

# Form-A-Tube®

## Description

Form-A-Tube® consists of UV resistant strips made from PVC. The strips have a smooth surface on one side, ribs on the other, and connectors along the edges. The strips are connected at the edge to create a tube of essentially any diameter and height. Form-A-Tube® allows the formation of a shell around an existing column, utility pole, or submerged pile. The annular space between Form-A-Tube® and the host structure can be filled with concrete or any other suitable fill materials. After the concrete cures, the tube can be removed and reused. It can also be used as a stay-in-place form, if the protrusions face towards the host structure.

The effective width of Form-A-Tube® strips is 6.28 in. (160 mm). Thus, the addition of each panel or strip increases the diameter of the tube by exactly 2 inches (51 mm). For example, connecting 6 strips, results in a tube with a diameter of 12 in. (305 mm). Connecting 7 panels, results in a tube with a diameter of 14 in. (356 mm) and so on. The strips weigh 0.29 pound/ft (433 g/m).

## Uses

- As a reusable form to cast new cylindrical columns and posts
- As a stay-in-place one-time use form for repair and protection of underwater piles
- Repair and protection of bridge piers or piles
- Repair and protection of corroded or damaged structural columns
- Repair and protection of utility poles
- Casting large and small footings of any diameter
- Suitable for columns made with concrete, steel and timber

| Physical Properties of Form-A-Tube®             |             |                      |
|---|-------------|----------------------|
| Weight pounds/ft (grams/m)                      |             | 0.29 (433)           |
| Specific Gravity, ±0.02                         | ASTM D-792  | 1.43                 |
| Hardness, Shore D, ±3                           | ASTM D-2240 | 79                   |
| Tensile Strength at Yield, psi                  | ASTM D-638  | 6265                 |
| Tensile Modulus, psi                            | ASTM D-638  | 372,000              |
| Notched Izod ft-lb/inch                         | ASTM D-256  | 14.9                 |
| Heat Deflection Temp. @ 264 psi, °F             | ASTM D-648  | 162                  |
| Coefficient of Linear Exp., in./in./°F          | ASTM D-696  | 3.2x10 <sup>-5</sup> |
| Flammability: UL 94                             |             | V-0, 5VA             |
| Dart Drop Min Failure, (C.125 TUP), in.-lb./mil | ASTM D-4226 | 2.4                  |

## Advantages

- Make a tube of any diameter or length, on-site
- Easy to store and ship
- Quick to assemble and disassemble
- Can be used as a stay-in-place form with ribbed side facing inward
- Eliminates epoxies and chemicals
- Durable and weather resistant
- Smooth finish on columns with no form-marks
- Economical, green, and sustainable technology

## Packaging

Standard panels are 7 in. wide x 0.4 in. thick (178 x 10 mm), with an effective width of 6.28 in. (160 mm). Standard lengths are 4 or 8 ft (1220 or 2440 mm). Form-A-Tube® panels can be custom manufactured for lengths greater than 8 ft. (2440 mm). Note that by staggering joints, longer tubes can be made with short strips.

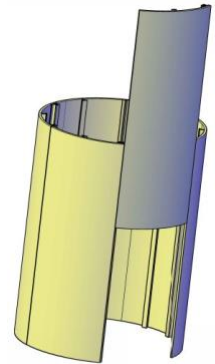
## Shelf Life & Storage

Form-A-Tube® panels have unlimited shelf life when stored indoors and away from direct sunlight. They are manufactured with PVC treated with UV protective additives to offer a long service life.

## Application

The following steps outline a typical application of the Form-A-Tube® system. Project-specific requirements may vary.

- 1) Cut the Form-A-Tube® panels to the desired length.
- 2) Determine the number of panels needed based on the diameter of the tube being made; e.g. 6 panels = 12 in. diameter, 7 panels = 14 in. diameter, 8 panels = 16 in. diameter, etc.
- 3) Slide the Form-A-Tube® strips together to create a sheet; the width of this sheet represents the circumference of the tube being made.
- 4) If necessary, prepare the surface of the host structure by roughening and cleaning.
- 5) Wrap the Form-A-Tube® sheet around the host structure and snap the remaining edges together to create a shell (or tube) with an annular space surrounding the host structure.
- 6) Position the shell at the required location and place ratchet straps around the shell at 12-18 in. (300-450 mm) for added safety.
- 7) Fill the annular space with concrete or a suitable fill material.
- 8) If used as stay-in-place form, leave the strips in place.
- 9) If used as reusable form, once the concrete starts to set, grab the ribs on one of the panels with long nose pliers and move that panel slightly to break the bond between that panel and the concrete. The installation must be left undisturbed afterwards to allow the concrete to harden before the panels are removed.



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