



Fiberglass Manhole Liners

ISO 9001 Registered

Re-Hab...Don't Replace...

Over a short period of time, brick and concrete manholes will deteriorate due to exposure to waste water gases such as Hydrogen-Sulfide. LFM has solved the problem of costly repairs with its fiberglass manhole liners. Our fiberglass liners are corrosion-free and are not affected by common waste water gases.

Experience...

LFM has been building quality fiberglass reinforced manholes and wetwells since 1982. We utilize the latest in chop and filament winding equipment, therefore providing our customers with the highest quality fiberglass products on the market today. Our production facility covers 83,000 square feet and is located on 35 acres near Giddings, Texas.

Quality Built Right In...

LFM incorporates a comprehensive in-plant testing and quality control program. This insures complete and consistent workmanship in all of our fiberglass products. Each manhole liner that we build is inspected and tested before it is released for shipping. Our testing procedures include wall thickness reports, raw material analysis and continuous chemical analysis reports.



Professional Delivery...

LFM maintains its own fleet of delivery trucks; helping to decrease shipping costs considerably. Our fiberglass manhole liners are light-weight and can be shipped via common carrier freight lines anywhere in the continental United States.

Strong & Lasting Construction...

Our fiberglass manhole liners are designed to meet or exceed all ASTM D3753 standard specifications. In addition to the ASTM standards, our fiberglass manhole liners meet H-20 load requirements. Our products are engineered to provide you with long and trouble-free service.

One Piece Design...

The one piece design of LFM's fiberglass manhole liners makes installation economical and easy. Our fiberglass liners are light-weight which eliminates the need for heavy equipment on the job site. Installation is less time consuming because there is only one piece to install. In a short time, an old decaying manhole can be easily transformed into a newly lined fiberglass manhole.

Quality Assurance...

LFM stands behind our products. We offer a limited one year warranty on our fiberglass manhole liners. See the warranty section of our brochure for further information.



L. F. Manufacturing, Inc.
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Giddings, Texas 78942

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Available Diameters...

LFM's fiberglass manhole liners are available in diameters from 36" through 168" (14'). We recommend using a fiberglass manhole liner which is six inches smaller in diameter than the existing structure. Standard depths are available from 2' through 40'. Greater depths can be custom fabricated per engineer's specifications.

Identification Marks...

Our fiberglass manhole liners are each marked with our name and factory location. In addition each liner has its own serial number marked on both the inside and outside. The depth of each fiberglass manhole liner is located on the outside to easily identify its length.

ASTM Certified...

Our fiberglass manhole liners meet or exceed all ASTM requirements for fiberglass manholes. LFM's fiberglass manhole liners are designed to withstand the rigid requirements of ASTM Specification D3753 for glass fiber-reinforced plastic (FRP) manholes. The ASTM certification tests were performed independently by Southwestern Laboratories of Houston, Texas. Below, you will find a summary of the independent test results.

Installation Instructions...

1. Prepare excavation

Prepare excavation around old manhole. Be sure excavation is properly shored for safety. Remove existing ring and cover and reducer section.

2. Set manhole liner & make cut-outs

Lift the manhole liner by inserting a 4" x 4" timber into the opening at the top of the liner. Attach a rope or chain to the timber and lift with a backhoe or other lifting device. Set the manhole liner into existing manhole. Mark the contour of the existing bench area onto the fiberglass liner. Remove the liner and cut along the contour mark. Set the liner into the existing manhole in a concentric manner. Use a non-shrinking grout to seal the area between the bottom of the liner and the existing bench area. Fill the area between the liner and the existing manhole using a concrete grout poured evenly in one foot lifts.

3. Bring to grade

Bring the manhole to final grade using brick or pre-cast concrete grade rings mortared in place. Replace the ring and cover. Backfill according to engineer's specifications using moderately compacted sand or crushed stone. In a short time and with minimal work involved, an old leaking concrete manhole has been transformed into a newly lined fiberglass manhole.

Summary of Test Results

Tests Performed	Average Results
Stiffness	5% Deflection @ 2.45 lbs. / in. ² 10% Deflection @ 2.28 lbs. / in. ²
Material Composition	54.25 wt. % Resin
Compressive Strength	Transverse: 22,700 psi Longitudinal: 10,500 psi
Flexural Strength	Transverse: 56,000 psi Longitudinal: 11,700 psi
Modulus	Transverse: 2,084,000 psi Longitudinal: 1,114,000 psi
Load Rating	24,000 lbs. - 0.157" Deflection 40,000 lbs. - No Damage
Barcol Hardness	Cylinder: 43.1 Reducer: 41.0
Wall Thickness	Cylinder: 0.308
Soundness	No Leaks Detected at 5 psi Air Pressure



"The Fiberglass Specialists"

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Technical Support & Sales

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