



FRP Composite Rebar Report

TTC Subway north tunnels - Toronto, ON



Project Highlights

- V-ROD® GFRP rebar used to reinforce up to 19m long GFRP cages (diameters of 600mm - 920mm)
- Highest grade 60GPa 32m vertical bars used with) #5 (16m) 50GPa continuous spirals with 150mm pitch and inside 16m circular ties at 600mm
- V-ROD® GFRP reinforcement used in this specific tunneling application where TBM's can bore through "Soft-eye" areas of caisson reinforcement cages or slurry walls

TTC north tunnels, Fall 2011

- V-ROD Canada supplied V-ROD® GFRP in caisson cages in a "softeye" tunneling application in the North Tunnels portion of the TTC \$2.6 billion subway expansion project
- Owner: TTC (Toronto Transit Commission) subway expansion
- Contractor: OHL-FCC-DIBCO/Gilbert Steel
- Engineer: Eptisa Engineering/Tara Engineering