PT/574/0626 (June 2026)

Assessment Schedule for HDPE Flap Valves as manufactured by Fernco Ltd

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1. SCOPE

This schedule specifies the requirements for the HDPE Flap Valves as manufactured by Fernco Ltd for the prevention of backflow of fluids in piped systems.

2. PRODUCT DESCRIPTION

2.1 Introduction

The Fernco HDPE Flap Valves are manufactured from High Density Polyethylene (HDPE) and are available in sizes DN100 to DN1000.

The HDPE Flap Valves are intended to prevent the backflow of fluids associated with drainage systems, rivers and estuaries to a maximum pressure of 7 metres of water column (mWC).

The HDPE Flap Valves are available in a range of different fitting types, see Appendix A.

2.2 Applicable standards

The following standards are applicable to this product:

- BS 7775[(1)].
- DIN 19569-4[(2)].

2.3 Approval History

This is the first WRc Approved certification for the Fernco HDPE Flap Valves.

3. REQUIREMENTS AND TESTING

3.1 General

The HDPE Flap Valves shall comply with the requirements of BS7775 and DIN 19569-4, where applicable.

3.2 Materials and components

Stainless steel components shall be manufactured from grade 316 stainless steel in accordance with BS EN 10088-2:2014[(3)].

PE 500 shall meet the requirements of BS EN 13476-2:2025[(4)].

Elastomeric seals used on the fitting of the HDPE Flap valves shall comply with the requirements of BS EN 681-1[(5)].

The materials of construction have been assessed and are suitable for use in the intended environments. The materials of construction should therefore allow a 60-year lifespan for the product if installed and maintained correctly.

3.3 Type Testing

Impact test

When subject to the impact test, the HPDE Flap Valves shall meet the requirement specified in Table 15 of BS EN 13476-2:2025.

Mechanical strength or flexibility

When subject to the mechanical strength or flexibility test, the HPDE Flap Valves shall meet the requirement specified in Table 15 of BS EN 13476-2:2025.

Flap Valve leakage rates

When subjected to the Penstock Leakage Rates test in accordance with BS7775, clause 5.2.2, the HDPE Flap Valves leakage shall not exceed 0.5 l/(min/m) of seal perimeter.

Testing of the HDPE Flap Valves demonstrated an average leakage rate of 70% below the permitted leakage rates in BS7775.

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When subjected to the Leak Tightness test in accordance with DIN19569-4, clause 6.2.2, the HDPE Flap Valves leakage shall meet the requirements of Class 5.

Testing of the HDPE Flap Valves demonstrated an average leakage rate of 86% below the permitted leakage rates in Class 5 of DIN19569-4.

3.4 Manufacture

To ensure the quality and performance of the HDPE Flap Valves, 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 of HDPE Flap Valves; and
- Fabrication and quality control of workmanship.

The production of the HDPE Flap Valves 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(6), the HDPE Flap Valves shall be reasonably expected to perform as described.

4. APPROVAL

The HDPE Flap Valves have been audited and successfully meet all the requirements stated within this assessment schedule

Signed:

Valid until 4th June 2031.

5. REFERENCES

1. BS 7775:2005, Penstocks for use in water and other liquid flow applications. Specification.

2. DIN 19569-4:2000, Wastewater treatment plants - Principles for the design of structures and technical equipment - Part 4: Specific principles for shutoff devices as penstocks, sluice gates, stoplogs etc.

3. BS EN 10088-2:2014 Stainless steels. Technical delivery conditions for sheet/plate and strip of corrosion resisting steels for general purposes.

4. BS EN 13476-2:2025 Plastics piping systems for non-pressure underground drains and sewers. Structured-wall piping systems of unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE). Specifications for pipes and fittings with smooth

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internal and external surface and the system, Type A.

5. BS EN 681-1:1996 Elastomeric seals. Material requirements for pipe joint seals used in water and drainage applications. Vulcanized rubber.

6. Fernco Flap Valve Datasheet V002APR26.

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Assessment Schedule for HDPE Flap Valves as manufactured by Fernco Ltd

Appendix A Product codes

Flap Valve	Flap Valve with spigot*	Flap Valve with tidal wall mount	Flap Valve with flange
FV100	FVS90	FVT100	FVF100
FV125	FVS110	FVT150	FVF125
FV150	FVS125	FVT200	FVF150
FV200	FVS140	FVT225	FVF200
FV225	FVS160	FVT250	FVF225
FV250	FVS180	FVT300	FVF250
FV300	FVS200	FVT400	FVF300
FV350	FVS225	FVT500	FVF350
FV400	FVS250	FVT600	FVF400
FV450	FVS280		FVF450
FV500	FVS315		FVF500
FV600	FVS355		FVF600
FV700	FVS400		
FV800	FVS450		
FV900	FVS500		
FV1000	FVS560		
	FVS630		

***Note:** The approval does not include the installation of Spigot Flap Valves installed using sealing tape around the spigot and pushed into the host pipe.

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