



**STATE OF WISCONSIN**  
Department of Safety and  
Professional Services

**Approval # 20120012**  
(Renewal for 20090005)

Industry Services Division  
Storage Tank Regulatory Services  
P.O. Box 7837  
Madison, WI 53707-7837

## **Wisconsin SPS 310 Material Approval**

**Equipment:** Universal Petro Pipe (UPP) Extra Lined  
Nonmetallic Semi-Rigid Underground  
Piping and Fittings

<b>Manufacturer:</b>	Franklin Fueling Systems, Ltd. Olympus Close, Whitehouse Industrial Estate Ipswich, Suffolk, United Kingdom IP1 5LN	Franklin Fueling Systems 3760 Marsh Road Madison, WI 53718
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**Expiration of Approval:** December 31, 2015

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### **SCOPE OF EVALUATION**

The Universal Petropipe (UPP) Extra lined underground piping system as manufactured by Franklin Fueling Systems and Franklin Fueling Systems, Ltd., was evaluated for use as petroleum product piping for underground storage tank systems in accordance with **SPS 310.130(1)(b) and 310.500** of the Wisconsin Flammable and Combustible Liquids Code.

This evaluation summary is condensed to provide the specific installation, application and operation parameters necessary to maintain the subject systems in compliance with the Wisconsin Administrative Code – SPS 310.

**DESCRIPTION AND USE**

The UPP Extra lined primary semi-rigid piping and fittings consist of a non-permeable nylon inner and high-density polyethylene (HDPE) outer layer, and are available in 1.5-in., 2-in., 3-in., and 4-in. sizes. The 1.5-in. and 2-in. sizes are available in a coiled or stick coaxial arrangement with an integral secondary containment (double-wall). The 3-in. and 4-in. sizes are available in a stick coaxial arrangement with an integral secondary containment (double-wall). Secondary containment capability can also be provided for the 1.5-in., 2-in., 3-in., and 4-in. sizes by installing the primary pipe within a UPP secondary containment sleeve stick. The secondary containment pipe sleeve stick consists of the same non-permeable nylon inner and high-density polyethylene (HDPE) outer layer as the primary pipe, and is available in 2.5 -in., 3-in., 4-in., and 5-in. sizes.

**TESTS AND RESULTS**

UPP Extra lined semi-rigid piping and fittings were found to comply with the current Underwriters Laboratories' requirements for this class of piping and are suitable for use in the distribution of petroleum products, alcohol, and alcohol-gasoline mixtures including Motor Vehicle Fuels, Concentrated Fuels, High Blend Fuels, Aviation and Marine Fuels.

**LIMITATIONS / CONDITIONS OF APPROVAL**

- UPP Extra lined primary semi-rigid piping and fittings are approved as meeting the design and construction standards for underground piping as specified in **s. SPS 310.500 and 310.520(1)(a)1.**
- UPP Extra lined primary semi-rigid piping and fittings can be used as product, vent, and vapor recovery piping. Product piping is to be supplied as secondarily contained; vent and vapor recovery piping can be supplied single wall.
- Critical performance parameters for the UPP Extra lined semi-rigid piping and fittings:

**Primary Pipe- with (DW) and without secondary containment (SW)**

UPP Pipe Size (in.)	Minimum Bend Radius (in.) SW / DW (Temperature at install)			Bulk Modulus (psi) <sup>1</sup>
	T ≥ 60 F	32 F > T < 60 F	T ≤ 32 F	
1 ½	30 / 39	49 / 63	69 / 86	11,500
2	36 / 39	62 / 63	87 / 88	11,500
3	88 / 158	124 / 236	158 / 315	11,500
4	108 / 158	152 / 236	192 / 315	11,500

1: Bulk modulus values are based on testing by Veeder-Root for the 2-inch pipe. The other pipe sizes will have values very close to the 2-inch pipe.

- UPP semi-rigid piping is approved for installation without the flex connectors specified in **s. SPS 310.500(2)**.
- UPP semi-rigid piping and fittings are approved for underground (buried) installations only.
- The UPP secondary containment piping and fittings are approved for use as a secondary barrier for interstitial monitoring systems in compliance with **s. SPS 310.500(5) and 310.515(7)**.
- Installation, use, and maintenance of all products shall be in accordance with the manufacturer's recommendations and this approval. In the event of conflicts, the stricter requirement shall govern.
- Leak detection for the piping system shall be provided in accordance with **s. SPS 310.515(8)**. The specific leak detection system must be shown on the plans that are submitted for review in accordance with **s. SPS 310.100**. Automatic line leak detectors and line tightness testing methods must be specifically approved for use with semi-rigid piping in accordance with **s. SPS 310.130(1)(a)**. (Note: Evaluation of these leak detection methods with the standard EPA protocol does not demonstrate acceptability for use with semi-rigid piping.)

This approval will be valid through December 31, 2015, unless manufacturing modifications are made to the product or a re-examination is deemed necessary by the department. The Wisconsin Material Approval Number must be provided when plans that include this product are submitted for review.

### **DISCLAIMER**

The Department is in no way endorsing or advertising this product. This approval addresses only the specified applications for the product and does not waive any code requirement unless specified in this document.

Effective Date: January 1, 2013

Reviewed by: \_\_\_\_\_  
Greg Baretta, P. E.  
Engineering Consultant  
Bureau of Petroleum Products and Tanks

Approved by: \_\_\_\_\_ Date: \_\_\_\_\_