

# SUBMITTAL FOR CHARLOTTE PIPE® CPVC COPPER TUBE SIZE (CTS) FLOWGUARD GOLD® HOT AND COLD DOMESTIC WATER DISTRIBUTION SYSTEM

Date: \_\_\_\_\_

Job Name: \_\_\_\_\_

Location: \_\_\_\_\_

Engineer: \_\_\_\_\_

Contractor: \_\_\_\_\_

**► Scope:**

This specification covers Copper Tube Size (CTS) CPVC manufactured to standard dimensional ratio (SDR) 11 for hot and cold domestic water distribution. This system is intended for pressure applications where the operating temperature will not exceed 180° F at 100 psi.

**► Specification:**

Pipe shall be manufactured from virgin rigid CPVC (chlorinated polyvinyl chloride) vinyl compounds with a cell class of 24448 as identified in ASTM D 1784. Fittings shall be manufactured from virgin rigid CPVC (chlorinated polyvinyl chloride) vinyl compounds with a cell class of 23447 as identified in ASTM D 1784.

FlowGuard Gold CTS CPVC pipe and fittings shall conform to ASTM D 2846. Pipe and fittings shall be manufactured as a system and be the product of one manufacturer. All pipe and fittings shall be manufactured in the United States. Pipe and fittings shall conform to NSF International Standards 14 and 61.



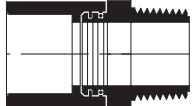

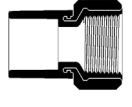


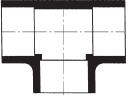
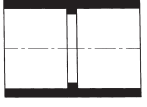
**► Installation:**

Installation shall comply with the latest installation instructions published by Charlotte Pipe and Foundry and shall conform to all applicable plumbing, fire, and building code requirements. Buried pipe shall be installed in accordance with ASTM F 1668. Solvent cement joints shall be made using CPVC cement conforming to ASTM F 493. If a primer is required by local plumbing or building codes, then a primer conforming to ASTM F 656 should be used. The system shall be protected from chemical agents, fire-stopping materials, thread sealant, plasticized-vinyl products or other aggressive chemical agents not compatible with CPVC compounds. The system shall be hydrostatically tested after installation. **WARNING!** Never test with or transport/store compressed air or gas in CPVC pipe or fittings. Doing so can result in explosive failures and cause severe injury or death.

**► Referenced Standards:**

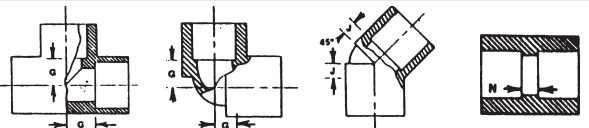
- ASTM D 1784: Rigid Vinyl Compounds
- ASTM D 2846: CPVC Plastic Hot and Cold Water Distribution System
- ASTM F 493: Solvent Cements for CPVC Pipe and Fittings
- ASTM F 1668: Procedures for Buried Plastic Pipe
- NSF Standard 14: Plastic Piping Components & Related Materials
- NSF Standard 61: Drinking Water System Components—Health Effects



 Quarter Bend	 Eighth Bend	 Brass Male Adapter
 Street Quarter Bend	 Brass Female Adapter	 Bushing
 Cap	 Tee	 Coupling

*Not all fitting patterns shown*

**MINIMUM DIMENSIONS FROM CENTER TO END OF SOCKET  
(LAYING LENGTH) FOR CPVC 41, SDR 11 FITTINGS**



NOMINAL SIZE (IN.)	"G" MINIMUM IN. (mm)	"J" MINIMUM IN. (mm)	"N" MINIMUM IN. (mm)
1/2	0.382 (9.70)	0.183 (4.65)	0.102 (2.59)
3/4	0.507 (12.88)	0.235 (5.97)	0.102 (2.59)
1	0.633 (16.08)	0.287 (7.29)	0.102 (2.59)
1 1/4	0.758 (19.25)	0.339 (8.61)	0.102 (2.59)
1 1/2	0.884 (22.45)	0.391 (9.93)	0.102 (2.59)
2	1.134 (28.83)	0.495 (12.57)	0.102 (2.59)

**PIPE REFERENCE GUIDE**

Product	Sizes Available					
	1/2	3/4	1	1 1/4	1 1/2	2
FlowGuard Gold® CPVC CTS SDR 11	•	•	•	•	•	•

# TERMS AND CONDITIONS OF SALE

Terms and Conditions of Sale can be found at [https://charlottepipe.com/terms\\_and\\_conditions.aspx](https://charlottepipe.com/terms_and_conditions.aspx)

## LIMITED WARRANTY

Charlotte Pipe and Foundry Company® (Charlotte Pipe®) Products are warranted to be free from manufacturing defects and to conform to currently applicable ASTM standards for a period of five (5) years from date of delivery. Buyer's remedy for breach of this warranty is limited to replacement of, or credit for, the defective product. This warranty excludes any expense for removal or reinstallation of any product and any other incidental, consequential, or punitive damages. **This limited warranty is the only warranty made by seller and is expressly in lieu of all other warranties, express and implied, including any warranties of merchantability and fitness for a particular purpose.** No statement, conduct or description by Charlotte Pipe or its representative, in addition to or beyond this Limited Warranty, shall constitute a warranty. This Limited Warranty may only be modified in writing signed by an officer of Charlotte Pipe.

This Limited Warranty will not apply if:

- 1) The Products are used for purposes other than their intended purpose as defined by local plumbing and building codes, and the applicable ASTM standard.
- 2) The Products are not installed in good and workmanlike manner consistent with normal industry standards; installed in compliance with the latest instructions published by Charlotte Pipe and good plumbing practices; and installed in conformance with all applicable plumbing, fire and building code requirements.
- 3) This limited warranty does not apply when the products of Charlotte Pipe are used with the products of other manufacturers that do not meet the applicable ASTM or CISPI standards or that are not marked in a manner to indicate the entity that manufactured them.
- 4) In hubless cast iron installations, this warranty will not apply if products are joined with unshielded hubless couplings. Charlotte Pipe requires that its hubless cast iron pipe and fittings be joined only with shielded hubless couplings manufactured in accordance with CISPI 310, ASTM C 1277 and certified by NSF® International or with Heavy Duty Couplings meeting ASTM C 1540.
- 5) The Products fail due to defects or deficiencies in design, engineering, or installation of the piping system of which they are a part.
- 6) The Products have been the subject of modification; misuse; misapplication; improper maintenance or repair; damage caused by the fault or negligence of anyone other than Charlotte Pipe; or any other act or event beyond the control of Charlotte Pipe.
- 7) The Products fail due to the freezing of water in the Products.
- 8) The Products fail due to contact with chemical agents, fire stopping materials, thread sealant, plasticized vinyl products, or other aggressive chemical agents that are not compatible.
- 9) Pipe outlets, sound attenuation systems or other devices are permanently attached to the surface of Charlotte® PVC, ABS or CPVC products with solvent cement or adhesive glue.

Charlotte Pipe products are manufactured to the applicable ASTM or CISPI standard. Charlotte Pipe and Foundry **cannot** accept responsibility for the performance, dimensional accuracy, or compatibility of pipe, fittings, gaskets, or couplings not manufactured or sold by Charlotte Pipe and Foundry.

This Limited Warranty will not apply unless written notice of a claim is mailed to Charlotte Pipe at the address below within 30 days of discovery of the allegedly defective product.

Any Charlotte Pipe products alleged to be defective **must** be made available to Charlotte Pipe at the following address for verification, inspection and determination of cause:

Charlotte Pipe and Foundry Company  
Attention: Technical Services  
2109 Randolph Road  
Charlotte, North Carolina 28207

**Purchaser must obtain a return materials authorization** and instructions for return shipment to Charlotte Pipe of any product claimed defective or shipped in error.

Any Charlotte Pipe product **proved** to be defective in manufacture will be replaced F.O.B. point of original delivery, or credit will be issued, at the discretion of Charlotte Pipe.

5/19/23

**Charlotte, Charlotte Pipe and "You can't beat the system" are registered trademarks of Charlotte Pipe and Foundry Company.**