

Formwork and demolition:

High-risk industries that are reducing lost-time injuries

Over the last decade, Rate Group 748 (High-rise Formwork and Demolition) has been paying the highest premiums to the WSIB. This is a high-risk rate group—its workers have lost-time injury (LTI) rates that are two or almost three times as high as the average for all other construction trades. However, in the last few years, firms in the formwork and demolition sectors have taken big strides in reducing their injury rates and protecting their workers.

Reducing LTIs in demolition

Demolition is the act of tearing down existing buildings and structures. It can be as simple as removing a portion of a house for a renovation project or as complex as demolishing a multi-storey office building.

Over the years, demolition work has evolved from a mainly manual process to a heavily mechanical one, and companies, which once used mainly unskilled labour, are now using more highly trained workers and supervisors. These types of changes have helped to lower the injury rates in this sector. From 2005 to 2010, the LTI frequency for demolition fell from 3.7 to 2.8, a 24.3 per cent decrease.

To continue this trend, demolition contractors are trying new procedures and new types of equipment. However, the reality is that some tasks have to be done manually, and this can expose workers to unsafe conditions and occupational health hazards.

The majority of LTIs in demolition are musculoskeletal disorders (MSDs). To help prevent overexertion injuries caused by manual labour, the demolition sector has



worked with IHSA to develop a publication called *Musculoskeletal Hazards and Controls: Demolition Trade* (W319). This MSD guideline, which can be downloaded from our website, outlines simple and practical work methods that can be used on any jobsite to reduce the risk of overexertion.

Demolition firms often have to do asbestos abatement work. To help prevent exposure to hazardous substances such as asbestos, the demolition industry and several unions have teamed up with the Ministry of Training, Colleges and Universities (MTCU) to develop a Certificate of Qualification for Hazardous Materials Worker. Also available are two MTCU-approved asbestos certification courses that have been developed by IHSA. *Asbestos Abatement Worker* and *Asbestos Abatement Supervisor* are required courses for workers and supervisors who do or supervise Type-3 asbestos abatement work.

Representatives of the demolition sector are also working with IHSA to write a new health and safety manual for demolition. This manual will take the reader from the start of the bidding process through to the completion of a job.

Reducing LTIs in high-rise formwork

When it comes to worker safety, high-rise formwork is one of the riskiest areas of construction. By definition, high-rise formwork requires workers to work at heights all day long. As you would expect, the main causes of injury in this sector are falls and being struck by falling material. Formworkers create the floors and walls that everyone else on the project will work on and between. While these structural elements are being erected, it can be difficult to apply standard fall-protection controls, especially since the open edges of the building are constantly changing.

Like the demolition sector, the high-rise formwork sector has made advances in health and safety, which have resulted in lower injury rates. Injury rates have dropped in almost every category, and between 2005 and 2010, LTI frequency dropped from 7.01 to just below 4.45, a decrease of 36.5 per cent.

Part of the reason for the decrease is that formwork companies are using new procedures, increasing training, and enforcing their own health and safety policies as well as the provincial regulations.

To help reduce falls, formwork companies have implemented new measures, such as

- developing leading-edge guidelines
- using guardrails whenever possible
- installing guardrails on fly-forms before hoisting
- using forms that have pre-installed anchor points.

And it doesn't stop there. Companies are also looking into the use of self-retracting lanyards to decrease fall distances and remove the slack from standard lifeline and rope-grab systems.



To help prevent workers from being hit by falling objects, the industry is

- installing toeboards on guardrail systems
- putting up barricades with signs to demark exclusion zones below work areas
- improving housekeeping techniques, such as not placing tools or material near edges
- using proper stacking methods to prevent materials from tipping.

Representatives of the formwork sector have also helped IHSA develop several health and safety publications, which are available on our website. One of these is the

Formwork Health and Safety Manual (M064), which contains easy-to-follow safety procedures covering all aspects of forming work—from site excavation to the stripping and removal of forms. Another of these publications is the *Musculoskeletal Hazards and Controls: Carpenter Trade* (W316), which includes safe-work techniques for avoiding MSDs when performing tasks that are common in formwork.

Looking toward the future

Judging by the efforts that demolition and formwork companies have already put towards improving health and safety over the last five years, it is expected that their injury rates will continue to decline. If the trend continues, they may be rewarded with lower insurance premiums, which will be a well-deserved bonus for their hard work and proactive approach.