>• Improperly drill mast</li> <li>• Electrical, gas or water lines</li> <li>• Noise</li> </ul>	<ul style="list-style-type: none"> <li>• Vibration</li> <li>• Silica Dust</li> <li>• Asbestos</li> <li>• Obstructions or resistance in the material being cut.</li> <li>• Obstructions or other hazards in the work area</li> <li>• Kick Back</li> <li>• Crooked / offline core hole.</li> <li>• Loose clothing, chains around neck, long hair</li> <li>• Uneven or unstable work surfaces</li> </ul>
<p><b>Applicable Regulations / Standards / Procedures</b></p> <ul style="list-style-type: none"> <li>• Facilities Management Silica Exposure Control Program</li> <li>• Equipment specific safe work practices and safe job procedures</li> </ul>	
<p><b>Personal Protective Equipment Requirements</b></p> <p>The following is a list of the standard PPE required when performing this type of work:</p> <ul style="list-style-type: none"> <li>• Anti - vibration Work Gloves</li> <li>• Steel Toe Safety Boots</li> <li>• Hard Hat</li> <li>• Eye Protection</li> <li>• Hearing Protection</li> <li>• Sun protection when working in areas exposed to sunlight</li> <li>• Respirator protection</li> </ul> <p><b>Remember:</b> <u>Additional or specific types of PPE may be required for concrete or masonry cutting or drilling depending on identified hazards associated with particular sites, conditions, materials, tasks and cutting or drilling equipment.</u></p>	

## **Job Specific Training Requirements**

Proper Use of Drill  
Use of Required PPE

## **Safe Job Procedures**

**Task steps are listed in the order in which they must be completed. Key steps must be followed in the order presented to achieve maximum efficiency in safety, production, quality and overall loss prevention.**

This is a three person job:

- One person to operate the drill.
- One person to vacuum up water dust mixture and ensure that the water supply tank is kept properly pressurized.
- One person as a “spotter” located on the next floor down to spot the pilot hole location, keep any other people out of the area, and deal with core once it comes free.

### **Locating Spot For Drilling**

- Identify as the spot for drilling.
- Use the M12 Sub-Scanner to detect any danger in the hole location.
- Send a “spotter” the floor below to watch for exit point of pilot hole.
- Drill pilot hole to confirm where exit point be and to avoid being close to walls, electrical fittings, lighting fixtures, etc.
- Use HEPA vacs at drill location and at location of exit point of pilot hole to collect silica containing dust.
- Plug pilot hole.

### **Drilling Core Hole**

- Erect barricades around and well back from work area.
- Post signs indicating that there is a danger and that there is no entry to the area.
- Erect barricades and warning signs around the area where the “spotter” will be working on the floor below.
- Ensure that all power cords are kept clear of any water.
- Drill a hole for the drop (expansion) anchor and vacuum up dust and water with a HEPA vac as you are drilling.
- Use a “Blow Ball” to clear all dust from drop anchor hole to ensure that drop anchor will be as secure as possible.

- Put drop (expansion) anchor in the hole and set (activate) the anchor.
- Place threaded rod in anchor.
- Secure drill stand to anchor using appropriate washer and nut.
- Level stand using the adjustment screw in each corner of the stand.
- Set up drill according to the manufacturer's directions.
- Equipment plugged into a wall outlet must be unplugged and properly locked out, as defined in the FM Lock Out Program, before any attempt is made to repair, service, clean, change bits, or perform any other activity where an employee may be injured as a result of the equipment being energized.
- Never install the drill on the mast when the motor is running.
- Set up water supply tank.
- Pressurize the water supply tank.
- Ensure that all equipment is properly set-up.
- Employee that operates wet vac must ensure that water supply tank is kept at the correct pressure during drilling operations.
- Never drill inverted holes using an electric drill unless the drill is fitted with a specifically designed water collection system.
- Fit safety covers over core holes.

#### **Set-UP For Spotter**

- Set up scaffolding at correct height in order to safely control core when it comes free of hole.
- Only work from a ladder if a scaffold cannot be set up in work area.
- If using a ladder install an expansion anchor in the floor slab that is capable of accommodating fall arrest gear.
- Employee catching core while on a ladder must wear fall arrest gear and be hooked into anchor bolt in floor slab.
- Use HEPA vac to collect dust from pilot hole.

#### **Housekeeping**

- Dry sweeping and the use of compressed air are **prohibited** for removing dust and debris containing silica.

- Work areas and equipment covered by dust will be cleaned at the end of every shift using a HEPA filter vacuum.
- Wet cleanup may also be used to remove dust.
- Any slurry generated by wet control methods should be cleaned up when the work is completed to avoid secondary dust exposure hazard.
- Waste material will be placed in an approved container, and disposed of according to environmental regulation.
- Ensure the location and method used to store waste will not allow silica-containing dust to re-enter the workplace.
- Supervisors are responsible for ensuring that work areas are free from dust at the end of each shift.