NYC Buildings Department
280 Broadway, New York, NY 10007

Robert D. LiMandri, Commissioner

BUILDINGS BULLETIN 2011-021
OTCR

Supersedes: None

Issuer: Alan Price, P.E.
Director, Office of Technical Certification and Research

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Purpose: This document establishes acceptance criteria for the use of chlorinated polyvinyl chloride (CPVC) for water recycling distribution piping systems as an alternative material in the 2008 NYC Construction Codes.

Related Code Section(s):

AC	28-113	PC	312	PC	C101.7
BC	1704.13	PC	605.4	PC	C101.12
		PC	608	1 RCNY	101-06

Related Buildings Bulletin(s): BB 2010-027

Subject(s): Chlorinated polyvinyl chloride; Water recycling distribution piping system, chlorinated polyvinyl chloride

Background: The NYC Plumbing Code does not clearly address materials used for water recycling distribution piping systems for non-potable water.

Description: Chlorinated polyvinyl chloride ("CPVC") is a thermoplastic produced by chlorination of polyvinyl chloride ("PVC") resin. CPVC piping system components include piping and fittings.

Uses: CPVC piping systems may be used for water recycling distribution systems for non-potable water.

Restrictions:
CPVC piping systems shall not be used for water distribution pursuant to section PC 605.4.

Evaluation Scope: 2008 NYC Construction Codes

*SEE RELATED BUILDINGS BULLETIN 2015-022

Evaluation Criteria: Pursuant to section AC 28-113, the Office of Technical Certification and Research (OTCR) recognizes CPVC piping system components tested and evaluated in accordance with ASTM D 2846 *"Standard Specification for Chlorinated Polyvinyl Chloride (CPVC) Plastic Hot- and Cold-Water Distribution Systems"* [1]. Acceptable CPVC piping systems shall be listed and labeled by an approved agency in accordance with section AC 28-113.2.3 and shall comply with the conditions of this bulletin.

Conditions of Acceptance: CPVC water recycling distribution piping systems shall be designed, installed, inspected, manufactured and identified in accordance with the 2008 NYC Construction Codes and other applicable provisions including but not limited to the following:

A. Design

1. When connected to a potable water supply system, the valve isolating the CPVC water recycling distribution piping system from the domestic water supply system shall be located after any required building RPZ valve and such valve shall comply with the NYC Plumbing Code for potable water system valves.
2. CPVC piping systems shall be identified as carrying non-potable water even if such systems contain potable water as required by sections PC C101.12 and PC 608.8, and OTCR Buildings Bulletin 2010-027, issued on November 10, 2010.
3. When connected to water recycling systems, the CPVC piping shall be located in the same lot as the water recycling system as per OTCR Buildings Bulletin 2010-027.
4. All CPVC piping systems used with a recycled water distribution system shall comply with OTCR Buildings Bulletin 2010-027.
5. When potable water is provided to CPVC piping systems as makeup water, it shall be protected against backflows in accordance with sections PC 608 and PC C101.7.

B. Installation

1. Installation requirements shall be in accordance with the manufacturer's instructions, the NYC Plumbing Code, and the conditions of this bulletin.
2. When CPVC water recycling distribution piping systems are used in above-ground, exterior applications, protection from sunlight shall be required.
3. Installation of CPVC piping systems shall be performed by a NYC licensed master plumber.

C. Inspection of Installation

Pursuant to section BC 1704.13, the installation of CPVC water recycling distribution piping systems shall be subject to special inspection requirements of Chapter 17 of the Building Code and all Department rules covering special inspection. Special Inspectors of CPVC water recycling distribution piping systems shall:

1. Have qualifications and experience which include PE or RA and 1 year relevant experience.
2. Have duties and responsibilities in accordance with, but not limited to: 1) verifying compliance with part "A" items 1 to 5 of this bulletin, 2) witnessing tests as per section PC 312.1.2 as the approved agency and 3) all code provisions and departments rules regarding special inspections including 1 RCNY §101-06
3. Complete the statement of special inspection under "Alternative Materials, BC 1704.13" in section 3.0 of the TR1 form.

*SEE RELATED BUILDINGS BULLETIN 2015-022

☐	☐	Wood - Installation of Metal-Plate-Connected Trusses		BC 1704.6.3	
☐	☐	Wood - Installation of Prefabricated I-Joists		BC 1704.6.4	
☐	☐	Soils - Site Preparation		BC 1704.7.1	
☐	☐	Soils - Fill placement & In-Place Density		BC 1704 .7.2, BC 1704.7.3	
☐	☐	Soils - Investigations (Borings/Test Pits)	TR4	BC 1704.7.4	
☐	☐	Pile Foundations & Drilled Pier Installation	TR5	BC 1704.8	
☐	☐	Pier Foundations		BC 1704.9	
☐	☐	Underpinning		BC 1704.9.1	
☐	☐	Wall Panels, Curtain Walls, and Veneers		BC 1704.10	
☐	☐	Sprayed Fire-Resistant Materials		BC 1704.11	
☐	☐	Exterior Insulation Finish Systems (EIFS)		BC 1704.12	
☐	☐	Alternative Materials - OTCR Buildings Bulletin #_____		BC 1704.13	
☐	☐	Smoke Control Systems		BC 1704.14	

Use this line to identify CPVC water recycling distribution system.

D. Manufacturing

1. Materials used in the manufacture of CPVC piping systems shall conform to section 5 of ASTM D 2846.
2. CPVC piping systems shall meet the requirements for piping, tubing and fittings in accordance with section 6 of ASTM D 2846.
3. All CPVC piping used with water recycling distribution shall be manufactured as purple.

E. Identification

1. All shipments and deliveries of materials shall be accompanied by a certificate or label certifying that the materials shipped or delivered are equivalent to those tested and approved.
2. CPVC piping systems shall be marked in accordance with section 12 of ASTM D 2846.

Referenced Standards:

1. ASTM D 2846-2009 *"Standard Specification for Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Hot- and Cold-Water Distribution Systems." (www.astm.org)*

*SEE RELATED BUILDINGS BULLETIN 2015-022