

# MECHANICAL TRADES (PIPE/SHEET METAL)

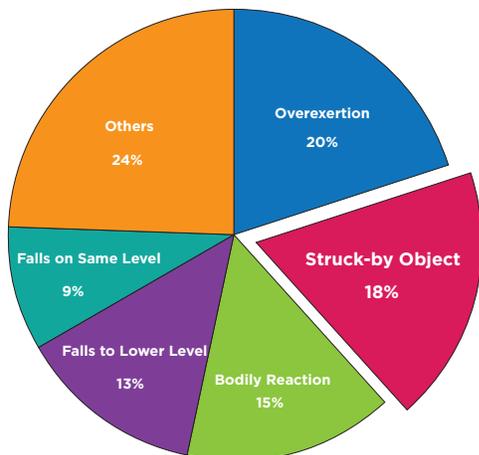
Health and safety awareness is essential for workers in the mechanical (piping/sheet metal) trades. Working conditions change continuously, the work can be physically demanding, and working with hazardous elements requires special precautions.

It's important to conduct an assessment of the work as well as the work environment to identify possible health and safety hazards. This profile can help you identify workplace hazards and learn to control them.

## Struck-by object injuries

Struck-by object injuries are the second-most common type of serious injury for workers in the plumbing, pipefitting, sheet metal, air conditioning, and sprinkler trades (Rate Group 707). They account for approximately 18% of the injuries that are serious enough to result in time lost from work. (See Chart 1.)

**Chart 1: Top 5 Lost-Time Injury Categories for Rate Group 707 (2013-2017)\***



The Canadian Standards Association applies the term “struck-by object” to injuries produced by forcible contact or impact between an injured person and a source when the motion producing the contact is from the source.

Examples include being struck by falling, flying, swinging, slipping, and piercing objects. It does not include incidents involving transportation (vehicles), assaults, and violence.

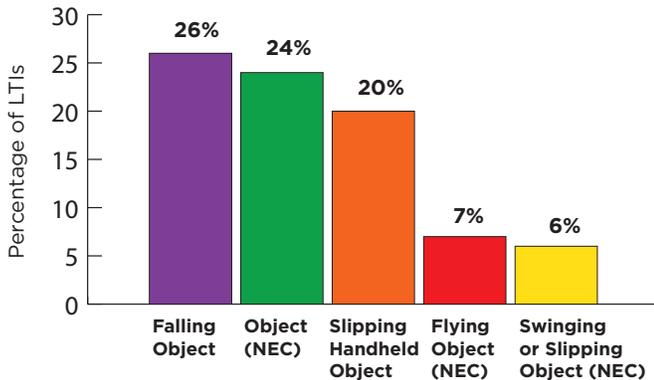
Struck-by injuries have been increasing over the past few years. The number of struck-by incident claims for Rate Group 707 was 93 in 2013. Five years later (in 2017), it reached an all-time high of 128 claims for the rate group. That's a 35% increase in five years.\*

Years	Counts	Difference
2013	93	
2014	109	+16%
2015	125	+16%
2016	123	-2%
2017	128	+5%

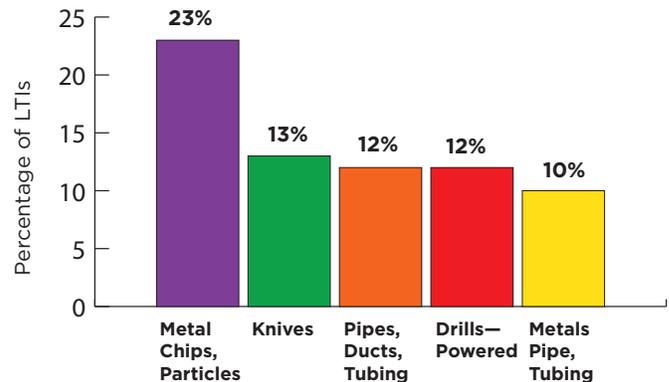
Use this hazard profile to educate your workers and help prevent injuries.

Struck-by object hazards and controls

**Chart 2: Struck-by Object Injuries by Accident Type for Rate Group 707 (2013-2017)\***



**Chart 3: Struck-by Object Injuries by Accident Source for Rate Group 707 (2013-2017)\***



### Causes of struck-by object injuries

One way to help prevent struck-by object injuries is to make workers more aware of the main causes of these injuries.

The majority of struck-by object injuries in Rate Group 707 over a five-year period (2013-2017) were because workers were struck by falling objects (26%). Close behind was struck-by objects not elsewhere classified (NEC) at 24%. Then it was slipping handheld objects at 20%. (See Chart 2.)

### Sources of struck-by object injuries

The main sources of struck-by injuries were from metal chips and particles (23%), knives (13%), pipes, ducts, and tubing (12%), and powered drills (12%). (See Chart 3.)

The part of the body most commonly injured in struck-by object injuries for Rate Group 707 between 2013 and 2017 is the eye (27%), followed by the fingers (20%), and the hand (16%).

### Preventing struck-by object injuries

Use the hazard and control table on the next page to plan work tasks, identify the hazards associated with those tasks, and implement controls to reduce the exposure to those hazards.

Supplement the examples provided by adding additional tasks that are specific to your jobsite. Before beginning work, review the tasks with your workers by giving a safety talk or a trailer talk.

**Remember:** To prevent work delays, plan your work and make sure that all tools and materials required to complete the tasks safely (including PPE) are available on site.

The next page will help workers identify ways to control struck-by object hazards.

\*Statistics were provided by the Workplace Safety and Insurance Board (WSIB) for Rate Group 707 between 2013-2017 (WSIB/EIW current to Nov 2018).

**Struck-by object hazards and controls**

Tasks	What Can Happen (Hazards/Risks)	Potential Controls
<b>Drilling concrete and metal</b>	Flying metal chips and particles	Wear safety glasses with side shields and a face shield.
<b>Using a knife</b>	Lacerations	<ul style="list-style-type: none"> <li>• Wear gloves to protect your hands.</li> <li>• Use a sharp knife. A dull knife tends to slip more because you have to apply more force.</li> </ul>
<b>Using grinding disks and cutting blades</b>	<ul style="list-style-type: none"> <li>• Flying metal chips and particles</li> <li>• Lacerations</li> </ul>	<ul style="list-style-type: none"> <li>• Wear safety glasses with side shields and a face shield.</li> <li>• Wear gloves.</li> <li>• Keep the grinder guard on.</li> </ul>
<b>Hoisting or lifting materials</b>	<ul style="list-style-type: none"> <li>• Slipping objects</li> <li>• Falling objects</li> </ul>	<ul style="list-style-type: none"> <li>• Secure the material with an appropriate hitch or knot that will not allow materials to slip.</li> <li>• Wear a hard hat.</li> <li>• Inspect slings, ropes, and other rigging components.</li> <li>• Try to position your body so that you're not directly underneath the object if it happens to fall.</li> <li>• Review rigging techniques if necessary.</li> </ul>
<b>Using a wrench</b>	Slipping handheld objects	<ul style="list-style-type: none"> <li>• Maintain a good grasp.</li> <li>• Tether the wrench to your body or a fixed object.</li> <li>• Maintain wrenches in good condition. Tag and remove from service any tools that are damaged or defective.</li> <li>• Use the appropriate type of wrench for the work being done.</li> </ul>

**Don't forget about other hazards at your workplace. For more information, visit [ihsa.ca](http://ihsa.ca)**