

## Calgary Bus Barn

### Air Entrained Concrete

In September 2003, Calgary Transit constructed an 92,666 ft<sup>2</sup> (8,609 m<sup>2</sup>) addition to their bus barn facility involving 1,290 cubic meters of both air and non-air entrained abrasion resistant concrete. Abrasion resistant concrete was specified to withstand heavy wear of bus traffic. The bus barn entrance aprons specified 4% to 7% air entrainment for the CSA Class C2 exposure conditions with the remainder of the interior concrete being non-air entrained (Class N). The slab thickness was 6" (150mm).

The project manager Devitt & Forand, and the concrete supplier Inland Concrete, recommended HARD-CEM, an integral concrete hardener to provide a superior abrasion resistant concrete floor. HARD-CEM was simply added at the Inland Concrete batch plant mixer from a silo at a rate of 40kg/m<sup>3</sup> and supplied over three days of pumped concrete placement. The finishers appreciated the quality controlled mix which was "creamier" and easier to work and finish. HARD-CEM was ideal for this application requiring both freeze-thaw durability and superior abrasion resistance.

## Integral Concrete Hardener

HARD-CEM is engineered to provide concrete with superior hardness and improved durability for demanding construction projects. HARD-CEM is unique in its ability to enhance the integrity of air-entrained and non air-entrained concretes. HARD-CEM provides significant advantages for projects needing enhanced durability including: paving, bridges, parkades, industrial floors, precast pipe, dams, spillways, stilling basins, and erosion control structures.

## Cementec Industries

HARD-CEM was engineered by Cementec for concrete subjected to mechanical (direct or water-borne) action causing erosion. Cementec is an award winning engineering, production and distribution company with special expertise in the research and development of proprietary products for the oil & gas and construction industries. Cementec is a member of ACI, the Transportation Research Board, and APEGGA.

Cementec is a strategic partner with Teck Cominco Limited an integrated natural resource and materials company with expertise in exploration, mining, development, smelting, refining and materials processing. Teck Cominco Limited ([www.teckcominco.com](http://www.teckcominco.com)) provides quality materials and technical solutions to the global marketplace.

## Contact Us

Toll-free 24 hour order desk: 1.866.212.5042  
or 1.866.256.1367 [www.hardcem.com](http://www.hardcem.com)

For more information contact Cementec 1.403.720.6699  
or [info@cementec.ca](mailto:info@cementec.ca)

See related documents on HARD-CEM product usage, performance testing, and project summaries.

HARD-CEM is a registered trademark of Cementec Industries Inc.



## PROJECT PROFILE

*Owner: City of Calgary Transit*

*Project Manager: Devitt & Forand Contractors*

*Project Superintendent: Joe Nuttal*

*Concrete Supplier: Inland Concrete Ltd*

*Concrete Placer: Dynamic Concrete Pumping*

*Total Area: 92,666 ft<sup>2</sup> (8,609 m<sup>2</sup>)*

