

RESISTOFLEX[®]

brands you trust.



Resistoflex Plastic Lined Pipe
Leader in Fluoropolymer Innovations
Since 1936

CRANE[®]

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www.cranecpe.com

HERITAGE OF INNOVATION

- 1936 Resistoflex® was founded
- 1953 Invented PTFE-Lined Hose**
- 1956 Invented PTFE-Lined Pipe**
- 1957 PTFE Expansion Joints
- 1962 Patented PTFE-Lined Pipe (Thermalok®)
- 1964 PP, PVDF, and Field Fabrication
- 1982 High Integrity Flange™
- 1992 MULTI-AXIS® Precision Bent Plastic Lined Piping System
- 2011 Advanced Technology Liner (ATL)



320,000 sqft plant, Marion, NC

Resistoflex is one of the Largest Plastic-Lined Pipe Manufacturers in the World

- All Resistoflex liners are manufactured at Marion, NC
- Thanks to our vast experience with PTFE, we have advanced in-house knowledge of PTFE processing
- Resistoflex patented Thermalok™ locked-in design results in unmatched thermal cycling stability.
- Loose lining will result in flare suck-in, buckling, and other catastrophic failures.
- As many competitors buy liner on the open market, one cannot be sure who manufactured their liner, and whether or not it meets necessary standards
- Resistoflex has the exceptional capability to manufacture isostatic molded liner, paste extruded liner, and ram extruded liner
- Resistoflex is the only manufacturer offering both Thermalok & Swaged designs
- Resistoflex®ATL is a very cost-effective solution for resolving permeation issues in severe service applications
- Resistoflex®ATL PTFE pipe and fittings are double-coated with a chemical and temperature resistant paint rated to 450°F (232°C) that can be used under insulation



Resistoflex offers exclusive features:

- Special coatings from the factory, free of runs and sags (due to pipe being rotated while being painted)
- Distributor fabrication certification and follow up audit program, with full-time resources dedicated to training & audits
- Professional isometric drawing "take-off service"
- Expert field support

RESISTOFLEX® MEETS CRITICAL STANDARDS

IS ASME B31.3 PIPING CODE IMPORTANT TO YOU?

- ASTM F1545 is a listed component standard in ASME B31.3. A manufacturer that does not meet ASTM F1545 does not comply with B31.3.
- Resistoflex meets all ASTM F1545 Requirements
 - Qualification testing, Materials of construction, Dimensional Requirements, Inspection & Testing, Markings
- Requiring a minimum qualification and manufacturing standard such as ASTM F1545 is crucial to complying with OSHA 1910: *Process Safety Management for Highly Hazardous Chemicals*. ASTM is a national testing laboratory, specifically recognized by OSHA. OSHA does not recognize the CE mark or accept certifications from foreign testing organizations.

RELY ON RESISTOFLEX FOR SEVERE SERVICE APPLICATIONS - IT CONFORMS TO CRITICAL STANDARDS

Full compliance to ASTM F1545 requires passing the following tests:

- **Temperature Aging (Hot)** - (3) 12 hours cycles at rated maximum temperatures, followed by electrostatic liner inspection
- **Temperature Aging (Cold)** - 48 hours each at minimum temperatures, followed by electrostatic liner inspection
- **Steam-Cold Water Cycling** - 100 cycles of steam, ambient temperature water
- **Vacuum Testing** - 48 hours of full vacuum at rated temperature

If resin grades or suppliers change, the product must be re-qualified to meet ASTM F1545.

- Resistoflex re-qualifies its designs whenever suppliers or any manufacturing processes are altered
- Competitors that buy liner on the open market should not be automatically presumed to meet ASTM F1545

TO ENSURE SUPERIOR QUALITY, RESISTOFLEX ALSO PERFORMS THE FOLLOWING TESTS

Stringent quality testing of liners before installing in the housing:

- Dimensional Checks
- Mechanical Roll Testing of Liners
- Light Candling of Liners
- Tensile & Elongation
- Differential Scanning Calorimetry

Stringent quality testing of finished product:

- Dimensional Checks
- Electrostatic testing at 18.5KV
- Hydrostatic Pressure Testing

Certification is available upon request


ASTM Compliance Statement

This is to certify that Crane ChemPharma Flow Solutions, Resistoflex piping products are in full compliance with all ASTM F1545-97 (Reapproved 2009) requirements. This includes the four design qualification tests specified in Section 6, comprising the following:

- Elevated Temperature Vacuum Test
- Low Temperature Aging Test
- High Temperature Cycling Test
- Steam/Cold Water Cycling Test

Test reports are available for customer viewing upon request.

Respectfully submitted,



David Yanik
Resistoflex Engineering Manager

When you buy a Resistoflex product, you benefit from many decades of experience and expertise

- Resistoflex is a part of Crane Co., and has been a partner to its customers since 1936; Crane Co. was established in 1855
- Resistoflex products are supported by comprehensive global distribution with manufacturing sites in Europe, China, Singapore, Thailand, and Australia

Resistoflex provides technical assistance and solutions to its customers in local markets - worldwide

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