# PT/576/0626-AS (June 2026)

# Assessment Schedule for Penstocks as manufactured by Fernco Ltd

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## 1. SCOPE

This schedule specifies the requirements for HDPE Penstocks as manufactured by Fernco Ltd for the control of water flow in piped systems from one area to the next.

## 2. PRODUCT DESCRIPTION

### 2.1 Introduction

The Fernco Penstocks are manufactured from HDPE grade PE500 and stainless steel grade 316, and the approval covers sizes DN100 to DN1000.

The Penstocks can be used to control water flow in waterways, power plants, industrial effluent plants, hydro power, sewerage/wastewater treatment plants, drainage networks and flood control systems to a maximum pressure of 7 metres water column (mWC).

The Penstocks are available as a standard Penstock, Penstock with a rising spindle and also as a compact Penstock. See Appendix A for a full list of models covered by this schedule.

### 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 Penstocks.

## 3. REQUIREMENTS AND TESTING

### 3.1 General

The Penstocks shall comply with the requirements of BS775 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[3].

PE 500 (HMWPE) shall meet the requirements of BS EN 13476-2[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 resistance to internal puncture test in Appendix A of WIS 4-35-01[6], the Penstock shall show no signs of damage.

**Mechanical strength or flexibility**

When subject to the mechanical strength or flexibility test, the HPDE Flap Valves shall meet the requirement specified in Table 16 of BS EN 13476-2:2025.

**Penstock leakage rates**

When subjected to the Penstock Leakage Rates test in accordance with BS7775,

 
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clause 5.2.2, the Penstock leakage shall not exceed 0.5 l/(min/m) of seal perimeter.

Testing of the Penstocks demonstrated an average leakage rate of 99% below the permitted leakage rates in BS7775.

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

Testing of the Penstocks demonstrated an average leakage rate of 99% below the permitted leakage rates in Class 4 of DIN19569-4.

### 3.4 Manufacture

To ensure the quality and performance of the Penstocks, 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 Penstocks; and
- Fabrication and quality control of workmanship.

The production of the Penstocks 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[7], the Penstocks shall be reasonably expected to perform as described.

## 4. APPROVAL

The HDPE Penstocks 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

 
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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 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. WIS 4-35-01 Specification for thermoplastics structured wall pipes – supplementary test requirements

7. Fernco Penstock Datasheet V0012MAR25.

 
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## Appendix A Product codes

| Penstock | Penstock (with rising spindle) | Penstock (compact) |
|---|---|---|
| PS100 | PSRS100 | PSCO100 |
| PS150 | PSRS150 | PSCO150 |
| PS200 | PSRS200 | PSCO200 |
| PS225 | PSRS225 | PSCO225 |
| PS250 | PSRS250 | PSCO250 |
| PS300 | PSRS300 | PSCO300 |
| PS400 | PSRS400 | |
| PS500 | PSRS500 | |
| PS600 | PSRS600 | |
| PS700 | PSRS700 | |
| PS800 | PSRS800 | |
| PS900 | PSRS900 | |
| PS1000 | PSRS1000 | |

 
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