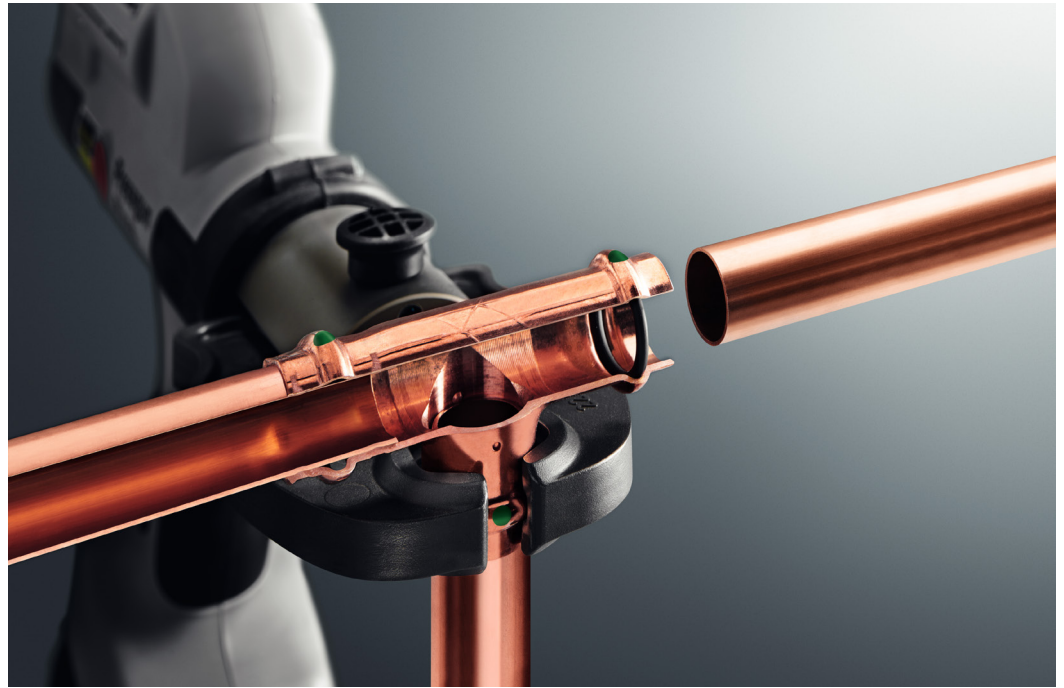




**BRANZ Appraised**  
Appraisal No. 1052 [2019]

## VIEGA PROFIPRESS AND WIELAND COPPER TUBE SYSTEM

**Appraisal No. 1052 [2019]**  
Amended 19 April 2021



### BRANZ Appraisals

Technical Assessments of  
products for building and  
construction.

**franklins**  
european bathrooms

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## Product

- 1.1 The Viega Profipress and Wieland Copper Tube System consists of Viega Profipress fittings and Wieland Copper Tube.
- 1.2 The Viega Profipress and Wieland Copper Tube System is for use in hot and cold potable water supply services and hot water circulation heating systems.

## Scope

- 2.1 The Viega Profipress and Wieland Copper Tube System has been appraised for use as the piping components for water supply as per the scope of NZBC Verification Method G12/VM1; and for proprietary heating systems subject to specific design.

## Building Regulations

### New Zealand Building Code (NZBC)

- 3.1 In the opinion of BRANZ, the Viega Profipress and Wieland Copper Tube System if designed, used, installed and maintained in accordance with the statements and conditions of this Appraisal, will meet or contribute to meeting the following provisions of the NZBC:

**Clause B2 DURABILITY:** Performance B2.3.1 [a] not less than 50 years, B2.3.1 [b] 15 years and B2.3.1 [c] 5 years. The Viega Profipress and Wieland Copper Tube System meets these requirements. See Paragraphs 8.1-8.2.

**Clause F2 HAZARDOUS BUILDING MATERIALS:** Performance F2.3.1. The Viega Profipress and Wieland Copper Tube System meets this requirement.

**Clause G10 PIPED SERVICES:** Performance G10.3.1 [a]. The Viega Profipress and Wieland Copper Tube System meets this requirement when used in heating systems. See Paragraph 11.1.

**Clause G12 WATER SUPPLIES:** Performance G12.3.2 [c] and G12.3.7 [a] and [b]. The Viega Profipress and Wieland Copper Tube System meets these requirements. See Paragraphs 12.1-12.2.



## Technical Specification

### Description

- 4.1 The Wieland Copper Tubes are manufactured from grade Cu-DHP copper.
- 4.2 The Wieland Copper Tubes are supplied as straight tubes in 5 m lengths. They are available in dimension and wall thicknesses as follows:
  - 12 x 1 mm
  - 15 x 1 mm
  - 18 x 1 mm
  - 22 x 1 mm
  - 28 x 1 mm
  - 35 x 1.2 mm
  - 42 x 1.2 mm
  - 54 x 1.5 mm
  - 64 x 2 mm
  - 76.1 x 2 mm
  - 88.9 x 2 mm
  - 108 x 2.5 mm
- 4.3 The Wieland Copper Tubes are continuously marked along their length with EN 1057, the dimensions, WIELAND, and the date and batch code.
- 4.4 The Viega Profipress fittings are manufactured from grade Cu-DHP copper or from bronze of CC499K or CC246E or CuSi<sub>4</sub>Zn<sub>9</sub>MnP grade.
- 4.5 The following types of Viega Profipress fittings are covered by this Appraisal:
  - Straight Couplings
  - Slip Repair Couplings
  - Reducing Couplings
  - Male Spigot Reducers
  - Male Connectors
  - Female Connectors
  - Brass Male Elbows 90°
  - Brass Female Elbows 90°
  - Equal Elbows
  - Equal Elbows 45°
  - Copper Bend 90°
  - Copper Bend 45°
  - Equal Tees
  - Reducing Tees
  - Female Union Elbows 90°
  - Unions
  - Female Mac Unions
  - Male Mac Unions
  - Female Plug-In Adaptors
  - Male Plug-In Adaptors
  - Female Wingbacks
  - Cross-Over M&F
  - Cross-Over F&F
  - Double Wall Plate
  - End Plugs



- Flange Adaptors
  - Swivel Connector
  - T Piece Wall Plate
  - Valves
- 4.6 The Viega Profipress water fittings incorporate a black Ethylene Propylene Diene Monomer (EPDM) sealing element. Fittings of a diameter of 15 mm to 54 mm have sufficient hoop strength to allow a hexagonal press on either side of the sealing element, providing the mechanical strength to resist the fitting pulling apart when under pressure. Fittings of 64 mm to 108 mm have an additional stainless steel grab ring which provides the mechanical strength required.
- 4.7 The Viega Profipress fittings are marked with Viega, the fitting size, DVGW, KIWA and a charge number identifying the date of manufacture and the general sequence within the batch.

#### **Tools**

- 4.8 The tools specified for installation are outside the scope of this Appraisal, however only Viega brand tools are to be used.

## **Handling and Storage**

- 5.1 The Viega Profipress and Wieland Copper Tube System components must be handled and stored with care to prevent damage. They must be stored in a dry, clean environment free of corrosive gas or other materials, where they cannot be struck by sharp objects, collide with other materials, or be dropped or thrown. The pipes must be stored flat. Should pipes become coated or stained by oil, clean immediately with attention to pipe ends and the rubber O-rings and stainless steel grab rings [where applicable] of the press fittings.

## **Technical Literature**

- 6.1 Refer to the Appraisals listing on the BRANZ website for details of the current Technical Literature for the Viega Profipress and Wieland Copper Tube System. The Technical Literature must be read in conjunction with this Appraisal. All aspects of design, use, installation and maintenance contained in the Technical Literature and within the scope of this Appraisal must be followed.

## **Design Information**

### **General**

- 7.1 Viega Profipress fittings are DVGW and WRAS certified and the Wieland Copper Tube is DVGW, Kitemark and KIWA certified. The system is an alternative solution to NZBC Verification Method G12/VM1 and must be designed and installed in accordance with its requirements.
- 7.2 Wieland Copper Tube is certified to EN 1057 and meets the intended performance of pipe complying with NZS 3501.
- 7.3 Viega Profipress fittings must only be installed with Wieland Copper Tube and pressed by a Viega pressgun tool.
- 7.4 The Viega Profipress and Wieland Copper Tube System is suitable for use as circulation pipes for radiator type heating systems, subject to the limitations of Paragraph 11.1 below. These systems are to a specific design by the heating system proprietor and components other than the Viega Profipress and Wieland Copper Tube System are outside the scope of this Appraisal.
- 7.5 Where water supply pipes must pass through concrete slabs they must do at right angles to the surface of the slab and be lagged with an impermeable flexible plastic material of not less than 6 mm thickness for the full depth of the slab penetration. Cold water supply pipes must be thermally insulated where they pass through heated concrete slabs.
- 7.6 Provisions for tube expansions and contraction should be allowed for in the design of the system to accommodate these forces on all fittings and fixtures.



- 7.7 Copper piping and fittings should not be placed in direct contact with metal roofs or cladding, due to potential for corrosion of the roofing or cladding material.
- 7.8 Where there is a likelihood of freezing, NZBC Verification Method G12/VM1 must be complied with.
- 7.9 The Viega Profipress and Wieland Copper Tube System is metallic and therefore NZBC Acceptable Solution G12/AS1 Section 9.0 must be complied with for equipotential bonding.
- 7.10 The Viega Profipress and Wieland Copper Tube System must only be used with water that has a pH >7.4 or the total volume of organic carbon does not exceed TOC=1.5 mg/L and pH = 7.0-7.4. Town supply will generally meet this requirement; uncontrolled water supplies should be tested regularly to confirm suitability.
- 7.11 The compatibility of materials, components and water supplies must be considered at the design stage. Where necessary, Franklin Plumbers and Builders Supplies Ltd should be consulted for advice.

### **Durability**

- 8.1 The NZBC durability performance requirements for piping systems vary depending on the difficulty or ease to access.

### **Serviceable Life**

- 8.2 The Viega Profipress and Wieland Copper Tube System has a design life of at least 50 years when used up to 80°C and up to 1 MPa, and when installed in accordance with the Technical Literature. The Viega Profipress and Wieland Copper Tube System may be affected in the same manner as other copper piping systems, by water quality and aggressive environments.

### **Maintenance**

- 9.1 The Viega Profipress and Wieland Copper Tube System hot and cold water supply components and heating system components do not require any special maintenance. Items such as valves and control equipment must be maintained to ensure the maximum working pressures and temperatures are not exceeded.

### **Control of Internal Fire and Smoke Spread**

- 10.1 In all applications where the Viega Profipress and Wieland Copper Tube System passes through a fire rated element of a structure, the opening must be fire-stopped in a way that will permit thermal movement of the pipe.

### **Piped Services**

- 11.1 When the Viega Profipress and Wieland Copper Tube System is used for piped services that are not for the supply of potable water, or water for personal hygiene, the permissible working pressure for a 50 year serviceable life is 1 MPa at 80°C.

### **Water Supplies**

- 12.1 The Viega Profipress fittings are DVGW and WRAS certified and the Wieland Copper Tubes are DVGW, WRAS and KIWA certified and are suitable for potable water supply.
- 12.2 When the Viega Profipress and Wieland Copper Tube System is used for the supply of potable water, or water for personal hygiene, the permissible working pressure for a 50 year serviceable life is 1 MPa at 80°C.
- 12.3 Clear identification is required where pipes are used for non-potable water in accordance with NZBC Acceptable Solution G12/AS1 Section 4.0.

### **Energy Efficiency**

- 13.1 All domestic type hot water distribution pipes must be insulated in accordance with the requirements of NZS 4305, Section 3.7 and 3.8.

## Installation Information

### Installation Skill Level Requirements

- 14.1 Installation of the Viega Profipress and Wieland Copper Tube System for potable water must always be carried out by, or under the supervision of, a registered and licensed plumber who also has undergone and passed training from Franklin Plumbers and Builders Supplies Ltd on installation and connection techniques.

### General

- 15.1 Installation of the Viega Profipress and Wieland Copper Tube System must be in accordance with AS/NZS 3500.1 and AS/NZS 3500.4 as specified by NZBC Verification Method G12/VM1.
- 15.2 The Viega Profipress and Wieland Copper Tube System must be designed and installed in accordance with the requirements of this Appraisal and installation information in the Technical Literature.
- 15.3 When installing Wieland Copper Tubes in framed walls, the holes must be accurately sized to allow pipe work to expand and contract. In metal framework, grommets must be used to separate and protect the pipe.
- 15.4 Changes in pipe direction must be made with pipe fitting joints.
- 15.5 On-site soldering of system components is outside the scope of the Appraisal, as is use of the system with chlorinated water outside the specification laid down by the manufacturer.

### Connecting Pipes and Fittings

- 15.6 Viega Profipress and Wieland Copper Tube System is joined through the use of specifically designed press tools. Instructions on the correct methods for preparing the pipes and fittings and using the tools are provided in the Technical Literature. Installation of the Viega Profipress and Wieland Copper Tube System must always be carried out by, or under the supervision of, a registered and licensed plumber who also has undergone and passed training from Franklin Plumbers and Builders Supplies Ltd on installation and connection techniques.
- 15.7 Joints in concrete must be avoided and joints under concrete should be avoided.

### Charging and Pressure Testing

- 16.1 Prior to enclosing the pipe system, whether it is for piping in wall or floor cavities, or heating systems, a visual check of every fitting is required to ensure joints have been properly formed.
- 16.2 The Viega Profipress and Wieland Copper Tube System must be tested and commissioned in accordance with the requirements of NZBC Verification Method G12/VM1.
- 16.3 In addition to the requirements of paragraph 16.2 above, testing of Viega Profipress and Wieland Copper Tube System installations must also be carried out in accordance with the Technical Literature.

## Basis of Appraisal

The following is a summary of the technical investigations carried out:

### Tests

- 17.1 Tests have been carried out on the Viega Profipress fittings and the Wieland Copper Tube by independent testing organisations. The results of these tests have been reviewed by BRANZ experts and found to be satisfactory.

### Other Investigations

- 18.1 An assessment was made of the durability of the Viega Profipress and Wieland Copper Tube System by BRANZ technical experts.
- 18.2 Site inspections were carried out by BRANZ to examine completed installations and installation methods.
- 18.3 The Technical Literature has been reviewed by BRANZ and found to be satisfactory.



## Quality

- 19.1 Viega Profipress fittings are manufactured by Viega Holdings GmbH & Co. KG, under an ISO 9001 Quality Management System.
- 19.2 Wieland Copper Tube is manufactured by Wieland-Werke AG, under an ISO 9001 Quality Management System.
- 19.3 Viega Profipress fittings are DVGW and WRAS certified. Wieland Copper Tube is DVGW, KIWA and Kitemark certified.
- 19.4 Franklin Plumbers and Builders Supplies Ltd is responsible for the quality of the product supplied.
- 19.5 Quality of installation on site is the responsibility of the installer.

## Sources of Information

- AS/NZS 3500.1: 2018 Plumbing and drainage - Water services.
- AS/NZS 3500.4: 2018 Plumbing and drainage - Heated water services.
- EN 1057: 2006 Copper and copper alloys. Seamless, round copper tubes for water and gas in sanitary and heating applications.
- NZS 3501: 1976 Specification for copper tubes for water, gas, and sanitation.
- NZS 4305: 1996 Energy efficiency - Domestic type hot water systems.
- Ministry of Business, Innovation and Employment Record of amendments - Acceptable Solutions, Verification Methods and handbooks.
- The Building Regulations 1992.

## Amendments

### Amendment No. 1, dated 26 March 2019.

This Appraisal has been amended to clarify some wording.

### Amendment No. 2, dated 19 April 2021.

This Appraisal has been amended to change the address of the Appraisal holder.



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Appraisal No. 1052 [2019]

**BRANZ Appraisal**  
Appraisal No. 1052 [2019]  
20 March 2019

VIEGA PROFIPRESS AND  
WIELAND COPPER TUBE SYSTEM



In the opinion of BRANZ, **Viega Profipress and Wieland Copper Tube System** is fit for purpose and will comply with the Building Code to the extent specified in this Appraisal provided it is used, designed, installed and maintained as set out in this Appraisal.

The Appraisal is issued only to **Franklin Plumbers and Builders Supplies Ltd**, and is valid until further notice, subject to the Conditions of Appraisal.

### Conditions of Appraisal

1. This Appraisal:
  - a) relates only to the product as described herein;
  - b) must be read, considered and used in full together with the Technical Literature;
  - c) does not address any Legislation, Regulations, Codes or Standards, not specifically named herein;
  - d) is copyright of BRANZ.
2. **Franklin Plumbers and Builders Supplies Ltd**:
  - a) continues to have the product reviewed by BRANZ;
  - b) shall notify BRANZ of any changes in product specification or quality assurance measures prior to the product being marketed;
  - c) abides by the BRANZ Appraisals Services Terms and Conditions;
  - d) warrants that the product and the manufacturing process for the product are maintained at or above the standards, levels and quality assessed and found satisfactory by BRANZ pursuant to BRANZ's Appraisal of the product.
3. BRANZ makes no representation or warranty as to:
  - a) the nature of individual examples of, batches of, or individual installations of the product, including methods and workmanship;
  - b) the presence or absence of any patent or similar rights subsisting in the product or any other product;
  - c) any guarantee or warranty offered by **Franklin Plumbers and Builders Supplies Ltd**.
4. Any reference in this Appraisal to any other publication shall be read as a reference to the version of the publication specified in this Appraisal.
5. BRANZ provides no certification, guarantee, indemnity or warranty, to **Franklin Plumbers and Builders Supplies Ltd** or any third party.

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**For BRANZ**

**Chelydra Percy**

Chief Executive

Date of Issue:

20 March 2019