



BRANZ Appraised
Appraisal No. 1051 [2019]

VIEGA SANPRESS INOX STAINLESS STEEL PIPING SYSTEM

Appraisal No. 1051 [2019]

BRANZ Appraisals

Technical Assessments of
products for building and
construction.



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Product

- 1.1 The Viega Sanpress Inox Stainless Steel Piping System consists of stainless steel pipes and fittings.
- 1.2 The Viega Sanpress Inox Stainless Steel Piping System is for use in hot and cold potable water supply services and hot water circulation heating systems.

Scope

- 2.1 The Viega Sanpress Inox Stainless Steel Piping 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 Sanpress Inox Stainless Steel Piping 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. Viega Sanpress Inox Stainless Steel Piping System meets these requirements. See Paragraphs 8.1-8.2.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. The Viega Sanpress Inox Stainless Steel Piping System meets this requirement and will not present a health hazard to people.

Clause G10 PIPED SERVICES: Performance G10.3.1 [a]. The Viega Sanpress Inox Stainless Steel Piping 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 Sanpress Inox Stainless Steel Piping System meets these requirements. See Paragraphs 12.1-12.2.





Technical Specification

Description

- 4.1 The Sanpress INOX pipes manufactured from grade 316 stainless steel.
- 4.2 The Sanpress INOX stainless steel pipes are supplied as straight tubes in 6 m lengths. They are available in dimensions and wall thicknesses as follows:
- 15 x 1.0 mm
 - 18 x 1.0 mm
 - 22 x 1.2 mm
 - 28 x 1.2 mm
 - 35 x 1.5 mm
 - 42 x 1.5 mm
 - 54 x 1.5 mm
 - 64.0 x 2.0 mm
 - 76.1 x 2.0 mm
 - 88.9 x 2.0 mm
 - 108.0 x 2.0 mm
- 4.3 The Viega Sanpress Inox stainless steel pipes are continuously marked along their length with Viega, Sanpress, 1.4401/316, dimension, date of manufacture, batch number, DIN EN 10312, and WaterMark logo.
- 4.4 The Viega Sanpress Inox fittings are manufactured from grade 316 or 316L stainless steel or from bronze of CC499K or CC246E or CuSi₄Zn₉MnP grade.
- 4.5 The following types of fitting 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 M&M
 - Double Wall Plate
 - End Plugs



- Flange Adaptors
 - Swivel Connectors
 - Valves
- 4.6 The Viega Sanpress INOX stainless steel water fittings incorporate a black Ethylene Propylene Diene Monomer (EPDM) sealing element available in different sizes to suit the various pipe diameters. 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 Sanpress INOX fittings are marked with Viega, 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 Sanpress Inox Stainless Steel Piping 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 pipe 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 Viega Sanpress Inox Stainless Steel Piping 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 The Viega Stainless Steel Pipes are WaterMark certified to AS 5200.053; this requires stainless steel tubes to be manufactured to EN 10312. The Viega Sanpress Inox Stainless Steel Fittings are WaterMark certified to AS 3688.
- 7.2 The Viega Sanpress Inox Stainless Steel Piping System must be designed and installed in accordance with the requirements of NZBC Verification Method G12/VM1.
- 7.3 Viega Sanpress Inox / Sanpress fittings must only be installed with Viega branded stainless steel tube and pressed by a Viega pressgun tool.
- 7.4 Viega Sanpress Inox Stainless Steel Piping 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 Sanpress Inox Stainless Steel Piping 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 Where there is a likelihood of freezing NZBC Verification Method G12/VM1 must be complied with.
- 7.7 Where the Viega Sanpress Inox Stainless Steel Piping System is used in hot water ring mains, suitable temperature and pressure control mechanisms must be in place to ensure that maximum permissible working temperatures and pressures are not exceeded.



- 7.8 The Viega Sanpress Inox Stainless Steel Piping System is metallic and therefore NZBC Acceptable Solution G12/AS1 Section 9.0 must be complied with for equipotential bonding.
- 7.9 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.

Servicable Life

- 8.2 The Viega Sanpress Inox Stainless Steel Piping System has a design life of at least 50 years when used up to 80°C and up to 1 MPa, when installed in accordance with the Technical Literature.

Maintenance

- 9.1 The Viega Sanpress Inox Stainless Steel Piping System does 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 Sanpress Inox Stainless Steel Piping 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 Sanpress Inox Stainless Steel Piping 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 1.0 MPa at 80°C.

Water Supplies

- 12.1 The components of the Viega Sanpress Inox Stainless Steel Piping System is WaterMark certified as suitable for potable water supply.
- 12.2 When the Viega Sanpress Inox Stainless Steel Piping 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 1.0 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 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 Sanpress Inox Stainless Steel Piping 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 Sanpress Inox Stainless Steel Piping System must be in accordance with NZBC Verification Method G12/VM1.
- 15.2 The Viega Sanpress Inox Stainless Steel Piping 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 Viega Sanpress Inox Stainless Steel Piping System in framed walls, the holes must be accurately sized to allow pipe work to expand and contract.
- 15.4 Changes in pipe direction must be made with pipe fitting joints.

Connecting Pipes and Fittings

- 15.5 The Viega Sanpress Inox Stainless Steel Piping 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. The Viega Sanpress Inox Stainless Steel Piping 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.
- 15.6 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 Sanpress Inox Stainless Steel Piping 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 17.2 above, testing of the Viega Sanpress Inox Stainless Steel Piping 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:

Other Investigations

- 17.1 An assessment was made of the durability of the Viega Sanpress Inox Stainless Steel Piping System by BRANZ technical experts.
- 17.2 Site inspections were carried out by BRANZ to examine completed installations and installation methods.
- 17.3 The Technical Literature has been reviewed by BRANZ and found to be satisfactory.

Quality

- 18.1 The Viega Sanpress Inox fittings are manufactured by Viega Holdings GmbH & Co. KG, under an ISO 9001 Quality Management System.
- 18.2 The Stainless Steel Tube is manufactured under an ISO 9001 Quality Management System.
- 18.3 The Viega Sanpress Inox Stainless Steel pipes and fittings are WaterMark certified to AS 5200.053 and AS 3688, respectively.
- 18.4 Franklin Plumbers and Builders Supplies Ltd is responsible for the quality of the product supplied.
- 18.5 Quality of installation on site is the responsibility of the installer.



Sources of Information

- AS 3688-2016 Water Supply and Gas Systems - Metallic Fittings and End Connectors.
- AS 5200.053-2008 Plumbing and Drainage Products Stainless Steel Pipes and Tubes for Pressure Applications.
- AS/NZS 3500.1:2015 Plumbing & Drainage - Water Services.
- AS/NZS 3500.4: 2015 Plumbing & Drainage - Heated Water Services.
- EN 10312 Welded Stainless Steel Tubes for the Conveyance of Aqueous Liquids including Water for Human Consumption - Technical Delivery Conditions.
- NZS4305:1996 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.



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20 March 2019

VIEGA SANPRESS INOX
STAINLESS STEEL PIPING
SYSTEM



In the opinion of BRANZ, **Viega Sanpress Inox Stainless Steel Piping 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.

For BRANZ

Chelydra Percy

Chief Executive

Date of Issue:

20 March 2019