

MTC POLYMER CONCRETE™

A rigid, reinforced corrosion resistant, polymer concrete pipe for wastewater applications



What is polymer concrete?

Polymer concrete is similar to conventional concrete in that it contains selected blends of aggregates and fillers which are held together utilizing a binder. Conventional concrete uses a combination of cement and water for the binder.

In polymer concrete the binder is a high strength, corrosion resistant, thermosetting resin. This resin system requires a curing agent (catalyst) which when combined with the resin, transfers the resin and curing agent from a liquid to a solid thermoset polymer which bonds to the aggregate, various fillers and internal reinforcement.

What is MTC Polymer Concrete™ pipe?

MTC Polymer Concrete™ pipe was developed to meet the severe operating conditions in the wastewater industry. Traditionally, wastewater infrastructures are constructed using reinforced concrete, clay, brick and/or steel for pipe, manholes and associated structures. All of which are subject to corrosion, installation and/or maintenance problems. For many years the industry has needed a product that could combat the numerous infrastructure problems.

Features

High strength to weight ratio.

- Precise dimensional tolerances
- High compressive strength for higher jacking loads means longer drives
- Higher factor of safety
- Precision molded square ends for uniform axial loading
- Increased tensile strength
- Proven joint design



MTC POLYMER CONCRETE™ PIPE

MTC Polymer Concrete™ Advantages

Because MTC Polymer Concrete™ is manufactured utilizing advanced polymer concrete technology, there are inherent advantages that MTC Polymer Concrete™ can offer over conventional concrete and other competitive products. To make MTC Polymer Concrete™ more user friendly, it is manufactured utilizing the standard specification guidelines for reinforced concrete.

Corrosion Resistant. Made of polymer concrete, the matrix is corrosion resistant throughout the entire wall thickness. In the event that MTC Polymer Concrete™ is ever chipped or marred, this corrosion barrier will remain intact. Thus ensuring a long maintenance free life. MTC Polymer Concrete™ can be utilized in environments with pH ranges from 1 to 13. Additional coatings, liner or barriers are unnecessary.

Lighter Weight. Due to the advanced strength characteristics of MTC Polymer Concrete™, MTC can produce lighter weight parts through a reduction in wall thickness — when compared with traditional reinforced concrete.

Conventional Reinforcement. Utilizes the same type of steel reinforcement used in conventional concrete pipe ASTM standards.

Non-Porous & Non-Absorbent. Dense mix design eliminates a connective pore structure. Therefore, solutions are unable to be absorbed or leached through the material. Again, eliminating the need for any additional coatings, liners, or barriers.

Technical Expertise. With decades of polymer concrete experience, MTC Polymer Concrete™ had the knowledge to engineer the product to suit any need. Our engineers and sales consultants maintain close contact with a project from beginning to end.

Low Environmental Impact. Due to the inert nature of polymer concrete, there is no concern for any negative impact on the environment.

MTC Polymer Concrete™ Physical Property Design Range

Compressive Strength	8,000psi to 14,000psi
Flexure Strength	3,000psi to 4,000psi
Tensile Strength	1,200psi to 1,600psi

MTC Polymer Concrete™ Reinforcement

In keeping with industry standards, steel reinforcement is utilized as the standard. MTC Polymer Concrete™ reinforcement design follows ASTM C-76, standard specifications for reinforced concrete culvert, storm drain, and sewer pipe. Additionally, MTC Polymer Concrete™ designs using ASTM C-1417 standard specification for direct design and ASTM C-478 standard specification for precast reinforced concrete manhole sections.

MTC Polymer Concrete™ Quality Control

Raw Materials. Inspection, sampling and testing of raw materials is a requirement that will contribute to a quality end product. Resin, reinforcement and aggregates are systematically and randomly monitored to ensure compliance within specifications.

Manufacturing. Quality Assurance is paramount. Standardized written manufacturing procedures, detailed quality assurance records, and on-time deliveries instill customer confidence and satisfaction in MTC Polymer Concrete™.

MTC utilizes a sophisticated process control operation in the manufacture of MTC Polymer Concrete™ — a means of verifying quality and eliminating variables that can contribute to manufacturing error.

Direct Bury Pipe and Jacking Pipe

- Nominal diameters of 18 inches to 144 inches
- Custom lengths consisting of 12 and 20 feet (depending on size and weight)
- Standard joint design
- Joint will be fitted with a rubber gasket to ensure a leak proof assembly
- A press board compression ring will be utilized to offer uniform pressure distribution during the jacking process
- Flush bell stainless steel or FRP coupling rings available

Manholes, Flow Structures, Pump Station Equipment

- Structures – standard sizes
- Custom design products – MTC will manufacture custom-engineered structures per customer requirements

ALL MTC POLYMER CONCRETE™ PRODUCT IS SAMPLED AND TESTED IN CONFORMANCE TO ASTM AND INDUSTRY STANDARDS.



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