

1. SCOPE

This schedule specifies the requirements for the AquaFast couplings and flange adaptors as manufactured by Viking Johnson for use with polyethylene pipe.

2. PRODUCT DESCRIPTION

2.1 Introduction

AquaFast couplings and flange adaptors are made of ductile iron (coated with Rilsan Nylon 11) and free cutting mild steel.

AquaFast couplings and flange adaptors are designed for use with polyethylene PE100 pipe in sizes 63mm to 315mm SDR 11 and SDR 17/17.6 without a support liner. The maximum operating pressure of the AquaFast couplings and flange adaptors is 16 bar.

2.2 Applicable standards

The following standards are applicable to this product:

- BS EN 12842⁽¹⁾
- IGN 4-01-02:2017⁽²⁾
- BS6920:2014⁽³⁾

2.3 Approval History

This is the first WRc Approved certification for the AquaFast couplings and flange adaptors.

3. REQUIREMENTS AND TESTING

3.1 General

The AquaFast couplings and flange adaptors shall comply with the requirements of the standards listed in 2.2.

3.2 Materials and components

Material Requirements

The EPDM gasket shall comply with BS EN 681-1:1996⁽⁴⁾.

Bolts and nuts shall comply with minimum requirements of BS EN ISO 898-1 Property class 8.8⁽⁵⁾ and BS EN20898-2 Property Class 8⁽⁶⁾.

Washers to comply with minimum requirements of BS 1449: Part 2 Grade 304S15⁽⁷⁾.

Ductile iron to comply with minimum requirements of BS EN 1563⁽⁸⁾.

The bolts and nuts shall be coated in accordance with the requirements of WIS 4-52-03⁽⁹⁾.

Small Surface Area Contact

When assessed against the requirements of Regulation 31(4)(b) of the Water Quality Regulations⁽¹⁰⁾ and Dwi Advice Sheet 8: Small Surface Area Products⁽¹¹⁾, the AquaFast couplings and flange adaptors shall meet the requirements.

3.3 Type Testing

Long term hydrostatic strength test:

When tested in accordance with BS EN 12842⁽¹⁾, AquaFast couplings and flange adaptors shall meet the requirements of the clauses 7.4.1 and 7.4.2 of standard BS EN 12842⁽¹⁾.

Leak tightness test:

When tested for leak tightness to internal hydrostatic pressure, product shall meet

the requirements of the clauses 7.1.1 and 7.1.2 in BS EN 12842⁽¹⁾.

When tested for leak tightness to negative internal pressure, product shall meet the requirements of the clauses 7.2 in BS EN 12842⁽¹⁾.

When tested for leak tightness to dynamic internal pressure, product shall meet the requirements of the clauses 7.3 in BS EN 12842⁽¹⁾.

Pull out test:

When used on polyethylene pipe the fittings shall achieve an axial end load equivalent of a Type 2 performance as defined by IGN 4-01-02:2017.

- IGN 4-01-02:2017⁽²⁾.

3.4 Manufacture

To ensure the quality and performance of the AquaFast couplings and flange adaptors, the manufacturing process shall include appropriate systems for the:

- Specification of component materials.
- Verification component materials received are to specification.
- Handling and storage of all component materials and finished units;
- Detailed drawing / schedule for manufacture.
- Manufacture / assembly AquaFast couplings and flange adaptors
- Fabrication and quality control of workmanship.

The production of the AquaFast couplings and flange adaptors and related quality control procedures shall comply with requirements to ensure the stated performance of the product is reliably achieved.

3.5 Installation

When installed in accordance with the installation documentation ⁽¹²⁾, the AquaFast couplings and flange adaptors shall be reasonably expected to perform as described.

4. APPROVAL

AquaFast couplings and flange adaptors have been audited and successfully met all the requirements stated within this assessment schedule

Signed:

A handwritten signature in black ink, appearing to be 'G.L.' followed by a horizontal line.

Valid until 15th July 2030

5. REFERENCES

1. BS EN 12542 - Ductile Iron Fittings for PVC-U or PE Piping Systems - Requirements and Test Methods.
2. IGN 4-01-02:2017 - The determination of end-loads for the performance testing of fittings for polyethylene pipe.
3. BS 6920: 2014 – Suitability of non-metallic materials and products for use in contact with water intended for human consumption with

regard to their effect on the quality of the water. Specification.

4. BS EN 681-1:1996 Elastomeric seals. Material requirements for pipe joint seals used in water and drainage applications. Vulcanized rubber.
5. BS EN ISO 898-1- Mechanical properties of fasteners made of carbon steel and alloy steel Bolts, screws and studs with specified property classes. Coarse thread and fine pitch thread.
6. BS EN ISO 898-2- Fasteners — Mechanical properties of fasteners made of carbon steel and alloy steel.
7. BS 1449 - Specification for steel plate (not exceeding 5/16 in.) sheet and strip for automobile and general engineering purposes.
8. EN 1563: 1997 – Spheroidal Graphite Cast Irons.
9. WIS 4-52-01:1994 Polymeric anti-corrosion (Barrier) coatings: Part 2 – Requirements of the factory applied.
10. **England** - regulation 31 of The Water Supply (Water Quality) Regulations 2016 (Statutory Instruments 2016 No 614);

Wales – regulation 31 of The Water Supply (Water Quality) Regulations 2010 (Welsh Statutory Instrument 2010 No 994 (W.99) – and Amendment Regulations 2016 (No. 410 (W. 129));

Scotland – regulation 33 of The Public Water Supplies (Scotland) Regulations 2014 and;

Northern Ireland – regulation 33, of The Water Supply (Water Quality) Regulations (Northern Ireland) 2017 (Statutory Rules of Northern Ireland 2017 No.212).

11. DWI Approval of Products for use with Drinking Water: Advice Sheet 8: Small Surface Area Products (Regulation 31(4)(b)).
12. AquaFast OD63 to OD315, GB – Installation Instructions 2024 Rev 08.