

Trench Former[®] MD200[™] / 300[™]

Trench Drain Forming System



**ROADS AND
HIGHWAYS**



**COMMERCIAL AND
INDUSTRIAL**



**SITES AND
LOADING DOCKS**

www.abtdrains.com

Today's Hydraulic Solutions

ABT[®], INC.

Advanced Building Technologies

The MD200™/300™ Technology

The revolutionary MD200 and MD300 Grated Line Drain System provides technology needed but previously unavailable to satisfy today's trench drain requirements.

Engineering Design Flexibility

The System can be configured for the Engineer's special flow and depth requirements. A large range of trench depths, slopes, and configurations provides the Engineer with greater flexibility for challenging projects. Additionally, the system is pre-engineered and factory fabricated reducing the potential for construction error in the field.

High Strength Ductile Iron Grates

Not only is the MD 200/300 advanced grate design attractive, it also provides strength and performance. MD grates provide the largest inflow area available in cast grates for 8 inch and 12 inch trenches. While lightweight, they exceed ***all*** AASHTO load ratings.

Superior Rail Support Design

MD200/300 does not utilize dissimilar materials (plastic, fiberglass, etc.) between the rails and concrete thus avoiding the potential for failure due to thermal expansion and contraction.



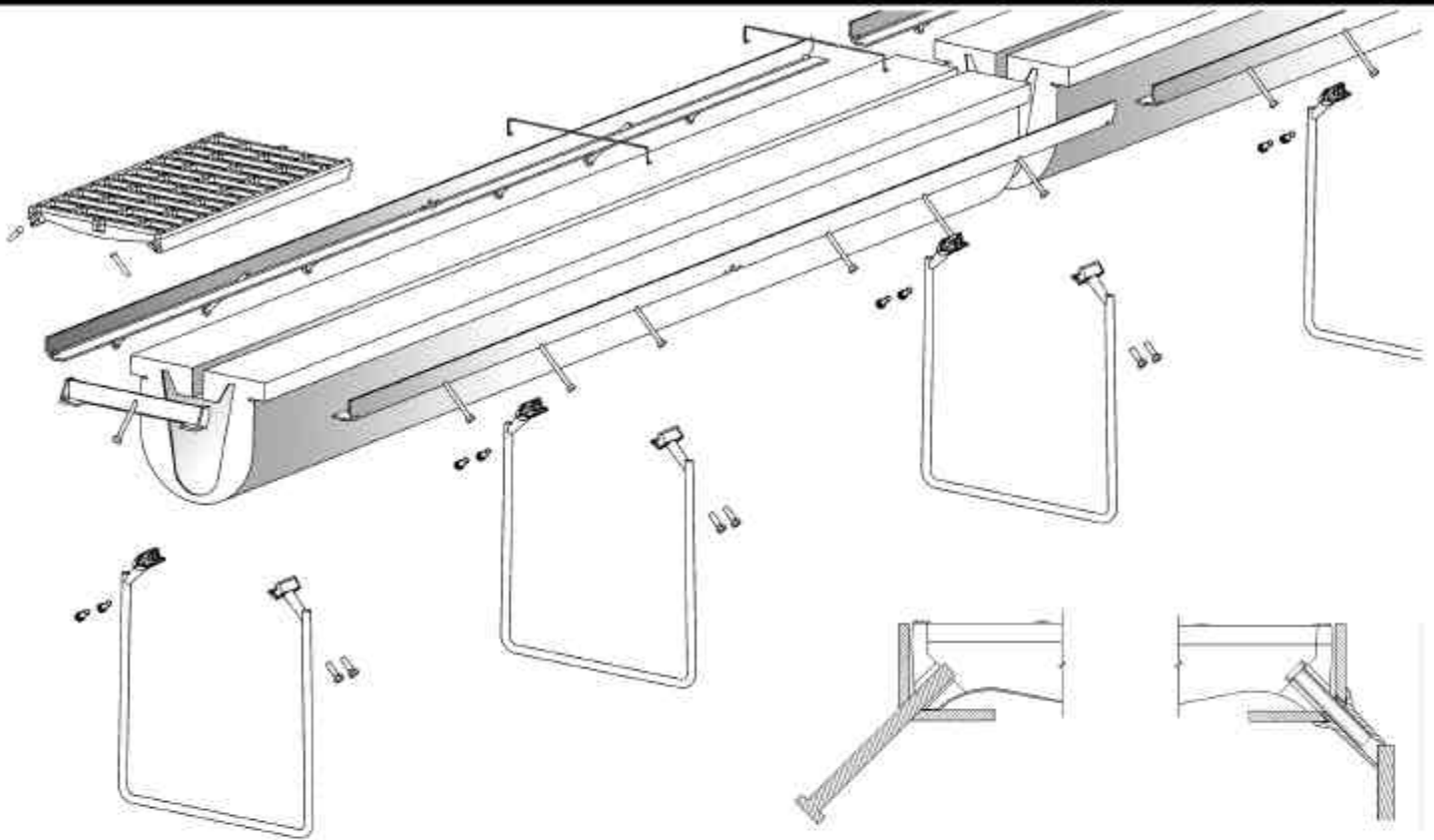
Lower Cost per Q

The MD200/300's lower Manning's roughness coefficient(n) increases trench hydraulic capacity and self-cleaning velocity which reduces trench size and cost.

Improved Grate Retainer System

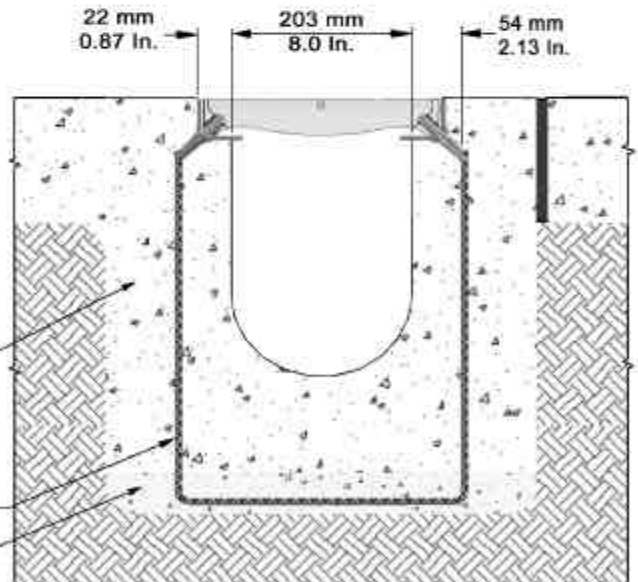
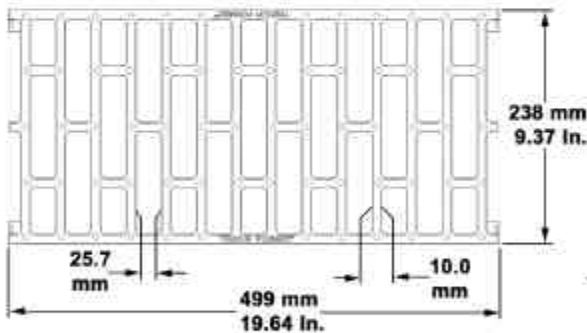
The MD200/300 patented system utilizes two removable stainless steel pins plus two fixed pins for every two grates providing both longitudinal and vertical grate retention. An average of only one pin must be removed per grate for easier construction and trench maintenance. Crossbars that interfere with trench access are not required. Additionally, this system eliminates concrete cracking from tensile stress caused by constrained thermal expansion and contraction in a rigid four-bolt system.

MD200™ Technical Data



**GRATE RETAINER
PIN - FIXED
Galvanized**

**GRATE RETAINER
PIN - REMOVABLE
Stainless**



TRENCH SECTION

DATA

- Grate Proof Strength - 40,000 Lbs.
- Grate Open Area - 0.47 Ft² / L. Ft. (60%)
- Vertical Grate Restraint - 1,000 Lbs.
- Longitudinal Grate Restraint - 6,000 Lbs.
- Rails - 1.25" x 1.25" x 0.125" A-36 Steel Angle
- Rail Bearing Area - 0.87 In.² / L. In. per rail
- For Hydraulic Capacity for specific conditions, Drawings, Specifications, and other information, go to www.abtdrains.com

DISCLAIMER

The customer and the customer's architects, engineers, consultants, and other professionals are completely responsible for the selection, installation, and maintenance of any product purchased from ABT, and EXCEPT AS EXPRESSLY PROVIDED IN ABT'S STANDARD WARRANTIES, ABT MAKES NO WARRANTY, EXPRESSED OR IMPLIED, AS TO THE SUITABILITY, DESIGN, MERCHANTABILITY, OR FITNESS OF THE PRODUCT FOR CUSTOMER'S APPLICATION. Copies of ABT's standard warranties are available upon request. Trench Former® is a registered trademark of ABT, Inc. USA Patent Numbers 5,281,051 5,348,421 5,393,171 5,399,047 5,478,169 5,573,350 5,702,204 5,890,839 5,443,856 Canada 2,280,136 2,131,865 2,131,867 2,130,405 2,130,407 Mexico 189,218 189,435 197,891 Other US and foreign patents pending.

ABT[®], INC. MD200 Series Trench Former

Pre-Engineered Surface Drain Forming System

Specification

SYSTEM

Description:

1. A system of pre-engineered components for forming concrete cast-in-place surface drainage trenches, catch basins and utility chases.
2. System: consists of non-CFC expanded polystyrene (EPS) forms; embedded steel inlay rails; legs for alignment and float control; and grates with a non-rigid, longitudinal restrained, grate retention system.

PRODUCT

Components:

Forms:

1. Forming system: Pre-manufactured using non-CFC EPS foam.
2. Forms: pre-sloped or non-sloped form segments with 2.0 M (6.56 Ft) length standard and 1.0 M (3.28 Ft), or 0.5 M (1.64 Ft) lengths available.
3. Each segment is 203mm (8 In) wide trench with radius bottom and 241.5mm (9 1/2 In) grate seat width. Invert slope is per application requirement.

Rails:

1. Steel components: Post fabrication hot dipped galvanized or powder coated 31.75 mm x 31.75 mm x 3.18 mm (1.25 In x 1.25 In x 1/8 In) A-36 steel angle rails. Rail length 2.0 M (6.56 Ft) standard with 1.0 M (3.28 Ft), and 0.5 M (1.64 Ft) long available.
No-float leg / alignment / grate retainer anchor lugs are located on 1.0 M (3.28 Ft) centers along the rails bisected by non-removable grate retaining / rail anchoring studs also on 1.0 M (3.28 Ft) centers.
Standard headed concrete anchor studs bisect these members providing a rail-anchoring device every 250 mm (9.84 In).
2. Grate rails to provide a minimum of 0.87 square inches concrete bearing area per inch of trench length each side.
3. Grate retainers and rails to withstand the following loads:
 - a. Vertical up – 1,000 lbs
 - b. Transverse - 6,000 lbs
 - c. Longitudinal - 6,000 lbs
4. Grate retainer performance is not to degrade with service loads or thermal cycling.
5. Galvanizing: ASTM A123-89a
6. Steel: ASTM A 36/A36M-93a

Grates:

1. Ductile iron: ASTM A 536-84 (1993).
2. Grates to have a minimum of 0.47Ft² /L Ft open area and be flush with top of rails.
3. Grates to meet AASHTO M306-9 Grate/Manhole Proof Test.
4. Allowable tolerances: Setting plus/minus 1.5mm (1/16 In)

Form release:

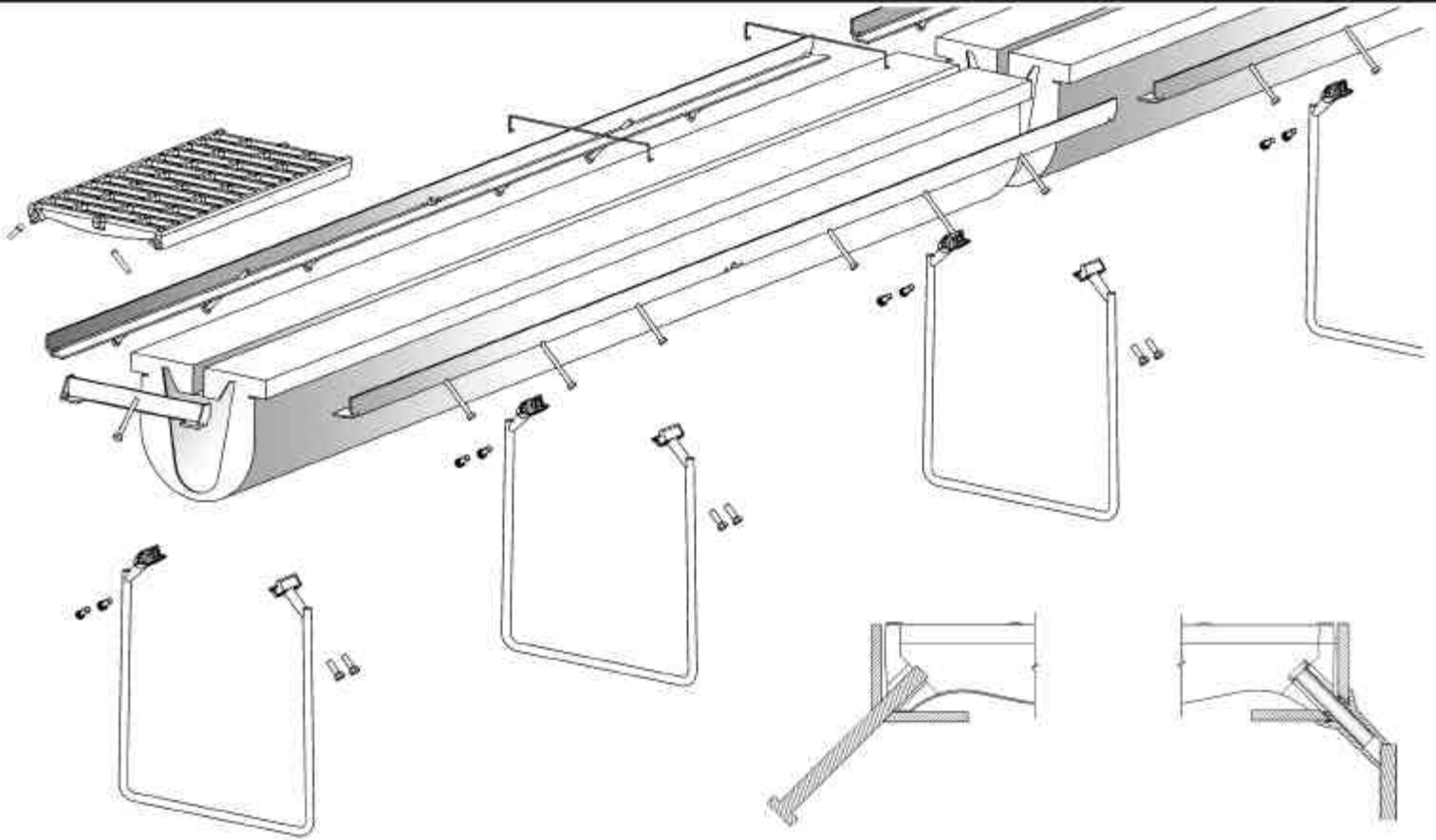
1. Non-petroleum based, which will not attack EPS.

Acceptable manufacturers:

Surface drain system:

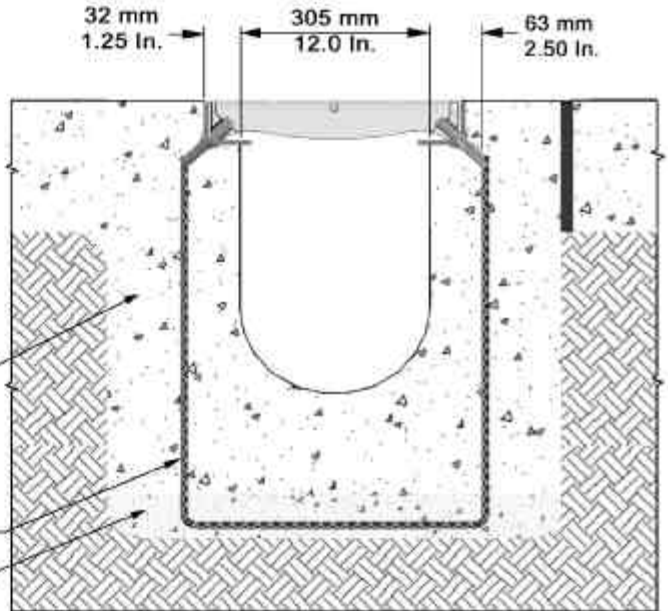
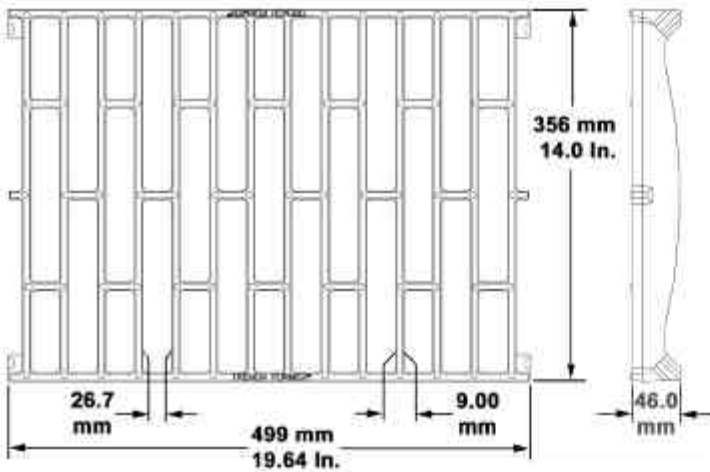
1. Trench Former MD-200: manufactured by ABT Inc, PO Box 837, 259 Murdock Rd. Troutman, NC 28166 800-438-6057.

MD300™ Technical Data



**GRATE RETAINER
PIN - FIXED
Galvanized**

**GRATE RETAINER
PIN - REMOVABLE
Stainless**



Concrete thickness, specifications, and reinforcement per structural engineer's design. (By other)

No Float Leg
No Float
Anchor Slab

TRENCH SECTION

DATA

- Grate Proof Strength - 40,000 Lbs.
- Grate Open Area - 0.79 Ft² / L. Ft. (68%)
- Vertical Grate Restraint - 1000 Lbs.
- Longitudinal Grate Restraint - 6,000 Lbs.
- Rails - 2.0" x 2.0" x 0.188" A-36 Steel Angle
- Rail Bearing Area - 1.25 In.² / L. In. per rail
- For Hydraulic Capacity for specific conditions, Drawings, Specifications, and other information, go to www.abtdrains.com

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ABT[®], INC. MD300 Series Trench Former

Pre-Engineered Surface Drain Forming System Specification

SYSTEM

Description:

1. A system of pre-engineered components for forming concrete cast-in-place surface drainage trenches, catch basins and utility chases.
2. System: consists of non-CFC expanded polystyrene (EPS) forms; embedded steel inlay rails; legs for alignment and float control; and grates with a non-rigid, longitudinal restrained, grate retention system.

PRODUCT

Components:

Forms:

1. Forming system: Pre-manufactured using non-CFC EPS foam.
2. Forms: pre-sloped or non-sloped form segments with 2.0 M (6.56 Ft) length standard and 1.0 M (3.28 Ft), or 0.5 M (1.64 Ft) lengths available.
3. Each segment is 305mm (12 In) wide trench with radius bottom and 356mm (14 In) grate seat width. Invert slope is per application requirement.

Rails:

1. Steel components: Post fabrication hot dipped galvanized or powder coated 50.8 mm x 50.8 mm x 4.76 mm (2.0 In x 2.0 In x 3/16 In) A-36 steel angle rails. Rail length 2.0 M (6.56 Ft) standard with 1.0 M (3.28 Ft), and 0.5 M (1.64 Ft) long available.
No-float leg / alignment / grate retainer anchor lugs are located on 1.0 M (3.28 Ft) centers along the rails bisected by non-removable grate retaining / rail anchoring studs also on 1.0 M (3.28 Ft) centers. Standard headed concrete anchor studs bisect these members providing a rail-anchoring device every 250 mm (9.84 In).

Grate rails to provide a minimum of 1.25 square inches concrete bearing area per inch of trench length each side.

3. Grate retainers and rails to withstand the following loads:
 - a. Vertical up - 1,000 lbs
 - b. Transverse - 6,000 lbs
 - c. Longitudinal - 6,000 lbs
4. Grate retainer performance is not to degrade with service loads or thermal cycling.
5. Galvanizing: ASTM A123-89a
6. Steel: ASTM A 36/A36M-93a

Grates:

1. Ductile iron: ASTM A 536-84 (1993).
2. Grates to have a minimum of $0.80 \text{ Ft}^2 / \text{L Ft}$ open area and be flush with top of rails.
Grates to meet AASHTO M306-9 Grate/Manhole Proof Test.
3. Allowable tolerances: Setting plus/minus 1.5mm (1/16 In)

Form release:

1. Non-petroleum based, which will not attack EPS.

Acceptable manufacturers:

Surface drain system:

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Other quality drainage
products by ABT, Inc.



ABT[®], INC.

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