

Waterproofing with Self-Adhered Membranes

What is Waterproofing?

Waterproofing is a system or product that effectively prevents *liquid water* from passing through it. The presence of liquid water against a waterproofing layer is called a “hydrostatic head”. A hydrostatic head of water puts “hydrostatic pressure” against the membrane. Any waterproofing system must therefore be able to withstand a certain hydrostatic pressure or head in order to be effective. Waterproofing keeps water out.

What is Dampproofing?

Dampproofing is a system or product that resists the diffusion of *water vapor*. Dampproofing is often an asphaltic product such as Bakor 710-07 (solvent based “cutback”) or Bakor 700-01 (water based “emulsion”). They are applied usually in a single coat by spray or brush to foundation walls that are not going to be subjected to hydrostatic pressure. Dampproofing is often confused with waterproofing but it does not keep liquid water out.

What is a Self-Adhered Membrane?

A self-adhered membrane (also know as a “peel & stick”) is a factory made sheet consisting of a waterproofing layer (the compound) and a carrier (polyethylene film). The carrier, such as the blue film on Blueskin® WP 200, holds the compound in place and provides tensile strength, puncture resistance and durability to the product. The compound has an adhesive mixed into it that remains tacky until the release film is removed, together with a double edge bead to ensure a complete seal.

Why would I use a self-adhered waterproofing membrane like Blueskin® WP 200?

Self-adhered membranes are cleaner than most liquid waterproofing products and are safer to use compared to hot applied liquid products or torch applied membranes. They start to work immediately upon application (you do not have to wait for the product to cure before covering) and they have a factory-controlled thickness so you do not have to guess about the amount of material to use.

Where would I use a self-adhered waterproofing membrane?

Self-adhered membranes are used wherever there is a need to resist hydrostatic pressure. Examples include foundation walls, plaza decks, planters, and mud slabs (between two pours of concrete). Strips of self-adhered membranes can also be used to patch cracks and repair leaks.

What standard does Blueskin® WP 200 meet?

Blueskin® WP 200 does not meet any one particular standard because there is not one for self-adhered membranes at this time. Instead, the product is subjected to a variety of procedures outlined by ASTM (American Society for the Testing of Materials) covering physical properties such as elongation, tensile strength, peel strength, crack cycling, hydrostatic head, moisture absorption, lap peel strength, water vapor transmission, flexibility, and puncture resistance. Designers therefore assess the product based on these test requirements.

How does the 1995 National Building Code deal with waterproofing?

Waterproofing is required without exception if there is hydrostatic pressure anticipated. This applies to both Part 5 (small buildings, residential) and Part 9 of the Code (commercial, institutional). If there is no hydrostatic pressure anticipated the designer may still use a waterproofing layer or he may use lesser systems such as a combination of dampproofing and drainage.

What are the accessory products to Blueskin® WP 200?

ELASTO-SEAL™ LM: A “liquid mastic” used to form a fillet at the wall/footing junction.

Polybitume® 570-05: A sealant used at membrane terminations.

Aquaprime: A water based green coloured primer.

230-21: A cream coloured adhesive used to bond insulation or lightweight protection board to the membrane.

990-31: Polypropylene protection board.

Can I use Polybitume® 570-05 instead of ELASTO-SEAL™ LM?

No! The ELASTO-SEAL™ LM cures much more quickly and can be covered by the membrane in one (1) hour depending on the site conditions.