



ALFA CHANNEL® STANDARD SPECIFICATION

Precast Trench Drain 4” ID with Ductile Iron Frame and Grate

**System ID#: 2542 & 2552**

Trench drain shall be Alfa Channel®; By MultiDrain Systems, Inc., which is located at: 1405 Industrial Drive; Statesville, NC 28625; ASD. Toll Free Tel: 800-433-1119; Tel: 704-508-1010; Fax: 704-508-1011; Email: [request info \(steve.born@multidrain.com\)](mailto:steve.born@multidrain.com); Web: [www.multidrain.com](http://www.multidrain.com).

**System Components:**

**Precast Trench Drain** - The precast trench shall be manufactured using polyester polymer concrete with the following material properties when tested:

Property	Test Method	Value
Compressive Strength	ASTM C579	14,000 psi Minimum
Bending Strength	ASTM C580	4,000 psi Minimum
Tensile Strength	ASTM C307	2,000 psi Minimum
Moisture Absorption	ASTM D570	0.1% Maximum
Chemical Resistance	ASTM C267	Pass
Freeze/Thaw w/o weight loss	ASTM C666	1600 Number of Cycles Minimum
Resistance to Fungi	ASTM G21	Zero (0) Rating Mold Growth
UL/ULC Listed- Flame Spread	UL-723	Class A

The trench consisting of 39.19” (1 meter) or 19.56” (1/2 meter) channels with nominal 6” (155mm) outside width, 4 “ (100mm) inside width. Pre-sloped channels shall have a standard slope of 0.6% with radius bottom. Non-sloping channels must have written approval by engineer prior to installation. Channels shall have tongue and groove joints. Grate lock down slots shall have polyethylene vibration dampening inserts. All channels must have full length anchoring ribs for a positive mechanical lock with the surrounding concrete.

**Sidewall Extensions** – Sidewall extensions for channels may be used for hydraulic performance or to maintain the standard slope of 0.6% in greater trench run lengths. Sidewall extensions shall be composed of similar material and thickness as the channels and shall have tongue and groove joints.

**Frame & Grate: 2542 & 2552:** Uncoated ductile iron conforming to ASTM A-536 with a minimum of 0.27Ft<sup>2</sup> /L Ft (.083m<sup>2</sup>/Lm) open area. Grates shall meet a minimum 620 psi proof load per AASHTO M-306 test modified by utilizing a 9” x 3” load plate. The frames shall have .25” dia. x 4” long (minimum) anchors at all corners of each frame. Frames shall be independent of the channels. When a combination of one-piece frame and grates, removable grates with frame, and/or pedestrian safe grates are used; the locations of the grates shall be shown on the plans. Removable grates shall be retained in their frame utilizing stainless steel, tamper resistant locking devices. The grate retaining device shall withstand, without maintenance, repetitive cyclic vertical loads of 500 lbs. The retainers shall also withstand a pullout resistance of 500 lb. per foot after completing a 1,000 hours ASTM B117 salt spray test. The grate retaining devices shall not obstruct hydraulic flow in the channel. All grates shall be bicycle safe. Frames and grates shall be made in U.S.A., and shall conform to the FHWA's "Buy America" policy 23 CFR 635.410(b) and Federal Acquisitions Regulations (FAR) 52.225 “Buy American Act”.

**Quality Assurance:**

**Submittals:** A Certificate of Compliance in conformance with the provisions of these Standard Specifications shall be furnished to the Engineer. Grates shall be independently tested to AASHTO M-306.