

# TILT-UP USAGE GROWING ON EAST COAST

By Stephen Clare

"Building better buildings" has become the shout-out across the Atlantic Canadian construction industry in recent years, well exemplified by the increased usage of tilt-up as a structural wall building system.

Tilt-up is a construction method where the walls of a concrete building are cast as horizontal panels at the jobsite, typically using the finished floor slab as a working surface. After a specified curing period, these wall panels are then tilted and lifted by crane into their final position in the structure. Once in position, the panels are temporarily braced until they are tied into the building's roof and floor systems, and become an integral part of the completed structure.

Most of the work on a panel is completed while it is in a horizontal position, including the addition of reinforcement, boxing out of openings for windows and doors, and the addition of architectural features such as reveal lines. Bond breaker is applied to the floor slab, prior to pouring the panel, to prevent any sticking between floor slab and panel.

In its simplest form, a completed tilt-up building incorporates plain concrete wall panels into a box structure. Beyond that, an almost infinite variety of concrete forming, insulation methods, curves, surface treatments and architectural finishes are now available. Overall, tilt-up is said to be a safe, fast, simple and economical method of construction that has been extensively used for one-storey buildings and successfully adapted to multi-storey applications.

Here in Canada, tilt-up's utilization varies widely across the country and is concentrated on

the west and east coasts. Across the Maritimes, over 400 tilt-up projects have been completed to date and the process is rapidly expanding into the other Atlantic Provinces from a well-established Halifax and Dartmouth, Nova Scotia base.

Contractors here are beginning to use tilt-up in the construction of schools, offices, retail structures, government, institutional and residential buildings as well as other applications on a more consistent basis.

Laurence Smith, P. Eng. is the Senior Design Engineer with JW Lindsay Enterprises and the current President of the Tilt-Up Concrete Association. He says there are many examples of successful tilt-up projects completed or under construction in Nova Scotia alone.

"Tilt-up produces a very tight structure and is popular in applications where durability, security, and thermal performance are important.

"The work at Sir John A. MacDonald High School in Tantallon was handled by Rideau Construction. It is a perfect example of how solid concrete walls are load bearing, with the tilt-up method providing the opportunity to integrate both the insulation and surface finish into the wall panel as a composite, or, "sandwich panel" unit.

"Another example of the process' pragmatic application is the CREIT Management project in the Burnside Industrial Park, where, after the structural work is complete, tilt-up will offer numerous ways to customize the final appearance of the building through differing surface textures, panel design and colour variations."

New Brunswick's Provincial Government will build its first tilt-up during the next few

*Continued on page 9*



APRMCA and CAC jointly hosted a Tilt-up Concrete Symposium on September 14, 2006, attended by 22 individuals. It also included a tour of nine tilt-up sites, both under construction and finished, in the Halifax area. The aim was to increase awareness of the advantages of tilt-up technology and to improve the tilt-up knowledge base in Atlantic Canada among public and private sector building owners and operators, architects, engineers and contractors. The group is shown in front of the Summit REIT project in Dartmouth, N.S.



The new Sir John A. MacDonald High School was completed in less than one year using the tilt-up method, and opened on schedule for the start of school in September. Rideau Construction Inc. of Bedford, N.S. built the project, including the tilt-up walls. Quality Concrete of Dartmouth, N.S. supplied the concrete.



Fundy Contractors Ltd. of St George, N.B. put up a new plant called Valley Concrete Inc. in Quispamsis, N.B. in early summer. It commissioned B.D. Stevens Ltd. of Dartmouth, N.S. to build a tilt-up office and shop.

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