



CANADACAR System modular parking structures

Guelph, Ontario



Project:

CANADACAR System
Guelph, Ontario

Owner:

Newton Parking Structures Ltd.

Precaster:

Newton Parking Structures Ltd.

Product:

Each HPC precast panel is 9.00m long and joined together to produce the typical 18.00m module.

Precast panel production floor at Newton Parking Structures Ltd. in Guelph, Ontario

The CANADACAR System the first modular parking structure in North America. The system can be erected as a freestanding structure, or be directly attached, or abutted to an existing building. Sites with differing elevations are often accommodated by split level and half storey ramp designs. The new structure to be completed in 2010 is located at the Centennial Metrolinx/ Centennial GO Station in Markham Ontario.

StelCrete Industries Limited

90 Centre Street P.O. Box 96 Welland Ontario L3B 5P2 Canada
T: 905.735.3955 Toll Free: 866.924.0837 F: 905.735.3955 www.stelcrete.com
Production and Shipping Fax: 905.735.8440

The basic grid of the CANADACAR System consists of an 18m module. The length of a single parking space is often between 5.50m and 6.00m with a clearance height between 2.10m to 2.20m. The floor-to-floor clearance is therefore 2.70m to 2.80m. The egress way is also generally designed to be between 6.00m and 7.00m wide. The actual parking space may vary from 2.50m to 2.70m in width as chosen. All of these module dimensions are dependent on the needs of the client that can be easily accommodated with the CANADACAR system.

High performance concrete (HPC) is used to prefabricate the precast elements. The mix-design and advanced processes used produce a high quality and durable precast which surpasses the CSA S413 Standard and exceeds the conventional requirements of 40 years. The CANADACAR precast deck system has been certified by TROW Carruthers and Wallace, which has concluded that the system, with no waterproofing membrane other than at the joint areas, "is equivalent to or better" in respect to CSA-S413-2007. Each HPC precast panel is 9.00m long and joined together to produce the typical 18.00m module. The HPC precast panel is 105mm thick which is half the conventional thickness of any other precast system with superior compressive strength exceeding 70MPa in 28 days. These combined characteristics meet or exceed the performance and objectives of programs such as LEED (Leadership in Energy and Environmental Design) with substantial savings in materials, energy and costs.

The mats are shipped from StelCrete Industries to Newton's Guelph facility and stored inside. The mats are placed in one of five molds that are transported into position by cranes and track to receive the high performance concrete mix, then covered for curing.



Newton's plant was designed for 21C manufacturing, considering the notion of sustainable products and safe work spaces in a controlled environment. Even the facility's process water is cleaned before it is discharged into the municipal sanitary sewer. Because the panels are modular and produced in a controlled environment, use on construction projects is not weather-dependent, and only a small construction team is required. See www.kiwi-newton.com for details about the Newton Group, its products, and projects.



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Quality... Service... Value

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