



# e-TechNotes

*Editor-Russell P. Fleming, P.E.*

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## **Greenpipe and Redpipe Arrive**

Although “Greenpipe” and “Redpipe” were officially listed for fire sprinkler service by FM Approvals in April of 2010, NFSA has been advised that they are just now beginning to make their appearance in the North American marketplace, just in time for the holidays. These products, manufactured by the German firm Aquatherm, are polypropylene based, have somewhat different characteristics, and are intended for different applications.

Aquatherm Greenpipe is being distributed by Aquatherm, Inc. out of Provo, Utah, and is being marketed primarily for multipurpose systems installed in compliance with NFPA 13D. It is NSF approved for potable water applications. Aquatherm Redpipe is being marketed by Redpipe Industries of Mentor, Ohio, for NFPA 13R and NFPA 13 light hazard applications. Reportedly constructed in three layers that are extruded simultaneously, the outer layer of Redpipe contains a flame retardant chemical that provides additional flame resistance but prevents its use in potable water systems. Both types of pipe are required under their FM 1635 listing to be concealed behind a non-combustible 15-minute fire barrier. Underwriters Laboratories has not listed either product at this point in time.

Both of the new piping materials are made from PP-R (PolyPropylene Random Copolymer Type 3). The Redpipe is officially designated PP-R FS. Both types of piping are joined by means of heat fusion using a heat iron or “welding tool.” Those in the fire sprinkler industry who remember the use of polybutylene piping will find the heating iron familiar. The manufacturer claims benefits that include leak-free connections, corrosion and chemical resistance, freeze resistance, and low weight. As with other nonmetallic products, exposure to UV-radiation such as from outdoor storage must be avoided, and there is some indication that these piping materials are more sensitive to high levels of residual chlorine than CPVC.

The Greenpipe and Redpipe are being manufactured with an SDR (Standard Dimension Ratio – the ratio of pipe diameter to wall thickness) of 7.4. Since CPVC is manufactured with an SDR of 13.5 for the fire sprinkler industry, and PEX for the fire sprinkler industry is manufactured with an SDR of 9, the walls are noticeably thicker for the new products, affecting flow characteristics. The outside diameters of the new polypropylene products fall between those of iron pipe size (IPS) used by CPVC manufacturers and the copper tube size (CTS) used by the manufacturers of PEX.

## **Upcoming NFSA “Technical Tuesday” Seminar – December 27<sup>th</sup>**

*NOTE: This seminar, originally scheduled for December 13<sup>th</sup>, has been rescheduled for December 27<sup>th</sup> due to a conflict.*

**Topic: Types of Pipe**

**Instructor: Russell P. Fleming, P.E., NFSA Executive Vice President**

**Date: Tuesday, December 27, 2011- 10:30 am EST**

This seminar will provide an update on the types of pipe allowed for use in fire sprinkler systems under the various NFPA sprinkler installation standards and different occupancy hazard classifications, as well as new types not yet addressed in the NFPA standards. It will include a review of the joining methods permitted for the various types. It will also address the limitations of special listed piping products, such protection requirements versus when piping can be exposed, and discuss current compatibility concerns.

**To register or for more information, click [HERE](#) or contact Michael Repko at (845) 878-4207 or e-mail to [seminars@nfsa.org](mailto:seminars@nfsa.org).**

## **Register Now for 2012 "Tech Tuesday" Series on Standpipes**

NFSA Engineering has announced a new series of 12 "Technical Tuesday" online seminars for the first half of 2012, focusing on all aspects of standpipe system design, installation, testing and inspection. The series starts on January 10th, so register now and take advantage of the multi-seminar discounts of up to 25 percent:

Jan 10<sup>th</sup> - Introduction to Standpipes  
Jan 24<sup>th</sup> - Class II Standpipe Systems  
Feb 7<sup>th</sup> - Class I and Class III Standpipe Systems  
Feb 21<sup>st</sup> - Pressure Control in Buildings with Standpipe  
Mar 6<sup>th</sup> - Pumps and Standpipe Systems  
Mar 20<sup>th</sup> - NFPA 20 and NFPA 14 for High-Rise Buildings  
April 3<sup>rd</sup> - Hanging, Bracing and Protection of Standpipe System Piping  
April 17<sup>th</sup> - Manual Standpipe Systems  
May 8<sup>th</sup> - Dry Standpipe Systems  
May 22<sup>nd</sup> - Horizontal Standpipes and Lateral Piping  
June 5<sup>th</sup> - Acceptance Testing of Standpipes  
June 19<sup>th</sup> - Inspection, Testing and Maintenance of Standpipe Systems

Price for NFSA Members - \$125 per session

Price for Non-Members - \$250 per session

**\*\*\*\*\* Special Offer \*\*\*\*\***

**Order 12 or more seminars now and receive 25% off regular price**

**Order 10 or 11 seminars now and receive 20% off regular price**

**Order 8 or 9 seminars now and receive 15% off regular price**

**Order 6 or 7 seminars now and receive 10% off regular price**

**To register or for more information, click [HERE](#) or contact Michael Repko at (845) 878-4207 or e-mail to [seminars@nfsa.org](mailto:seminars@nfsa.org).**

## Sprinkler System Basic Hydraulics – Distance Learning

**Seminar Description:** Over a course of nine weeks, basic hydraulic calculations for fire sprinkler systems will be covered so that the participant will be able to recognize and apply the terminology used in the fire sprinkler industry, calculate flow and pressure demands for a sprinkler system by hand, prepare the input for a computer program to perform hydraulic calculations, and interpret the output from a program. The seminar will be taught via the internet in a live distance learning format using the NFSA Media Center to broadcast lectures and facilitate live discussions from wherever the participants are, worldwide. Activities will be done in class and homework will be assigned each week, graded, and returned with comments. Participants will need a computer and a good internet connection.

**Duration:** One class (60 to 90 minutes) per week for nine weeks.

**Seminar Fees:** \$250 for NFSA members and \$375 for non-members.

**Seminar Schedule:** Nine classes on Wednesday afternoons from 2:00 p.m. to 3:30 p.m. EST

February 1, 2012: Module 1 – Introduction to Hydraulics

February 8, 2012: Module 2 – Basic Hydraulics

February 15, 2012: Module 3 – Hydraulic Calculation Theory, Part 1

February 22, 2012: Module 4 – Hydraulic Calculation Theory, Part 2

February 29, 2012: Module 5 – First Full System Hydraulic Calculation

March 7, 2012: Module 6 – Computer Input and Output

March 14, 2012: Module 7 – Residential Systems

March 21, 2012: Week 8 – Complex Operating Areas and Non-Uniform Layouts

March 28, 2012: Week 9 – Homework review and final comments

**Registration materials are being developed...stay tuned to [www.nfsa.org](http://www.nfsa.org) for further information.**

## Layout Technician Training Course (2-week course)

*Orlando, FL – February 6-17, 2012*

*Fishkill, NY – October 8-19, 2012*

**For more information, contact Nicole Sprague using [sprague@nfsa.org](mailto:sprague@nfsa.org) or by calling 845-878-4200 ext. 149 or click [HERE](#).**

## Upcoming In-Class Training Seminars

The NFSA training department also offers in-class training on a variety of subjects at locations across the country, and in recognition of the current recession has adopted a new reduced fee structure. Here are some upcoming seminars:

Jan 10	Poughkeepsie, NY	NFPA 13, 13R & 13D Update 2007/2010
Jan 11	Poughkeepsie, NY	Basic Seismic Protection/Protection of Flammable & Combustible Liquids
Jan 12	Poughkeepsie, NY	Inspection, Testing & Maintenance for the AHJ

*These seminars qualify for continuing education as required by NICET, and meet mandatory Continuing Education Requirements for Businesses and Authorities Having Jurisdiction.*

**To register for these in-class seminars, click [HERE](#). Or contact Michael Repko at (845) 878-4207 or e-mail to [seminars@nfsa.org](mailto:seminars@nfsa.org) for more information.**

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*NFSA Tuesday eTechNotes is c. 2011 National Fire Sprinkler Association, and is distributed to NFSA members on Tuesdays for which no NFSA Technical Tuesday Online Seminar is scheduled. Statements and conclusions are based on the best judgment of the NFSA Engineering staff, and are not the official position of the NFPA or its technical committees or those of other organizations except as noted. Opinions expressed herein are not intended, and should not be relied upon, to provide professional consultation or services. Please send comments to Russell P. Fleming, P.E. [fleming@nfsa.org](mailto:fleming@nfsa.org).*

***About the National Fire Sprinkler Association***

*Established in 1905, the National Fire Sprinkler Association (NFSA) is the voice of the fire sprinkler industry. NFSA leads the drive to get life-saving and property protecting fire sprinklers into all buildings; provides support and resources for its members – fire sprinkler contractors, manufacturers and suppliers; and educates authorities having jurisdiction on fire protection issues. Headquartered in Patterson, N.Y., NFSA has regional operations offices throughout the country. [www.nfsa.org](http://www.nfsa.org).*