

Technical Specifications

Fluid System Technical Specifications

Working Pressure and Temperature Range for PP/PPM Fittings

Water	Max. 150 psi (10 bar) at 70°F (20°C)
	Max. 60 psi (4 bar) at 140°F (60°C)
	Min 33°F / 1°C

NOT suitable for compressed air applications.

General Technical Specifications:

Tube Types

Plastic Tube - Polyethylene, nylon and polyurethane conforming to the tolerances shown below. For soft tubing or thin wall tube we recommend the use of tube inserts.

Braided Tube - Use of Tube to Hose Stems listed on page 14 is essential when using braided tube or hose. The use of clamps to retain braided tube on barbs is recommended.

Metal Tube (soft) - Brass, copper or mild steel conforming to the tolerances below.

Metal Tube (hard) - We do not recommend John Guest fittings for hard metal or chrome plated tubes.

For stainless steel and other polished metal tubes we recommend the use of Superseal fittings. These are shown on page 30-31 of this catalog.

It is essential that outside diameters be free from score marks and that the tube be deburred before inserting the fitting. John Guest stem fittings are only for use with John Guest fittings.

Tube Tolerances

John Guest Fluid System fittings are offered for tubes with outside diameters to the following tolerances.

Size (inches)	5/32 - 3/16	1/4 - 1/2
Tolerance (inches)	+0.001 / -0.003	+0.001 / -0.004
Size (mm)	4mm - 5mm	6mm - 22mm
Tolerance (mm)	+0.05 / -0.07	+0.05 / -0.10

Installation and System Testing

Fittings and tube should be kept clean and undamaged before use.

All tube and fittings installations must be pressure tested after installation to ensure system integrity before handing over to the final user. Refer to "How to make a Push-Fit connection".

Chemicals

For use with chemicals or other potentially aggressive liquids, please contact our Technical Support Department. John Guest fittings are not recommended for use with explosive gases, petroleum spirits, or other fuels.

Collet Covers

Are available as additional security against removal of the tube or to provide a simple means of color coding.

The cover is offered in a range of six colors. Please see page 46 of this catalog.

Food Quality

All of the fittings in this catalog are produced in Food and Drug Administration (FDA) approved materials and are therefore recommended for food quality applications.

The wetted surfaces of John Guest PI, PM, SI, SM, CI, CM and NC plastic fittings, PPSV and ASV Valves, and PE Tubing are in compliance with FDA requirements for direct contact with food as detailed in 21CFR part 177.2470 for the body and 177.2600 for the O-ring. NSF International Standard 51 and 61.

Maximum Torque Values for Plastic Threads BSP, BSPT & NPT.

Do not overtighten plastic threaded fittings as this could cause undue stress and eventual failure. Maximum recommended torque figures are shown below.

	Threads		
	1/8" - 1/4"	3/8" - 1/2"	3/4"
Maximum Torque	1.0ft lbs	2ft lbs	3ft lbs
	1.5Nm	3.0Nm	4.0Nm

John Guest recommends that OEM customers consider replacing threaded ports with the more modern Cartridge Systems.

It is recommended that all installations are checked prior to use to determine that a seal has been made.

The maximum torque figures quoted for use with Speedfit fittings are dependent on the mating thread conforming to the relevant U.S., British or International thread standard.

Maintenance and Replacement Intervals

John Guest products generally require little maintenance but as a minimum we recommend routine visual inspection. Frequency of visual inspection will depend on severity of application and risk of failure. If after visual inspection John Guest products appear damaged, cracked, charred, discolored, heat distorted or corroded, they should be replaced. Any product that is or appears to be leaking should be replaced.

Product life is affected by the severity of the application, the hostility of the working environment and contact with aggressive chemicals or liquids. It is therefore important that specific replacement intervals be considered by specifiers/users/customers based on previous service life or when failure could result in unacceptable downtime, damage or injury risk.

Cleaners and Sanitizing of Fittings

The external surfaces of John Guest products must not come into contact with oxidizing or acidic cleaners and sanitizing agents, for example (but not limited to) those below pH 4, high in sodium hypochlorite level (bleach) or containing hydrogen peroxide. Our plastic material suppliers recommend ECOLAB Oasis 133 as a suitable cleaner for the external surfaces of products manufactured by John Guest. Several different methods exist for sanitizing the internal surfaces of fluid systems, including sodium hypochlorite, hydrogen peroxide, chlorine dioxide or ozone. It is entirely the responsibility of the end user to determine if the chosen method is suitable for use with John Guest products over the planned working life of the system. However, to avoid unnecessary early failure, John

Guest requires that the disinfection solution must be immediately flushed out at all draw off points with fresh, wholesome water at the end of the disinfection period. The solution must not be left in the system. Disinfection solutions must only come into contact with the internal (fluid carrying) surfaces of the system. If any other surfaces of a fitting come into contact with disinfection solution the whole fitting must be replaced immediately. Polypropylene fittings offer greater resistance to aggressive chemicals but does not have the same mechanical properties as other materials. John Guest polypropylene fittings are generally designated by the part number prefix PP or PPM. Our material suppliers recommend ECOLAB Oasis 133 as a suitable external cleaner for products manufactured by John Guest.

Responsibility of Use

While we give a warranty against defects in manufacture or materials, it is the responsibility of the user/installer to ensure that fittings and related products are suitable for their application. The installation must be carried out correctly in accordance with our recommendations, complying with recognized codes of practice and relevant national standards, and be properly maintained. Please refer to our terms and conditions of sale.

Side Load

Fittings should not be subject to excessive side loads and they should not be used as support brackets. Tubing and fittings should be adequately supported to prevent excessive side loading.

Product Selection and Installation

John Guest fittings and related products are specifically designed and manufactured by John Guest to the Technical Specifications set out in the John Guest Product Catalog. All John Guest fittings and related products should be selected, installed, used and maintained in accordance with these Technical Specifications. It is the customer's/user's responsibility to ensure that John Guest fittings and related products are suitable for their intended applications, and are properly installed and maintained and are used in accordance with the Technical Specifications. It is also the customer's/user's responsibility to provide its customers with any relevant technical information about John Guest products it supplies them. The company has a policy of continuous research and development and reserves the right to amend without notice the specification and design of all products illustrated in this catalog. John Guest reserves the right to change the color and shape of products. Photographs are for illustration purposes only.