



WIRE REINFORCEMENT INSTITUTE®

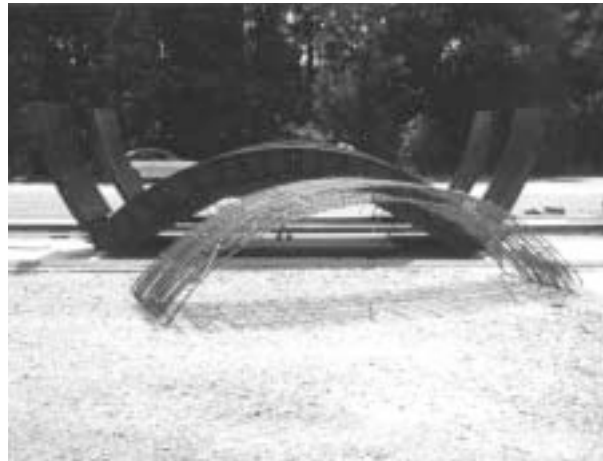
TECH FACTS Excellence Set in Concrete®

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Washington DC's METRO Tunnel An Advancement in Concrete Reinforcement!

Washington, DC's METRO Subway System is among the world's most highly regarded public transit systems in the world. Just ask anyone who has visited our nation's capital.

Of course, when something becomes popular, there's always demand for more. During 1996, work began on one of many planned expansions. Our focus will be on a 1.1 mile long underground extension of the METRO Green Line.



Project Challenges

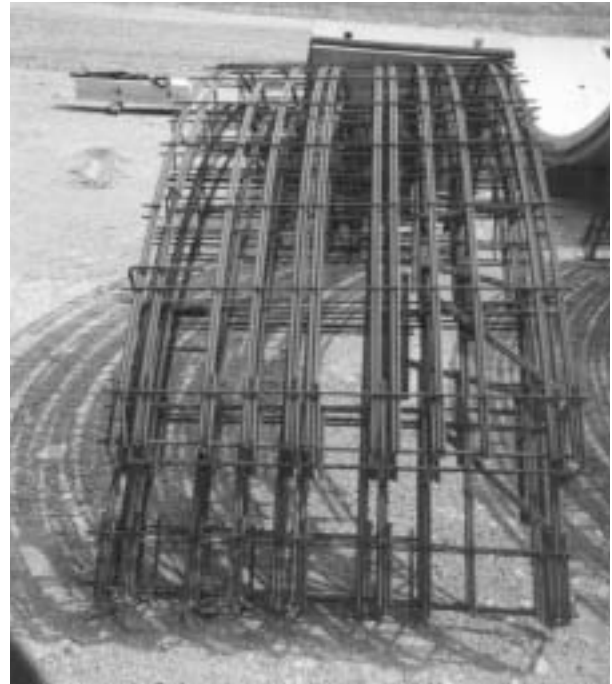
Due to the small clearances of plus or minus 1/4" in some cases, this project was very challenging from a manufacturing and engineering stand point. The WRI manufacturer's technical staff consulted with outside engineers and Washington METRO to redesign the original reinforcement specifications. The specified steel for the project was conventional rebar #6 at 6" and #4 at 16" for temperature-weldable grade ASTM A-706.

Rebars would be required to be radius bent at the point of manufacture and shipped to the jobsite in bundles for assembly by the contractor in the field. The potential for this project to be fast-paced was a decisive factor with the rejection of rebar since it's proven to be labor intensive.

Product Advantages

The technical representative convinced Marmolejo Contractors Project Manager, Mehdi Ghazi, of the benefits of using welded wire reinforcement (WWR) over rebar. Namely, it can save him money and keep the project on it's tight schedule.

Washington METRO Transit Authority approved the use of WWR- 4 x 12 - D15 x D6.5 with 70,000 psi yield strength - 2 layers each face as a substitute for the rebar. The mesh is shipped to the jobsite bent-radius double layers tied together to insure tight tolerances are met in the precast form.



Quality Control on the Jobsite

WRI manufacturers produce the pre-formed WWR reinforcement through a process of coldworking, hot-rolled rod, resulting in reinforcement much like rebar, welded into grids at fixed spacings to assure quality control for exact tolerances on the jobsite.

Mehdi Ghazi says, "We are able to pour 60 full tunnel rings a week using WWR, 20 more than rebar. On a project consisting of 1,385 rings, it would take us 34 1/2 weeks using rebar, compared to 23 weeks using welded wire reinforcement, a savings of 11 1/2 weeks of labor and time."