



Application Profile

One Piece Molded Tanks For Semi-Con and Chemical Process Markets

Teflon™ PFA High Purity Resin

Introduction

PBY Plastics, Inc. (Ontario CA) is an innovator in the custom molding of high performance plastic materials. Using a number of unique proprietary manufacturing processes PBY produces stock shapes, near net shapes and its new line of one piece molded PFA high purity molded tanks.

One Piece Molded Teflon™ High Purity PFA Process Tanks

Key Benefits

- Thermal stability, in service temperature range: -328°F to 500°F
- Virtually leak free, no welded seams
- High purity, ultra-low metals and extractibles
- Superior chemical, solvent and environmental toughness
- The tanks are molded in a controlled environment for unmatched cleanliness
- Smooth walls, full radius corners, drafted to center bottom
- Resistant to sunlight and other UV sources

Technology

PBY Plastics has made significant investments in its proprietary high purity compression molding operations and processes. It now has the capability to handle high purity resins, and the compression molding of its one piece tanks, in a tightly controlled environment. Virtually every step of the process from raw material storage, mold tool resin loading, and the final step of molding the tanks, has been designed to produce the highest quality finished article for the most demanding of applications.

The PBY technology, equipment and systems allow it to produce high purity PFA molded tanks virtually free of contribution contamination, metals and particulate. In addition to improved cleanliness and purity the tanks have exceptional surface smoothness and low permeation characteristics.

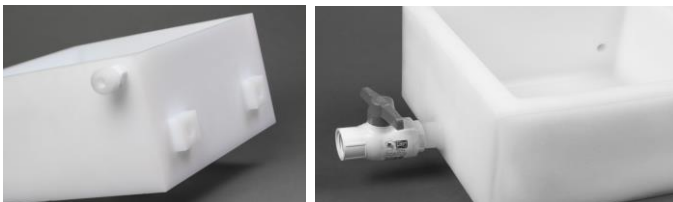
The new process allows PBY to compression mold a true one piece molded process tank that can effectively replace sheet fabricated tanks in a number of applications where ultra-high purity, cleanliness and leak free durability are the primary requirements.



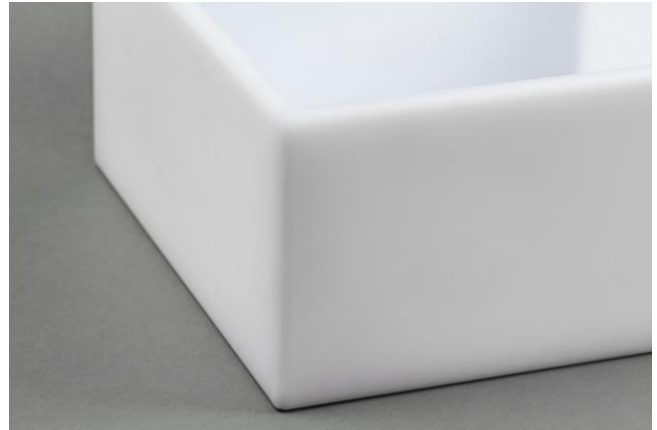
One Piece Molded Process Tanks - Round



One Piece Molded Process Tanks – Square or Rectangle



One Piece Molded Tanks Promote Endless Design Possibilities



One Piece Molded Process Tank - Replacement For Sheet Fabricated Tanks

Materials Selected and Why

PBY Plastics selected Teflon™ HP-PFA resin for its unique line of one piece molded process tanks.

Teflon™ HP-PFA allowed PBY design engineers to move past traditional design boundaries by starting with a premium industry standard material that exhibits high purity, low metals and very low levels of environmental particulate and background contamination.

PBY compression molded one piece process tanks produced with Teflon™ HP-PFA exhibit extreme performance and World Class quality, and offer a value added alternative to sheet fabricated and welded tanks.

The Teflon™ HP-PFA one piece molded tanks are well suited for chemical and process applications that do not require a custom sheet fabricated tank or where a heavier walled tank is desirable.

The tanks are available in a range of standard sizes, through 25 liter, and are available in rectangle, square or round configurations.

Options and design possibilities include:

- PFA mounting tabs for hardware and accessories
- Tank body threaded bosses for fittings, valves, sensors and drains
- Welded in place cover or removable cover
- Heavy wall options available for custom machining
- Custom sizes and configurations quoted on request

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