

ENVIRO

 **enviro**systems
Protective Coatings & Sealants

BSL

FULLY WELDED VLDPE BASEMENT LINER

Long-life waterproofing for demanding
below-ground construction.



100
YEARS

>100 Year Design Life



High Chemical Resistance



Fully Welded System



Tested to International Standards

Industrial | Commercial | Residential
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WHAT IS ENVIRO BSL?

Enviro BSL is a **VLDPE fully welded membrane liner system** engineered for long-term protection of underground structures. Supplied with a **green signal layer** and installed by specialised, approved applicators, Enviro BSL forms a **continuous, watertight, durable barrier** designed to withstand water pressure, soil movements, and aggressive ground conditions.

Developed and manufactured in Australia, Enviro BSL delivers a **robust, sustainable solution** for modern basement and tunnel design.

(Ref: Technical Data Sheet, Page 1)

Key Features & Benefits

- **>100-year design life** for long-term reliability
- **High chemical resistance** and suitable for aggressive groundwater
- **Excellent elongation** for movement accommodation
- **Fully weldable** (hot air welding, extrusion welding) for system integrity
- **Durable and puncture resistant**
- **Fire rated**
- **Australian Made**
- **Complies with extensive international test standards** including EN 527, EN 1928, EN 14151, EN 12691 and more (Ref: TDS Page 1-4)

Ideal Applications

- Basements
- Slab-on-ground structures
- Lift pits
- Below-grade water tanks
- Tunnels
- Cut-and-cover structures
- Flat and insulated roofs (Ref: TDS Page 1)

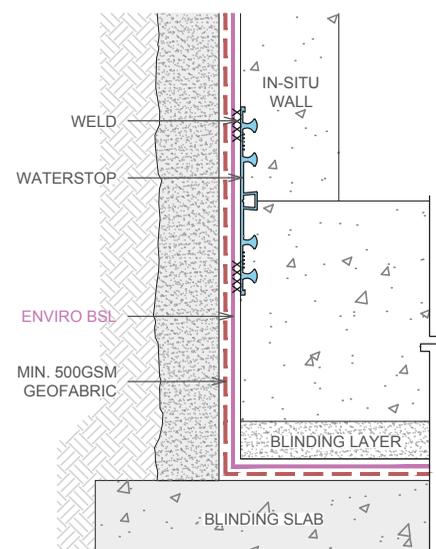
Installation Overview

Enviro BSL is installed over a minimum 700 gsm geotextile before being mechanically supported with roundels and fully welded.

Key installation principles include:

- Substrates are smoothed using shotcrete or concrete
- Membrane laid with controlled slack to avoid tension
- All laps double-seam welded and pressure tested
- Extrusion welding used for penetrations and terminations (Ref: TDS Page 2)

Floor-Wall Junction with Waterstop



Example of Enviro BSL installed at a floor-wall junction using integrated waterstop welding for full continuity.

PERFORMANCE & TESTING

Extensive physical testing confirms Enviro BSL consistently exceeds international benchmark requirements.

Below is a summary of notable performance indicators:

Mechanical Strength

- Tensile Strength: **>23 N/mm²** (Requirement ≥ 15 N/mm²)
- Elongation at Failure: **$\geq 500\%$** (Ref: TDS Page 3)

Puncture & Impact Resistance

- Puncture Resistance: **3.5 kN** (Requirement >2.8 kN)
- Impact Resistance: **Watertight at 970 mm** (Requirement ≥ 750 mm) (Ref: TDS Page 3)

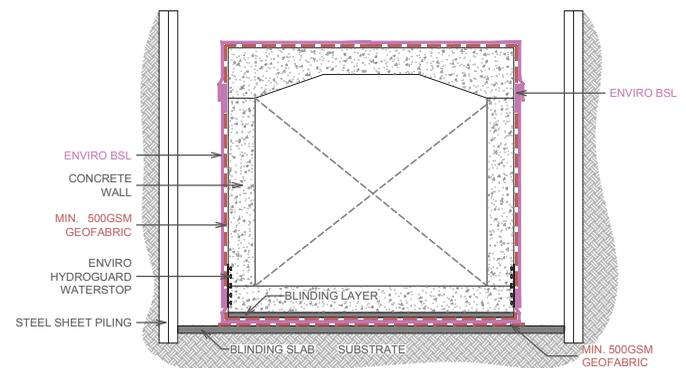
Hydrostatic Pressure

- **No leakage at 10 bar / 24 hours** (Ref: TDS Page 3)

Environmental Durability

- **Chemical exposure testing** performed by SRG Global showed only minimal mass, dimensional and mechanical fluctuation when immersed in tetrachloroethene solutions at **23°C and 50°C for up to 90 days**.
- Tensile stress changes remained within expected tolerance ranges for VLDPE under solvent exposure. (Ref: SRG Test Report Pages 1–4)

TUNNEL WATERSTOP STEEL PILING WITH WATERPROOFING



Enviro BSL forming a continuous tunnel lining system with steel sheet piling and integrated waterstops.

Why Choose Enviro BSL?

- Proven durability across multiple independent test regimes
- Fully welded seams reduce long-term risk of water ingress
- Outstanding flexibility for complex geometry
- Compatible with modern basement construction methodologies
- Installed by trained and approved applicators

TECHNICAL SPECIFICATIONS & CONTACT

PRODUCT SUMMARY:

Material: VLDPE

Thickness: Nominal 2.1 mm

Roll Size: 2 m × 25 m

Colour: Black with green signal layer
(Ref: TDS Page 1)

Need Assistance?

Our technical team can assist with design specifications, system detailing, and project-specific installation considerations.

Contact EnviroSystems

NSW – Head Office

295 Princes Highway, St Peters
info@envirosystems.com.au

VIC

49 Wood Street, Thomastown
info@envirosystems.com.au

QLD

Unit 3-28 Burnside Road, Yatala QLD 4207
info@envirosystems.com.au

WA

78 Discovery Drive, Bibra Lake
perth@envirosystems.com.au

Phone: 1300 WATERPROOF
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envirosystems.com.au

Protective Coatings & Sealants
All information based on
published technical data and
independent testing.

