

Technical Data Sheet ISSUED MARCH 2025

PRODUCT DESCRIPTION

WPA BM70 is a new generation bentonite membrane designed to waterproof below-ground structures, preventing water ingress and protecting the structure against contaminated soils. WPA BM70 is made from quality polypropylene geotextiles and premium grade sodium bentonite powder mined and manufactured in Australia. WPA BM70 is fibre-reinforced by needle-punching the composite across the entire surface area of the product. Unique to this product, the high-tenacity fibres are then thermally locked to ensure the product's high long-term shear strength and self-confining properties.

Recommended for:

- Below-ground structures
- Vertical & horizontal applications
- Full basement envelopes
- Structural slabs
- Lift pits
- Earth backfilled retaining walls
- Tunnels

FEATURES AND BENEFITS

- Australian made
- Tough and durable needle punched system
- High sheer & puncture resistance
- Self-healing properties
- High chemical resistance

APPLICATION PROCEDURE

Suitable Substrates

WPA BM70 is suitable for steel sheet piling, contiguous and secant piling, insitu concrete, shotcrete and precast panels.

Preparation

All concrete substrates must be checked to ensure they are clean, smooth, solid and free of defects such as cracks, holes, honeycombing, protrusions, or irregularities which may compromise the membrane system. Concrete substrates must be repaired with the appropriate concrete repair mortar as necessary to provide an acceptable surface.

Steel sheet piling must be clean and free of debris. All lifting lugs and penetration require repairs with a steel plate. Sheet piling clutches must be tight or appropriately filled to allow for a continuous substrate free of voids.

Contiguous or Secant piling walls will require a shotcrete fillet spray as a minimum to remove the pile cleavage, however a shotcrete smoothing layer may be required to provide a smooth and continuous substrate.

Concrete substrates may undulate gradually providing they are smooth and continuous, sudden changes in levels including ridges and hollows are not acceptable.

All substrates must be free from standing or running water prior to the installation of the WPA BM70 system.

Application

Installation should be carried out by competent personnel under the guidance of Bayset and in accordance with manufacturers' installation guidelines and/or project specific detailing.

Scheduling of the waterproofing installation to allow prompt fixing of reinforcement steel & concrete placement or backfill is essential to ensure the waterproofing is exposed for only limited periods, particularly in inclement weather conditions.

During inclement weather periods, foot traffic on hydrated membrane must be restricted to eliminate damage.

Concrete Slab / Foundations

Under slab applications requires a minimum 100mm thick concrete blinding layer to receive the WPA BM70 system.

WPA BM70 is recommended for conventional structural reinforced concrete slabs with a thickness greater than 150mm. Install WPA BM70 by rolling the product out over the previously installed concrete blinding layer, with the off-white non-woven surface facing the concrete to be placed. Precutting rolls may be required for easier handling.

Overlap should all run in a uniform direction. Ensure the overlap area is clean and free from any debris.

Overlap all adjoining edges with a minimum 100mm for side laps and 150mm for end laps. Ensure roll ends are staggered by a minimum 500mm.

Stapling or nailing laps at approx. 500mm centres, is good practice to prevent any membrane displacement before and during reinforcing steel and concrete placement.

Before concrete slab is placed, ensure the WPA BM70 is extended by a minimum 500mm beyond the pour break and place temporary protection over the area to allow correct overlapping of additional membrane installation.

Concrete should be placed in the direction of the overlaps to avoid pushing wet concrete underneath the membrane laps.

WPA BM70 should not extend onto foundation bearing planes such as pile caps, pile heads, etc. If waterproof continuity is required through bearing planes the use of WPA 100 cementitious waterproofing membrane is recommended.

Install a 40mm cove fillet of WPA BG bentonite granules around all pile caps and penetrations. WPA BM70 should be cut snug and tight to all penetrations and completed with a 20mm fillet of WPA BP bentonite past.

Install a suitable WPA hydrophilic waterstop to all pile caps, pipe penetrations and pour breaks, etc. as required.

Technical Data Sheet ISSUED MARCH 2025

Property line Walls

Place a minimum 40mm cove fillet of WPA BG bentonite granules to the property line perimeter.

Install a horizontal reinforcing strip of WPA BM70 at the transition with the off-white non-woven surface facing the installer, extend the bottom leg onto the horizontal substrate a minimum of 300mm and the vertical leg of the sheet extending up a minimum of 300mm. Using suitable fixings with washers, fix the membrane to the property line substrate at a maximum 500mm centres.

Where the structural slab thickness is greater than 150mm, install a second horizontal reinforcing strip of WPA BM70 to the property line substrate to meet the minimum requirement of 150mm above the top slab elevation.

Precut rolls to the required length to suit the wall height and for ease of handling. Place WPA MB70 against the vertical substrate with the off-white non-woven surface facing the concrete to be placed. Using suitable fixings with washers, fix the membrane to the substrate. Fixings with washers are required every 300mm, additional fixing may be required to ensure the WPA BM70 closely contours the substrate surface to eliminate voids or hollows between the membrane and substrate ensuring adequate confinement of the membrane system is achieved.

Following the general application guidelines for lapping, overlap should all run in a uniform direction. Overlap all adjoining edges with a minimum 100mm for side laps and 150mm for end laps. Ensure roll ends are staggered by a minimum 500mm. Where horizontal laps occur, ensure they face downwards to prevent displacement from falling concrete/shotcrete during placement. For contiguous/secant piling, locate fixings close to cleavages ensuring to remove all voids and hollows.

Considerations should be given to ground level termination details, with reference to the height of the property line construction and access to the membrane. Cutting down the property line after WPA BM70 installation and concrete placement will inevitably damage the waterproofing system.

Post Applied Walls

Place a minimum 40mm cove fillet of WPA BG bentonite granules to the property line perimeter.

Install WPA BM70 against the vertical substrate with the off-white non-woven surface facing the concrete structure. Follow the installation guide above for fixing and overlapping requirements.

WPA BM70 should be cut snug and tight to all through-wall penetrations and complete with a 20mm fillet of WPA BP bentonite past.

Install a suitable WPA hydrophilic waterstop to all pile caps, pipe penetrations and pour breaks, etc. as required.

Backfilling

Prior to backfilling, corflute or similarly rigid protection shall be placed against the installed WPA BM70 to provide protection and adequate confinement.

Backfill material must be free from builder's debris and angular aggregate. It must be placed in 300mm thick layers which is standard practice for backfill compaction and compacted to 85% modified proctor density.

Note: Sand does not provide adequate confining pressure and shall not be used as backfill material.

Performance data and physical properties

Bentonite Mass ≥ 4000 @ 0% g/m ²	ASTM D5993
Swell Index ≥ 24 ml/2g Adhesion to	ASTM D5890
Concrete 4.9inch kN/m	ASTM D903 (mod.)
Hydrostatic Pressure Resistance >126.7 m	ASTM D5385 (mod.)
Fluid Loss ≤ 15 ml	ASTM D5891
Permeability 2×10^{-9} cm/s	ASTM D5887
Puncture Resistance 630 N	ASTM D4833
Dry Thickness 6 mm Roll Weight ≥ 300 kgs	AS3706.1

LIMITATIONS

Do not apply **WPA BM70**:

- Designed to be used in below ground application only
- If it is raining or if rain is imminent
- Over areas where running or free water is present
- Over contaminated substrates
- Over rough surfaces

Packaging

1.56m x 45m = 70M²

2.2m x 10m = 22M²

1.1m x 10m = 11M²

Ancillary Components	Packaging
WPA BG bentonite granules	20 kg Bag
WPA BP bentonite paste	10 kg Bucket
WPA GW gunnable waterstop	600 ml Sausage
WPA 2010 waterstop (Blue)	10 l/m Roll
WPA 2005 waterstop (Red)	20 l/m Roll

Technical Data Sheet ISSUED MARCH 2025

Storage

All products should be stored under cover in a dry environment. If stored outside, it is recommended to protect store product with tarps or plastic.

SAFETY INSTRUCTIONS

For instructions on the safe use of WPA BM70 please refer to the latest version of the Safety Data Sheet available from our website www.wpa-us.com.au.

WARRANTY CONDITIONS

Bayset Pty Ltd trading as Waterproofing Products Australia (Bayset) offers a limited warranty in respect of this product, subject to certain terms and conditions set out in the warranty documentation which has been made available at www.bayset.com.au. Please contact Bayset directly to obtain a copy of the warranty documentation relevant to this product.

DISCLAIMER

The technical information and application advice given in this Technical Data Sheet is based on the present state of Bayset Pty Ltd's best scientific and practical knowledge and is intended to give a fair description of the product and its capabilities. As the information contained herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness, either expressed or implied, is given other than those required by law. In practice, the substrate and environmental conditions vary widely, making it essential for the user to determine the product's suitability for a particular application and that the product is not used beyond its physical limitations.

The user is responsible for checking the suitability of products for their intended use.

***NOTE**

Field service where provided does not constitute supervisory responsibility. Suggestions made by Bayset Pty Ltd (trading as Waterproofing Products Australia) either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not Waterproofing Products Australia, are responsible for carrying out procedures appropriate to a specific application.

DOCUMENT CONTROL	
Product	WPA BM70
Initial Issue	March 2025
Author	SR

Technical Data Sheets are subject to change without notice. For latest revision, check our website at www.wpa-us.com.au

This is a CONTROLLED document under WPA's Quality System.