# KYNAR FLEX® 2850 WR

- **KYNAR FLEX® 2850 WR is a $VF_2$ based copolymer powder designed for rotomolding or rotolining processing.**
- **KYNAR FLEX® 2850 WR is very chemically resistant with a maximum use temperature up to 150°C.**

***The following table and figures summarize the properties of KYNAR FLEX® 2850 WR:***

## TYPICAL PROPERTIES*

| PROPERTY | METHOD | CONDITIONS | ENGLISH / COMMON UNITS | VALUE |
|---|---|---|---|---|
| Specific Gravity | D792 | 73°F (23°C) | - | 1.77 - 1.80 |
| Melt Viscosity | D3835 | 450°F, 100 $sec^{-1}$ | poise | 4,000 - 8,000 |
| Melting Temperature | D3418 | - | °F (°C) | 311 - 320 (155 - 160) |
| Tensile Yield Strength | D638 | 73°F (23°C) | psi (MPa) | 4,500 - 6,000 (31- 41) |
| Tensile Break Strength | D638 | 73°F (23°C) | psi (MPa) | 4,000 - 7,000 (27 - 48) |
| Tensile Break Elongation | D638 | 73°F (23°C) | % | 30 - 200 |
| Flexural Strength | D790 | 73°F (23°C) | psi (MPa) | 3,000 - 5,000 (20 - 34) |
| Flexural Modulus | D790 | 73°F (23°C) | psi (MPa) | 150,000 - 180,000 (1034 -1241) |
| Compressive Strength | D695 | 73°F (23°C) | psi (MPa) | 6,000 - 8,500 (41 - 58) |
| Hardness | D2240 | 73°F (23°C) | Shore D | 70 - 75 |
| Volume Resistivity | D257 | DC 68°F (20°C) 65% R.H. | ohm-cm | $2 \times 10^{14}$ |

*Typical property values. Should not be construed as sales specifications.

KYNAR® BY ARKEMA

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See MSDS for Health & Safety Considerations

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BAILIFF ENTERPRISES

# Important Tank Information

**These are very important items to keep in mind when setting up and using a plastic storage tank. Failure to act on these items can cause failure of your tank or fittings and will void your warranty.**

**Use an expansion joint or other method of allowing tank expansion and eliminating pump vibrations.**

Poly tanks expand and contract by up to 3% based on temperature and fill. Hard piping that does not allow for movement can cause tank failure at the fitting. Pump vibrations can also cause failure due to cracks forming near the fitting. A soft expansion joint or off-set hose can take away these problems.

**Use appropriately sized venting to keep from causing a vaccuum or pressurizing a tank.**

Poly tanks should always be kept at atmospheric pressure. Creating a vaccuum or a pressurized situation with a tank can cause tank failure. Outfitting a tank with appropriate venting solves the problem. The industry rule-of-thumb is to have a vent 1" larger in diameter than your largest inlet or outlet fitting.

**Operate within the appropriate temperature limits of the plastic.**

It is important to keep the liquid temperatures within the continuous use range for the type of tank you have. For HDPE, the maximum is 120F. For Polypropylene the maximum is 200F. For PVDF it can vary widely based on the application. In some cases it is up to 300F. Consult Arkema, Inc. for details regarding PVDF maximum temperatures for your application.

**Support the weight of valves and fittings that are connected to the tank.**

Plastic tanks cannot support the weight of fittings or pipes that are not independently supported. Having the weight of pipes, valves or other fittings resting on the tank can cause the tank to crack and leaks to occur.

Bailiff Enterprises, Inc. USA

# Specification Submittal for PVDF Tanks

## Manufacturing Criteria:

Tank shall be manufactured using rotational molding as a seamless one-piece container. In the case of double wall tanks, two individual tanks will be molded and welded together.

Tank shall be manufactured from Arkema Kynar PVDF resin. All material shall be new and no re-cycled resin will be used.

Wall thickness for a given hoop stress is to be calculated in general accordance with ASTM D 1998 standards for Polyethylene tanks. PVDF tanks shall be designed using a hoop stress no greater than 700 psi.

1. The wall thickness of any cylindrical portion at any fluid level shall be determined by the following equation:

$T = P \times OD/2SD$ or $0.433 \times SG \times OD \times H \times OD/2SD$

| | | | |
|---|---|---|---|
| Where: | T | = | wall thickness, in |
| | P | = | pressure, psi |
| | SG | = | specific gravity, gm/cc |
| | H | = | fluid head, ft |
| | OD | = | outside diameter, ft |
| | SD | = | hydrostatic design stress, 700 psi |

a. The minimum wall thickness shall be sufficient to support its own weight in an upright position without external support but shall not be less than 0.187" thick.

2. On closed top tanks the top head shall be integrally molded with the cylindrical wall. Its minimum thickness shall be equal to the thickness of the top of the straight sidewall. In most cases, flat areas shall be provided for attachment of large fittings on the dome of the tank.

Bailiff Enterprises, Inc. USA

## Design Criteria:

Tank shall be manufactured in accordance with ASTM-D-1998 with the exception that the resin will be PVDF and the hoop stress will be calculated at 700 psi.

Closed top tanks shall be outfitted with a lid/manway sealed with a threaded polypropylene lid.

Fittings may include welded pvdf couplings and flanges attached via thermoplastic welding; and, screw-on bulkheads made from polypropylene, pvdf or pvc.

## Manufacturers Warranty:

The warranty shall be provided upon request for the specific service application. For most chemical applications, Bailiff Enterprises, Inc. offers a limited 3-year warranty.

## Quality Assurance:

All tanks with installed fittings shall be hydro-tested prior to shipping to insure the integrity of the tank and fittings.

## Manufacturer:

Tanks shall be manufactured by Bailiff Enterprises, Inc. Installation of fittings and fabrication shall be performed by Bailiff Enterprises, Inc.