

RedPipe

UL PLENUM APPROVED REDGEARMFG.COM

Aspirating Smoke Detection Pipe and Fittings

Submittal Data Sheet:

Project/Customer: _____

Engineer: _____

Distributor: _____

Submitted By: _____ Date: _____

Approved By : _____ Date: _____

Project No. : _____ Date: _____

Installation By: _____ Date: _____

Notes: _____



www.RedGearMfg.Com

Introduction:

RedPipe and fittings are specifically designed for air sampling smoke detection systems. Redpipe is also specifically approved for use with air sampling smoke detection systems and is approved for use in plenum areas. They are made with the latest plastic technology out of CPVC plastic in a brilliant "Fire" red color meant for fire systems.

RedPipe and fittings are the first UL approved CPVC pipe and fittings manufactured specifically for use with air sampling systems by offering unique advantages over other types of pipes currently in use. Redpipe and fittings are "Fire" red and has the required NFPA printing on the pipe for easy identification and are specifically UL approved for use with air sampling smoke detection systems. RedPipe is also approved for use in plenum areas.

Fire Performance:

RedPipe is made from an extrusion grade rigid CPVC specially formulated for piping applications requiring excellent flame and chemical resistance and very low flame and smoke generation. The compound exhibits a high degree of ductility and impact resistance while maintaining heat distortion temperature resistance. This results is the first CPVC pipe made and approved by UL specifically for the use with air sampling smoke detection systems.

Material Properties

Physical Properties	ASTM#:	Typical Value
Specific Gravity	D-792	1.51
Mechanical Properties		
Tensile Strength @ Yield (psi)	D-638	7320
Tensile Modulus (psi)	D-638	370,000
Izod Impact (ft. lb./in.)	D-256	8.0
Thermal Properties		
HDT @264 psi (annealed) °C	D-648	110
Average Time to Burn	D-635	<5 sec
Average Extent of Burn	D-635	<5 mm
Compliance Information		
Cell Class Number	D-1784	24448

Products

Item	Size	I.D	Part Number
Pipe	3/4"	0.874	
Fittings (SOC)			
Tee	3/4"	0.874	
90° Elbow	3/4"	0.874	
90° Radius Bend	3/4"	0.874	
45° Elbow	3/4"	0.874	
Coupling	3/4"	0.874	
Union	3/4"	0.874	
Cap	3/4"	0.874	
Adaptor*	3/4"	0.874	

* Air Sampling Detector to 3/4" Pipe



Installation

Cutting:

Redpipe can be easily cut with a ratchet type pipe cutter down to 40° F. Wheel types cutters or power saws can also be used.

Deburring:

Deburring is recommended on all cuts. This can be done by using a deburring tool.

Preparation:

Clean all loose dirt and materials from connections with a clean dry rag prior to cement application.

Cement Application:

Only a small amount of solvent cement is required for use on air sampling smoke detection piping. Large amounts of cement can drip down and impede airflow. After applying cement immediately insert pipe into fitting, rotate approximately 1/4 turn and align as required. Allow approximately one minute for cement to dry before proceeding.

REDPIPE ENGINEERING SPECIFICATIONS

CSI SECTION [] PIPE, FITTINGS AND MOUNTING ACCESSORIES FOR AIR SAMPLING SMOKE DETECTION SYSTEM (S)

PART 1 - GENERAL

1.01 PRODUCT DESCRIPTION

Redpipe CPVC pipe and fittings are extruded/molded and manufactured by RedGear Manufacturing and U/L approved specifically for use with air sampling smoke detection systems.

1.02 REFERENCES

- A. National Fire Protection Association (NFPA):
 - 1. NFPA 72 Standard for Protection Signaling Systems
 - 2. NFPA 90A (Plenum Spaces)
- B. Underwriters Laboratories Inc. (UL) Fire Protection Equipment Directory
 - 1. U/L 1820
- C. Federal, State and Local Codes.

1.03 PIPE AND FITTINGS

- A. Pipe shall meet or exceed the requirements of ASTM E-84.
- B. Pipe shall be listed by Underwriters Laboratories for specific use with air sampling smoke detection systems and shall bear the U/L logo as well as the required NFPA system pipe identification printing directly on the pipe. Pipe labels shall not be allowed. See UL Fire Protection Equipment Directory.
- C. Ancillary products coming into contact with pipe and fittings must be chemically compatible as determined by CPVC pipe and fittings manufacturer or compound manufacturer.

1.04 SOLVENT CEMENT

- A. All socket type joints shall be made up employing solvent cement that meet or exceed the requirements of ASTM F493. The standard practice for safe handling of solvent cements shall be in accordance with ASTM F402. Solvent cement shall be certified by NSF international and approved by the manufacturer. The solvent cements shall be compatible with their pipe and fittings
- B. Follow manufacturer's instructions for set and cure time for solvent cement joints. Avoid significant stresses during set and cure times. Do not apply any stress that will disturb an un-dried joint. Fittings shall be allowed to cure in accordance with the manufacturer's guidelines and the contactors shall assure the outlets are clear of any excess cement prior to installing.

1.05 BASIC USE

- A. CPVC Pipe and fittings appropriate for use with air sampling smoke detection systems in:
 - 1. Ordinary Hazard Rooms
 - 2. Special Hazard Areas
 - 3. Industrial Hazard Areas
 - 4. Plenum Spaces
 - 5. Refer to UL 1820
 - 6. Refer to pipe and fittings manufacturer's installation instructions.

1.06 QUALITY ASSURANCE

Installer Qualifications:

Contractor Training Certificates for Air Sampling Smoke Detection Systems. Contractor must submit to the Contracting officer documentation that lists personnel assigned to this project prior to beginning construction who have successfully completed formal CPVC and PVC Air sampling smoke detection training conducted by an authorized CPVC Manufacturer's representative. The Contractor's Training Certificates shall be specific to the manufacturer of pipe and fittings. Personnel's training certificates must be current and have been updated within the past two (2) years. (NOTE: this training does not imply compliance with any local or state contractor certification or licensing laws.)

PART 2 - PRODUCTS

2.01 MATERIAL

The CPVC piping systems (pipe and fittings) shall be constructed from materials extruded/molded by RedGear Manufacturing.

PART 3 - EXECUTION

3.02 SYSTEM DESIGN

- A. System design shall be done in accordance with standard industry practice for air sampling smoke detection systems and the manufacturer's instructions. The design shall take into consideration such factors as time, pressure, flow requirements, operating temperatures, support, spacing, joining methods, and thermal expansion and contraction.
- B. The piping system shall be hydraulically calculated.
- C. The maximum pressure/temperature rating shall not exceed 480 psi at 200°F and in accordance with the manufacturer's instructions and appropriate listing agencies.

3.03 INSTALLATION PRODCEDURES

Installation practices such as pipe support spacing, bracing, allowance for thermal expansion/contraction, solvent cementing and handling and storage shall be in accordance with the manufacturer's instructions and the UL Listing which includes installation limitations. Please refer to manufacturer's installation manual.

3.04 LIMITATIONS

RedPipe CPVC pipe and fittings have a maximum working pressure of 480 psi and a maximum working temperature of 200°F in accordance with the manufacturer's instructions for use solely with air sampling smoke detection systems.

3.05 TECHINCAL DATA

A. APPLICABLE STANDARDS

1. ASTM E-84
2. UL 1820
3. NFPA 72
4. NFPA 90A
5. NFPA 76

B. APPLICABLE CODES

1. ICC, International Building, Mechanical and plumbing Codes
2. NBC, National Building Code of Canada

The logo for RedGear, featuring the word "RedGear" in a bold, italicized, red sans-serif font.

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