

# Quick Reference Sheet

## Category:

### **Thermoplastic valves**

Item Class 121: Sump pump check valves

Item Class 260: PVC true union ball valves

Item Class 262: PVC single union ball valves

Item Class 265: PVC butterfly valves

Item Class 270: PVC compact ball valves (Sch. 80)

Item Class 280: PVC compact ball valves (Sch. 40)

Item Class 290: PVC In-line check valves

Item Class 291: PVC ball check valves

Item Class 300: CPVC ball valves

Item Class 301: CPVC schedule 80 ball valves

Item Class 310: Thermoplastic low pressure

Item Class 320: Compression fittings

## Model(s):

S-650, S-651, S-643, T/S-603, S-603, T/S-603V, T-645, S-645, T-602, S-602, S-602 E-Z, T-600, S-600, T-601, S-601, S-601E-Z, S-608, T-655, S-655, T-611, S-611, S-640, S-641, S-660, S-661, S-613, S-614, S-670, S-672, T-612, S-605, S-606, S-607, S-615, S-617, S-619, S-621, S-622, T-623, T-624, T-625, T-626, T-627, T-628, Schedule 40 and Schedule 80 PVC unions and CPVC unions.

## Technical features and facts:

- Almost all items have the following **WOG** and related temperature rating: **150 PSI at 73 degrees Fahrenheit.**
- The maximum service temperature for all models constructed of **PVC** resin is **140 degrees Fahrenheit.** The maximum service temperature for all models constructed of **CPVC** resin is **180 degrees Fahrenheit.**
- The term “thermoplastic” is used to describe the manufacturing process of the valve or fitting, which involves heating plastic resin to a liquid state, in order to mold it into its final shape.
- All models are constructed of a combination of the thermoplastic resins PVC, UPVC, CPVC, ABS, PP and Celcon.
- The most popular method for joining the valve or fitting to the pipe or tubing line, is solvent welding. A process that chemically melts and fuses the valve and pipe surfaces together.
- All models incorporate one or more of the following end connections: Solvent weld (or socket weld), MIP, FIP, barb, compression and class 125/150 flanging.
- All models are made of resins that have been tinted to match the corresponding pipe or tubing type. E.g. Valves and fitting for installation onto Schedule 40 pipe are tinted white. Valves and fittings for installation onto CTS CPVC tubing are tinted bone color.
- All models are constructed of virgin resins, which comply with ASTM D-1784-03.
- Models T & S 600, T & S 602, S-605, S-606, S-607, the CPVC union and Schedule 80 union are the only thermoplastic items approved by NSF.

## Other related products:

T-1008: A forged brass, true-union CTS solvent-weld ball valve (female CPVC union ends).

T-404: CTS fitting-size (male) end connections on this brass gate valve.

T-502: CTS fitting-size (male) end connections on this brass stop valve.

T-513: CTS fitting-size (male) end connections on this brass stop-and-waste valve.

½” CPVC x 3/8” T-595, T-596, T-581 and T-582: CP supply stops with a female CPVC inlet.

PVC and CPVC compression couplings

CPVC drop-ear elbows

## **F.A.Q.:**

### **Q. How do the terms “Schedule 40” and “Schedule 80” relate to PVC valves?**

A. Where they’re installed. These terms refer to pipe wall thickness, not valve wall thickness; the higher the Schedule number, the thicker the pipe wall. Equally important, the inside diameter gets smaller as wall thickness increases, while the outside diameter remains the same. That’s why a “Schedule 80 valve” can be installed onto a Schedule 40 piece of pipe, and vice-versa.

### **Q. Since Schedule 40 and 80 are terms that describe pipe, why do we use them to describe our valves?**

A. It has become standard industry practice to describe PVC valves using these pipe-descriptive terms. Remember, all valves are rated by pressure, not wall thickness. Polyvinyl Chloride (PVC) resin is typically tinted white and is used to make Schedule 40 PVC pipe, valves and fittings. Unplasticized Polyvinyl Chloride (UPVC) resin is typically tinted dark gray and is used to make Schedule 80 UPVC pipe, valves and fittings. Since in both instances, the same color resin is used to make both the pipe and valves, the terminology describing the pipe has inaccurately “carried over” to describe the valves.

### **Q. Since all of the PVC ball valves fit onto both Schedule 40 and Schedule 80 PVC pipe, then why do we even have separate Schedule 40 and Schedule 80 ball valves?**

A. For general piping applications, such as potable water, the Schedule 40 valves have EPDM seats and stem o-ring. For the commercial or industrial applications, such as chlorinated pool water or acids, the Schedule 80 valves have superior Teflon seats and EPDM stem O-ring. In Schedule 80 valves, the use of the UPVC resin is further enhanced by installing Teflon seats in the models S-643, T/S 603, T/S 603V, S-603, T-645, S-645, T-602, S-602 and S-602 E-Z. In Schedule 40 valves, the use of EPDM seats with traditional PVC resin offers a reliable, competitively-priced valve in models T-600, S-600, T-601, S-601, S-601 E-Z

### **Q. Do we have any thermoplastic valves that fit Copper-Tubing-Size CPVC?**

A. Yes. Models S-605, S-606, S-615, S-617 and S-619. Typically, CPVC resin is used to make CTS tubing, verses IPS pipe (although, CPVC pipe does exist). Denoted by their bone-color tint, Chlorinated Polyvinyl Chloride (CPVC) is capable of withstanding a higher temperature than PVC, making it ideal for residential hot water plumbing distribution. CPVC is extruded into copper-tube-size lengths instead of Schedule 40 or 80 pipe lengths, because almost all modern residential plumbing distribution is CTS.

### **Q. Do we have any CPVC valves that will fit plastic pipe instead of plastic tubing?**

A. Yes. Model 607 offers the user the higher service temperature rating of 180 degrees Fahrenheit, verses PVC’s or UPVC’s 140-degree limit.

### **Q. What is meant by the term “molded-in-place?”**

A. This refers to the manufacturing process of all compact-pattern ball valves where the heated resin is molded around the seats, ball and stem assemblies, instead of the traditional method of installing this assembly into a finished body which would require an end adapter. The result is a one-piece body verses the traditional two-piece.