



# WEIR BOX SPECIFICATION

## SECTION 11222 OPEN CHANNEL FLOW WEIR BOX

### PART 1 GENERAL

#### 1.1 SECTION INCLUDES

- A. Weir boxes.

#### 1.2 RELATED SECTIONS

#### 1.3 REFERENCES

- A. ASTM D 638 – Standard Test Method for Tensile Properties of Plastics.
- B. ASTM D 790 – Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
- C. ASTM D 2583 – Test Method for Indentation Hardness of Rigid Plastics by Means of a Barcol Impressor.
- D. ISCO Open Channel Flow Measurement Handbook, Fifth Edition.

#### 1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Test results of representative fiberglass reinforced plastic laminate.
- C. Shop Drawings: Show:
  - 1. Critical dimensions, jointing and connections, fasteners and anchors.
  - 2. Materials of construction.
  - 3. Sizes, spacing, and location of structural members, connections, attachments, openings, and fasteners.
  - 4. Color(s).
- D. Samples: 8-inch square sample of representative fiberglass reinforced plastic laminate.
- E. Manufacturer's installation instructions.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store products indoors or in weather protected area until installation. Protect from construction traffic and damage.

## PART 2 PRODUCTS

### 2.1 MANUFACTURER

- A. The product shall be manufactured by TRACOM, Inc.; 6575-A Industrial Way, Alpharetta, Georgia 30004; Tel. (877) 435-8637, Fax (770) 664-6565, [www.tracomfrp.com](http://www.tracomfrp.com).
- B. Requests for substitution must be made in writing and received by the engineer's office a minimum of ten (10) business days before bid opening. Substitutions shall be made in accordance with the provisions of Section 01600.
- C. Substitutions: Manufacturers not pre-approved shall not be allowed.
- D. Warranty: Weir boxes shall be warranted to be free of defects in workmanship and materials for a period of two years from shipment.

### 2.2 WEIR BOXES

- A. Weir Box Type: Provide weir boxes of the following size(s):
  - 1. Size: \_\_\_\_\_ W x \_\_\_\_\_ L x \_\_\_\_\_ H .
    - i. Single-piece construction.
    - ii. Single-piece fixed flow dampener integral to the weir box.
    - iii. 1/4 inch thick, fixed weir plate notched for a \_\_\_\_\_ weir. The crest of the weir shall be beveled at 45 degrees and shall be sized for a maximum surge flow of \_\_\_\_\_ gpm.
    - iv. Integral 2 inch diameter stiffening ribs provided along the sidewalls and bottom of the weir box.
- B. Materials:
  - a. One-piece, fiberglass reinforced plastic.
  - b. Gloss inside surfaces, free of irregularities.
  - c. Minimum 3/16 inch wall thickness.
  - d. Minimum 30% E-glass by weight.
  - e. Isophthalic polyester resin.
  - f. 2 inch (minimum) top flanges.
  - g. Molded-in stiffening ribs, maximum 12 inch center to center spacing.
  - h. 15 mil Isophthalic U.V. resistant gel coat on all surfaces.
  - i. Anchor clips drilled for 3/4 inch.
  - j. Tensile strength (ASTM D 638): 14,000 psi.
  - k. Flexural strength (ASTM D 790): 27,000 psi.
  - l. Flexural modulus (ASTM D 790): 1,000,000 psi.
  - m. Barcol hardness (ASTM D 2583): 50.
- C. Options:
  - 1. Stilling well:
    - a. 8 inch diameter, attached.
    - b. 12 inch diameter, attached.
    - c. 8 inch diameter, detached with 1/2 inch NPT coupling.
    - d. 12 inch diameter, detached with 1/2 inch NPT coupling.
  - 2. 5-mil mylar, laminated, high visibility staff gauge:
    - a. graduated in tenth and hundredths of a foot.
    - b. graduated in meters with 2 millimeter divisions.

- c. custom:\_\_\_\_\_.
3. Removable T-304 1/8 inch O.D. stainless steel bubble tube.
  4. Removable T-304 3/8 inch O.D. stainless steel sample tube.
  5. 2 inch bushing for ultrasonic mounting stand.
  6. 1 3/4 inch T-304 stainless steel ultrasonic mounting stand (for 3/4 inch NPT sensor).
  7. Adjustable T-304 stainless steel and aluminum ultrasonic mounting stand (for 3/4 inch NPT sensor).
  8. Inlet and / or outlet flat-faced flanges: Size:\_\_\_\_\_, Style:\_\_\_\_\_.
  9. Inlet and / or outlet pipe stubs with flexible PVC boots and stainless steel bands: Size:\_\_\_\_\_.
  10. Inlet and / or outlet caulking collars: Pipe I.D.:\_\_\_\_\_.
  11. Removable stainless steel probe carrier (specify length and O.D. of probe).
  12. Submerged probe / area velocity probe cavity (specify length and O.D. of probe).
  13. Flat, bolted FRP cover, T-304 stainless steel hardware.
  14. FRP grating over weir box.
  15. Molded-in Drexelbrook track.
  16. Bullseye level.
  17. Special resin for temperatures above 150 degrees F or chemical resistant service. Temperature:\_\_\_\_\_, Chemical(s):\_\_\_\_\_.
- 

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify that the weir box dimensions are correct and project conditions are suitable for installation. Do not proceed with installation until condition deficiencies have been corrected.

### 3.2 INSTALLATION

- A. Install products in accordance with engineer's instructions, plans, blueprints, etc.
- B. Connect the flexible neoprene boots to the inlet and outlet PVC weir box pipe stubs (if pipe stubs are provided).
- C. The notched weir plate end should be set downstream.
- D. Set the structure and level from inlet to outlet and from side to side. The structure walls must be vertically plumb.
- E. Connect the flexible neoprene boots to the existing inlet and outlet pipe (if pipe stubs are provided).

### 3.3 ADJUST AND CLEAN

- A. Clean surfaces in accordance with the manufacturer's instructions.
- B. Remove trash and debris, and leave the site in a clean condition.

END OF SECTION

Document: WB-S  
Revision: 0  
Date: 2/26/2002  
By: Jon Wachter