

Soft Tissue Injury Prevention Tool

Tip Sheets

Trade: Electrical

Job Task: Conduit - Installing Overhead Conduit

<p>General Tasks</p> <ul style="list-style-type: none"> ➤ Measure length of conduit for ceiling. ➤ Measure conduit on ground and cut using hacksaw or portable ban saw. ➤ Bend conduit as necessary using manual or mechanical conduit bender. ➤ Fit conduit to ceiling location and modify as necessary. ➤ Rotohammer ceiling insulation and run conduit through insulation. The conduit must be forced through on some occasions. ➤ Attach conduit to ceiling using fasteners and concrete nails with air-nailer. 	<p>Common Tools</p> <ul style="list-style-type: none"> ➤ Scissor Lift or Ladder ➤ Rotohammer ➤ Air Nailer (7-9 lbs) ➤ Compressor ➤ Hack Saw ➤ Portable Ban Saw ➤ Mechanical or Manual Conduit Bender ➤ Hammer ➤ Tool Belt
<p>Potential Risk Factors <i>Risk Factors can lead to increased risk for Work Related Musculoskeletal Disorders (WMSD's)</i></p> <p>Repetitive Working With Hands/Arms Overhead and Elbows Above Shoulders</p> <ul style="list-style-type: none"> • Moderate Risk with frequent overhead work for extended periods when measuring ceiling, using rotohammer to drill insulation, and fastening conduit using air-nailer. <p>Continuous Squatting</p> <ul style="list-style-type: none"> • Moderate Risk with frequent squatting when working at ground level to measure, cut and bend conduit for extended periods. <p>High Hand Grip Force</p> <ul style="list-style-type: none"> • Moderate Risk with frequent heavy gripping of a variety of tools/materials including hack saw, conduit, rotohammer, air-nailer, and manual conduit bender for extended periods of time. <p>High Hand/Arm and Whole Body Vibrations</p> <ul style="list-style-type: none"> • Moderate Risk may require frequent use of rotohammer to drill through insulated coating to install conduit. 	<p>Possible Solutions</p> <p>Awkward Posture and Vibration Solutions:</p> <ul style="list-style-type: none"> • Use saw horses to raise work off of ground and promote upright work postures. • Use mechanical conduit benders for large repetitive jobs. • Use portable mechanical ban saw to cut conduit for large repetitive jobs. • Use a scissor lift for large repetitive jobs to reduce ladder-climbing requirements and improve positioning to minimize overhead work requirements with the hands above the shoulders. Eliminating excessive ladder climbing and frequent retrieval of tools and equipment can increase work efficiency and minimize excessive physical demands. • Use non-slip anti-vibration grip kit material to pad handle and body of rotohammer tool to reduce grip strength requirements and vibration exposure. • Utilize pocket hand warmers to intermittently warm the hands particularly when using vibrating tools such as the rotohammer in cold damp weather. <p>Potential Benefits</p> <ul style="list-style-type: none"> ✓ Increases productivity. ✓ Increases blood flow and reduce muscle tension. ✓ Reduces strain on hand and arm muscles. ✓ Reduces exertion of lower back.
<p>Feasibility</p> <ul style="list-style-type: none"> • Engineer Control Anti-vibration gloves-Est cost \$43.99 • Engineer Control Grip Tool Wrap – Est. cost \$22.00 each • Administrative Control • Work Practice Control 	 