MAXSEAL® SUPER - BULLETIN

1. MAXSEAL SUPER – OVERVIEW

MAXSEAL® SUPER is a special waterproofing coating made of a mixture of cements, carefully controlled aggregates and special organic and inorganic additives. Its special formula improves the osmotic effect of the application allowing penetration into the concrete through its capillary system. The product crystalizes inside, sealing, waterproofing and protecting the concrete structure. It has been designed to be applied on fresh or set concrete, pre-cast concrete, concrete blocks or cement plasters but is also suitable for applications on bricks and masonry.

2. ADVANTAGES FOR *MAXSEAL® SUPER*

This cement-based osmotic system is a one-component, cement-based, waterproof and protective coating applied in thin layers, i.e. up to 1 mm per layer, which achieves the following properties:

- ✓ ***MAXSEAL® SUPER*** is a monolithic, non-flammable, non-toxic application.
- ✓ Excellent waterproofing properties. Withstands very high positive and negative hydrostatic pressure.
- ✓ High adhesion and compatibility with common substrates used in construction. Does not require bonding agents and must be applied on wet surfaces. It fills and seals the pores of the substrate and becomes part of the structure of the surface.
- ✓ Joints or connections are not required - leaking risk is avoided.
- ✓ Permeable to water vapour - it allows the substrate to breathe. A vapour barrier is not formed.
- ✓ High resistant to abrasion and UV rays. High durability, similar to concrete.
- ✓ Provides very good chemical protection of concrete against atmospheric pollution, de-icing salts, soil salts, chlorides, seawater and carbon dioxide, thereby preventing the carbonation and electrochemical corrosion of reinforcements.
- ✓ No solvents or toxic components are used. Environmentally friendly it is a suitable material for coating of drinking water tanks
- ✓ Easy and quick to apply manually or by spray, requires less labor.
- ✓ ***WARRANTED FOR A PERIOD OF 20 YEARS. See WARRANTY CERTIFICATE.***

3. MAXSEAL SUPER vs. BENTONITE CLAY MEMBRANE

- ✓ Water is able to *migrate beneath membrane (bentonite and rubber combination sheets)*, making it is difficult to locate leakage in bentonite.
  MAXSEAL® SUPER membrane becomes part of the substrate, i.e. any cement-based waterproofing mortar is fully bonded, making it very easy to locate any leak. Failures are readily accessible and relatively easy to repair.
- ✓ *Sealing of seams* (workmanship) is critical to performance of bentonite membrane system. No seams are present with the ***MAXSEAL® SUPER*** waterproofing osmotic mortar.

- ✓ *Penetrations and other out-standing points* require careful flashing and sealing. Penetration and other out-standing point can be sealed in an easy way by using a flexible waterproofing mortar such as ***MAXSEAL®*** ***FLEX*** reinforced with a fibreglass mesh.
- ✓ Bentonite clay membrane is susceptible to *physical damage during constructions*. ***MAXSEAL®*** ***SUPER***- There is no risk for puncture or other damages during application as this material goes into the capillarity network of concrete.

- ✓ Bentonite clay membrane does not readily conform to *complex shapes*.
- ✓ Prior to application of a bentonite membrane (sheets/panels/textile mats), the *moisture on concrete surface* must not exceed a high level. Generally, during application of any bentonite membrane, high levels of moisture on concrete surface are NOT tolerated because this water initiates the reaction, substrate must be dry.

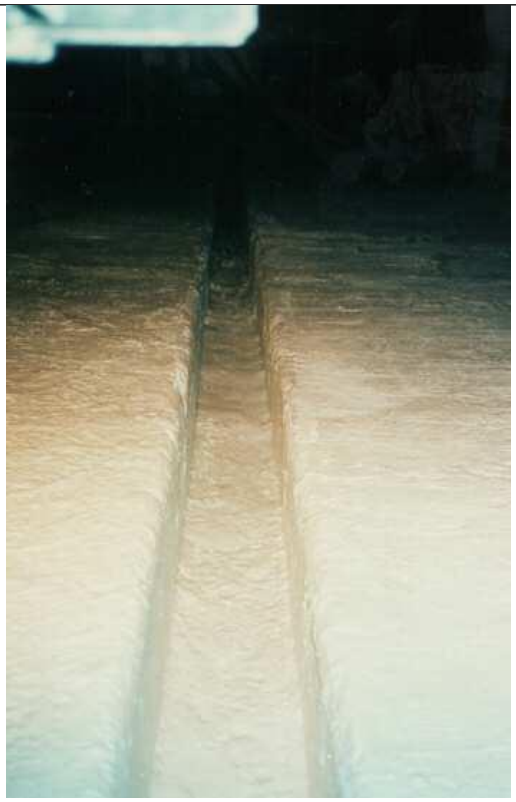
  Cement-based coatings require moisture on the substrate surface. Cement-based coating does not have any limitation on maximum relative humidity conditions.
- ✓ Large single-sheet membranes are heavy and *difficult to hold in place* on vertical wall application. ***MAXSEAL®*** ***SUPER*** by dusting process (dry-shake method or ***MAXSEALFLEX®*** can be apply easily by brush, broom, spraying method even for large horizontal surfaces.
- ✓ Application process for bentonite membrane can be tricky, requiring and careful positioning of the sheets/panels. Application process for ***MAXSEAL®*** ***SUPER*** is very easy and no specialized hand-labour or special tool or equipment is required.
- ✓ Hydration and swelling for bentonite clay must occur within a confined area for the waterproofing properties to be effective. Care must be taken in design and construction to allow for adequate *space for clay swelling*
- ✓ Bentonite panel systems require time (activation time) for degradation of cardboard before swelling and water-tightness occurs. This can allow water to penetrate a structure before swelling occurs.
- ✓ Bentonite clays are NOT *resistant to chemicals* in groundwater such as brines, acids, or alkalis.
- ✓ Bentonite clay systems are extremely *sensitive to weather* during installation. Immediate *protection* of bentonite applications is required to keep material from water sources. If rain occurs or ground water levels rise and material is wetted, hydration will occur prematurely and waterproofing capability will be lost, since hydration will occur in an unconfined space.

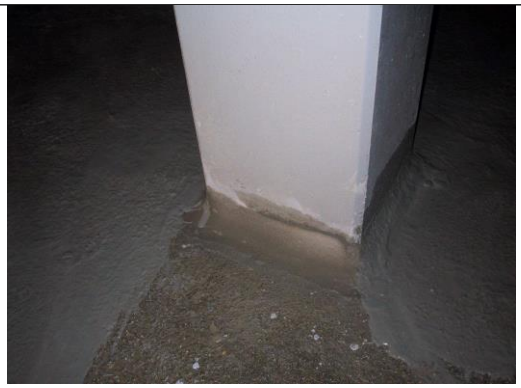
Generally bentonite clay product-based systems can show a lot of leaking problems which are localized in areas such as joints, penetrating pipes and drains. Also, mechanical damage such as punching, cracks or tearing can be expected.
In order to solve the above drawbacks, a cement-based waterproofing system is a better option.
MAXSEAL® ***SUPER*** provides a watertight coating with high mechanical properties and chemical resistance regardless of whether an uneven surface is present or, UV radiation exposure or chemical attack is expected.

Unlike the use of a bentonite clay membrane, a continuous fully bonded material such as ***MAXSEAL®*** ***SUPER*** ensures a completely watertight **monolithic** waterproofing application.

With a proven position In the Australian Marketplace since 1988 and with the 20 YEAR WARRANTY this MUST be the most cost effective – time saving WATERPROOFING SYSTEM available.

CHARACTERISTICS	*MAXSEAL® SUPER*	*BENTONITE CLAY MEMBRANE*
System: easy to use	**Yes (Mixed with water or dusting)**	**No (Preformed)**
Continuous coating	**Yes (Monolithic coating)**	**No**
Waterproofing mechanism	**Coating**	**Swelling/Expansion**
Confined spaced required for waterproofing mechanism	**No**	**Yes**
Protection required against rain once installed	**No**	**Yes**
Time to become active	**Immediately (Once cured)**	**Time for swelling reaction**
Presence of cold joints and overlapping	**No**	**Yes**
Application by brush/spraying methods	**Yes**	**No**
Application thickness	**2 mm**	**50-120 mm**
Odourless and free solvent	**Yes**	**Yes**
Type of substrate preparation	**Minimum**	**Yes (Panels)**
Suitability for application on wet substrates	**Yes**	**No (Very sensitive to weather)**
Bonding process	**Direct on concrete**	**Nails/Adhesives (vertical) Laid on (horizontal)**
Adhesion to concrete	**Very High Monolithic**	**No**
Cleaning up	**Water**	**No**
Abrasion resistance:	**High**	**No**
Water vapour permeability: allows the substrate to breath	**Yes**	**No (Rubber-Bentonite clays)**
Suitability for positive hydrostatic pressure waterproofing applications	**Yes**	**No**
Suitability for negative hydrostatic pressure waterproofing applications	**Yes**	**Yes**
Suitability for free-flowing conditions	**Yes**	**No**
Suitability for constant wetting and drying conditions	**Yes**	**No**
Suitability for use in direct contact with drinking water	**Yes**	**No**
Suitability for pedestrian/wheeled traffic	**Yes/Yes**	**No/No**
Maximum in-service temperature	**High**	**Low**
Chemical resistance against seawater, soil salts, chlorides and sulphates	**Yes (Anti-sulphate)**	**No**
Troubleshooting / Repair procedure	**Easy / Quick**	**Difficult / Slow**
Durability, ageing	**High**	**Low**
Cost of waterproofing material	**Medium**	**High**
Cost of hand labour	**Minimum**	**High**
Ease and speed of installation: Delay the schedule concrete placement	**Dusting on lean concrete. Same day concreting**	**Forms must be placed Yes.**





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