



The Triple M Metal Non-Ferrous Plant & Offices

Brampton, Ontario

Get-Set™

Warehouse and Office Expansion Completed in Record Time in Sub-freezing Weather

The Triple M Metal project consisted of a scrap metal recycling warehouse, aluminum processing facility and two story offices. The owner of the building Triple M Metals needed to expand their business and approached Versa Construction Limited to design and build a new warehouse, processing plant and two story offices. The design of the slabs was critical and a lot of attention and effort was given to it.

“...the logistics for the pours were just right and the installation of the slabs went very smoothly. CBM ensured that the ready mix trucks were ready for discharge when needed.”

Rod Spasuk
Project Superintendent, Versa

The floors are designed to take heavy loading of scrap metal, large metal and aluminum processing machinery as well as heavy tow motor and tractor trailer traffic.

The Owners and Contractors schedule for this building was such that when the crucial area of slab construction was to be done it was the coldest part of the year. With the requirement to meet the construction schedule, the owner welcomed the use of *Get-Set*™ cold weather concrete in all its slabs throughout the winter construction.

In consultation with Triple M Metal, the owner of the building, Versa Construction Limited determined the most advantageous way to maintain the building schedule was to use a concrete with normal to accelerated

setting characteristics (*Get-Set*) at temperatures as low as -7 degrees Celsius.

The use of *Get-Set* concrete offered exceptional performance, without risking corrosion to the metal reinforcement. From a schedule and labour standpoint the primary advantages were significantly reduced setting and finishing times, which allowed the building construction to proceed on time. On similar projects even with totally enclosed and heated conditions, it is not uncommon for finishing operations to be completed



CBM

the following day. With *Get-Set* the finishers were off the floor early in the evening.

Versa Construction Limited was awarded this design-build project in **December 2004** and selected St Marys CBM as the supplier of concrete. Versa Construction Limited worked with St Marys CBM to develop a specialized slab mix, which was critical to the success of this project. The mix was a 35MPa concrete using CBM's *Get-Set*. The main warehousing & processing area of the building is **5,400 square meters** and was designed using a 35MPa, *Get-Set* mix at 300mm in thickness and was designed to take on heavy loading requirements of scrap metal and heavy processing machinery. ***This slab was finished to a polished finish using a non-metallic traprock hardener and then later sealed with a penetrating sealer.***

St Marys CBM has been conducting many lab and field trials; through these extensive trials a mix called *Get-Set* was developed. For St Marys CBM to develop the specific *Get-Set* concrete mix to meet this demanding application a good partnership between Versa Construction Limited, Belmont Concrete Finishing Co. Limited and St Marys CBM was formed. As a result of this good communication a proper regimen for the placement and curing of the concrete was formulated and the *Get-Set* concrete mix was designed. The mix was designed to withstand design loads and to provide normal setting characteristics at temperatures as low as -7 degrees Celsius.

Once the mix design was approved there was still much hard work ahead. ***Versa Construction Limited*** compacted and leveled the sub-base to receive the concrete mix. The Belmont Concrete Finishing Co. Limited concrete crew had to place, finish and cure the concrete under a strict regimen, the Belmont Concrete Finishing Co.



Even in freezing temperatures the finishers were able to get off the floor the same night.

Limited concrete crew executed their work to perfection.

The results were amazing; with over 7,200 square meters of concrete slab poured at temperatures ranging from -2 to -15 degrees Celsius the finishers were always off the floor the same evening. The owner Triple M Metal is very satisfied with the results and the floor has been hassle free and has held up very well under heavy use. Carlo Tersigni President of Belmont Concrete Finishing Co. Limited said that the performance of the mix was excellent and that in similar application without *Get-Set* the slabs would have had to be worked on the next day.

Rod Spasuk, The Project Superintendent for Versa said "the logistics for the pours were just right and the installation of the slabs went very smoothly. CBM ensured that the ready mix trucks were ready for discharge when needed. This was coordinated with an extensive technical services presence that ensured excellent service and quality."

This project was truly a team effort right from the design stage to the execution of work. All parties did a great job, and it shows.



The schedule for this large industrial project was crucial.

Project Material Innovation:

The development and use of a specialized concrete mix *Get-Set*, helped maintain the project schedule and ensure the long-term functionality of this heavy use slab. The concrete mix performance and the final results were exceptional.

Project Credits:

Owner: Triple M Metals
Engineer: Can Devcon Limited
General Contractor: Versa Construction Limited
Concrete Producer: St Marys CBM
Floor Finisher: Belmont Concrete Finishing Co. Limited
Admixture Supplier: Grace Construction Products