

September 7, 2010

TO: Members of the MAG Building Codes Committee

FROM: Steven Hether, Mesa, Chair

SUBJECT: MEETING NOTIFICATION AND TRANSMITTAL OF TENTATIVE AGENDA

Wednesday **September 15, 2010** - 2:00 pm
MAG Office, Suite 200, Cholla Room
302 North 1st Avenue, Phoenix

A meeting of the MAG Building Codes Committee (BCC) has been scheduled for the time and place noted above. Members of the MAG Building Codes Committee may attend in person, by videoconference or by telephone conference call. Those attending by videoconference or telephone conference call must make arrangements with Steve Gross at MAG and, for videoconferencing, your site coordinator by at least the Monday prior to the meeting.

If you drive to the meeting, please park in the garage under the building and bring your ticket to the meeting; parking will be validated. For those using transit, the Regional Public Transportation Authority will provide transit tickets for your trip. For those using bicycles, please lock your bicycle in the bike rack in the garage.

Pursuant to Title II of the Americans with Disabilities Act (ADA), MAG does not discriminate on the basis of disability in admissions to or participation in its public meetings. Persons with a disability may request a reasonable accommodation, such as a sign language interpreter, by contacting Heidi Bickart at the MAG office. Requests should be made as early as possible to allow time to arrange for accommodation.

Please be advised that under procedures approved by the MAG Regional Council on June 26, 1996, all MAG committees must have a quorum to conduct business. A quorum is a simple majority of the membership, or 13 people for the MAG Building Codes Committee. If you are unable to attend the meeting, please send a proxy from your jurisdiction or agency to represent you.

If you have any questions or require additional information, please contact Heidi Bickart at (602) 254-6300 or hbickart@mag.maricopa.gov.

TENTATIVE AGENDA

- | | |
|--|---|
| 1. <u>Call to Order</u> | |
| 2. <u>Introductions</u> | 2. For information. |
| 3. <u>August 18, 2010 Meeting Minutes</u> | 3. Review and approve the minutes of the August 18, 2010 meeting. |
| 4. <u>Call to the Audience</u>

Members of the public may request to speak on items that fall under the jurisdiction of the MAG Building Codes Committee (BCC) and are not scheduled on the agenda; or, on items on the agenda for discussion but not for action. A total of 15 minutes will be provided for the Call to the Audience, with a limit of three minutes per speaker, unless the Chair requests an exception to this limit. Those requesting to comment on action agenda items may be provided an opportunity to do so at the time the agenda item is heard. | 4. For information and discussion. |
| 5. <u>Comments From the Committee</u>

An opportunity will be provided for Building Codes Committee members to present a brief summary of current events. The Building Codes Committee is not allowed to propose, discuss, deliberate or take action at the meeting on any matter in the summary, unless the specific matter is properly noticed in accordance with the Arizona Open Meeting Law. | 5. For information and discussion. |
| 6. <u>Residential Fences</u>

At the August MAG BCC meeting, members suggested a discussion about building a residential fence on a property line. MAG BCC members are requested to query their planning and zoning departments about owners of joint fences on residential properties. This topic may be given to the Building Inspectors/Plans Examiners (BI/PE) for further study. | 6. For information, discussion and possible action. |
| 7. <u>Electric Vehicle</u>

On August 5, 2009, Electric Transportation Engineering Corporation (eTec), a subsidiary of ECOtality, Inc., a leader in clean electric | 7. For information and discussion. |

transportation and storage technologies, was selected by the U.S. Department of Energy for a grant of approximately \$99.8 million to implement the largest deployment of electric vehicles and charging infrastructure in history. The eTec initiative proposes to deploy charging infrastructure in major population areas, including Phoenix/Tucson.

Ecotality would like to provide an update on the EV Micro-Climate for Electric Vehicle Supply Equipment (EVSE) Location Planning.

8. Flameless Pipe Joining System

A representative from Viega ProPress Copper & Stainless Steel Piping Systems would like to present information on their flameless pipe joining system.

9. Updated MAG Building Codes Committee Membership

We are requesting that Committee members review Attachment Two, Committee Roster, sent with this agenda. Please forward any changes to Heidi Bickart prior to the meeting or provide them at the meeting.

10. Update Survey of Code Adoption

Attachment Three identifies the codes that member agencies have adopted. Please review this information and provide any updates or corrections to Heidi Bickart.

11. Topics for Future Agendas

Potential topics for the next meeting will be discussed. The next meeting of the MAG Building Codes Committee is scheduled for Wednesday October 20, 2010 at 2:00 p.m. in the Cholla Room of the MAG offices.

12. Adjournment

8. For information and discussion.

9. For information and discussion.

10. For information and discussion.

11. For information and discussion.

MINUTES OF THE
MARICOPA ASSOCIATION OF GOVERNMENTS
BUILDING CODES COMMITTEE

August 18, 2010

Maricopa Association of Governments Office
Cholla Room
Phoenix, Arizona

COMMITTEE MEMBERS

Steven Hether, Mesa, Chair

Ken Sowers, Avondale

Phil Marcotte, Buckeye

*Mike Tibbett, Carefree

*Mike Baxley, Cave Creek

Dave Nakagawara for Alex Banachowski,
Chandler

Mary Dickson, El Mirage

*Peter Johnson, Fountain Hills

*John Smith, Gila Bend

*Jo Rene DeVeau, Gila River Indian
Community

A-Ray Patten, Gilbert

Tom Paradise for Glendale

Ed Kulik, Goodyear

*Chuck Ransom, Litchfield Park

Tom Ewers, Maricopa County

Bob Lee, Paradise Valley

A- Dennis Marks, Peoria

Tom Wandrie, Phoenix

A-Dean Wise, Queen Creek

Ed Peaser for Michael Clack, Scottsdale

A-Michael Williams, Tempe

Mario Rochin, Tolleson

John Stigsell, Youngtown

Rick DeStefano, Wickenburg

*Bridget Jones, Home Builders Association

OTHERS IN ATTENDANCE

Heidi Bickart, MAG

Steve Gross, MAG

Bill King, Goodyear

Dustin Schroff, Scottsdale

Rich Kochanski, Mesa

A-Dennis Chase, Peoria

*Those members neither present nor
represented by proxy.

A-Those members participating via
audioconference

V-Those members participating via
videoconference

1. Call to Order

Steve Hether, Chairman, called to order the August 18, 2010 meeting of the MAG Building Codes Committee (BCC) at 2:01 p.m.

2. Introductions

Voting members Dean Wise, Dennis Marks, Michael Williams, Ray Patten, Dennis Marks, and Dennis Chase attended via telephone conference call. All members introduced themselves.

3. May 19, 2010 Meeting Minutes

It was moved by Bob Lee, seconded by Tom Ewers and unanimously recommended to approve the May 19, 2010 meeting minutes.

4. Call to the Audience

There were no comments from the audience.

5. Comments From the Committee

Bob Lee reminded that the AZBO Fall Education Institute is Oct. 4-8, 2010 in Phoenix and the central chapter has some scholarships available. Mr. Lee said the ICC Code hearings are going to be in Phoenix in the Fall of 2011. In preparation for that, AZBO is sponsoring a hospitality room at the Charlotte, NC hearings in October 2010. AZBO has a subcommittee looking at entertainment and decorations and they are in need of volunteers to help in a hospitality room in Charlotte, NC. Bob Lee announced that a by-laws committee is meeting next week at 10am in Paradise Valley to discuss a name change for AZBO and the inclusion of Arizona Fire Marshalls Association in AZBO. Mr. Lee encouraged members to send him an email if they are interested in volunteering in Charlotte or attending the by-laws committee meeting.

Tom Ewers announced that the Maricopa County Board of Supervisors voted to adopt the 2009 I-Codes, the 2008 NEC, with the MAG/AZBO amendments and the caveat that they amend the codes to delete the requirement for sprinkling single family residential. He said these codes were adopted August 18, 2010. He announced the effective date of October 1, 2010 with a grace period to January 1, 2011 for these codes. Ken Sowers asked if the county is going to be able to enforce the codes. Mr. Ewers replied yes the county is going to be able to enforce the codes because the state legislation applies to cities and towns, as it is in Title 9, and it does not apply to counties.

Tom Wandrie noted that city of Phoenix encountered some issues regarding residential fences and building on a property line. Mr. Wandrie explained that in Phoenix, a property owner is not supposed to build across a property line and a permit is not required when building a fence under 6' high. Bob Lee said this topic is a good idea as it comes up in Paradise Valley. Steve Hether suggested that it be a topic on the next MAG BCC agenda, and after that meeting direction can be given to BI/PE Forum.

6. Electric Vehicle Charging Infrastructure Deployment Guidelines

Heidi Bickart said that staff from ECotality could not attend the meeting, so she provided a brief update on their behalf. Ms. Bickart said about a year ago, ECotality, Inc., a leader in clean electric transportation and storage technologies, was selected by the U.S. Department of Energy for a grant of approximately \$99.8 million to implement the largest deployment of electric vehicles and charging infrastructure in history. The ECotality initiative proposes to deploy charging infrastructure in major population areas, including Phoenix/Tucson.

Heidi Bickart thanked the MAG BCC members for their hard work reviewing and providing comments on the Electric Vehicle Infrastructure Deployment Guidelines. She noted that the document was brought through the MAG committee process. She announced that on June 30, 2010, the MAG Regional Council, by consent, approved the Deployment Guidelines document version 3.0. This document is to serve as guidelines to implementation of infrastructure that will support and encourage the adoption of electric vehicles in the MAG region.

Heidi Bickart noted that the document will provide the foundation upon which the EV Micro-Climate© program is implemented to provide the optimum infrastructure to support and encourage the adoption of electric vehicles in the MAG region.

Heidi Bickart said that as a next step, ECotality is going to hold a meeting September 2 for their EV Project Team. This team is comprised of one representative from the utility companies, ASU sustainable cities representative, MAG BCC Chair, other interested parties from cities and towns and interested citizens. The purpose of this meeting is to provide an update on the EV project and to review the EV Micro-Climate© Plan. This plan should provide a map showing locations of EV chargers and an explanation for placement. Rather than blanket the Phoenix metro area with infrastructure, this plan looks at the demographics of the likely innovators and early adopters of EVs to provide rich EV infrastructure that will continue to encourage the adoption of EVs. The objective of this plan is to have specific locations for publicly available Level 2 and DC Fast-Charge Electric Vehicle Supply Equipment (EVSE) infrastructure.

Heidi Bickart stated staff from ECotality has expressed interest in providing an update at a future MAG BCC meeting.

13. Operating a Fire Prevention Inspection Program After Downsizing

Rich Kochanski, Deputy Battalion Chief, City of Mesa Fire Department, described how to operate a fire prevention inspection program after downsizing.

Rich Kochanski said Mesa had to cut about 60 percent of their staff in the Fire Prevention Inspection Program. He said he currently has 5 inspectors. He said that impacted their ability to do the work. He said they focused on their current fire problems and mandated inspections. He said Mesa broke down occupancies into several risk categories using their accreditation. He said they do high risk inspections every other year. He said the frequency of inspections is the biggest change. Moderate risk is every 3rd year program. Lower risk occupancies are handle with a self inspection program.

Tom Ewers asked if Mr. Kochanski has responsibility for plan review. Rich Kochanski replied that in Mesa he is in charge of fire inspections and Steve Hether in Building Safety is in charge of fire plan review and new construction fire inspection.

Tom Paradise asked if Mesa was experiencing backlog in inspection process before cutbacks. Rich Kochanski replied that Mesa had about 90 percent completion year to year. He noted they were not doing all 12,000 occupancies. He said they were able to do about 3,500 inspections. Tom Paradise noted that Glendale has a difficult time keeping up with what is supposed to be done each year. Rich Kochanski said that Mesa charges for their inspections. He noted that City Council wanted dollars from this effort. He said they are a cost recovery model to cover inspector salaries. He said he has a 1.1 million dollar goal and met \$890,000 of that total.

Bob Lee asked Rich Kochanski to discuss third party reporting. Rich Kochanski said Mesa does not do inspections on hood systems, a third party does those inspections. He said the third party inspects and sends deficiencies to Mesa. He reported that the third party company does not have an enforcement arm. Rick DeStefano asked who approved the third party company. Rich Kochanski responded that they were approved by his department. Rick DeStefano asked if the fee structure is published. Rich Kochanski replied that the fee structure is available on the Mesa web site.

Bob Lee said that group homes and entities that get licenses from the Department of Health Services (DHS) are requesting an annual inspection. He noted that changing the frequency of the inspection is the responsibility of the local jurisdiction and Paradise Valley is set up to do inspections on an annual basis. Rich Kochanski said they are not doing an annual inspection for group homes at this time. He said Mesa is doing every other year for group homes and will wait to see if it passes the test.

Bob Lee asked if Mesa is doing school inspections. Rich Kochanski replied that the State does those inspections. Mr. Kochanski said he does inspect charter schools but does not inspect public schools. He said Mesa wants to inspect public schools but the State is doing them.

Bob Lee asked who is in the high risk category. Rich Kochanski responded that hospitals, air craft hangers, hotels, a lot of the high loss of life, apartments, semi-conductors, repair garages, residential care facilities, etc. Mr. Kochanski said he would provide a list of high risk category to Heidi Bickart to distribute to the committee.

Rich Kochanski said Mesa has an agreement for residential care units not licensed by the State, that states everyone in the facility could self evacuate. He said these facilities are not licensed by the State. He noted that Mesa does these inspections every other year.

Bob Lee noted that older adults living in group homes can self evacuate when they move in but as they age in place they may not be able to self evacuate. Steve Hether said this is a huge problem we all face. Mr. Hether suggested that forcing them out of group homes in an effort to protect them may in fact end up killing them.

Bob Lee said that if there are less than 5 people than sober houses are unregulated. He said he is approached by owners of sober houses with 8-12 bedrooms and they state that there are less than 5 people living there.

Tom Ewers said this happens all the time at the County where there is a big house, lots of family in rooms in the house, and clearly more than 5 people living in the house, so County makes them go R4 sprinkler due to the number of bedrooms. Mr. Ewers also noted that the owners of these homes will state that everybody living in the extra rooms is a relative.

7. HUD Sustainable Communities Planning Grant Program

Steve Hether read an email he sent to Amy St. Peter regarding the HUD Sustainable Communities Planning Grant Program. He noted that the MAG BCC currently does not have any green initiatives underway but that it may be helpful to implement a green building code as part of ICC in the future. In looking at the grant criteria it may be possible to include funding the research, development and recommendation to implement a green building code by the MAG member communities. The International Code Council (ICC) is currently developing a green code (IGCC) as a jurisdictional compliance option to be included in the 2012 edition of the family of ICC Codes. Grant funds would enable MAG to research, develop, and implement this project. MAG would need to compare the 2012 IGCC, to any other model green codes. Public meetings with designers, contractors, owners, developers, elected officials and other stakeholders would need to be held to discuss significant short-term and long-term impacts both positive and negative. Input from stakeholders would be considered as MAG develops any recommended amendments for a Green Code. Training for public and jurisdiction staffs would need to be developed and delivered.

Steve Hether said he believes an effort in this direction would fit well into the parameters of this grant, especially if it is a part of a regional effort in sustainability. He said a regional approach would be much more economical for the MAG members than individual efforts that would duplicate many aspects in R&D cost.

Steve Hether said Mesa used the possible adoption of an energy code as part of an application for stimulus funds received last year. He asked Phoenix if they received grant funds to explore the adoption of a green code. Tom Wandrie noted that Phoenix is looking into adopting IGCC hopeful that state legislation won't hinder adoption

Steve Hether said Mesa just completed a Request for Information (RFI) process for research, development and implementation of the energy code. The bids were in the \$200K plus range.

Amy St. Peter said she is very pleased to have this opportunity to provide an update on the grant. She said she was pleased to have the input from the Chair in May. Amy St. Peter said it is strictly a planning grant to support the creation of regional plans for sustainable developments. The work that Steve Hether was proposing would be a wonderful opportunity to come out of the grant.

The grant touches on a number of different issues such as housing, transportation, environment and the economy. She said developing IGCC could be part of a second component. Category 1 is to create a plan. Category 2 is the detailed execution plan where the MAG BCC idea could come into play. Category 3 is funding available for implementation. She said the grant application is for the sun corridor (Pima, Pinal, Maricopa counties). She said MAG may be able to move forward with some parts of the project even without receiving funding. She said that 6 initiatives have been identified.

1. A regional housing plan including affordable housing and the family.
2. A cluster and economic development study.

3. Canal/path integration study.
4. Native American communities transit study.
5. Arizona health survey.
6. Connect housing, transportation and jobs in order to make activity centers more viable.

She said there is nearly \$21 million leveraged already through partnerships. There are 120 partners.

Steve Hether said grant funding would be helpful to communities when doing research and development.

Bob Lee thanked Amy for her hard work on the grant application.

9. Updated MAG Building Codes Committee Membership

Members were encouraged to send any changes to Heidi Bickart. Steve Hether announced that John Stigsell is retiring and Bryan Woodcox is no longer working at the city of Glendale. Heidi Bickart said she would work with city of Glendale to appoint a new MAG BCC member.

10. Update on Survey of Code Adoption Document

Steve Hether encouraged members to send Heidi Bickart changes to the table. Heidi Bickart said that contractors and public request this table and have noticed that the anticipated adopted date has already past and the city has not in fact adopted the new codes.

Tom Ewers said that Maricopa County has one change in the last column and provided that to Heidi Bickart.

11. Topics for Future Agendas

Steve Hether said that residential fences is a future meeting topic.

Bob Lee suggested green construction code as a future meeting topic. Mr. Lee said they are looking for public comment until end of September. Tom Wandrie said that city of phoenix is commenting. Bob Lee said the gentleman who did class in Flagstaff said it could be adopted as a voluntary code.

12. Adjournment

Ken Sowers made motion and Mario Rochin seconded motion. The meeting adjourned at 2:50 pm.

Viega ProPress® and ProPressG™ Systems Pocket Guide



viega

ProPress and ProPressG Systems

Welcome to Viega...

The global leader in plumbing and heating systems.



A heritage of better ideas since 1899

When Franz-Anselm Viegeler introduced a new brass beer tap in 1899, it became the first of over 16,000 Viega products that would follow. Many of these new ideas revolutionized the plumbing and heating industry, saving installation time, improving the environment and enhancing safety on the job.

Today, as we extend our global reach, the values of our founding generations still drive the family business: courage to explore new ideas; insistence on the highest standards of quality and commitment to exceed our customers' expectations.

Unrelenting dedication to quality

Viega engineers take on challenges of all sizes, designing plumbing, heating and pipe joining systems that meet or exceed the strictest standards around the globe. We not only invent the most innovative products and systems; we also make sure they perform to higher quality standards than any imitators.

Our Quality Assurance, Research and Development departments test all Viega products and Viega-designed systems to ensure that every one performs to our customers' expectations. Other products may look similar, but none measure up to Viega standards for quality, performance and durability.

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ProPress

1/2" to 2" dimensional documentation	17
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ProPress XL (Bronze)

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ProPress XL-C (Copper)

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ProPressG

1/2" to 2" dimensional documentation	39
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Warranty

Viega limited warranty (covers ProPress fittings)	44
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ProPress and ProPressG System

ProPress and ProPressG Fittings with Smart Connect[®] feature...



...Look for the green and yellow dots.

Green and yellow dots identify the patented Smart Connect feature, which quickly identifies unpressed fittings. Green dots allow liquids and gases to pass by the sealing element during pressure testing. Yellow dots allow air to pass by the sealing element during pressure testing.

Only ProPress fittings offer the Smart Connect feature.

The ProPress System consists of a series of engineered copper and bronze press fittings offered in hundreds of configurations and sizes ranging from 1/2" to 4".

The ProPressG System is offered in sizes ranging from 1/2" to 2".

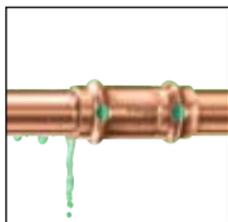
Fittings are offered with different sealing elements that meet a broad range of piping applications. Traditional ProPress fittings use a shiny black, high performance EPDM seal. Users can also buy a dull black FKM seal separately and install it manually into 1/2" to 2" and XL (Bronze) 2-1/2" to 4" fittings only.

ProPressG fittings use a yellow, high performance HNBR seal.

Selection of appropriate seals and fittings is the responsibility of the system designer and/or installer. Please contact Viega for technical guidance.



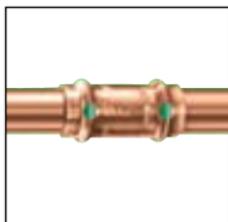
Whether you are using ProPress (green Smart Connect dots) or ProPressG (yellow dots) both systems can be pressed in the same manner with the same tools.



1 Identify an unpressed connection during pressure testing when water flows past the sealing element.



2 Upon identification, the ProPress tool is used to press the fitting, making a permanent, leak-proof connection.



3 ProPress connections are fast, flameless and reliable.

System data sheet

System description

ProPress, ProPress XL (bronze) and ProPress XL-C (copper) are safe, reliable and economical copper pipe installation systems that use modern cold press connection technology for a wide assortment of more than 600 fittings in dimensions ranging from 1/2" to 4".

Applications

Tubing: K, L and M hard copper tubing from 1/2" to 4" and soft copper tubing in 1/2" to 1-1/4" diameters. All tubing must comply with the ASTM B88 standard. ProPress fittings are approved for installations in both above and below ground applications. Per code, local inspector approval must be obtained prior to installation below ground.

Operating parameters

- Operating Pressure 200 psi Max.
- Test Pressure 600 psi Max.
- Low Pressure Steam 15 psi Max.
- Vacuum 29.2" Mercury Max. @ 68°F
- Operating Temperature 0°F – 250°

RIDGID® Pressing Tools			
Model	330-C	330-B	100-B
Volts	120v	18v Battery	14.4v Battery
Amps	5.A	27.2A	24A
Weight (w/out jaw)	9 lbs	10 lbs	7

Tools

Viega recommends Ridgid press tools, ProPress jaws and ring sets manufactured and sold by Ridgid Tool Company for Viega systems.

RIDGID offers four pressing tools for connecting ProPress fittings.

- RP210-B Battery powered Tool (1/2" to 1-1/4")
- RP330-C Corded Tool (1/2" to 4")
- RP330-B Battery powered Tool (1/2" to 4")
- 100-B Battery powered Tool (1/2" to 1")
- 1/2" to 4" fittings are pressed in 4-7 sec.

RIDGID is a registered trademark of Ridge Tool Co.

Approvals and certificates NSF International

www.nsf.org/business/search_listings/index.asp#mname (enter "Viega")

IAPMO

<http://pld.iapmo.org/> (enter "Viega")

UL

<http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/gfilebr.html> (enter "ex6157")

ABS

(American Bureau of Shipping)

<http://www.eagle.org/typeapproval/contents.html> (enter "Viega")

CSA International

<http://www.csa-international.org/product/> (enter "Viega")

FM

International approvals

- Deutsch Veiein des Gas-und Wasserfachese.V. (DVGW)
- Lloyd's Register (LLOYD'S)
- Det Norske Veitas (DNV)
- Registro Italiano Navale (RINA)
- Bureau Veitas (BV)
- KWA

Compliant with

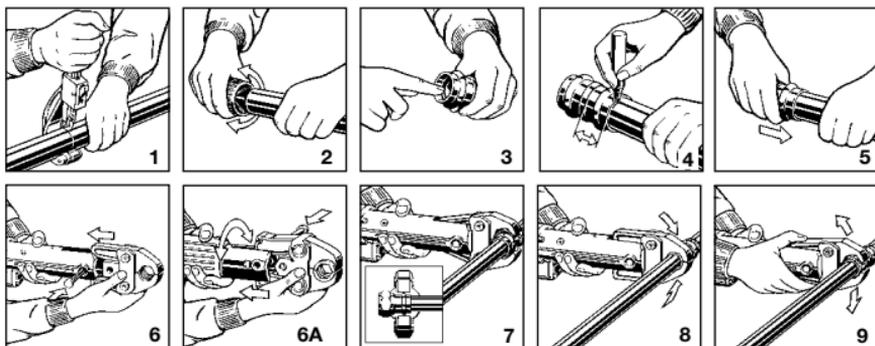
- ICC International Plumbing Code
- UPC Uniform Plumbing Code
- PHCC National standard plumbing code
- Florida Building Code, Volume II Plumbing Code
- NFPA 13, 13D and 13R

Contact your local Viega representative for details on local approvals.

Product instructions

For types K, L and M hard copper tubing in 1/2" to 2" and soft copper tubing in 1/2" to 1-1/4"

WARNING Read and understand all instructions for installing ProPress fittings. Failure to follow all instructions may result in extensive property damage, serious injury or death.



ProPress Insertion Depth Chart

Tube Size	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
Insertion Depth	3/4"	7/8"	7/8"	1"	1-7/16"	1-9/16"

1. Cut copper tubing at right angles using displacement type cutter or fine-toothed steel saw.
2. Remove burr from inside and outside of tubing to prevent cutting sealing element.
3. Check seal for correct fit. Do not use oils or lubricants. Use only ProPress Shiny Black EPDM or Dull Black FKM Sealing Elements.
4. Mark proper insertion depth as indicated by the ProPress Insertion Depth Chart. Improper insertion depth may result in improper seal.
5. While turning slightly, slide press fitting onto tubing to the marked depth. **Note: End of tubing must contact stop.**
6. Insert appropriate Viega jaw into the pressing tool and push in holding pin until it locks in place.
7. Open the jaw and place at right angles on the fitting. Visually check insertion depth using mark on tubing.
8. Start pressing process and hold the trigger until the jaw has engaged the fitting.
9. After pressing, the jaw can be opened again.
10. For applications requiring ProPress with FKM sealing elements, remove the factory installed EPDM sealing element and replace with FKM sealing element.



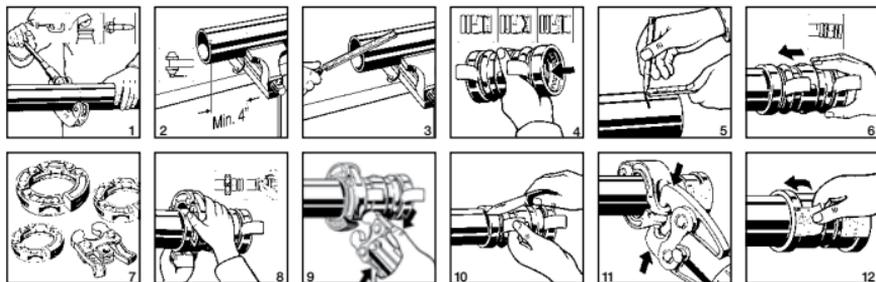
Pressure Testing: Pressure testing is to be carried out in accordance with local codes. ProPress includes the Smart Connect Feature providing quick and easy identification of **unpressed** connections during the pressure testing process. **Unpressed connections are located by pressurizing the system with air or water. When testing with air the pressure range is 1/2 PSI to 85 PSI maximum. When testing with water the pressure range is 15 PSI to 85 PSI maximum.** The Smart Connect feature is an integral part of the design of the fitting assuring leakage of liquids and /or gases from inside the system past the sealing element of an unpressed connection. The Smart Connection feature is removed during the pressing process creating a leak-proof, permanent connection.

ProPress XL (Bronze) System

Product instructions

Copper fittings for types K, L and M hard copper tubing in 2-1/2" to 4"

WARNING Read and understand all instructions for installing ProPress XL fittings. Failure to follow all instructions may result in extensive property damage, serious injury or death.



ProPress XL Insertion Depth Chart

Tube Size	2-1/2"	3"	4"
Insertion Depth	2-1/8"	2-1/8"	2-1/2"

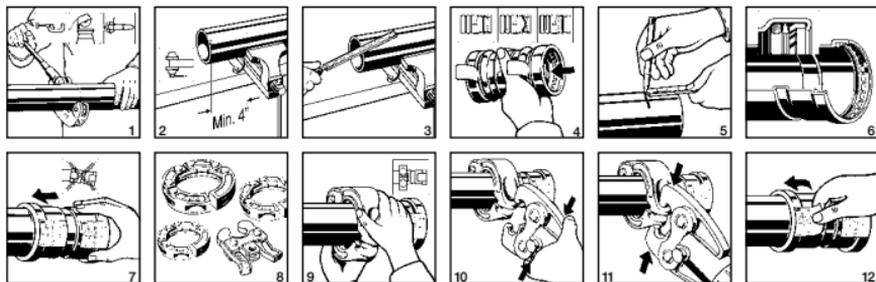
1. Cut copper tubing at right angles using displacement type cutter or fine-toothed steel saw.
2. Keep end of tubing a minimum of 4" away from the contact area of the vise to prevent possible damage to the tubing in the press area.
3. Remove burr from inside and outside of tubing to prevent cutting sealing element.
4. Mark proper insertion depth as indicated by the ProPress XL insertion depth chart. Improper insertion depth may result in an improper seal.
5. Check seal and grip ring for correct fit.
6. While turning slightly, slide press fitting onto tubing to the marked depth. Do not use oils or lubricants.
7. ProPress XL fitting connections must be performed with ProPress XL Rings and Actuator. Use of other ring set or actuator will result in an improper connection. See Ridgid Operator's Manual for proper tool instructions.
8. Open XL Ring and place at right angle on the fitting. XL Ring must be engaged on the fitting bead. Check insertion depth.
9. With Actuator inserted into the tool, open the Actuator as shown.
10. Place Actuator onto XL Ring and start pressing process. Hold the trigger until the Actuator has engaged the XL Ring. Keep extremities and foreign objects away from XL Ring and Actuator during pressing operation to prevent injury or incomplete press.
11. Release Actuator from XL Ring and then remove the XL Ring from the fitting on completion of press. Remove tag from fitting indicating press has been performed.
12. For applications requiring ProPress XL with FKM sealing elements, remove the factory installed EPDM sealing element and replace with FKM sealing element.

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ProPress XL-C Insertion Depth Chart

Tube Size	2-1/2"	3"	4"
Insertion Depth	1-5/8"	1-7/8"	2-3/8"

1. Cut copper tubing at right angles using displacement type cutter or fine-toothed steel saw.
2. Keep end of tubing a minimum of 4" away from the contact area of the vise to prevent possible damage to the tubing in the press area.
3. Remove burr from inside and outside of tubing to prevent cutting sealing element.
4. Check seal and grip ring for correct fit. Do not use oils or lubricants. Use only ProPress Shiny Black EPDM sealing elements.
5. Mark proper insertion depth as indicated by the ProPress XL-C Insertion Depth Chart. Improper insertion depth may result in an improper seal.
6. Illustration demonstrates proper fit of grip ring, separation ring and sealing element.
7. While turning slightly, slide press fitting onto tubing to the marked depth. End of tubing must contact stop.
8. ProPress XL-C fitting connections must be performed with ProPress XL-C Rings and V2 ACTUATOR. Use of ProPress XL Rings and/or Actuator (for Bronze fittings) will result in an improper connection. See Ridgid Operator's Manual for proper tool instructions.
9. Open XL-C Ring and place at right angles on the fitting. XL-C Ring must be engaged on the fitting bead. Check insertion depth.
10. With V2 ACTUATOR inserted into the tool, open the V2 ACTUATOR as shown and connect V2 ACTUATOR to the XL-C Ring.
11. Place V2 ACTUATOR onto XL-C Ring and start pressing process. Hold the trigger until the Actuator has engaged the XL-C Ring. Keep extremities and foreign objects away from XL-C Ring and V2 ACTUATOR during pressing operation to prevent injury or incomplete press.
12. Release V2 ACTUATOR from XL-C Ring and then remove the XL-C Ring from the fitting on completion of press. Remove tag from fitting indicating press has been performed.

Pressure Testing: Pressure testing is to be carried out in accordance with local codes. ProPress includes the Smart Connect feature providing quick and easy identification of **unpressed** connections during the pressure testing process. **Unpressed connections are located by pressurizing the system with air or water. When testing with air the pressure range is 1/2 PSI to 85 PSI maximum. When testing with water the pressure range is 15 PSI to 85 PSI maximum.** The Smart Connect feature is an integral part of the design of the fitting assuring leakage of liquids and /or gases from inside the system past the sealing element of an unpressed connection. The Smart Connect feature is removed during the pressing process creating a leak-proof, permanent connection.

Minimum clearance between Viega press connections

ProPress — 1/2" to 2"	
Tubing Diameter	Minimum Clearance
1/2"	0"
3/4"	0"
1"	0"
1-1/4"	7/16"
1-1/2"	5/8"
2"	3/4"

ProPress XL Bronze — 2-1/2" to 4"	
Tubing Diameter	Minimum Clearance
2-1/2"	0"
3"	0"
4"	0"

ProPress XL-C Copper — 2-1/2" to 4"	
Tubing Diameter	Minimum Clearance
2-1/2"	5/8"
3"	5/8"
4"	5/8"

Tubing insertion depth

ProPress and ProPressG — 1/2" to 2"	
Tubing Diameter	Insertion Depth
1/2"	3/4"
3/4"	7/8"
1"	7/8"
1-1/4"	1"
1-1/2"	1-7/16"
2"	1-9/16"

ProPress XL Bronze — 2-1/2" to 4"	
Tubing Diameter	Insertion Depth
2-1/2"	2-1/8"
3"	2-1/8"
4"	2-1/2"

ProPress XL-C Copper — 2-1/2" to 4"	
Tubing Diameter	Insertion Depth
2-1/2"	1-5/8"
3"	1-7/8"
4"	2-3/8"

Friction loss allowances

Approximate Friction Loss Allowances for ProPress Fittings in feet of straight tube

The tables below express friction loss in ProPress fittings as equivalent lengths of tube, in feet. For example, a 3/4" 90° elbow would impose the same friction loss as 1 foot of 3/4" copper tube.

Wrought — Copper Fittings						
Size	90° Elbow	45° Elbow	Tee Run	Outlet	90° Bend	180° Bend
1/2"	1/2	1/2	1/2	1	1/2	1
3/4"	1	1/2	1/2	2	1	2
1"	1	1	1/2	3	2	2
1-1/4"	2	1	1/2	4	2	3
1-1/2"	2	2	1	5	2	4
2"	2	2	1	7	3	8
2-1/2"	2	3	2	9	4	16
3"	3	4	—	—	5	20
4"						

Cast — Copper Alloy Fittings				
Size	90° Elbow	45° Elbow	Tee Run	Outlet
1/2"	1	1/2	1/2	2
3/4"	2	1	1/2	3
1"	4	2	1/2	5
1-1/4"	5	2	1	7
1-1/2"	8	3	1	9
2"	11	5	2	12
2-1/2"	14	8	2	16
3"	18	11	2	20
4				

Notes: 1. The friction losses shown are approximations.

All fittings actual numbers are equal to or less than these numbers.

2. The numbers in these tables are equivalent to friction losses by solder fittings as defined by tests conducted at Harvard University (1948).

ProPress and ProPressG Application Guidelines

Approved applications

Type of Service	System Operating Conditions	Specialty Seals Factory Installed	Specialty Seals Field Installed	Specialty Seals Factory Installed
		ProPress w/EPDM Color-Shiny Black	FKM Color-Dull Black*	ProPressG w/HNBR Color-Yellow*
Fluids				
Hot and Cold Potable Water	32°F – 250°F, max. 200 psi	YES	NO	NO
Potable Water System Flushing	Compliant with major plumbing codes	YES	NO	NO
Chilled Water with corrosion inhibitors	0°F – 250°F, max. 200 psi Ethylene Glycol – 50% max. con. Propylene Glycol – 50% max. con.	YES	NO	YES
Hydronic Heating	0°F – 250°F, max. 200 psi Ethylene Glycol – 50% max. con. Propylene Glycol – 50% max. con.	YES	NO	YES
Low Pressure Steam	Max 15 psi	NO	NO	YES
Rainwater/Greywater	32°F – 250°F, max. 200 psi	YES	YES	YES
Fire Sprinkler	32°F – 250°F, max. 175 psi	YES	NO	NO
Heating Fuel Oil	-40°F – 180°F Ambient, max. 125 psi	NO	YES	NO
Diesel Fuel	Compliant with NFPA 30 and 30A	NO	YES	NO
Process Piping				
Propylene Glycol	0°F – 250°F, 200 psi 100% max. concentration	YES	NO	YES
Ethylene Glycol	0°F – 250°F, 200 psi 100% max. concentration	YES	NO	YES
Butylene Glycol	0°F – 250°F, 200 psi 100% max. concentration	YES	NO	YES
Pure Grain Alcohol		NO	NO	NO
Liquid Nitrogen		NO	NO	NO
Gases				
Compressed Air with less than 25mg/m ³ oil content	0°F – 160°F Ambient, max. 200 psi	YES	YES	YES
Compressed Air with more than 25mg/m ³ oil content	0°F – 160°F Ambient, max. 200 psi	NO	YES	YES
Carbon Dioxide CO ₂ dry	0°F – 250°F Ambient, max. 140 psi	YES	NO	NO
Nitrogen N ₂	0°F – 250°F Ambient, max. 140 psi	YES	NO	NO
Argon	0°F – 250°F Ambient, max. 140 psi	YES	NO	NO
Corgon	0°F – 250°F Ambient, max. 140 psi	YES	NO	NO
Argonmac - K (welding gas)	0°F – 250°F Ambient, max. 140 psi	YES	NO	NO
Vacuum	Max. 29.2 inches of Mercury	YES	NO	YES
Natural Gas, Liquid Propane Gas, Mixed Fuel Gases, Manufactured Fuel Gases, Liquid Butane Gas	-40°F – 180°F Ambient, max. 125 psi	NO	YES	NO
Oxygen O ₂ (non-medical)	0°F – 160°F Ambient, max. 160 psi	YES	YES	NO

*Notes: FKM sealing elements not compatible with XL-C fittings.

Warning: All systems are recommended to be clearly labeled with the fluid or gas being conveyed. For further information please see the Viega technical bulletin TB-PIPELABELING. Consult the Viega Technical Support Department for information on applications not listed and applications outside the temperature and pressure ranges listed above.

Sealing element descriptions

EPDM Sealing Element

ProPress/ProPress XL press fittings are manufactured with a high quality EPDM sealing element installed at the factory. This sealing element is used mainly in the applications of potable water, hydronic heating, low-pressure steam, fire sprinkler and compressed air installations.

Definition:

EPDM — Ethylene-Propylene-Diene-Monomer, gloss black in color

Maximum Pressure: 200 psi

Operating temperature:

0°F to 250°F
(or higher, for brief periods)

The EPDM sealing element is a synthetically manufactured and peroxidically cross-linked, general purpose unvulcanized rubber with a wide range of applications. It possesses excellent resistance to aging, environmental influences such as ozone, sunlight and weathering, alkalis and most alkaline solutions, and chemicals used in a broad range of applications.

The EPDM sealing element has particularly good resistance to hot water, making it ideal for seals and gaskets in heating systems, fittings, and household appliances (e.g. washing machines, pumps, dishwashers).

The EPDM sealing element is suitable for food contact applications and is recommended for drinking water applications. It is not resistant against hydrocarbon solvent solutions, related oils, chlorinated hydrocarbons, turpentine and gasoline.

FKM Sealing Element

The FKM sealing element installed at the factory can be removed from the ProPress/ProPress XL press fittings in the field and re-placed with the appropriate size FKM sealing element.

Definition:

FKM — Fluoroelastomer, flat black in color

Maximum Pressure: 200 psi

Operating temperature:

0°F to 320°F
(or higher, for brief periods)

FKM is well known for its excellent resistance to petroleum products and solvents as well as excellent high temperature performance. The FKM sealing element is a specialty purpose rubber-sealing element typically installed where higher temperatures and pressures are required.

It possesses excellent resistance to aging, environmental influences such as ozone, sunlight and weathering, oils and petroleum-based additives. Its excellent resistance to high temperatures and petroleum based additives makes it ideal for seals and gaskets in solar, district heating, low pressure steam and compressed air system fittings.

The FKM sealing element is not suitable for food contact applications and cannot be installed in drinking water applications, natural gas, LP gas, mixed gases or fuel oil systems.

It is not resistant against polar solvents, amines, anhydrous ammonia, SKYDROL, hydrazine or hot acids.

HNBR Sealing Element

ProPressG press fittings are manufactured with a high quality HNBR sealing element installed at the factory. This sealing element is used mainly for applications of natural, propane, mixed, and manufactured gases in the vapor state, not in the liquid state. It is commonly used in fuel oil heating systems.

Definition:

HNBR — Hydrogenated Nitrile Butadiene Rubber, yellow in color

Maximum Pressure: 125 psi

Ambient Operating temperature:

-40°F to 180°F

HNBR is widely known for its physical strength and retention of properties after long-term exposure to heat, oil and chemicals. The unique properties attributed to HNBR have resulted in wide adoption of HNBR in automotive, industrial and assorted performance-demanding applications (e.g. engine seals, grommets, and gaskets; fuel system seals and hoses; transmission system bonded piston seals; Chevron seals, oil field packers and rotary shaft seals.)

With its excellent performance in the most demanding of applications, HNBR is the ideal choice for applications needing excellent physical properties, as well as oil, heat and/or chemical resistance. The HNBR sealing element is not suitable for food contact applications and cannot be installed in drinking water applications.

Frequently Asked Questions

Q What is the procedure for soldering near a ProPress connection?

A Stay at least three tubing diameters away from the press connection. If three tubing diameters is not possible, installer should take proper precautions to keep the ProPress joint cool while soldering.

- Wrap the joint with a cold wet rag.
- Fabricate solder joint prior to installing the press fitting making sure tubing is cooled before installing fitting.
- Use "spray type" spot freezing product.

Q As an inspector, how do I know if I am looking at a good joint?

A Pressure test, same as a solder joint.

Q What is the lubrication used on the sealing elements?

A The sealing elements are lubricated with an NSF-61 approved silicone oil. If it is necessary to lubricate the seals in the field, use water only. Do not use other lubricants, especially any petroleum-based lubricants, as petroleum and EPDM are incompatible.

Q How long will the EPDM seal last?

A When properly installed, the EPDM seal and connection will last as long as the copper pipe that joins it, 50 years. This is confirmed in NSF-61 test reports.

Q How do I fabricate a system in tight places when using ProPress?

A If necessary, pre-fabricate connections that are in tight places and then install.

Q What is the warranty for ProPress?

A ProPress fittings carry a 50-year warranty against defects in material and workmanship from Viega. RIDGID Tools carry a lifetime warranty against defects in workmanship and material.

Q Can you turn a pressed fitting without damaging the integrity of the connection?

A Yes. The fitting can be turned, although not by hand, and will not affect the integrity of the connection. As a general rule of thumb, if the fitting is turned more than 5° it must be repressed to restore the resistance to rotational movement.

Q How do ProPress connections hold up to freezing temperatures?

A Copper water systems, both soldered and pressed, should not be allowed to freeze. When water freezes it expands and will damage the pipe or the system.

Q What level of turbulence is caused by ProPress fittings and will it cause premature wear in copper tubing?

A The long radius of ProPress elbows reduces the turbulence typically experienced with traditional short radius fittings. Not reaming the ID of the tubing is the largest contributing factor to turbulence and premature wear of any piping system and would be a concern in any cooper joining system.

Frequently Asked Questions

Q Is ProPress approved for underground use?

A Yes. ProPress can be used underground, but users must obtain approval from the authority having jurisdiction.

Q Can a user solder the female "C" end of a ProPress fitting?

A This is not a recommended practice and constitutes improper use of the product. The recessed groove that normally houses the EPDM seal will interfere with the capillary action that normally draws solder into and around the tubing.

Q What are the flow rates through ProPress fittings?

A Because of the long radius the flow rate is better than standard short radius solder fittings. Flow rates and flow rate calculations are the same as those used for solder fitting installations.

Q What if a user presses a fitting that does not contain a seal?

A A fitting should never be installed without a seal.

Q What should a user do if a ProPress system leaks?

A In general, ProPress fittings only leak due to one of three reasons:

- The fitting was never pressed.
- The copper tubing was not properly inserted.
- The pressing jaws were not properly aligned over the fitting.

With the first situation, confirm tubing is properly installed and press. It is not necessary to drain the system to do so. In the second and third situation, the user must cut out the fitting and re-install properly.

Q Is ProPress compatible with the cleaning agents used to disinfect a new water distribution system?

A Yes. However, it is recommended that you contact your local District Manager or Viega Tech Support for consultation.

Q Is an OD deburr required if I use a displacement-type cutter wheel?

A Yes, deburring is required to prevent cutting the sealing element.

ProPress

1/2" to 2" fittings

Dimensional documentation



Dimensional documentation (inches)

Adapter C x M					
	Stock Code	Size (1 x 2)	Material	(A)	(L)
	77812	1/2" x 3/8" NPT	Bronze	0.96	1.713
	77817	1/2" x 1/2" NPT	Bronze	1.12	1.870
	77822	1/2" x 3/4" NPT	Bronze	1.22	1.969
	77827	3/4" x 1/2" NPT	Bronze	1.18	2.087
	77832	3/4" x 3/4" NPT	Bronze	1.18	2.087
	22348	3/4" x 1" NPT	Bronze	1.42	2.323
	77837	1" x 3/4" NPT	Bronze	1.32	2.224
	77842	1" x 1" NPT	Bronze	1.46	2.362
	77847	1" x 1-1/4" NPT	Bronze	1.73	2.638
	77852	1-1/4" x 1" NPT	Bronze	1.42	2.441
	77857	1-1/4" x 1-1/4" NPT	Bronze	1.54	2.559
	77862	1-1/4" x 1-1/2" NPT	Bronze	1.65	2.677
	77867	1-1/2" x 1-1/4" NPT	Bronze	1.54	2.953
	77872	1-1/2" x 1-1/2" NPT	Bronze	1.54	2.953
	22343	1-1/2" x 2" NPT	Bronze	1.83	3.248
	22339	2" x 1-1/2" NPT	Bronze	1.67	3.248
	77877	2" x 2" NPT	Bronze	1.67	3.248

Adapter C x F					
	Stock Code	Size (1 x 2)	Material	(A)	(L)
	77887	1/2" x 3/8" NPT	Bronze	0.224	1.378
	77892	1/2" x 1/2" NPT	Bronze	0.291	1.575
	77897	1/2" x 3/4" NPT	Bronze	0.394	1.693
	77902	3/4" x 1/2" NPT	Bronze	0.331	1.772
	77907	3/4" x 3/4" NPT	Bronze	0.394	1.850
	14548	3/4" x 1" NPT	Bronze	0.252	1.693
	77912	1" x 3/4" NPT	Bronze	0.394	1.850
	77917	1" x 1" NPT	Bronze	0.480	2.047
	77922	1" x 1-1/4" NPT	Bronze	0.539	2.126
	22208	1-1/4" x 1-1/2" NPT	Bronze	0.374	1.929
	77927	1-1/4" x 1" NPT	Bronze	0.205	1.890
	77932	1-1/4" x 1-1/4" NPT	Bronze	0.382	2.087
	77937	1-1/4" x 1-1/2" NPT	Bronze	0.461	2.165
	77942	1-1/2" x 1-1/4" NPT	Bronze	0.382	2.480
	77947	1-1/2" x 1-1/2" NPT	Bronze	0.382	2.480
	77952	2" x 2" NPT	Bronze	0.445	2.717

Dimensional documentation (inches)

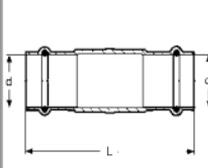
Adapter FTG x M					
	Stock Code	Size (1 x 2)	Material	(L)	
	77957	1/2" x 3/8" NPT	Bronze	1.732	
	77962	1/2" x 1/2" NPT	Bronze	1.969	
	77967	1/2" x 3/4" NPT	Bronze	2.047	
	77982	3/4" x 1/2" NPT	Bronze	2.028	
	77977	3/4" x 3/4" NPT	Bronze	2.146	
	14553	1" x 3/4" NPT	Bronze	2.146	
	77982	1" x 1" NPT	Bronze	2.362	
	77987	1-1/4" x 1-1/4" NPT	Bronze	2.657	
	77992	1-1/2" x 1-1/2" NPT	Bronze	3.051	
	77997	2" x 2" NPT	Bronze	3.543	

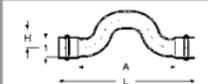
Adapter FTG x F					
	Stock Code	Size (1 x 2)	Material	(A)	(L)
	78002	1/2" x 3/8" NPT	Bronze	1.031	1.437
	78007	1/2" x 1/2" NPT	Bronze	1.118	1.654
	78012	1/2" x 3/4" NPT	Bronze	1.181	1.732
	78017	3/4" x 1/2" NPT	Bronze	1.217	1.752
	78022	3/4" x 3/4" NPT	Bronze	1.256	1.811
	22218	1" x 1/2" NPT	Bronze	1.433	1.969
	22213	1-1/4" x 1/2" NPT	Bronze	1.630	2.165
	78027	1" x 1" NPT	Bronze	1.307	1.969
	78032	1-1/4" x 1-1/4" NPT	Bronze	1.484	2.165
	78037	1-1/4" x 1-1/2" NPT	Bronze	1.878	2.559
	78042	2" x 2" NPT	Bronze	2.335	3.031

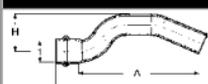
Coupling C x C with Stop					
	Stock Code	Size (1 & 2)	Material	(A)	(L)
	78047	1/2"	Copper	0.236	1.732
	78052	3/4"	Copper	0.394	2.205
	78057	1"	Copper	0.394	2.205
	78062	1-1/4"	Copper	0.394	2.441
	78067	1-1/2"	Copper	0.394	3.307
	78072	2"	Copper	0.472	3.622

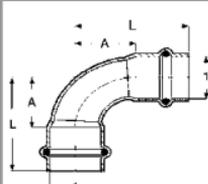
Coupling C x C No Stop				
	Stock Code	Size (d)	Material	(L)
	78172	1/2"	Copper	1.732
	78177	3/4"	Copper	2.205
	78182	1"	Copper	2.205
	78187	1-1/4"	Copper	2.441
	78192	1-1/2"	Copper	3.307
	78197	2"	Copper	3.622

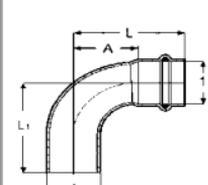
Dimensional documentation (inches)

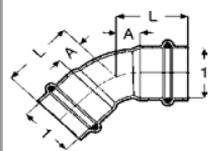
Coupling C x C Extended No Stop				
	Stock Code	Size d	Material	(L)
	78213	1/2"	Copper	2.9
	78218	3/4"	Copper	3.3
	78223	1"	Copper	3.7
	78228	1-1/4"	Copper	4.1
	78233	1-1/2"	Copper	4.7
	78238	2"	Copper	5.2

Cross-Over C x C						
	Stock Code	Size (1)	Material	(A)	(L)	(H)
	77742	1/2"	Copper	3.622	5.118	0.772
	77747	3/4"	Copper	4.488	6.339	0.902

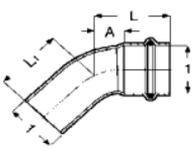
Cross-Over FTG x C Close Rough						
	Stock Code	Size (1)	Material	(A)	(L)	(H)
	78137	1/2"	Copper	3.835	4.583	1.098
	78142	3/4"	Copper	4.638	5.543	1.539

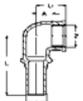
Elbow 90° C x C Close Rough					
	Stock Code	Size (1)	Material	(A)	(L)
	77317	1/2"	Copper	0.748	1.496
	77322	3/4"	Copper	1.039	1.945
	77327	1"	Copper	1.323	2.228
	77332	1-1/4"	Copper	1.654	2.677
	77337	1-1/2"	Copper	1.984	3.402
	77342	2"	Copper	2.551	4.126

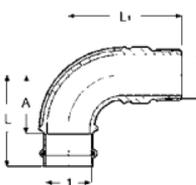
Elbow 90° FTG x C Close Rough						
	Stock Code	Size (1)	Material	(A)	(L)	(L1)
	77347	1/2"	Copper	0.748	1.496	1.535
	77352	3/4"	Copper	1.039	1.945	1.984
	77357	1"	Copper	1.323	2.228	2.268
	77362	1-1/4"	Copper	1.365	2.677	2.756
	77367	1-1/2"	Copper	1.984	3.402	3.480
	77372	2"	Copper	2.551	4.126	4.205

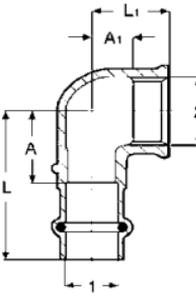
Elbow 45° C x C					
	Stock Code	Size (1)	Material	(A)	(L)
	77607	1/2"	Copper	0.295	1.043
	77612	3/4"	Copper	0.433	1.339
	77617	1"	Copper	0.551	1.457
	77622	1-1/4"	Copper	0.685	1.709
	77627	1-1/2"	Copper	0.823	2.240
	77632	2"	Copper	1.059	2.634

Dimensional documentation (inches)

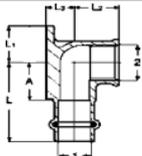
Elbow 45° FTG x C						
	Stock Code	Size (1)	Material	(A)	(L)	(L1)
	77637	1/2"	Copper	0.311	1.059	1.098
	77642	3/4"	Copper	0.433	1.339	1.374
	77647	1"	Copper	0.551	1.457	1.492
	77652	1-1/4"	Copper	0.685	1.709	1.787
	77657	1-1/2"	Copper	0.823	2.240	2.319
	77662	2"	Copper	1.059	2.634	2.709

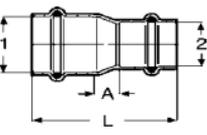
Elbow 90° FTG x F						
	Stock Code	Size (1 & 2)	Material	(A)	(L)	(L1)
	77577	1/2" NPT	Bronze	0.331	2.008	0.866

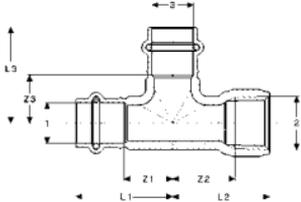
Elbow 90° C x M						
	Stock Code	Size (1 x 2)	Material	(A)	(L)	(L1)
	77492	1/2" x 1/2" NPT	Bronze	0.945	1.693	1.890
	77497	1/2" x 3/4" NPT	Bronze	0.945	1.693	2.047
	77502	3/4" x 1/2" NPT	Bronze	0.984	1.890	1.870
	77507	3/4" x 3/4" NPT	Bronze	1.102	2.008	2.323
	77512	1" x 1" NPT	Bronze	1.382	2.287	2.835
	77517	1-1/4" x 1-1/4" NPT	Bronze	1.870	2.894	3.465
	77522	1-1/4" x 1-1/2" NPT	Bronze	2.205	3.622	3.839
	77527	2" x 2" NPT	Bronze	2.756	4.331	4.724

Elbow 90° C x F							
	Stock Code	Size (1 x 2)	Material	(A)	(A1)	(L)	(L1)
	22193	1/2" x 3/8"	Bronze	0.945	0.295	1.693	0.728
	77532	1/2" x 1/2"	Bronze	0.984	0.331	1.732	0.866
	77537	1/2" x 3/4"	Bronze	1.142	0.409	1.890	0.965
	77542	3/4" x 3/4"	Bronze	1.150	0.488	2.055	1.043
	77547	3/4" x 1/2"	Bronze	1.142	0.472	2.047	1.004
	22203	1" x 1/2"	Bronze	1.299	0.709	2.205	1.260
	77552	1" x 1"	Bronze	1.417	0.618	2.323	1.280
	22198	1-1/4" x 1/2"	Bronze	1.260	0.728	2.283	1.260
	77557	1-1/4" x 1-1/4"	Bronze	1.575	0.841	2.598	1.516
	77562	1-1/2" x 1-1/2"	Bronze	1.614	1.012	3.031	1.693
	77567	2" x 2"	Bronze	2.244	1.469	3.819	2.165

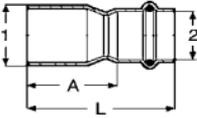
Dimensional documentation (inches)

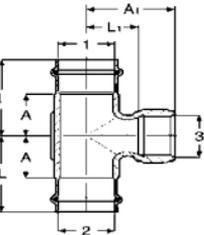
Elbow Drop 90° C x F with Wall Plate									
	Stock Code	Size (1 & 2)	Material	(L)	(L1)	(L2)	(L3)	(A)	
	22223	1/2" x 3/8"	Bronze	1.77	0.83	0.51	0.73	1.02	
	72481	1" NPT	Bronze	2.36	0.98	0.87	1.26	1.46	
	77697	1/2"	Bronze	1.732	0.835	0.866	0.512	0.984	
	77702	3/4"	Bronze	2.047	1.181	1.122	0.835	1.142	

Reducer C x C					
	Stock Code	Size (1 x 2)	Material	(A)	(L)
	78147	3/4" x 1/2"	Copper	0.445"	2.071
	15603	1" x 1/2"	Copper	0.736"	2.362
	78152	1" x 3/4"	Copper	0.504"	2.287
	15593	1-1/4" x 3/4"	Copper	0.728"	2.638
	78157	1-1/4" x 1"	Copper	0.614"	2.524
	18473	1-1/2" x 3/4"	Copper	0.994"	3.327
	15588	1-1/2" x 1"	Copper	0.768"	3.071
	78162	1-1/2" x 1-1/4"	Copper	0.528"	2.959
	18468	2" x 3/4"	Copper	1.524"	4.016
	15608	2" x 1"	Copper	1.319"	3.780
	22328	2" x 1-1/4"	Copper	0.827"	3.425
	78167	2" x 1-1/2"	Copper	0.846"	3.827

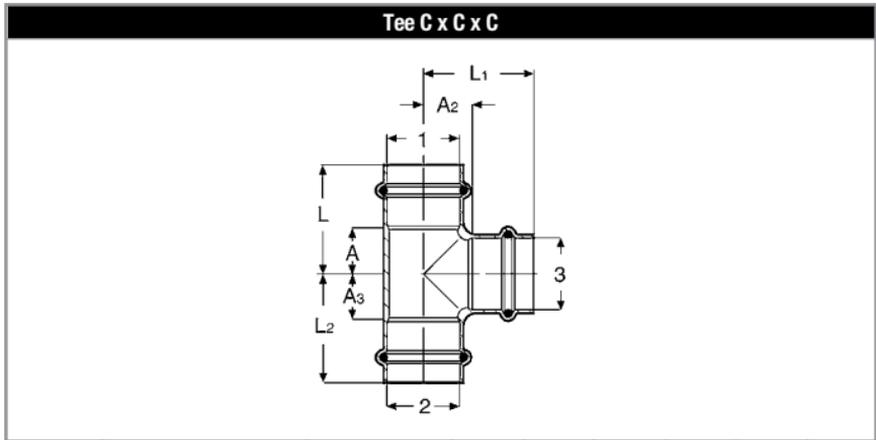
Tee C x F x C									
Stock Code	Size (1 x 2 x 3)	Material							
			Z1 (in)	Z2 (in)	Z3L (in)	L1 (in)	L2 (in)	L3 (in)	WS (in)
77583	1/2" x 1/2" NPT x 1/2"	Bronze	0.75	0.96	0.75	1.50	1.50	1.50	0.98
77593	3/4" x 1/2" NPT x 3/4"	Bronze	0.94	0.96	0.94	1.85	1.50	1.85	0.98
77588	3/4" x 3/4" NPT x 3/4"	Bronze	1.94	1.14	0.94	1.85	1.69	1.85	1.22
77598	1" x 3/4" NPT x 1"	Bronze	1.14	1.08	1.14	2.05	1.77	2.05	1.22
77603	1-1/4" x 3/4" NPT x	1-1/4"	Bronze	1.26	1.20	1.26	2.28	1.89	1.22
2.28	77608	1-1/2" x 3/4"	NPT x	1-1/2"	Bronze	1.34	1.36	1.34	1.22
2.76	2.05	2.76	77613	2" x	3/4" x 2"	Bronze	1.69	1.22	

Dimensional documentation (inches)

Reducer FTG x C					
	Stock Code	Size (1 x 2)	Material	(A)	(L)
	78077	3/4" x 1/2"	Copper	1.417	2.165
	78082	1" x 1/2"	Copper	1.693	2.441
	78087	1" x 3/4"	Copper	1.417	2.323
	22333	1-1/4" x 1/2"	Copper	2.185	2.933
	78092	1-1/4" x 3/4"	Copper	1.850	2.756
	78097	1-1/4" x 1"	Copper	1.575	2.480
	15573	1-1/2" x 1/2"	Copper	2.008	2.756
	14543	1-1/2" x 3/4"	Copper	2.559	3.465
	78102	1-1/2" x 1"	Copper	2.283	3.189
	78107	1-1/2" x 1-1/4"	Copper	2.047	3.071
	15578	2" x 1/2"	Copper	2.913	3.661
	15583	2" x 3/4"	Copper	2.874	3.780
	78112	2" x 1"	Copper	3.031	3.937
	78117	2" x 1-1/4"	Copper	2.795	3.819
	78122	2" x 1-1/2"	Copper	2.638	4.055

Tee C x C x F							
	Stock Code	Size (1 x 2 x 3)	Material	(A)	(A1)	(L)	(L1)
	77582	1/2" x 1/2" x 1/2"	Bronze	0.945	1.339	1.693	0.803
	14563	3/4" x 3/4" x 1/4"	Bronze	0.768	1.378	1.673	0.928
	77587	3/4" x 3/4" x 1/2"	Bronze	1.004	1.673	1.909	1.138
	77592	1" x 1" x 1/2"	Bronze	1.004	1.772	1.909	1.236
	15623	1" x 1" x 3/4"	Bronze	1.161	1.969	2.067	1.343
	77597	1-1/4" x 1-1/4" x 1/2"	Bronze	0.886	1.929	1.909	1.323
	15618	1-1/4" x 1-1/4" x 3/4"	Bronze	0.945	1.929	1.969	1.303
	78342	1-1/2" x 1-1/2" x 1/2"	Bronze	0.748	1.969	2.165	1.433
	15613	1-1/2" x 1-1/2" x 3/4"	Bronze	0.886	2.087	2.303	1.461
	77602	2" x 2" x 1/2"	Bronze	0.984	2.165	2.559	1.630
	14558	2" x 2" x 3/4"	Bronze	1.083	2.363	2.657	1.736

Dimensional documentation (inches)



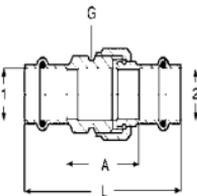
Stock Code	Size (1 x 2 x 3)	Material	(A)	(A2)	(A3)	(L)	(L1)	(L2)
77377	1/2" x 1/2" x 1/2"	Copper	0.738	0.498	0.738	1.496	1.443	1.496
77382	1/2" x 1/2" x 3/4"	Copper	0.906	0.591	0.906	1.654	1.496	1.654
15493	1/2" x 1/2" x 1"	Copper	1.102	0.551	1.102	1.850	1.457	1.850
77387	3/4" x 3/4" x 3/4"	Copper	0.837	0.591	0.837	1.752	1.496	1.752
77392	3/4" x 1/2" x 1/2"	Copper	0.687	0.630	0.984	1.594	1.378	1.732
77397	3/4" x 1/2" x 3/4"	Copper	0.844	0.591	1.142	1.752	1.496	1.890
77402	3/4" x 3/4" x 1/2"	Copper	0.687	0.630	0.687	1.594	1.378	1.594
77407	3/4" x 3/4" x 1"	Copper	0.965	0.630	0.965	1.870	1.535	1.870
77412	1" x 1" x 1"	Copper	0.955	0.787	0.955	1.870	1.693	1.870
22263	1" x 1/2" x 3/4"	Copper	0.846	0.748	1.240	1.752	1.654	1.988
94767	1" x 1/2" x 1"	Copper	0.978	0.787	1.516	1.870	1.693	2.264
77417	1" x 3/4" x 1/2"	Copper	0.703	0.787	0.886	1.594	1.535	1.791
77422	1" x 3/4" x 3/4"	Copper	0.837	0.748	1.043	1.752	1.654	1.949
77427	1" x 3/4" x 1"	Copper	0.709	0.787	1.161	1.870	1.693	2.067
77432	1" x 1" x 1/2"	Copper	0.689	0.787	0.689	1.594	1.535	1.594
77437	1" x 1" x 3/4"	Copper	0.844	0.748	0.844	1.752	1.654	1.752
15488	1" x 1" x 1-1/4"	Copper	1.161	0.837	1.161	2.067	1.870	2.067
77442	1-1/4" x 1-1/4" x 1-1/4"	Copper	1.024	0.866	1.024	2.047	1.890	2.047
22253	1-1/4" x 1/2" x 1-1/4"	Copper	1.024	0.866	1.772	2.047	1.890	2.520
22243	1-1/4" x 3/4" x 1/2"	Copper	0.650	0.925	1.122	1.673	1.673	2.028
22258	1-1/4" x 3/4" x 3/4"	Copper	0.768	0.866	1.299	1.791	1.772	2.205
22268	1-1/4" x 3/4" x 1"	Copper	0.886	0.906	1.398	1.929	1.811	2.303
22248	1-1/4" x 3/4" x 1-1/4"	Copper	1.024	0.866	1.535	2.047	1.890	2.441
22238	1-1/4" x 1" x 1/2"	Copper	0.650	0.925	0.906	1.673	1.673	1.811
94762	1-1/4" x 1" x 3/4"	Copper	0.768	0.866	1.142	1.791	1.772	2.047

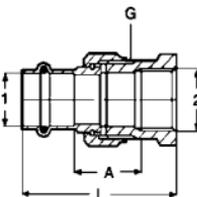
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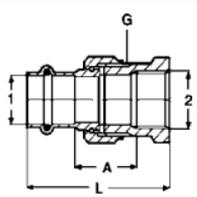
Dimensional documentation (inches)

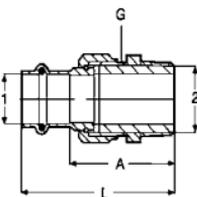
Tee C x C x C (Continued from previous page)								
Stock Code	Size (1 x 2 x 3)	Material	(A)	(A2)	(A3)	(L)	(L1)	(L2)
14568	1-1/4" x 1" x 1"	Copper	0.886	0.906	1.280	1.909	1.811	2.185
94757	1-1/4" x 1-1/4" x 1/2"	Copper	0.650	0.925"	0.650	1.673	1.673	1.673
77452	1-1/4" x 1-1/4" x 3/4"	Copper	0.768	0.866	0.768	1.791	1.772	1.791
77447	1-1/4" x 1-1/4" x 1"	Copper	0.88	0.906	0.886	1.909	1.811	1.909
77457	1-1/2" x 1-1/2" x 1-1/2"	Copper	1.142	1.14	1.142	2.559	2.559	2.559
15478	1-1/2" x 3/4" x 3/4"	Bronze	0.906	1.299	1.299	2.323	2.205	2.205
15473	1-1/2" x 1/2" x 1-1/2"	Bronze	1.240	1.240	1.417	2.657	2.657	2.165
15468	1-1/2" x 1" x 3/4"	Bronze	0.906	1.299	1.063	2.323	2.205	1.969
15458	1-1/2" x 1" x 1"	Copper	0.738	1.063	1.535	2.165	1.969	2.441
15463	1-1/2" x 1" x 1-1/2"	Copper	1.132	1.132	1.831	2.559	2.559	2.736
22233	1-1/2" x 1-1/4" x 3/4"	Copper	0.669	1.142	1.083	2.087	2.047	2.106
15453	1-1/2" x 1-1/4" x 1"	Copper	0.738	1.181	1.289	2.165	2.087	2.323
15483	1-1/2" x 1-1/4" x 1-1/4"	Copper	0.866	1.142	1.339	2.283	2.165	2.362
15448	1-1/2" x 1-1/2" x 1/2"	Copper	0.463	1.102	0.463	1.890	1.850	1.890
77462	1-1/2" x 1-1/2" x 3/4"	Copper	0.669	1.142	0.669	2.087	2.047	2.087
77467	1-1/2" x 1-1/2" x 1"	Copper	0.748	1.181	0.748	2.165	2.087	2.165
77472	1-1/2" x 1-1/2" x 1-1/4"	Copper	0.866	1.142	0.866	2.283	2.165	2.283
77477	2" x 2" x 2"	Copper	1.378	1.378	1.378	2.953	2.953	2.953
15533	2" x 1/2" x 2"	Copper	1.772	1.772	1.535	3.346	3.346	2.283
15523	2" x 1" x 2"	Bronze	1.220	3.465	1.732	2.795	2.638	2.638
15528	2" x 1" x 2"	Bronze	1.772	1.772	2.244	3.346	3.346	3.150
15518	2" x 1-1/4" x 1-1/4"	Copper	0.935	1.329	1.841	2.520	2.362	2.874
15498	2" x 1-1/2" x 1"	Copper	0.817	1.378	1.447	2.402	2.283	2.874
15513	2" x 1-1/2" x 3/4"	Copper	0.709	1.378	1.260	2.283	2.283	2.677
15508	2" x 1-1/2" x 1-1/4"	Copper	0.935	1.486	1.545	2.520	2.520	2.972
15503	2" x 1-1/2" x 2"	Copper	1.142	1.378	1.654	2.717	2.795	3.071
22228	2" x 2" x 1/2"	Bronze	1.378	1.378	1.890	2.953	2.953	3.327
15538	2" x 2" x 3/4"	Copper	0.541	1.299	0.541	2.126	2.047	2.126
94777	2" x 2" x 3/4"	Copper	0.797	1.260	0.797	2.372	2.165	2.372
94772	2" x 2" x 1"	Copper	0.915	1.299	0.915	2.490	2.205	2.490
77487	2" x 2" x 1-1/4"	Copper	1.043	1.378	1.043	2.618	2.402	2.618
77482	2" x 2" x 1-1/2"	Copper	1.142	1.378	1.142	2.717	2.795	2.717

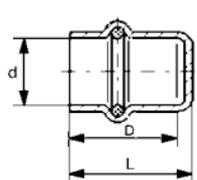
Dimensional documentation (inches)

Union C x C						
	Stock Code	Size (1 & 2)	Material	(A)	(L)	(G)
	77667	1/2"	Bronze	1.260	2.756	3/4"
	77672	3/4"	Bronze	1.335	3.146	1"
	77677	1"	Bronze	1.827	3.628	1-1/4"
	77682	1-1/4"	Bronze	1.634	3.681	1-1/2"
	77687	1-1/2"	Bronze	2.126	4.961	2"
	77692	2"	Bronze	2.067	5.217	2-1/2"

Union C x F						
	Stock Code	Size (1 & 2)	Material	(A)	(L)	(G)
	77752	1/2"	Bronze	0.961	2.244	3/4"
	77757	3/4"	Bronze	0.957	2.417	1"
	77762	1"	Bronze	1.303	2.870	1-1/4"
	77767	1-1/4"	Bronze	1.268	2.972	1-1/2"
	77772	1-1/2"	Bronze	1.760	3.858	2"
	77777	2"	Bronze	1.646	3.917	2-1/2"

Di-electric Union C x F						
	Stock Code	Size (1 & 2)	Material	(A)	(L)	(G)
	15558	1/2"	Bronze	0.961	2.244	1-1/4"
	15568	3/4"	Bronze	1.110	2.571	1-1/2"
	15553	1"	Bronze	1.004	2.571	1-1/2"
	15548	1-1/4"	Bronze	0.972	2.677	2"
	15543	1-1/2"	Bronze	1.004	3.102	2-1/4"
	15563	2"	Bronze	1.260	3.531	2-3/4"

Union C x M						
	Stock Code	Size (1 & 2)	Material	(A)	(L)	(G)
	77782	1/2"	Bronze	2.087	2.835	3/4"
	77787	3/4"	Bronze	2.142	3.047	1"
	77792	1"	Bronze	2.732	3.638	1-1/4"
	77797	1-1/4"	Bronze	2.677	3.701	1-1/2"
	77802	1-1/2"	Bronze	3.228	4.646	2"
	77807	2"	Bronze	3.169	4.744	2-1/2"

Cap C					
	Stock Code	Size (d)	Material	(L)	(D)
	77712	1/2"	Copper	0.917	0.799
	77717	3/4"	Copper	1.067	0.945
	77722	1"	Copper	1.110	0.992
	77727	1-1/4"	Copper	1.319	1.201
	77732	1-1/2"	Copper	1.622	1.465
	77737	2"	Copper	1.811	1.677

Dimensional documentation (inches)

Adapter Flange C x Flange (old version)									
Stock Code	Size (d1)	Material	(L)	(Z)	(b)	(d2)	(D)	(K)	
93397	1"	Bronze	2.402	1.496	0.394	0.630	4.252	3.110	
93402	1-1/4"	Bronze	2.421	1.398	0.413	0.630	4.626	3.504	
93407	1-1/2"	Bronze	2.697	1.280	0.453	0.630	5.000	3.858	
93412	2"	Bronze	3.346	1.772	0.512	0.748	6.004	4.764	

Adapter Flange C x Flange (new version)									
Stock Code	Size (d1)	Material	(L)	(Z)	(b1)	(d2)	(D)	(K)	(d2)
19708	1"	Bronze	2.756	1.850	0.630	0.827	4.331	3.110	0.630
19713	1-1/4"	Bronze	2.756	1.850	0.630	0.827	4.528	3.504	0.630
19718	1-1/2"	Bronze	3.071	1.654	0.630	0.827	4.921	3.858	0.630
19723	2"	Bronze	3.661	2.087	0.630	0.827	5.906	4.764	0.748

PureFlow/ProPress Adapter PEX x C					
Stock Code	Size (d x d1)	Material	(L)	(Z)	
67620	1/2" x 1/2"	Bronze	1.57	0.236	
67626	1/2" x 3/4"	Bronze	1.831	0.335	
67627	5/8" x 1/2"	Bronze	1.496	0.157	
67628	5/8" x 3/4"	Bronze	1.831	0.335	
67630	3/4" x 1/2"	Bronze	1.417	0.079	
67640	3/4" x 3/4"	Bronze	1.732	0.236	
67660	1" x 1"	Bronze	1.969	0.315	

Dimensional documentation (inches)

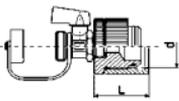
ProPress Manifold 3-Outlets (open) C x FTG x C									
Stock Code	Size (d x R)	Material	(L1)	(L2)	(Z1)	(Z2)	(Z3)	(Z4)	(Z5)
65803	1" x 1/2"	Copper	7.323	1.512	6.378	0.773	1.654	1.969	1.969

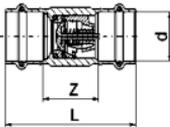
ProPress Manifold 1-Outlet (open) C x FTG x C							
Stock Code	Size (1 x 2 x 3)	Material	(Z1)	(Z2)	(L1)	(L2)	(L3)
65801	1" x 1" x 1/2"	Copper	2.500	0.787	3.661	1.535	2.067

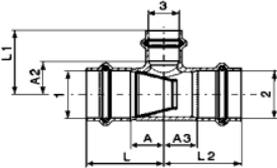
ProPress Ball Valve — Plastic Handle C x C							
	Stock Code	Size (d)	Material	(A)	(B)	(C)	(D)
	19678	1/2"	Bronze	0.551	3.346	3.858	2.539
	19683	3/4"	Bronze	0.787	3.819	3.858	2.618
	19688	1"	Bronze	0.984	4.291	4.429	2.795
	19693	1-1/4"	Bronze	1.260	4.685	4.429	3.228
	19698	1-1/2"	Bronze	1.575	5.610	4.685	3.346
	19703	2"	Bronze	1.969	6.756	4.685	3.661

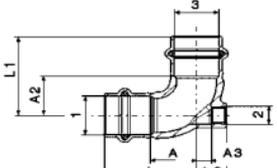
ProPress Ball Valve — Metal Handle C x C							
	Stock Code	Size (d)	Material	(A)	(B)	(C)	(D)
	22053	1/2"	Bronze	0.551	3.346	4.331	2.402
	22058	3/4"	Bronze	0.787	3.819	4.331	2.461
	22063	1"	Bronze	0.984	4.291	4.823	2.795
	22068	1-1/4"	Bronze	1.260	4.685	4.823	3.228
	22073	1-1/2"	Bronze	1.575	5.610	5.315	3.661
	22078	2"	Bronze	1.969	6.756	5.315	3.976

Dimensional documentation (inches)

Bronze Pressure Test Plug				
	Stock Code	Size (d)	Material	(L)
	78202	1/2"	Bronze	1.654
	78207	3/4"	Bronze	1.654
	78212	1"	Bronze	1.654
	78217	1-1/4"	Bronze	1.654
	78222	1-1/2"	Bronze	1.811
	78227	2"	Bronze	1.929

Bronze Check Valve C x C					
	Stock Code	Size (d)	Material	(Z)	(L)
	22353	1/2"	Bronze	.0866	2.362
	22358	3/4"	Bronze	1.142	2.953
	22363	1"	Bronze	1.339	3.150
	22368	1-1/4"	Bronze	1.693	3.740
	22373	1-1/2"	Bronze	2.087	4.921
	22378	2"	Bronze	2.559	5.709

Venturi Tee C x C x C								
								
Stock Code	Size (1 x 2 x 3)	Material	(A)	(A2)	(A3)	(L)	(L1)	(L2)
23388	3/4" x 3/4" x 1/2"	Copper	0.689	0.630	0.433	1.594	1.378	1.594
23393	1" x 1" x 1/2"	Copper	0.689	0.787	0.689	1.594	1.535	1.594
23398	1" x 1" x 3/4"	Copper	0.846	0.748	0.591	1.752	1.654	1.752
23403	1-1/4" x 1-1/4" x 1/2"	Copper	0.650	0.925	0.650	1.673	1.673	1.673
23408	1-1/4" x 1-1/4" x 3/4"	Copper	0.768	0.866	0.768	1.791	1.772	1.791

Venturi Tee C x F x C								
								
Stock Code	Size (1 x 2 x 3)	Material	(A)	(A2)	(A3)	(L)	(L1)	(L2)
14573	1/2" x 1/8" NPT x 1/2"	Bronze	0.748	0.748	0.315	1.496	1.496	0.591
14578	3/4" x 1/8" NPT x 3/4"	Bronze	0.906	0.906	0.315	1.811	1.811	0.591

ProPress XL (Bronze)

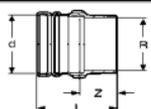
2-1/2" to 4" fittings

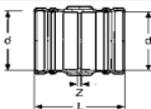
Dimensional documentation

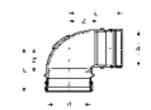


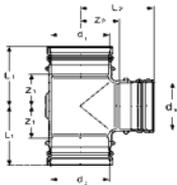
ProPress XL (Bronze) 2-1/2" to 4"

Dimensional documentation (inches)

Adapter C x M					
	Stock Code	Size (d & R)	Material	(Z)	(L)
	91332	2-1/2"	Bronze	2.047	4.213
	91337	3"	Bronze	2.047	4.213
	91327	4"	Bronze	1.969	4.528

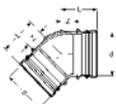
Coupling C x C with Stop					
	Stock Code	Size (d)	Material	(Z)	(L)
	91342	2-1/2"	Bronze	0.315	4.528
	91347	3"	Bronze	0.315	4.528
	91352	4"	Bronze	0.315	5.315

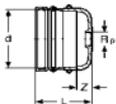
Elbow 90° C x C					
	Stock Code	Size (d)	Material	(Z)	(L)
	91357	2-1/2"	Bronze	2.165	4.331
	91362	3"	Bronze	2.362	4.528
	91367	4"	Bronze	2.894	5.453

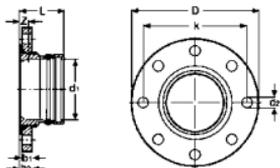
Tee C x C x C							
	Stock Code	Size (d1 x d2 x d3)	Material	(Z1)	(Z2)	(L1)	(L2)
	91372	2-1/2" x 2-1/2" x 2-1/2"	Bronze	2.224	2.224	4.331	4.331
	15633	2-1/2" x 2-1/2" x 1-1/2"	Bronze	1.618	2.283	3.602	3.701
	91377	3" x 3" x 3"	Bronze	2.421	2.421	4.528	4.528
	15638	3" x 3" x 1-1/2"	Bronze	1.618	2.480	3.720	3.898
	91382	4" x 4" x 4"	Bronze	2.933	2.933	5.453	5.453
	91387	4" x 4" x 2"	Bronze	1.831	3.071	4.331	4.665
	91392	4" x 4" x 2-1/2"	Bronze	2.165	2.894	4.724	5.059
	91397	4" x 4" x 3"	Bronze	2.362	2.894	4.921	5.059
	15643	4" x 4" x 1-1/2"	Bronze	1.598	3.130	4.094	4.547
91402	2-1/2" x 2-1/2" x 2"	Bronze	1.831	2.205	3.937	3.819	
91407	3" x 3" x 2"	Bronze	1.831	2.441	3.937	4.016	
91412	3" x 3" x 2-1/2"	Bronze	2.165	2.362	4.331	4.547	

ProPress XL (Bronze) 2-1/2" to 4"

Dimensional documentation (inches)

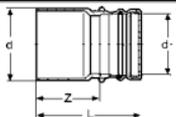
Elbow 45° C x C					
	Stock Code	Size (d)	Material	(Z)	(L)
	91417	2-1/2"	Bronze	1.083	3.248
	91422	3"	Bronze	1.181	3.346
	91427	4"	Bronze	1.358	3.917

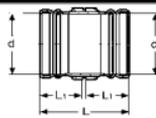
Cap C					
	Stock Code	Size (d x Rp)	Material	(Z)	(L)
	91432	2-1/2" x 3/4"	Bronze	0.827	2.992
	91437	3" x 3/4"	Bronze	0.846	3.012
	91442	4" x 3/4"	Bronze	0.945	3.504

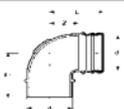
Adapter Flange C x Flange (new version)									
									
Stock Code	Size (d1)	Material	(Z)	(L)	(b1)	(b2)	(k)	(D)	(d2)
19728	2-1/2"	Bronze	0.984	3.091	0.787	0.827	5.512	7.087	0.748
19733	3"	Bronze	1.024	3.150	0.787	0.906	5.984	7.480	0.748
19738	4"	Bronze	0.630	3.150	0.807	0.906	7.520	9.055	0.748

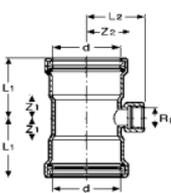
ProPress XL (Bronze) 2-1/2" to 4"

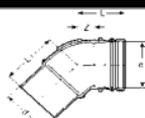
Dimensional documentation (inches)

Reducer FTG x C					
	Stock Code	Size (d x d1)	Material	(Z)	(L)
	91452	4" x 2-1/2"	Bronze	3.150	4.567
	91457	4" x 3"	Bronze	3.031	4.606
	91472	3" x 2-1/2"	Bronze	3.384	5.591

Coupling C x C No Stop					
	Stock Code	Size (d)	Material	(L)	(L1)
	91477	2-1/2"	Bronze	4.528	2.185
	91482	3"	Bronze	4.528	2.185
	91487	4"	Bronze	5.315	2.579

Elbow 90° FTG x C						
	Stock Code	Size (d)	Material	(Z)	(L)	(L1)
	91492	2-1/2"	Bronze	2.224	4.331	4.606
	91497	3"	Bronze	2.559	4.685	4.803
	91502	4"	Bronze	2.972	5.472	5.591

Tee C x C x F							
	Stock Code	Size (d x d x Rp)	Material	(Z1)	(Z2)	(L1)	(L2)
	91507	4" x 4" x 2"	Bronze	1.535	2.717	4.035	3.583
	91512	4" x 4" x 3/4"	Bronze	1.220	2.520	3.740	3.209
	91517	2-1/2" x 2-1/2" x 2"	Bronze	1.929	1.929	4.035	2.795
	91522	2-1/2" x 2-1/2" x 3/4"	Bronze	1.240	1.772	3.346	2.461
	91527	3" x 3" x 2"	Bronze	1.929	2.205	4.035	3.071
	91532	3" x 3" x 3/4"	Bronze	1.220	2.047	3.346	2.756

Elbow 45° FTG x C						
	Stock Code	Size (d)	Material	(Z)	(L)	(L1)
	91537	2-1/2"	Bronze	1.142	3.248	3.819
	91542	3"	Bronze	1.240	3.346	4.094
	91547	4"	Bronze	1.417	3.898	4.921

ProPress XL-C (Copper)

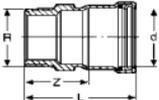
2-1/2" to 4" fittings

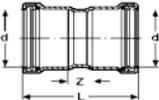
Dimensional documentation

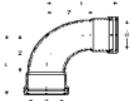


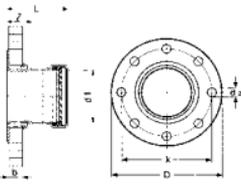
ProPress XL-C (Copper) 2-1/2" to 4"

Dimensional documentation (inches)

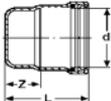
Adapter C x M					
	Stock Code	Size (d & R)	Material	(Z)	(L)
	20823	2-1/2" NPT	Copper	2.520	4.213
	20828	3"	Copper	2.598	4.567
	20838	4"	Copper	2.736	5.098

Coupling C x C with Stop					
	Stock Code	Size (d)	Material	(Z)	(L)
	20728	2-1/2"	Copper	0.945	4.331
	20733	3"	Copper	0.984	4.921
	20738	4"	Copper	1.063	5.787

Elbow 90° C x C					
	Stock Code	Size (d)	Material	(Z)	(L)
	20623	2-1/2"	Copper	3.189	4.882
	20628	3"	Copper	3.760	5.728
	20633	4"	Copper	4.902	7.264

Adapter Flange C x Flange (new version)					
					

Stock Code	Size (d1)	Material	(Z)	(L)	(b)	(k)	(D)	(d2)
20853	2-1/2"	Copper/Steel	1.102	2.795	0.787	5.512	7.087	0.748
20858	3"	Copper/Steel	1.201	3.169	0.787	5.984	7.480	0.748
20863	4"	Copper/Steel	1.240	3.602	0.807	7.520	9.055	0.748

Cap C					
	Stock Code	Size (d)	Material	(Z)	(L)
	20833	2-1/2"	Copper	1.339	3.031
	20843	3"	Copper	1.358	3.327
	20848	4"	Copper	1.398	3.760

Adapter C x F					
	Stock Code	Size (d)	Material	Z (in)	L (in)
	20819	2-1/2"	Copper	2.46	4.15
	20829	3"	Copper	2.60	4.57
	20839	4"	Copper	2.78	5.14

ProPress XL-C (Copper) 2-1/2" to 4"

Dimensional documentation (inches)

Tee C x C x C								
Stock Code	Size (d1 x d2 x d3)	Material	(Z1)	(Z2)	(Z3)	(L1)	(L2)	(L3)
20683	2-1/2" x 2-1/2" x 2-1/2"	Copper	1.831	1.870	1.831	3.524	3.563	3.524
20688	2-1/2" x 2-1/2" x 2"	Copper	1.535	1.732	1.535	3.228	3.327	3.228
20803	2-1/2" x 2-1/2" x 1-1/2"	Copper	1.299	1.732	1.299	2.992	3.169	2.992
22278	2-1/2" x 2" x 2"	Copper	2.232	1.732	1.535	3.819	3.327	3.228
22283	2-1/2" x 2" x 1-1/2"	Copper	1.909	1.732	1.299	3.504	3.169	2.992
22288	2-1/2" x 2-1/2" x 1-1/4"	Copper	1.161	1.713	1.161	2.854	2.756	2.854
22293	2-1/2" x 2-1/2" x 1"	Copper	1.043	1.732	1.043	2.736	2.638	2.736
22298	2-1/2" x 2-1/2" x 3/4"	Copper	0.906	1.575	0.906	2.598	2.480	2.598
22303	2-1/2" x 2-1/2" x 1/2"	Copper	0.906	1.516	0.906	2.598	2.264	2.598
20693	3" x 3" x 3"	Copper	2.067	2.146	2.067	4.035	4.114	4.035
22308	3" x 3" x 1"	Copper	1.063	1.988	1.063	3.031	2.894	3.031
22313	3" x 3" x 1-1/4"	Copper	1.181	1.969	1.181	3.150	3.012	3.150
22323	3" x 3" x 3/4"	Copper	0.925	1.870	0.925	2.894	2.776	2.894
20698	3" x 3" x 2"	Copper	1.555	1.988	1.555	3.524	3.583	3.524
20703	3" x 3" x 2-1/2"	Copper	1.850	2.126	1.850	3.819	3.819	3.819
20798	3" x 3" x 1-1/2"	Copper	1.299	1.988	1.299	3.287	3.425	3.287
20708	4" x 4" x 4"	Copper	2.598	2.697	2.598	4.961	5.059	4.961
20713	4" x 4" x 2"	Copper	1.594	2.500	1.594	3.957	4.094	3.957
20718	4" x 4" x 2-1/2"	Copper	1.890	2.638	1.890	4.252	4.331	4.252
20808	4" x 4" x 1-1/2"	Copper	1.358	2.500	1.358	3.720	3.937	3.720
20723	4" x 4" x 3"	Copper	2.106	2.657	2.106	4.469	4.626	4.469

Tee C x C x F						
Stock Code	Size (d x d x Rp)	Material	(Z1)	(Z2)	(L1)	(L2)
20868	4" x 4" x 2"	Copper	1.594	2.598	3.957	3.287
20873	4" x 4" x 3/4"	Copper	0.965	2.461	3.327	3.071
20878	2-1/2" x 2-1/2" x 2"	Copper	1.535	1.831	3.228	2.520
20883	2-1/2" x 2-1/2" x 3/4"	Copper	0.906	1.693	2.598	2.303
20893	3" x 3" x 3/4"	Copper	0.925	1.949	2.894	2.559

ProPress XL-C (Copper) 2-1/2" to 4"

Dimensional documentation (inches)

Reducer FTG x C					
	Stock Code	Size (d x d1)	Material	(Z)	(L)
	20758	2-1/2" x 2"	Copper	2.264	3.858
	20763	3" x 2"	Copper	2.815	4.409
	20768	3" x 2-1/2"	Copper	2.559	4.252
	20773	4" x 2"	Copper	4.232	5.807
	20778	4" x 2-1/2"	Copper	4.173	5.787
	20783	4" x 3"	Copper	3.957	5.846
	20813	2-1/2" x 1-1/2"	Copper	2.480	3.937
	20818	3" x 1-1/2"	Copper	3.346	4.803

Elbow 45° C x C					
	Stock Code	Size (d)	Material	(Z)	(L)
	20653	2-1/2"	Copper	1.476	3.169
	20658	3"	Copper	1.732	3.701
	20663	4"	Copper	2.224	4.587

Coupling C x C No Stop					
	Stock Code	Size (d)	Material	(L)	
	20743	2-1/2"	Copper	4.331	
	20748	3"	Copper	4.921	
	20753	4"	Copper	5.787	

Elbow 90° FTG x C						
	Stock Code	Size (d)	Material	(Z)	(L)	(L1)
	20638	2-1/2"	Copper	3.189	4.882	4.803
	20643	3"	Copper	3.760	5.728	5.630
	20648	4"	Copper	4.902	7.264	7.126

Elbow 45° FTG x C						
	Stock Code	Size (d)	Material	(Z)	(L)	(L1)
	20668	2-1/2"	Copper	1.476	3.169	3.091
	20673	3"	Copper	1.732	3.701	3.602
	20678	4"	Copper	2.224	4.587	4.449

Butterfly Valve											
	Stock Code	Size	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	I (in)
	22074	2-1/2"	6.496	7.401	0.96	0.75	1.50	1.50	1.50	0.98	0.98
	22075	3"	6.496	7.637	0.96	0.94	1.85	1.50	1.85	0.98	0.98
	Stock Code	Size	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	I (in)
	22076	4"	9.055	8.464	1.14	0.94	1.85	1.69	1.85	1.22	1.22

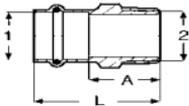
ProPressG

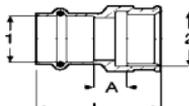
1/2" to 2" fittings

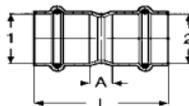
Dimensional documentation

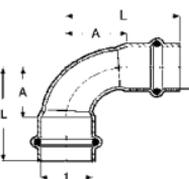


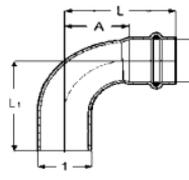
Dimensional documentation (inches)

Adapter C x M					
	Stock Code	Size (1 x 2)	Material	(A)	(L)
	16043	1/2" x 3/8" NPT	Bronze	0.96	1.713
	16048	1/2" x 1/2" NPT	Bronze	1.12	1.870
	16053	3/4" x 3/4" NPT	Bronze	1.18	2.087
	16058	1" x 1" NPT	Bronze	1.46	2.362
	16063	1-1/4" x 1-1/4" NPT	Bronze	1.54	2.559
	16068	1-1/2" x 1-1/2" NPT	Bronze	1.54	2.953
	16073	2" x 2" NPT	Bronze	1.67	3.248

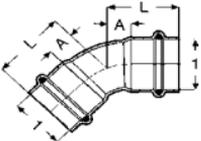
Adapter C x F					
	Stock Code	Size (1 x 2)	Material	(A)	(L)
	77892	1/2" x 1/2" NPT	Bronze	0.291	1.575
	77902	3/4" x 1/2" NPT	Bronze	0.331	1.772
	77907	3/4" x 3/4" NPT	Bronze	0.394	1.850
	77917	1" x 1" NPT	Bronze	0.480	2.047

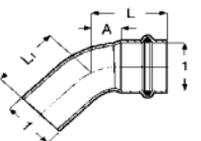
Coupling C x C with Stop					
	Stock Code	Size (1 & 2)	Material	(A)	(L)
	16098	1/2"	Copper	0.228	1.732
	16103	3/4"	Copper	0.228	2.205
	16108	1"	Copper	0.346	2.205
	16113	1-1/4"	Copper	0.315	2.441
	16118	1-1/2"	Copper	0.315	3.307
	16123	2"	Copper	0.315	3.622

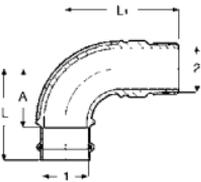
Elbow 90° C x C Close Rough					
	Stock Code	Size (1)	Material	(A)	(L)
	16128	1/2"	Copper	0.748	1.496
	16133	3/4"	Copper	1.039	1.945
	16138	1"	Copper	1.323	2.228
	16143	1-1/4"	Copper	1.654"	2.677
	16148	1-1/2"	Copper	1.984	3.402
	16153	2"	Copper	2.551	4.126

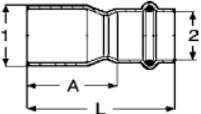
Elbow 90° FTG x C Close Rough						
	Stock Code	Size (1)	Material	(A)	(L)	(L1)
	16158	1/2"	Copper	0.748	1.496	1.535
	16163	3/4"	Copper	1.039	1.945	1.984
	16168	1"	Copper	1.323	2.228	2.268
	16173	1-1/4"	Copper	1.365	2.677	2.756
	16178	1-1/2"	Copper	1.984	3.402	3.480
	16183	2"	Copper	2.551	4.126	4.205

Dimensional documentation (inches)

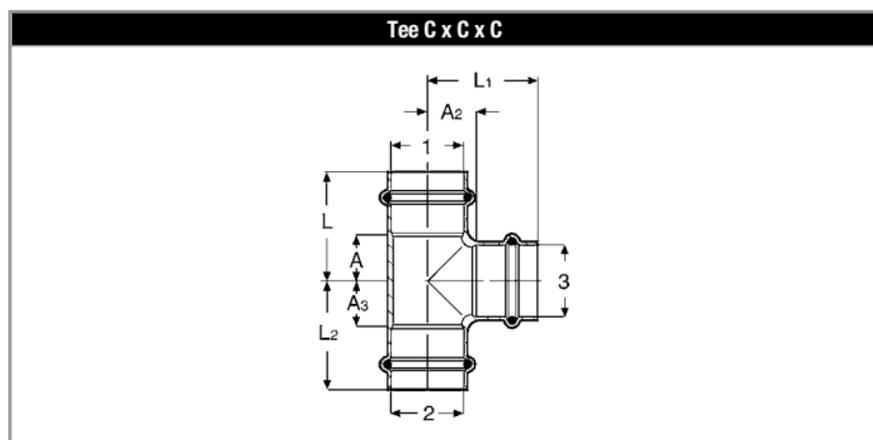
Elbow 45° C x C					
	Stock Code	Size (1)	Material	(A)	(L)
	16188	1/2"	Copper	0.295	1.043
	16193	3/4"	Copper	0.433	1.339
	16198	1"	Copper	0.551	1.457
	16203	1-1/4"	Copper	0.685	1.709
	16208	1-1/2"	Copper	0.823	2.240
	16213	2"	Copper	1.059	2.634

Elbow 45° FTG x C						
	Stock Code	Size (1)	Material	(A)	(L)	(L1)
	16218	1/2"	Copper	0.311	1.059	1.098
	16223	3/4"	Copper	0.433	1.339	1.374
	16228	1"	Copper	0.551	1.457	1.492
	16233	1-1/4"	Copper	0.685	1.709	1.787
	16238	1-1/2"	Copper	0.823	2.240	2.319
	16243	2"	Copper	1.059	2.634	2.709

Elbow 90° C x M						
	Stock Code	Size (1 x 2)	Material	(A)	(L)	(L1)
	17658	1/2" x 1/2" NPT	Bronze	0.945	1.693	1.890
	17663	3/4" x 3/4" NPT	Bronze	1.102	2.008	2.323
	17668	1" x 1" NPT	Bronze	1.382	2.287	2.835
	17673	1-1/4" x 1-1/4" NPT	Bronze	1.870	2.894	3.465
	17678	1-1/4" x 1-1/2" NPT	Bronze	2.205	3.622	3.839
	17683	2" x 2" NPT	Bronze	2.756	4.331	4.724

Reducer FTG x C					
	Stock Code	Size (1 x 2)	Material	(A)	(L)
	163343	3/4" x 1/2"	Copper	1.417	2.165
	163348	1" x 1/2"	Copper	1.693	2.441
	163353	1" x 3/4"	Copper	1.417	2.323
	163358	1-1/4" x 1"	Copper	1.575	2.480
	163363	1-1/2" x 1"	Copper	2.283	3.189
	163368	1-1/2" x 1-1/4"	Copper	2.04	3.071
	163373	2" x 1"	Copper	3.031	3.937
	163378	2" x 1-1/4"	Copper	2.795	3.819
	163383	2" x 1-1/2"	Copper	2.638	4.055

Dimensional documentation (inches)



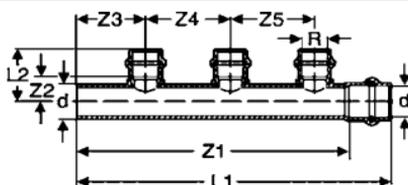
Stock Code	Size (1 x 2 x 3)	Material	(A)	(A2)	(A3)	(L)	(L1)	(L2)
16248	1/2" x 1/2" x 1/2"	Copper	0.738	0.498	0.738	1.496	1.443	1.496
16253	3/4" x 3/4" x 3/4"	Copper	0.837	0.591	0.837	1.752	1.496	1.752
16258	3/4" x 3/4" x 1/2"	Copper	0.687	0.630	0.687	1.594	1.378	1.594
16263	1" x 1" x 1"	Copper	0.955	0.787	0.955	1.870	1.693	1.870
16268	1" x 3/4" x 3/4"	Copper	0.837	0.748	1.043	1.752	1.654	1.949
17688	1" x 1" x 1/2"	Copper	0.689	0.787	0.689	1.594	1.535	1.594
16273	1" x 1" x 3/4"	Copper	0.844	0.748	0.844	1.752	1.654	1.752
16278	1-1/4" x 1-1/4" x 1-1/4"	Copper	1.024	0.866	1.024	2.047	1.890	2.047
16293	1-1/2" x 1-1/2" x 1"	Copper	0.748	1.181	0.748	2.165	2.087	2.165
16298	1-1/2" x 1-1/2" x 1-1/4"	Copper	0.866	1.142	0.866	2.283	2.165	2.283
16303	2" x 2" x 2"	Copper	1.378	1.378	1.378	2.953	2.953	2.953
16308	2" x 2" x 1-1/2"	Copper	1.142	1.378	1.142	2.717	2.795	2.717

Cap C

Stock Code	Size (d)	Material	(L)	(D)
16313	1/2"	Copper	0.917	0.799
16318	3/4"	Copper	1.067	0.945
16323	1"	Copper	1.110	0.992
16328	1-1/4"	Copper	1.319	1.201
16333	1-1/2"	Copper	1.622	1.465
16338	2"	Copper	1.811	1.677

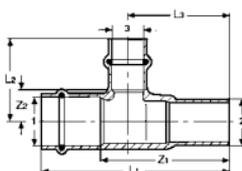
Dimensional documentation (inches)

ProPressG Manifold 3-Outlets (open) C x FTG x C



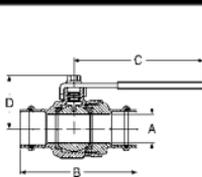
Stock Code	Size (d x R)	Material	(L1)	(L2)	(Z1)	(Z2)	(Z3)	(Z4)	(Z5)
18453	1" x 1/2"	Copper	7.323	1.512	6.378	0.773	1.654	1.969	1.969

ProPressG Manifold 1-Outlet (open) C x FTG x C



Stock Code	Size (1 x 2 x 3)	Material	(Z1)	(Z2)	(L1)	(L2)	(L3)
16388	3/4" x 3/4" x 1/2"	Copper	2.028	0.630	3.189	1.378	1.594
16393	1" x 1" x 3/4"	Copper	2.500	0.748	3.661	1.654	1.909
16398	1-1/4" x 1-1/4" x 1"	Copper	3.071	0.906	4.094	1.811	2.185
18448	1" x 1" x 1/2"	Copper	2.500	0.787	3.661	1.535	2.067

ProPressG Ball Valve — C x C



Stock Code	Size (d)	Material	(A)	(B)	(C)	(D)
19648	1/2"	Brass	0.551	3.700	4.760	1.540
19653	3/4"	Brass	0.787	4.060	4.760	1.610
19658	1"	Brass	0.984	4.350	4.760	1.760
19663	1-1/4"	Brass	1.120	4.490	6.100	2.180
19668	1-1/2"	Brass	1.500	5.530	6.100	2.470
19673	2"	Brass	1.850	6.460	6.100	2.720

Viega LLC Limited Warranty Propress Fittings and Valves

Subject to the conditions and limitations in this Limited Warranty, Viega LLC (VIEGA) warrants to wholesalers and licensed plumbing and mechanical contractors in the United States and Canada that its PROPRESS fittings, when properly installed in non industrial and non marine applications and under normal conditions of use, will be free of failure from manufacturing defect for a period of fifty (50) years from date of installation and that its PROPRESS valves, when properly installed in non industrial and non marine applications and under normal conditions of use, will be free of failure from manufacturing defect for a period of two (2) years from date of installation.

Under this Limited Warranty, you only have a right to a remedy if the failure or leak resulted from a manufacturing defect in the products covered by this warranty and the failure or leak occurred during the warranty period. You do not have a remedy under this warranty and the warranty does not apply if the failure or any resulting damage is caused by (1) components other than those manufactured or sold by Viega; (2) not designing, installing, inspecting, or testing the ProPress fittings or valves in accordance with Viega's installation instructions in effect at the time of the installation; applicable code requirements; and accepted industry practice; (3) improper handling and protection of the product prior to and during installation, inadequate freeze protection, exposure to water pressures or temperatures or in applications outside acceptable operating conditions; (4) acts of nature such as, but not limited to, earthquakes, fire, flood, or lightning, or (5) external environmental causes, such as water quality variations, aggressive water, or other external chemical or physical conditions.

In the event of a leak or other failure of the parts covered by this warranty, it is the responsibility of the property owner to obtain and pay for repairs. Only if the warranty applies will Viega be responsible for the remedy under this warranty. The part or parts which

you claim failed should be kept and Viega contacted by writing to the address below or telephoning 1-800-976-9819 within thirty (30) days after the leak or other failure and identifying yourself as having a warranty claim. You should be prepared to ship, at your expense, the product which you claim failed due to a manufacturing defect and document the date of installation. Within a reasonable time after receiving the product, Viega will investigate the reasons for the failure, which includes the right to inspect the product at Viega. Viega will notify you in writing of the results of its review.

In the event that Viega determines that the failure or leak was the result of a manufacturing defect in the part covered by this warranty and that this warranty applies, the EXCLUSIVE AND ONLY REMEDY under this warranty shall be the reimbursement for repair and/or replacement of the part. VIEGA SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR OTHER DAMAGE (FOR EXAMPLE, WATER OR PROPERTY OR MOLD REMEDIATION) UNDER ANY LEGAL THEORY AND WHETHER ASSERTED BY DIRECT ACTION, FOR CONTRIBUTION OR INDEMNITY OR OTHERWISE.

THE ABOVE WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. If a limited warranty shall be found to apply, such warranty is limited to four years. Other than this Limited Warranty, Viega does not authorize any person or firm to create for it any other obligation or liability in connection with its products.

This Limited Warranty gives you specific legal rights and you also may have other rights which may vary from state to state. This warranty shall be interpreted and applied under the law of the state in which the product is installed and is intended as a Commercial Warranty.

ProPress Warranty 0408

Viega

301 N. Main, 9th Floor
Wichita, KS 67202
Phone: 1-800-976-9819
Fax: 1-800-976-9817
www.viega.com
insidesales@viega.com



MAG BUILDING CODES COMMITTEE MEMBERSHIP AS OF
9/3/2010

ATTACHMENT TWO

Name	Representing	Telephone #	Fax #	E-mail Address
Steven Hether (Chair)	Mesa	480-644-2039	480-644-4900	steve.hether@mesaaz.gov
Dennis Dixon (T)	Apache Junction	480-671-5156	480-982-7010	dennisdixon@ajcity.net
Ken Sowers (Vice Chair)	Avondale	623-333-4025	623-333-0401	ksowers@avondale.org
Phil Marcotte	Buckeye	623-349-6200	623-349-6221	pmarcotte@buckeyeaz.gov
Mike Tibbett	Carefree	480-488-1471	480 488-3845	mike@carefree.org
Mike Baxley	Cave Creek	480-488-6637	480-488-2263	mbaxley@cavecreek.org
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Peter Johnson	Fountain Hills	480-816-5110	480-837-3145	pjohnson@fh.az.gov
JoRene DeVeau	Gila River IC	520-562-3585	520-562-1033	jorene.deveau@gric.nsn.us
Ray Patten	Gilbert	480-503-6820	480-497-4923	ray.patten@gilbertaz.gov
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Ed Kulik	Goodyear	623-932-3910	623-932-1177	ekulik@goodyearaz.gov
Chuck Ransom	Litchfield Park	623-935-4356	623-935-5427	building@litchfield-park.org
Tom Ewers	Maricopa County	602-506-7145	602-506-3282	tomewers@mail.maricopa.gov
Bob Lee	Paradise Valley	480-348-3631	480-951-3751	rlee@paradisevalleyaz.gov
Dennis Marks	Peoria	623-773-7232	623-773-7233	dennis.marks@peoriaaz.gov
Tom Wandrie	Phoenix	602-495-7346	602-495-5430	tom.wandrie@phoenix.gov
Dean Wise	Queen Creek	480-358-3009	480-358-3002	dean.wise@queencreek.org
Michael Clack	Scottsdale	480-312-7629	480-312-9029	mclack@scottsdaleaz.gov
VACANT	Surprise			
Michael Williams	Tempe	480 350-8670	480 350-8677	michael_williams@tempe.gov
Mario Rochin	Tolleson	623-936-7111	623-936-7117	mrochin@tollesonaz.org
Rick DeStefano	Wickenburg	928-684-5451 x513	602-506-1580	rdestefano@ci.wickenburg.az.us
Jim Fox	Youngtown	623-933-8286 x117	623-209-3026	jfox@youngtownaz.org
Bridget Jones	Home Builders Assn.	602-274-6545	480-556-5478	jonesb@hbaca.org
Heidi Bickart	MAG	602-254-6300	602-452-5098	hbickart@mag.maricopa.gov

(T) Temporary

(P) Proxy

Survey of Code Adoption

Jurisdiction	Building	Mechanical	Plumbing	Electric	Residential	Fire	Energy	Existing Building Code	Fuel	Performance	Notes	URL	Anticipated Adopted Date by Council	Anticipated Effective Date for 2009 ICC Codes (Month and Year)
Avondale	2006 IBC	2006 IMC	2006 IPC	2005 NEC	2006 IRC	2003 IFC	2006 IECC		2006 IFGC		2006 Fuel Gas Code. Codes adopted 2/20/07, effective 7/1/07	Avondale	January/February 2010	July 2010
Buckeye	2006 IBC	2006 IMC	2006 IPC	2005 NEC	2006 IRC	2006 IFC	2006 IECC				2006 Fuel Gas Code. Codes adopted 2/20/07, effective 7/1/07	Buckeye		No plans to adopt 2009 codes.
Carefree	2003 IBC	2003 IMC	1994 UPC	2002 NEC	2003 IRC	2003 IFC					Codes became effective July 1, 2006	Carefree		Not going to adopt, staying with 2003.
Cave Creek	2003 IBC	2003 IMC	1994 UPC	2002 NEC	2003 IRC	2003 IFC	2003 IECC					Cave Creek	January/February 2010	July 2010
Chandler	2006 IBC	2006 IMC	2006 IPC	2005 NEC	2006 IRC	2006 IFC	2006 IECC		2006 IFGC		Effective September 28, 2008	Chandler	January/February 2011	Early 2011
El Mirage	2006 IBC	2006 IMC	2006 IPC	2005 NEC	2006 IRC	2006 IFC	2006 IECC	2006 IEBC	2006 IFGC		1997 ICC/ANSI Accessibility Code with Arizonans with Disabilities Act. New codes will go into effect Jan. 1, 2008 with city amendments.	El Mirage	January/February 2010	July 2010
Fountain Hills	2006 IBC	2006 IMC	2006 IPC	2005 NEC	2006 IRC	2006 IFC	2006 IECC				Codes adopted April 17, 2008 with town amendments available on Web site.	Fountain Hills		No plans to adopt 2009 codes.
Gila Bend	1997 UBC	1997 UMC	1997 UPC	1999 NEC	1997 UBC	1997 UFC								Just adopted 2006 IBC.
Gila River	2006 IBC	2006 IMC	2006 IPC	2005 NEC	2006 IRC	2003 IFC	None							
Gilbert	2006 IBC	2006 IMC	2006 IPC	2005 NEC	2006 IRC	2006 IFC	2006 IECC		2006 IFGC		ADAAG per state requirements	Gilbert	January/February 2011	July 2011
Glendale	2006 IBC	2006 IMC	2006 UPC	2005 NEC	2006 IRC	2003 IFC		2006 IEBC			With city amendments. Effective Sept. 1, 2007	Glendale	January/February 2010	July 2010
Goodyear	2006 IBC	2006 IMC	1994 UPC	2005 NEC	2006 IRC	2006 IFC	2006 Residential				Adopted 5-14-2007.	Goodyear		
Guadalupe	1997 UBC	1997 UMC	1994 UPC	1999 NEC	1997 UBC	1997 UFC								Need phone #
Litchfield Park	2006 IBC	2006 IMC	2006 IPC	2005 NEC	2006 IRC	2003 IFC (waiting on Avondale)	2006 IECC		2006 IFGC		Codes effective July 1, 2008	Litchfield Park		
Maricopa County	2009 IBC	2009 IMC	2009 IPC	2008 NEC	2009 IRC				2009 IFGC		WITH MAG/AZBO AMENDMENTS	Maricopa County	Adopted August 18, 2010	Effective date of 10-1-10, but with a grace period to 1-1-11.
Mesa	2006 IBC	2006 IMC	2006 IPC	2005 NEC	2006 IRC	2006 IFC		2006 IEBC	2006 IFGC		2006 IBC, IMC, IPC, IRC and 2005 NEC will be effective 2/4/07. Did not adopt the energy code.	Mesa		Considering adopting the 2009 IECC.
Paradise Valley	2006 IBC	2006 IMC	2006 IPC	2005 NEC	2006 IRC	2006 IFC	2006 IECC		2006 IFGC		Effective July 1, 2007	Paradise Valley	January/February 2011	July 2011. Considering adopting the 2009 IECC.
Peoria	2006 IBC	2006 IMC	2006 IPC	2005 NEC	2006 IRC	2006 IFC			2006 IFGC			Peoria	January/February 2010	July 2010
Phoenix	2006 IBC	2006 IMC	2006 UPC	2008 NEC	2006 IRC	2006 IFC w/ Amendments	2006 IECC	2006 IEBC	2006 IFGC	2006 ICCP for Buildings and Facilities	Effective July 2, 2008	Phoenix	No date	No date
Queen Creek	2006 IBC	2006 IMC	2006 UPC	2005 NEC	2006 IRC	2006 IFC	2006 IECC	2006 IEBC			Effective Aug. 7, 2008	Queen Creek		No plans to adopt 2009 codes.
Salt River	2003 IBC	2003 IMC	2003 UPC	2002 NEC	2003 IRC	2003 IFC	None							Need phone #
Scottsdale	2006 IBC	2006 IMC	2006 IPC	2005 NEC	2006 IRC	2006 IFC	2006 IECC				Effective Sep. 1, 2007, except IPC June 30, 2008	Scottsdale	January/February 2010	July 2010
Surprise	2006 IBC	2006 IMC	2006 IPC	2006 IEC w/ 2005 NEC	2006 IRC	2006 IFC	2006 IECC	2006 IEBC	2006 IFGC		Adopted June 28, 2007	Surprise	January 2010	July 2010
Tempe	2006 IBC	2006 IMC	2006 IPC	2008 NEC	2006 IRC	2006 IFC	2006 IECC	2006 IEBC	2006 IFGC		Effective 1/12/2009	Tempe		

Survey of Code Adoption

Jurisdiction	Building	Mechanical	Plumbing	Electric	Residential	Fire	Energy	Existing Building Code	Fuel	Performance	Notes	URL	Anticipated Adopted Date by Council	Anticipated Effective Date for 2009 ICC Codes (Month and Year)
Tolleson	2006 IBC	2006 IMC	2006 IPC	2005 NEC w/ 2006 IEC	2006 IRC	2006 IFC	2006 IECC				2006 Fuel Gas Code, 2006 IPMC, 2006 NEAC. Codes adopted 2/20/07, effective 7/1/07.	Tolleson 2006 IFC Amend.	January/February 2010	July 2010
Wickenburg	2006 IBC	2006 IMC	2006 IPC	2005 NEC	2006 IRC	2003 IFC	2006 IECC	2006 IEBC	2006 IFGC			Wickenburg		No plans to adopt 2009 codes.
Youngtown	2006 IBC	2006 IMC	2006 IPC	2005 NEC	2006 IRC	2006 IFC			2006 IFGC			Youngtown	November 2010	January 2011