



COMPLETE TANK CONSTRUCTION

CROM provides a complete tank construction service. We prefer no division of responsibility with respect to the tank structure. Our team designs and constructs the wall footings, floor slab, circular wall, dome roof, and appurtenances as required. By eliminating the division of responsibility, our clients can proceed with confidence that the tank will be built by PCT experts that guarantee product performance.

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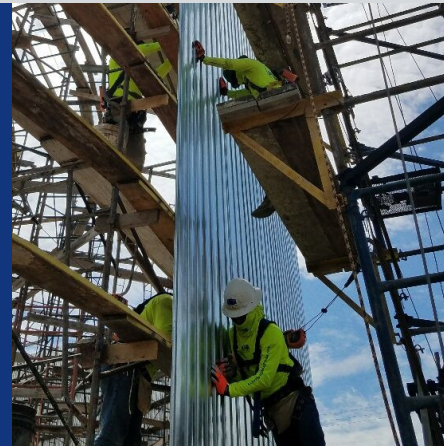


The floor of the prestressed tank is typically a heavily reinforced concrete membrane slab. Structural and ballast floor designs are also common depending on site condition requirements. This view illustrates placement of floor concrete, highly reinforced; a strong foundation.

Galvanized steel shell diaphragm is erected on a system of formwork specially designed for this purpose. The steel shell extends the full height of the tank to ensure watertightness. Vertical joints in the steel shell are sealed watertight by epoxy injection.*

*U.S. Patent No. 5,150,551

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Exterior encasement of the steel shell is accomplished with shotcrete, which is pneumatically placed concrete. The core wall of the tank is constructed using successive layers of shotcrete until the required wall thickness is achieved.

After the supporting formwork is removed from the tank interior, shotcrete is applied to encase the diaphragm and complete the interior core wall.



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Vertical reinforcing bars are placed to design requirements and encased in shotcrete.

Dome roof construction is made possible with the aid of a forming system that ensures accurate dome curvature. The height of the dome rise is commonly 1/10th of the tank diameter, but lower rise domes are possible if desired.



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Once the dome formwork is completed with an overlay of sheathing, reinforcement is placed.

The free-span dome roof is constructed of cast-in-place concrete. This view shows dome concrete being placed by a concrete boom pump.



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Both the core wall and the free-span dome roof are circumferentially prestressed using high-strength steel wire wrapped around the tank in a continuous helix. Wall prestressing is designed to carry the tank's hydraulic load, while dome ring prestressing resists the horizontal forces of roof live and dead loads.

To avoid over-stressing or under-stressing of the tank, the tension in the wire is measured by the use of a direct-reading electronic digital stressometer after it is applied to the tank wall.

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In order to provide protection for the prestressing elements, a shotcrete covercoat is applied to the exterior, which permanently bonds the wire to the tank wall. Whenever two or more layers of prestressing wire are required, a thin coat of shotcrete separates and protects each layer.

The covercoat completes the concrete portion of the tank construction.

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The final stage of construction involves installation of accessories and if desired, application of exterior coatings for decorative purposes.



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