



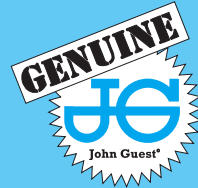
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# JG John Guest®

## Marine Plumbing Catalog

THE SPEEDFIT PUSH-IN SOLUTION  
 FOR MARINE PLUMBING SYSTEMS



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 reserve the right to change the color and shape of products. Photographs are for illustration purposes only. Subject to our Terms and Conditions of Sale listed on page 10.

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JG John Guest USA Inc.  
 JANUARY 2005

**INNOVATION FROM A WORLD LEADER**

As the world's largest manufacturer of push-in pipe fittings, John Guest has been pioneering revolutionary plastics manufacturing technologies since the early 1970s.

Over the past 30 years, the company has established a worldwide reputation for product quality and service. With its precision engineering background and highly trained specialist workforce, John Guest is uniquely placed to manufacture to the most stringent international standards - and its long-standing commitment to product innovation and development has resulted in a comprehensive range of award winning fittings with substantial benefits for specifier, installer and end user alike.

With production currently running at more than 130 million units a year, the success of the JG Speedfit system proves the value of these benefits in practice. In addition to plumbing applications, John Guest fittings are specified as original equipment by many leading building products manufacturers and used extensively by market leaders in the automotive, compressed air and brewing industries.

Quality components depend on quality machines and highly skilled operators. John Guest has all three in abundance. A policy of continuous re-investment in leading edge technologies has equipped the company with an advanced large-scale manufacturing capability which incorporates highly sophisticated process controls.

Right from the start, the company's philosophy has been to employ the most able people and to give them the best possible training. There are 1000 staff at the manufacturing centers in the United Kingdom near Heathrow Airport and at Maidenhead in Berkshire. Another 200 people are based on John Guest companies in USA, Korea, Germany, France, Spain, Italy, New Zealand, and Australia.



**FOCUS ON RESEARCH AND DEVELOPMENT**

As befits a company committed to innovation, more than 10% of the John Guest workforce is directly in research and product development.

In addition to on-site resources which include the latest CAD/CAM technologies, extensive development work on a variety of projects is carried out in close conjunction with United Kingdom and internationally renowned universities.



**EXCELLENCE IN MANUFACTURING**

With millions invested in new plant and equipment over recent years, John Guest's manufacturing center is one of the largest and best equipped of its kind in the world. High capacity injection molding machines and assembly equipment are supported by an in-house toolroom staffed by a highly trained team of qualified toolmakers.



**ASSURED QUALITY**

Every aspect of the company's operation is characterized by the pursuit of total quality. Zero defect process controls are built into all design and manufacturing assembly processes to achieve optimum standards of long term product reliability.



John Guest has been a BS EN ISO 9001 Registered Company since 1989 and has received awards and approvals for quality manufacture from many leading international companies and approvals organizations.

**THE PUSH-IN SOLUTION FOR MARINE PLUMBING SYSTEMS**

John Guest plumbing push-in fittings and pipe have been designed for the plumbing of hot and cold water service. Whether your application is for fresh water, raw water, gray water, or potable water; John Guest push-in fittings and pipe meet the high demands of the Marine Market.

**STANDARDS AND AFFILIATIONS**



John Guest quality systems have been approved by the BSI to EN ISO 9001.



The Speedfit System is approved by the Water Regulations Advisory Scheme.

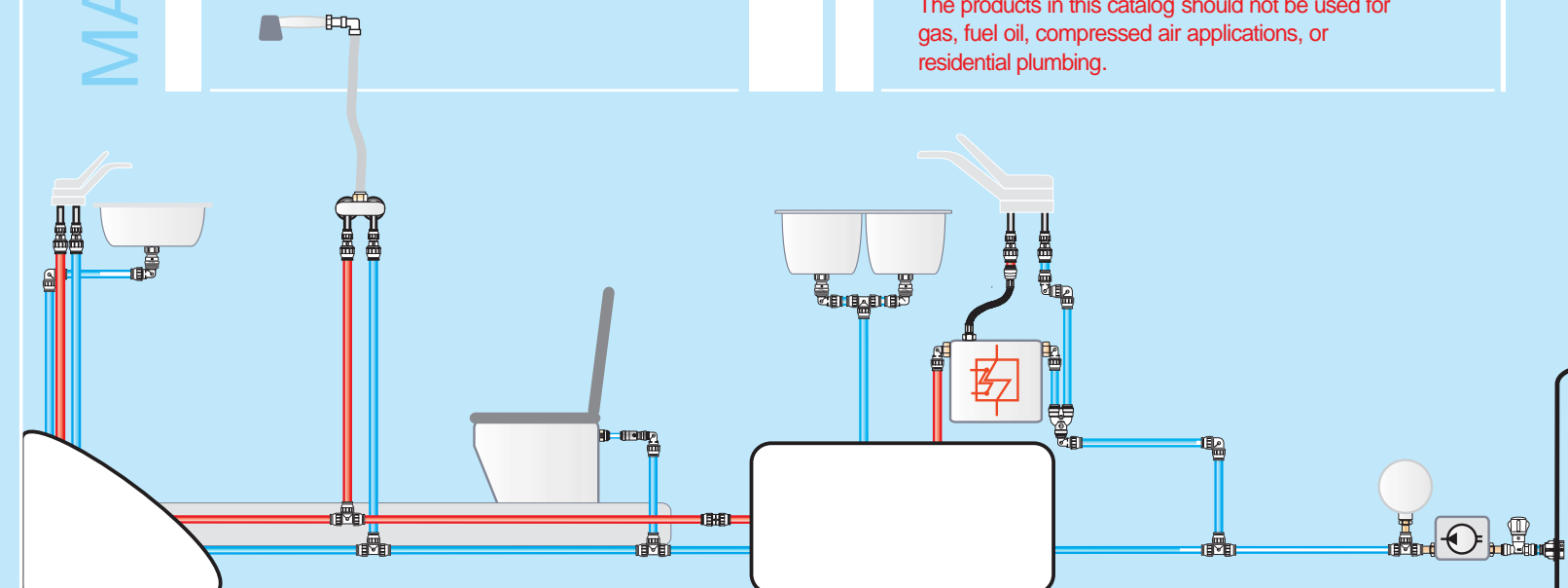


Speedfit Fittings have NSF Standard 61 certification for Drinking Water System Components and materials which contact drinking water.



The Genuine JG symbol represents our commitment to our customers, and what the John Guest name means to business: Quality, Reliability, and Support.

MARINE PLUMBING SYSTEMS



**WITH JOHN GUEST PLUMBING PRODUCTS YOU CAN EXPECT:**

- Reductions in time and labor costs
- No tools required
- Efficient, quick connections (even in tight working spaces)
- Quick disconnections; can be used many times
- Suitable for Speedfit PEX pipe, copper pipe and other good quality plastic pipes.
- No clamps or compression nuts to loosen due to vibration
- No sweating required
- Lightweight and easy to handle
- Use with hot or cold water
- Superior flow characteristics
- Lead free and non toxic

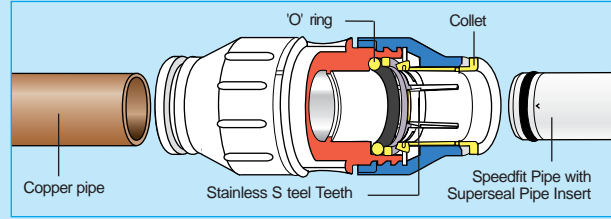
John Guest plumbing products should be installed to conform with good plumbing practice.

The products in this catalog should not be used for gas, fuel oil, compressed air applications, or residential plumbing.

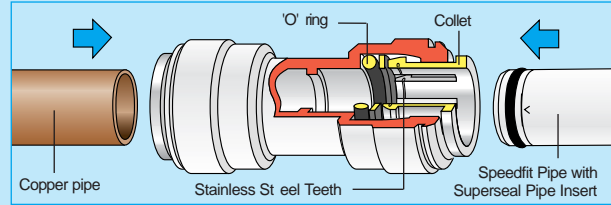
## MAKING A GOOD CONNECTION

Fittings and pipe should be kept clean, bagged, and undamaged before use.

### NEW TWIST AND LOCK FITTINGS



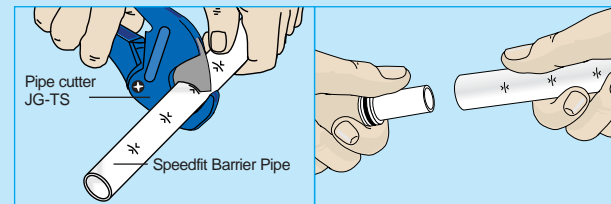
### STANDARD FITTINGS



Standard Speedfit Fittings have a collet with stainless steel teeth to grip the pipe and an 'O' ring to provide a permanent leakproof seal.

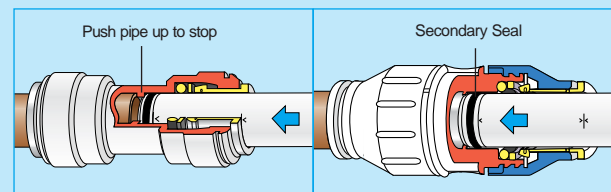
The additional benefit of Twist and Lock Fittings is that a twist of a screwcap locks the pipe in position and gives greater compression on the 'O' ring for even greater security.

### PREPARE THE PIPE



Ensure the pipe is free of score marks. Cut the pipe square. When using Speedfit Barrier Pipe cut along an insertion mark. We recommend the use of JG Pipe Cutters.

To prevent damage to the 'O' ring remove all burrs and sharp edges. When connecting Speedfit Pipe use a Superseal Pipe Insert. The insert should only be used with Speedfit Pipe.

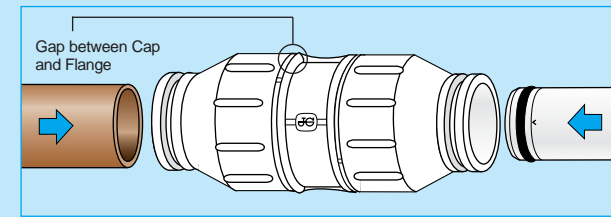


An 'O' ring on the head of the insert and the shape of the stem, provide a secondary seal against the bore of the fitting. A combination of this and the main 'O' ring ensure a good connection.

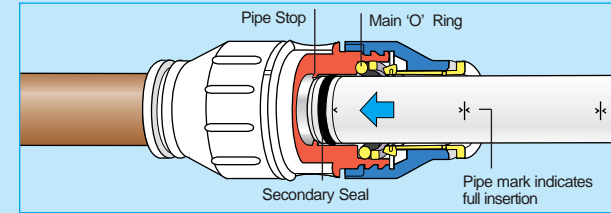
The stem of the insert gives greater rigidity of the length of pipe within the fitting, reducing the chance of leaks if a side load is applied.

The head of the insert has been designed for ease of insertion.

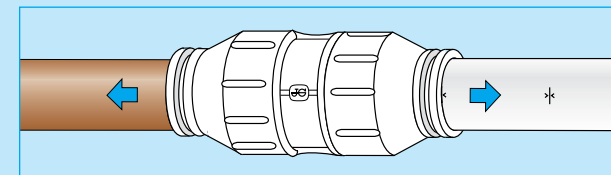
### NEW TWIST AND LOCK FITTINGS



The fitting should be in the 'unlocked' position, this is shown by a small gap between the screwcap and the body flange.



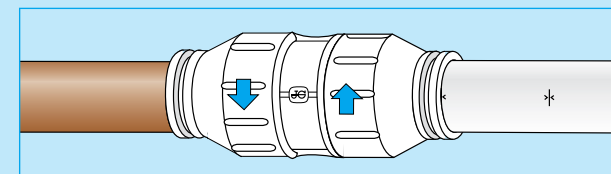
Push the pipe into the fitting, up to the pipe stop. If the Speedfit Pipe has been cut correctly the insertion mark on the pipe will be level with the collet head. The 'O' ring on the Superseal Pipe Insert provides a secondary seal against the bore of the fitting. A good connection has been made.



If you are not using collet clips, ensure that the screwcaps are in the locked position.

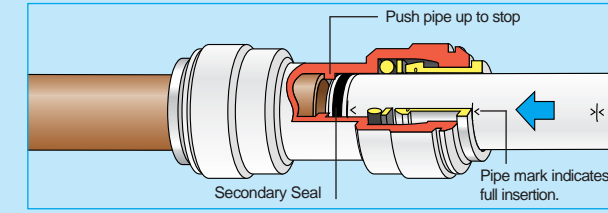
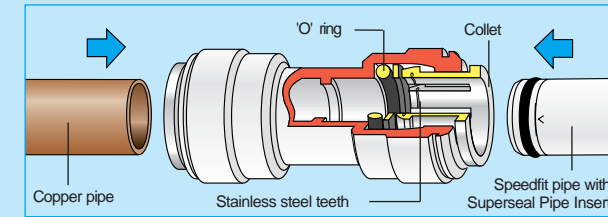
Pull to check it is secure. It is good practice to test the system prior to leaving the site or before use. Our recommended test procedure is shown in our Technical Checklist.

### ADDED BENEFIT OF TWIST AND LOCK

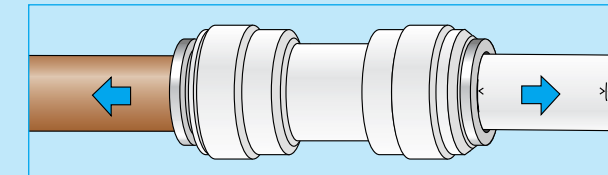


Twist the screwcap until it touches the body flange. This locks the pipe into position and increases the 'O' ring seal around the pipe for greater security.

### STANDARD SPEEDFIT FITTINGS

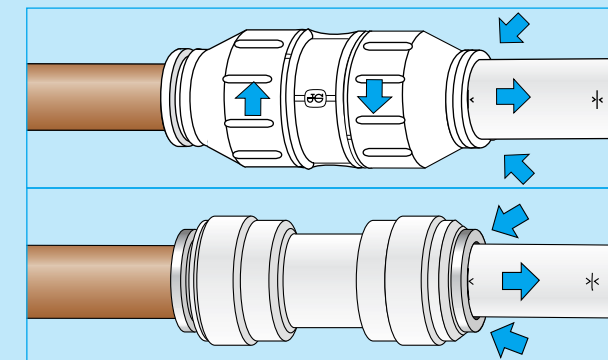


Push the pipe into the fitting, up to the pipe stop. If the Speedfit Pipe has been cut correctly the insertion mark on the pipe will be level with the collet head. The 'O' ring on the Superseal Pipe Insert provides a secondary seal against the bore of the fitting.



Pull to check connection is secure. It is good practice to test the system prior to leaving the site or before use. Our recommended test procedure is shown in our Technical Checklist.

### TO DISCONNECT



Ensure that the system is depressurized.

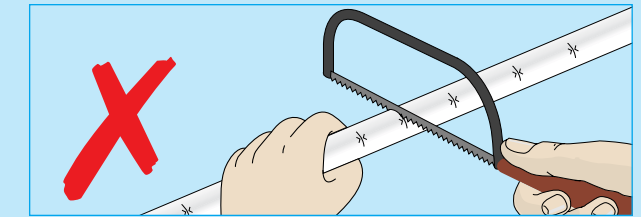
The screwcap on Twist and Lock fitting will need to be turned back to the unlocked position.

Push the collet square against the face of the fitting by using fingers or with the help of our collet release tool.

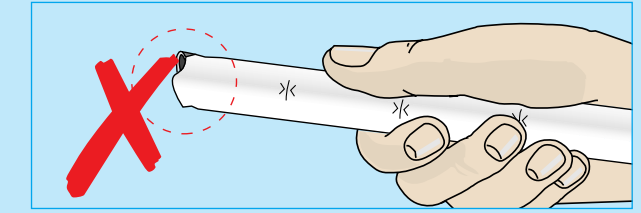
With the collet held in position the pipe can be removed.

The fitting can be reused without the need for replacement parts.

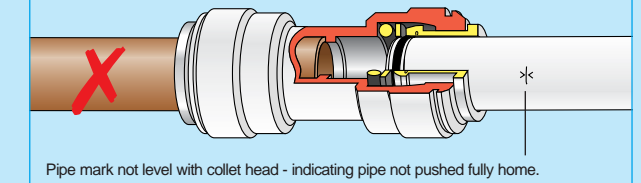
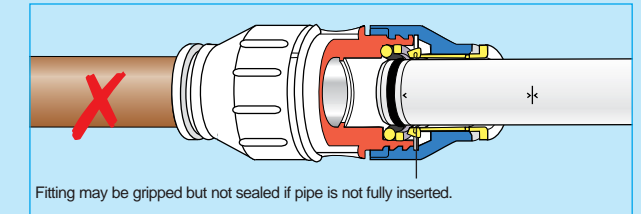
### WHAT NOT TO DO



Don't use hacksaws to cut the pipe or leave burrs on the end of the pipe.



Don't use damaged or scored pipe.



Don't forget to push the pipe fully into the fitting, past both the collet (gripper) and the 'O' ring.

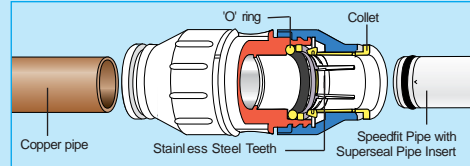
Do not insert fingers into the fitting as the stainless steel teeth may cause injury.

Remember to pressure test the completed installation according to the recommendations in our Technical Checklist.

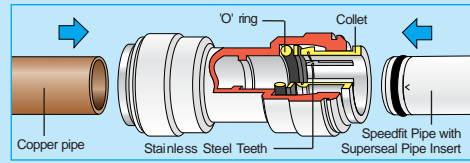
## PLUMBING FITTINGS

John Guest Speedfit reserve the right to change the color and shape of products. Photographs are for illustration purposes only.

### NEW TWIST AND LOCK FITTINGS



### STANDARD FITTINGS



Standard Speedfit Fittings have a collet with stainless steel teeth to grip the pipe and an 'O' ring to provide a permanent leakproof seal.

The additional benefit of Twist and Lock Fittings is that a twist of a screwcap locks the pipe in position and gives greater compression on the 'O' ring for even greater security.

### Union Elbow



PART No.	PIPE OD MM
PEM0310W	10
PEM0315W	15
PEM0322W	22
PEM0328W	28



### Plug-in Elbow



PART No.	PIPE OD MM	STEM OD MM
PEM221010W	10	10
PEM221515W	15	15
PEM222222W	22	22

Please note a Collet Cover cannot be used on a Speedfit end assembled with the stem of a 22mm Stem Elbow.



Provides a swivel type connection



### Union Connector



PART No.	PIPE OD MM
PEM0410W	10
PEM0415W	15
PEM0422W	22
PEM0428W	28



### Union Tee



PART No.	PIPE OD MM
PEM0210W	10
PEM0215W	15
PEM0222W	22
PEM0228W	28



### Reducer



PART No.	STEM OD MM	PIPE OD MM
PEM061510W	15	10
PEM062215W	22	15
PEM062815W	28	15
PEM062822W	28	22



### Straight Tap Connector



PART No.	PIPE OD MM	THREAD BSP
PEMSTC1514	15	1/2"
PEMSTC1516	15	3/4"
PEMSTC2216	22	3/4"

With brass swivel nut and sealing washer. For torque figures see Technical Checklist.



### Bent Tap Connector



PART No.	PIPE OD MM	THREAD BSP
PEMBTC1514	15	1/2"

With brass swivel nut and sealing washer. For torque figures see Technical Checklist.



### Plug



PART No.	PIPE OD MM
PL10	10
PL15	15
PL22	22
PL28	28



### Conversion Union Connector

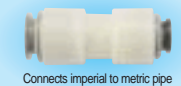


PART No.	PIPE OD	PIPE OD
NC471	5/8"	15mm

Connects imperial to metric pipe



### Conversion Union Connector

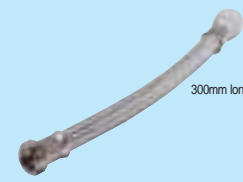


PART No.	PIPE OD	PIPE OD
NC462	1/2" OD	15mm

Connects imperial to metric pipe



### Flexi Hose



PART No.	PIPE OD MM	THREAD BSP
FLX15	15	1/2"
FLX16	15	3/4"
FLX22	22	3/4"

500mm long

PART No.	PIPE OD MM	THREAD BSP
FLX18	15	1/2"
FLX20	15	3/4"
FLX19	22	3/4"

FLX23 22 x 3/4"

Full Bore

Hot and Cold water only, 150°F maximum

### Flexi Hose



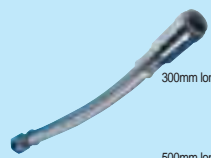
PART No.	PIPE OD MM	PIPE OD MM
FLX17	15	15
FLX26	22	22

500mm long

PART No.	PIPE OD MM	PIPE OD MM
FLX21	15	15
FLX27	22	22

Hot and Cold water only, 150°F maximum

### Flexi Hose with Service Valve



PART No.	PIPE OD MM	THREAD BSP
FLX24	15	1/2"
FLX25	22	3/4"

500mm long

PART No.	PIPE OD MM	THREAD BSP
FLX31	15	1/2"
FLX32	22	3/4"

Hot and Cold water only, 150°F maximum

### Reducing Union Connector



PART No.	PIPE OD MM
PEM201510W	15 x 10
PEM202215W	22 x 15



### Reducing Tee



Sizes listed as follows.



PART No.	PIPE OD MM
PEM3015AW	15 x 15 x 10
PEM302210AW	22 x 22 x 10
PEM3022AW	22 x 22 x 15
PEM3015BW	15 x 10 x 10
PEM3022BW	22 x 15 x 15
PEM3022CW	15 x 15 x 22
PEM3022DW	22 x 15 x 22
PEM3028AW	28 x 28 x 22
PEM3028BW	28 x 22 x 22
PEM3028DW	28 x 22 x 28



### Tank Connector



PART No.	PIPE OD MM
CM0715S	15
CM0722S	22
CM0728S	28

Suitable for cold water tanks only



Requires hand tightening only.



### 4 Way Manifold



PART No.	PIPE OD MM
SFM512210S	22 x 10



### 4 Port Rail Manifold



PART No.	PIPE OD MM
SFM522210S	22 x 10
SFM522215S	22 x 15

### End Stop



PART No.	PIPE OD MM
PSE4610W	10
PSE4615W	15
PSE4622W	22



### Slip Connector



PART No.	PIPE OD MM
CM-SC-15S	15

Hot and Cold water only, 150°F maximum  
Used to connect pipes where there is no lateral movement. Pipe passes through this fitting to allow connection where lateral movement is restricted.



### Barb Connector



PART No.	PIPE OD MM	HOSE ID INCH
NC448-3/8	15mm	3/8"
NC448	15mm	1/2"
NC473	22mm	3/4"
NC737	22mm	1/2"

Hot and cold water only, 150°F maximum



## BRASS FITTINGS

### Brass Male Connector

PART No.	PIPE OD MM	THREAD
MW011504N	15mm x 1/2"	BSPT
MW012206N	22mm x 3/4"	BSPT
MW012808N	28mm x 1"	BSPT
10MC (1/2)	10mm x 1/2"	BSP
15MC (1/2)	15mm x 1/2"	BSP
22MC (3/4)	22mm x 3/4"	BSP
MW012818N	28mm x 1"	BSP

### Brass Male Stem Adapter

PART No.	PIPE OD MM	THREAD
MW051504N	15 x 1/2"	BSPT
MW052206N	22 x 3/4"	BSPT
MW052818N	28 x 1"	BSP
MM052226N	22 x 3/4"	NPT
MM052228N	22 x 1"	NPT
MM052828N	28 x 1"	NPT

Converts Speedfit to male thread

### Brass Female Stem Adapter

PART No.	PIPE OD MM	THREAD
MW501514N	15 x 1/2"	BSP
MW502216N	22 x 3/4"	BSP

Converts Speedfit to female thread

### Brass Male Cylinder Adapter

PART No.	PIPE OD MM	THREAD
22CMA	22 x 1"	BSP

Suitable for central heating systems.

### Brass Female Cylinder Adapter

PART No.	PIPE OD MM	THREAD
22CFA	22 x 1"	BSP

Suitable for central heating systems.

### Brass Rail Manifold

PART No.	PIPE OD MM	ZONE
JGRAIL4	22 x 15	4 ZONE
JGRAIL6	22 x 15	6 ZONE
JGRAIL12	22 x 15	12 ZONE

## VALVES

### Stop Valve

PART No.	PIPE OD MM
15STV	15
22STV	22

Hot and Cold water only, 150°F maximum

### Brass Stop Valve

PART No.	PIPE OD MM
15BSC	15

### Washing Machine Tap

PART No.	PIPE OD MM	THREAD
15APT	15 x 3/4"	BSP

Hot and Cold water only, 150°F maximum  
For maximum torque figures on plastic thread, please see Technical Checklist.

### Emergency Shut Off Tap

PART No.	PIPE OD MM
15 ESOT	15

Hot and Cold water only, 150°F maximum

### Double Check Valve

PART No.	PIPE OD MM
15DCV	15

Hot and Cold water only, 150°F maximum

### Plastic Service Valve

PART No.	PIPE OD MM
15ISV	15

Hot and Cold water only, 150°F maximum

### Brass Service Valve

PART No.	PIPE OD MM
15HSV-BRASS	15

### Brass Chrome Plated Service Valve

PART No.	PIPE OD MM
10HSV	10
15HSV	15
22HSV	22

### Brass Chrome Plated Service Valve with Tap Connector

PART No.	PIPE OD MM	THREAD
15PTSV	15 x 1/2"	BSP
22PTSV	22 x 3/4"	BSP

### Brass Drain Cock

PART No.	PIPE OD MM
15BDC	15

Speedfit Drain Cocks cannot be used where collet covers are fitted. They can be used with a standard fitting fitted with a collet clip.

## PIPE AND PIPE ACCESSORIES

### Speedfit Barrier Pipe

PART No.	PIPE OD MM	METER
10BPEX-25C	10 x 25	Colts
10BPEX-50C	10 x 50	
10BPEX-100C	10 x 100	
15BPEX-25C	15 x 25	
15BPEX-50C	15 x 50	
15BPEX-100C	15 x 100	
22BPEX-25C	22 x 25	
22BPEX-50C	22 x 50	
28BPEX-10x3L	28 x 3	

Straight lengths 3m long

### LLDPE Tube

PART No.	PIPE OD MM	METER
PE-1007-100M-N	10 x 100	Natural
PE-1007-100M-B	10 x 100	Blue
PE-1007-100M-E	10 x 100	Black
PE-1007-100M-R	10 x 100	Red
PE-15115-0100M-B	15 x 100	Blue
PE-15115-0100M-R	15 x 100	Red
PE-15115-0100M-G	15 x 100	Green

### Pipe Insert

PART No.	PIPE OD MM
TSM10N	10
TSM15N	15
TSM22N	22
TSM28N	28

To be used when connecting Speedfit Pipe to a compression fitting. Also for connecting LLDPE Tube to Speedfit Fittings

### Superseal Pipe Insert

PART No.	PIPE OD MM
STS10	10
STS15	15
STS22	22
STS28	28

To be used with Speedfit Pipe and Speedfit fittings, to give enhanced sealing.

### Collet Cover

PART No.	PIPE OD MM
AM1915W	15
PM1915R	15
PM1915B	15
AM1922W	22
PM1922R	22
PM1922B	22

Available in white, red or blue  
For use with standard Speedfit fittings only.

### Collet / Identification Clip

PART No.	SIZE MM
CM1810S Gray	10
CM1815S Gray	15
CM1822S Gray	22

To prevent accidental release of standard Speedfit fittings.

Also available in red or blue to provide color coding of pipe.

Red and blue collet clips should not be used to prevent accidental release  
CM1810R, CM1815R, CM1822R  
CM1810B, CM1815B, CM1822B

### Release Aid

PART No.	PIPE OD MM
10RA	10
15RA	15
22RA	22

Allows a firmer grip on the collet when removing pipe.

### Cold Forming Bend

PART No.	PIPE OD MM
10CFB	10
15CFB	15
22CFB	22



To help create a tighter bend than the minimum unsupported pipe.

### Pipe Clips and Spacers

PART No.	PIPE OD MM
PC15W	15
PC22W	22
PC28W	28
PCSW	

### Nail Clip

PART No.	PIPE OD MM
NPC10	10
NPC15	15
NPC22	22
NPC28	28

### Pipe Cutter

PART No.
JG-TS

For up to 22mm size pipe

### Heavy Duty Pipe Cutter

PART No.
JG HDC
BLADE JGHDC

For up to 28mm size pipe

### EPDM 'O' Ring

PART No.	PIPE OD MM
10 EPR	10
15 EPR	15
22 EPR	22
28 EPR	28

### Display Stand

PART No.	SIZE
JG-STAND-3W	6' x 3'

White metal, products not included.

# TECHNICAL CHECKLIST - MARINE PLUMBING

Fittings and pipe should be kept clean and undamaged before use.  
Do not use for gas, fuel oil or compressed air applications.

- Sizes. 10mm to 28mm outside diameter.

- Pipes. Super Speedfit fittings can be used with:  
Speedfit PEX Pipe, Copper pipe  
and other good quality plastic pipe

Super Speedfit fittings cannot be used on stainless steel pipe.

- Working temperatures and pressures.

Hot water	87psi at 150°F
Cold water	175psi at 68°F

- Burst Pressure (fittings). With copper or plastic pipe at 68°F. Super Speedfit fittings used with copper or Speedfit (PEX) barrier pipe will withstand pressures well in excess of normal service conditions.

- High temperatures. Can withstand 237°F intermittently for short periods. The Super Speedfit system should not be used on an uncontrolled heat source.

- Minimum bend radii (BPEX)

Pipe Diameter	10mm	15mm	22mm	28mm
Min radius with clips	4'	7'	9'	12'
Min radius with cold forming bend	1 1/4"	3'	4 1/2"	

- Clip spacing (in mm)  
For surface mounted pipes

Pipe Diameter	Clip Spacing	
	Horizontal Run	Vertical Run
10-15mm	12"	20"
22mm	20"	32"
28mm	32"	40"

- Expansion (PEX pipe). 1% on length between 68°F and 180°F.

- Flow rates. Comparable with metal systems.

- Paint and Chemicals. Use only water or oil based paint. Collet covers prevent paint ingress into fittings. DO NOT ALLOW CONTACT WITH cellulose based paints, paint thinners or strippers, solder flux or acid based descalents or aggressive cleaning products.

- Exposure to sunlight. Super Speedfit products, when used indoors, are not affected by sunlight. When used outdoors protect from ultraviolet light by lagging or painting.

- Pipe clips. Pipe clips should not be fitted any closer than 2-1/2" from the end of the fitting. Pipe should be adequately supported by pipe clips to prevent undue stress (side load) on fittings.

- Pipe inserts. Must be used on all installations when using plastic pipe and should be fully inserted.

- Connection to copper pipe. 18" is the minimum distance to make a solder connection on copper pipe inserted into a Super Speedfit Fitting. Ensure that any residual flux and solder does not come into contact with the fitting.

- Valves and taps. Plastic 15mm and 22mm valves and taps available from John Guest are not suitable for central heating installations.

- Collet Covers. Collet covers provide added security against pipe disconnection, e.g. the fittings coming into contact with rigid surfaces and behind dry-lining walls. Collet Covers are available in white, or in red or blue to allow for color coding of pipes.

- Collet Clips. Gray Collet Clips are used with standard fittings to prevent accidental pipe disconnection. Red and blue clips provide color coding of pipe. Red and blue clips should not be used to prevent accidental release of pipe.

- Residential Plumbing: John Guest fittings are not for use with residential plumbing.

- System testing. To ensure the pipework and fittings have been installed correctly, whether it be on a new or extended system, it is essential that the system is checked and hydraulically wet tested. Testing should be at 30 psi for 10 minutes and 150 psi for 10 minutes. This testing, combined with other relevant checks, should reveal installation problems and is regarded as good plumbing practice. However, system testing should not be regarded as substitute for correct installation (see Making a Good Connection)

- System flushing. As is usual practice for any plumbing installation, flushing of the system prior to the use of Super Speedfit is recommended to remove any contaminants/chemical residue from elsewhere in the system.

- Maximum Torque Figures (BSP & BSPT & NPT). The maximum torque figures for BSP, BSPT, and NPT threads used on Super Speedfit plumbing products in mating threads conforming to relevant BS or International thread standards.

Threads	Size	Maximum Torque
Plastic	1/2"	3.0 Nm
	3/4"	4.0 Nm
Brass	1/2"	4.0 Nm
	3/4"	5.0 Nm

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

John Guest fittings and related products are specifically designed and manufactured by John Guest to the Technical Specifications set forth in John Guest's Products Catalogs. All John Guest fittings and related products should be selected, installed, used and maintained in accordance with these Technical Specifications. It is the customer/user's responsibility to ensure that John Guest fittings and related products are suitable for their intended applications, are properly installed and maintained, and are used in accordance with Technical Specifications. It is also the customer's/user's responsibility to provide its own customers with any relevant technical information about John Guest products it supplies to them. If you would like to request a copy of the Technical Specifications, or if you have any questions about those Specifications, please contact John Guest USA at 1 (800) 945 4872, or visit the John Guest website at [www.johnguest.com](http://www.johnguest.com)

## Terms and Conditions

The products described in this document are hereby offered for sale to be established by John Guest (USA) Inc., its subsidiaries and its authorized distributors. This offer and its acceptance by any customer (the "Buyer") shall be governed by all of the following Terms and Conditions. Buyer's order for any item described in this document, when communicated to John Guest (USA) Inc., its subsidiaries or an authorized distributor (the "Seller") verbally or in writing, shall constitute acceptance of this offer.

**1. Terms and Conditions of Sale.** All descriptions, quotations, proposals, offers, acknowledgments, acceptances and sales of the Seller's products are subject to and shall be governed exclusively by the terms and conditions stated herein (the "Agreement"). The Buyer's acceptance of any offer to sell is limited to the terms and conditions in the Agreement. Any terms or conditions in addition to, or inconsistent with those stated in the Agreement, proposed by the Buyer in any acceptance of an offer by the Seller, are hereby objected to. No such additional, different or inconsistent terms and conditions shall become part of the agreement between the Buyer and the Seller unless expressly accepted in writing by the Seller. The Seller's acceptance of any offer to purchase by the Buyer is expressly conditioned upon the Buyer's assent to all the terms and conditions in this Agreement, irrespective of any terms in addition to, or in consistent with those contained in the Buyer's offer. Acceptance of the Seller's products shall in all events constitute such assent.

**2. Documents.** Unless provided otherwise in the Agreement, all catalog descriptions, illustrations, drawings and literature or independently submitted estimates of performance, weights and measurements or other specifications provided by the Seller are mere approximations and the Seller reserves the right to alter or amend the same at any time. The Seller reserves the right to correct clerical or technical errors in the contract documents. The Buyer shall furnish with his order all necessary specifications and information. The Seller takes no responsibility for goods manufactured, priced or delivered not in accordance with the order or the specifications unless the Buyer's order and specifications are clear and correct.

**3. Prices.** Unless otherwise provided, all prices contained in our quotations and written acceptances are ex works and do not include the cost of packing. All orders are accepted on the condition that all such prices are subject to revision by the Seller at any time before the goods are dispatched to take account of any price change. In the event that the Buyer does not place the entire order quoted by the Seller for the Buyer, the Seller reserves the right to revise its prices. The Seller also reserves the right to revise its prices if the Buyer modifies the specification or quantity of the goods, or the delivery requirements after the order has been accepted by the Seller.

**4. Advice.** All advice given in connection with the Seller's goods is provided without charge to the Buyer. Any advice and assistance given by the Seller to the Buyer is given at the Buyer's risk and the Seller shall not be liable for any loss, damage or claim arising therefrom.

**5. Payment.** (a) Unless otherwise provided in the Agreement, or explicitly agreed upon in writing by the Seller, payment is due in full 30 days from date of shipment of the items purchased herein under. (b) In the case of an installment contract, deliveries or parts, payment for each installment delivery or part shall be made under subclause (a) as if the same constituted a separate agreement. (c) Amounts not timely paid shall bear interest at the rate of 2-1/2% above the Seller's bank's prime rate from time to time in force. (d) In the event that the Buyer fails within one calendar month of the date for payment to effect any payment which may be due under the Agreement or any agreement with the Seller, or if the Buyer commits any breach of the Agreement, or if the Buyer becomes insolvent or commits any act of bankruptcy or contemplation of liquidation, the Seller will be entitled, without prejudice to the Seller's other rights, to terminate the Agreement or any unfulfilled part thereof, or at the Seller's option to make partial deliveries.

**6. Modifications and Cancellations.** This Agreement is not subject to oral modification or cancellation. A Buyer's request for modification or cancellation will not be incorporated into the Agreement unless the request is accepted by the Seller in a writing that amends the Agreement. Acceptance of any such requested modification or cancellation shall be at the Seller's discretion and shall be upon such terms and conditions as the Seller may require.

**7. Handling Charge.** Goods supplied in accordance with the Buyer's order may later be returned to the Seller at the Seller's discretion provided the return is pre-authorized, in writing and the merchandise is unused, in original packages, unaltered, clean and no older than 60 days from the date of shipment by the Seller. The Buyer will be required to pay to the Seller a handling charge of 15% of the purchase price of the returned goods. A copy of the original invoice for the merchandise must accompany all returns.

**8. Delivery.** (a) Any delivery dates quoted are approximate only and the Seller shall have no liability for any delays in delivery. (b) Unless provided otherwise, delivery of the goods shall be made when the Seller has notified the Buyer that the goods are ready for dispatch. Regardless of the method of delivery, delivery shall be made F.O.B. Seller's plant, where the risk of loss shall thereupon pass to the Buyer upon the Seller's delivery to a carrier. Notwithstanding that the Seller's prices are ex works, the Seller is prepared by special contract to procure carriage or freight and insurance on behalf of the Buyer and at Buyer's cost in which event the Seller shall be under no liability for damage in transit or loss or damage to the goods beyond the point at which the Seller contracts to deliver the same. (c) Seller will not make drop shipments.

**9. Inspection and Rejection.** (a) The following provisions shall apply in relation to all deliveries of goods: the Seller shall not be held liable for any claims of damage in transit, shortage of delivery or loss of goods, unless in the case of shortage of delivery, a separate notice in writing is given to the carrier concerned and to the Seller within three (3) days of the receipt of the goods, followed by a complete claim in writing within five (5) days of receipt of the goods and in the case of loss of goods, a separate notice in writing is given to the carrier concerned and to the Seller and a complete claim in writing made within thirty (30) days of the date of consignment. The Buyer must inspect the goods on arrival from the carrier, however, where goods are accepted from the carrier concerned without being inspected, the delivery book of the carrier concerned must be signed "not examined". The Seller shall have the right to inspect the goods at the Buyer's premises in respect to any such claims made by the Buyer and the Buyer shall retain such goods until the Seller has inspected such goods or until the Seller has notified the Buyer that the Seller does not wish to inspect such goods. Any breach of these conditions in this provision shall serve as a waiver to any claim brought by the buyer. (b) Without prejudice to the Seller's other rights, should the Buyer fail for any reason to send the Seller forwarding instructions within ninety (90) days after the date of the Seller's notification that the goods are ready for dispatch or to accept delivery of the goods, the Seller shall be entitled at the Buyer's risk and expense to store the goods and/or to procure or effect storage of the goods elsewhere. Goods so stored shall be paid for as if they had been dispatched and/or accepted.

**10. Special Tooling.** Where it is necessary for the Seller to manufacture or to purchase special tooling, including without limitation tools, dies, jigs, mandrills, fixtures, molds, and patterns in order to execute a contract, the Buyer will be charged with a proportion of the cost of such special tools. Such special tooling shall be and remain the Seller's property notwithstanding payment of any charges made by the Buyer. In no event will the Buyer acquire any interest in apparatus belonging to the Seller which is utilized in the manufacture of the items sold hereunder, even if such apparatus has been specially converted or adopted for such manufacture and notwithstanding any charges paid by the Buyer therefor. Unless otherwise agreed, the Seller shall have the right to alter, discard or otherwise dispose of any special tooling or other property in its sole discretion at any time.

**11. Test and Performance.** (a) The Seller's goods are, where practicable, submitted to the Seller's standard test before delivery. If special tests are required, these shall be made at the Seller's premises unless otherwise agreed, and will be subject to an extra charge. (b) The Seller accepts no liability for failure to attain any performance figures quoted by the Seller unless the Seller specifically has guaranteed them with an agreed sum as liquidation damages and the Buyer has suffered actual loss by reason of the failure to attain the figures quoted. (c) Any particulars of weights and measurements, power and consumption, power output or performance relating to the goods and like matters furnished by the Seller to the Buyer in the Seller's catalogs, literature or otherwise, are approximate and are intended only to present a general idea of the goods to be supplied and unless previously agreed specifically in writing shall not form part of the Agreement.

**12. Buyer's Property.** Any designs, tools, patterns, materials, drawings, confidential information or equipment furnished to the Seller by the Buyer, or any other items which become the Buyer's property, may be considered obsolete and may be destroyed by the Seller after two (2) consecutive years have elapsed without the Buyer placing an order for the items which are manufactured using such property. The Seller shall not be responsible for any loss or damage to such property while it is in the Seller's possession or control.

# JOHN GUEST USA, INC. TERMS & CONDITIONS OF SALE

**13. Taxes.** Unless otherwise indicated, all prices and charges are exclusive of excise, sales, use, property, occupational or like taxes which may be imposed by any taxing authority upon the manufacture, sale or delivery of the items sold hereunder. If any such taxes must be paid by the Seller, or if the Seller is liable for the collection of such tax, the amount thereof shall be in addition to the amounts for the item sold. The Buyer agrees to pay all such taxes or to reimburse the Seller therefor upon receipt of its invoice. If the Buyer claims exemption from any sales, use or other tax imposed by any taxing authority, the Buyer shall promptly indemnify and hold the Seller harmless from and against any such tax, as well as any interest or penalties thereon which may be assessed if the items are held to be taxable.

**14. Warranty.** (a) The Seller warrants that the items sold hereunder shall be free from defects in material or workmanship at the time of shipment by the Seller. The Seller warrants that if within 12 months of delivery of the goods to the Buyer the Buyer returns immediately to the Seller's premises any of the said goods which the Buyer believes to be defective, carrier paid, properly packed and clearly marked with the Buyer's full name and address and any other information such as serial numbers which may be necessary to enable the goods to be identified, together with a complete description of the respects in which it is alleged that the goods are defective, they will be repaired or new goods will be supplied in exchange and the goods so repaired or such new goods will be delivered to the Buyer free of charge at the Seller's premises provided that the foregoing warranty shall only be applicable if upon demand by the Seller, the Buyer proves to the Seller's satisfaction: (i) that the defect was due solely to defective workmanship; (ii) that no alterations or repairs have been made to the goods except with the Seller's written consent; (iii) that the defect was not caused by any act of the Buyer or its agents; and (iv) that the defect was not caused by any matter beyond the reasonable control of the Seller, including, without limitation, accident or normal wear and tear. (b) All costs and expenses, including freight charges, customs duties, and insurance incurred in returning the goods to the Seller's premises in accordance with this provision shall be paid by the Buyer. The benefit of this warranty shall not be assignable by the Buyer. (c) The warranty contained in sub-paragraph (a) above does not extend to any goods not manufactured by the Seller even though supplied by the Seller nor does it extend to any second-hand or reconditioned goods nor does it extend to components manufactured by the Seller but installed, attached or welded by the Buyer or his customer on equipment not manufactured by the Seller. Goods not manufactured by the Seller carry only the warranty (if any) of their makers and the Buyer is entitled to the benefit thereof only so far as the Seller has the power to transfer it. (d) This warranty comprises the sole and entire warranty pertaining to items provided hereunder, the Seller makes no other warranty, guarantee, or representation of any kind whatsoever. All other warranties, including but not limited to, merchantability and fitness for purpose, whether expressed or implied, or arising by operation of law, trade usage, or course of dealing are hereby disclaimed. (e) Notwithstanding the foregoing, there are no warranties whatsoever on items built or acquired wholly or partially to the Buyer's designs or specifications.

**15. Limited Remedy.** The Seller's liability arising from or in any way connected with the items sold or this Agreement shall be limited exclusively to repair or replacement of the items sold. In no event shall the Seller be liable to the Buyer or any 3rd party for any incidental, consequential or special damages of any kind or nature whatsoever, including but not limited to lost profits arising from or in any way connected with this agreement or items sold hereunder, whether alleged to arise from breach of contract, express or implied warranty, or in tort, including without limitation, negligence, failure to warn or strict liability.

**16. Indemnity for Infringement of Intellectual Property Rights.** (a) The Buyer shall defend and indemnify the Seller against all actions, claims, demands, penalties and costs by 3rd parties in tort, or for infringement, or alleged infringement, of patents, trademarks, copyrights, trade dress, trade secret or other rights of any 3rd party resulting from the goods manufactured in accordance with the Buyer's specifications or based on any information provided by the Buyer. The Buyer will defend any action against the Seller for title, patent, trademark, copyright infringement, or other claimed by a 3rd party at the Buyer's sole cost and expense. (b) The Seller shall have no liability for infringement of any patents, trademarks, copyrights, trade dress, trade secrets or similar rights except as provided in this provision. The Seller will defend and indemnify the Buyer against allegations of infringement of US patents, US trademarks, copyrights, trade dress and trade secrets ("Intellectual Property Rights"). The Seller will defend at its expense and will pay the cost of any settlement or damages awarded in an action brought against the Buyer based on an allegation that an item sold pursuant to this contract infringes the Intellectual Property Rights of a 3rd party. The Seller's obligation to defend and indemnify the Buyer is contingent on the Buyer notifying the Seller within 10 days after sole control over the defense of any allegations or actions, including all negotiations for settlement or compromise. If an item sold hereunder is subject to a claim that it infringes the Intellectual Property Rights of a 3rd party, the Seller may, at its sole expense and option, procure for the Buyer the right to continue using said item, replace or modify said item so as to make it noninfringing, or offer to accept return of said item and return the purchase price less a reasonable allowance for depreciation. Notwithstanding the foregoing, the Seller shall have no liability for claims of infringement based on information provided by Buyer, or directed to items delivered hereunder for which the designs are specified in combination or use in a system of any item sold hereunder. The foregoing in this provision shall constitute the Seller's sole and exclusive liability and the Buyer's sole and exclusive remedy for infringement of Intellectual Property Rights.

**17. Lien.** In addition to any right of lien to which the Seller may by law be entitled, the Seller shall have a general lien on all goods of the Buyer in the Seller's possession (although such goods or some of them may have been paid for) for the unpaid price of any other goods sold and delivered to the Buyer by the Seller under the same or other contracts.

**18. Waiver.** The Seller's rights shall not be affected or restricted by any indulgence or forbearance granted to the Buyer. No waiver by the Seller of any breach shall operate as a waiver of any later breach.

**19. Force Majeure.** The Seller shall be excused from performing any of its obligations under this Agreement which are prevented or delayed by any occurrence not within the reasonable control of the Seller, including but not limited to, accidents, acts of God, destruction or damage to the goods or the Seller's manufacturing plant, delays or failures in delivery of carriers or suppliers, shortages of materials, strikes or other labor matters, floods, earthquakes, fire, riots, explosions, or any regulations, rules, ordinances or orders of any governmental authority, federal, state or local, whether such cause exists at the date of the order or not.

**20. Buyer's Representation of Solvency.** The Buyer hereby represents that as of the signing of this Agreement it was not insolvent within the meaning of the Uniform Commercial Code or the Bankruptcy Laws of the United States.

**21. Assignment and Delegation.** The rights and obligations of the parties under this Agreement may not be assigned or delegated, except on the express written consent of the other party to the assignment or delegation.

**22. Integration.** The rights and obligations of the parties and the terms and conditions set forth herein, together with any amendments, modifications and any different terms and conditions expressly accepted by the Seller in writing, shall constitute a complete and exclusive statement of the terms of this Agreement. This Agreement supersedes not only all prior agreements, but also oral agreements made contemporaneously with the execution of this Agreement. All such materials may not be used to supplement, explain, or contradict the terms of this Agreement.

**23. Severability.** If any of these conditions or any part thereof purports to exclude or restrict or limit any liability and such exclusion or restriction or limitation is prohibited or rendered void or unenforceable by any legislation to which it is subject, or is itself prohibited or rendered void or unenforceable by any legislation to which it is subject, then the exclusion restriction or limitation on the condition or part thereof in question shall be so prohibited or rendered void or unenforceable and the validity or enforceability of any other part of these provisions shall not thereby be affected.

**24. Governing Law/Limitation on Actions.** The terms, conditions, rights, and obligations under this Agreement shall be construed under the laws of the State of New York, without regard to principles of conflicts of laws. No actions arising out of the sale of the items sold hereunder or this Agreement may be brought by the Buyer more than two (2) years after such cause of action accrues.