

Foam Helps Save Lives

Spray Foam Fixes Dust and Safety Issues at Local Lumber Mill



Duz Cho Logging is one of the largest logging companies in British Columbia. It is owned by the McLeod Lake Indian Band and is engaged in the harvesting of timber and its transport to sawmills, primarily in the Mackenzie Forest District.

The small, quiet town of Mackenzie, British Columbia was rocked by an explosion at a local sawmill. The enormous blast was heard miles away, and it was described by nearby witnesses as a “giant fireball”. Emergency crews rushed to the scene and arrived at a pile of rubble where the mill once stood. The blast completely levelled the structure, killed two employees, and injured 22 others.

A few months later, another sawmill in the neighboring community of Burns Lake experienced a similar disaster—a giant explosion. Two employees were killed and yet another lumber mill was left in ruins.

Local and Provincial government departments were called in to investigate both tragedies. The investigation determined that sawdust was the cause of both blasts. Both mills had excessive buildup of sawdust, and when the dust particles became suspended in the air, a dangerous combustible cocktail resulted. It took only a spark to set off the giant sawdust bombs.

These two disasters aroused the concern of the Duz Cho Logging company, one

of the largest logging companies in British Columbia. Duz Cho had not had an explosion at any of their mills, but they were well aware of the dangers of sawdust. Being proactive about safety is always a top priority, so Duz Cho started looking into solutions to help mitigate the risk of sawdust explosions.

Quantum Foam, a local contractor, came up with the idea to use spray foam insulation within the mill to fill voids on ledges and other areas where sawdust can land and pile up. This concept was brought to Duz Cho for a new mill they were converting from an existing warehouse building.

Duz Cho liked the spray foam concept and awarded Quantum Foam the job

of filling in the purlins and structural components of the building.

Before work began, Quantum Foam conducted a site audit with the building owner to identify areas of concern and where spray foam should be utilized. The building was walked and there were a lot of areas identified within the mill that needed to be filled. It was determined that Quik-Shield 106 open-cell foam would provide the best solution for the mill. Since it was just a void fill application, and not for insulation, a lower density product was a more economical approach. If 2 lb. closed-cell foam had been used, 4 times the amount of product would have been required to fill the same area.

Sawdust buildup, as seen here, can pose an explosion hazard.

Duz Cho Logging wanted to be proactive and avoid the tragedies that happened at similar companies.





Most of the foam application area was up high, so proper safety procedures were observed at all times.

The construction of the new mill was on a tight deadline. Also, electricians and other trades were scheduled to work in the same area where the foam needed to be sprayed. These factors presented safety and workflow challenges to Quantum Foam. Setting up a containment zone with a ventilation system was considered, but that idea was quickly abandoned due to the setup required to isolate the spray area. It was determined that in order for Quantum Foam to provide a safe zone to work in, the foam would have to be installed at night when other crews were absent. This gave Quantum Foam's spray crew greater flexibility and access to areas without the fear of overspray and exposure issues.

Each day, the night shift for the crew started around 4:30 p.m. Before spraying began, a daily site walkthrough was done to assess what new equipment was installed during the day and to develop a plan of how to protect and work around

the obstacles. In addition, most of the structural components and purlins that needed to be filled were 20 feet up, supporting the roof deck. Because of this height, most of the application was done in a bucket lift.

Quantum Foam had a custom mesh grate fabricated for use during this project. The applicator would hold the grate against the purlins and spray the foam through the grate. When the foam was applied, the mesh grate would prevent the foam from expanding too far. This provided a finished flat surface, which was needed to prevent any future buildup of sawdust. This method eliminated the need for cutting or scarfing of the foam, and it ended up saving a lot of time on the project.

After the foam was set, a fire protective intumescent coating was also applied over the top of the foam. This gave the foam a 15 minute thermal barrier, and it also provided the foam with protection from UV light degradation.

Due to Quantum Foam's innovative solutions and application methods, they enabled Duz Cho to open their new mill on schedule. In addition, Duz Cho's decision to use spray foam to control the level of dust in the building created a dramatically safer working environment.



The finished job left no places for sawdust to build up, resulting in a much safer environment.

QUANTUM FOAM

Quantum Foam, Inc., is a Prince George, Canada based spray foam contracting company, with service to all of Northern British Columbia. Founded by Dave Sorokovsky, Quantum Foam has experience handling projects ranging from small attic insulation jobs to larger industrial sized projects. All of their employees are CAN/ULC certified, so you will have peace of mind knowing you are in the hands of professionals.

QUICK-SHIELD

The Quik-Shield brand is owned and operated by SWD Urethane (www.swdurethane.com) and represents over 40 years of spray foam experience in the construction industry. SWD Urethane is one of the most innovative system houses in the spray polyurethane/polyurea marketplace and is committed to developing meaningful solutions.



Quantum Foam's spray foam solution controls the level of dust in the mill building, and it provides a high level of safety for proactive companies like Duz Cho Logging.