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Agway Metals Case Study | 160 FRONT STREET WEST, TORONTO, ON

Standing at a hair under 240 meters tall, at 46 storeys, 160 Front Street West is the newest skyscraper in Toronto's core. Such a brand-new building in such an accessible and lucrative part of town – just steps from the CN Tower and Union Station – should attract some top tenants, and 160 Front Street West is no exception: among its first occupiers are TD Bank and the Ontario Teachers' Pension Plan.

The building has no trouble standing out: being slightly south-west of the financial district, 160 Front Street West towers above its neighbours, lower commercial buildings and new, cookie-cutter box condos. In that respect, 160 Front is magnificent: the building integrates a historical façade at street level and then swings out over empty space before curving back in to an elegant, bowed top. It's a sleek design of gleaming glass and steel: a worthy addition to Toronto's changing skyline.

While the height of 160 Front Street West encourages you to look up, you may also be interested in what's down below your feet. Underneath the concrete floor of each storey lies sheet after sheet of steel floor decking - 1,400 tonnes of it, in fact!

"It's a lot of steel!" laughs Jamie Robertson, CEO of Agway Metals, who supplied the vast majority of the composite decking material. "It's about 1.2 million square feet of decking across the 46 storeys."

A quick chat with Robertson just showcases how special even the most hidden and "mundane" parts of modern skyscrapers are. Like everything else, composite decking has been optimized for weight, efficiency, speed, and cost.



The steel part of the composite decking - the part Agway supplied - forms a metal sheet that is welded to the structural steel.

Not only does the decking provide strength to the overall tower, but the non-porous nature of steel means that concrete can be poured without additional framing and molding. "You can skip the plywood forms, the temporary forms," Robertson explains. "Just pour the concrete right on top!

"The practice is standard, but the specifications are unique."

There's another benefit to the steel sheets, too. Just as they can hold concrete, the steel sheets also serve as protective barriers from rain and snow coming from above. "What we usually do is sort of one-step-forward-two-steps-back construction," Robertson says. "We'll put in the third floor first, and then that creates a cover while we work on floors one and two. Then we skip up to floor six before working on four and five... you get the idea." Composite steel decking - rolled out of cold-form steel - proves that sometimes the simplest solutions are also the best and most practical.

For 160 Front Street West, the amount and different kinds of steel all around the building proves that there's more to Toronto's newest skyscraper than meets the eye - and how much of modern construction is a complex dance to build quickly and efficiently.

PROJECT

160 Front Street West

ARCHITECT

Adrian Smith +
Gordon Gill Architecture
B+H Architects

ENGINEERS

Blackwell Structural Engineers

APPLICATOR

Gage Metal Cladding

AGWAY PRODUCTS USED

CD75-300



ORIGINAL ARTICLE STEEL DESIGN MAGAZINE FALL 2023 - IAN VANDUZER

