Aegis® MSP

Technical Data Sheet

Cementitious floor topping internal/ external trafficable waterproofing surface (2-4 mm thickness)

Uses

Aegis MSP is used to provide a strong and durable cementitious coating that can be applied to a wide variety of substrates, including concrete, concrete blocks, polystyrene blocks, aerated concrete blocks (AAC), asphalt and fibre cement. Aegis MSP is particularly useful to re-surface rain damaged concrete pavements or substrates which require a cementitious waterproof finish.

Advantages

- Provides a durable and waterproof surface
- Excellent wear resistance
- Resistant to many industrial chemicals
- Suitable for interior and exterior applications
- Can be applied to many different substrates
- A range of textured finishes can be obtained
- Supplied in kit form for simple mixing & preparation
- Easy to apply, maintain and repair if necessary

Description

Aegis MSP is a durable polymer modified mortar for the protection and waterproofing of many substrates. The product is supplied in a plastic pail that contains a Dry Mix component and a Wet Mix component. These components are individually packed inside the pail; each component is removed from the pail allowing it to be used as a mixing vessel. The material is based on Portland cement (OPC), graded aggregates, chemical additives and is polymer modified. The hardened product exhibits excellent durability, weather resistance and strength.

Aegis MSP is supplied is two grades; fine and coarse.

Fine grade has a maximum particle size of 0.5 mm and is generally used for waterproofing applications and squeegee applications.

Coarse grade has a maximum particle size of 1 mm and is used for trowel applications and heavy duty remedial work.

Aegis MSP cures to a mid grey concrete colour.

Technical Support

Parchem offers a comprehensive range of high performance, high quality flooring, jointing and repair products for both new and existing floor surfaces. In addition, Parchem offers a technical support package to specifiers, end-users and contractors, as well as on-site technical assistance.

Rain damaged roof deck resurfaced with Aegis MSP

Design Criteria

Aegis MSP must be applied at a minimum thickness of 2 mm to achieve a waterproof finish. The method of application will determine the final thickness and finished appearance. Maximum thickness per application is typically 4 mm.

Aegis® MSP

Properties

Test method	Typical result @ 28 days
Compressive strength:	57 MPa
Flexural strength:	9.9 MPa
Tensile strength:	5.7 MPa
Modulus of elasticity:	17.7 GPa
Shear bond strength:	7.0 MPa
Water permeability:	Class E (ASTM E514-74) (highest resistance to water penetration)
Abrasion Index:	Excellent (3.9) (Main Roads MA20)
Drying time @ 25°C (2mm thick)	3 - 4 hours
Recoat time @ 25°C (2 mm thick)	24 hours
Traffic time @ 25°C Foot: 24 hours Vehicle:	48 hours
Application temperature:	10°C - 30°C
Service temperature:	10°C - 60°C

Application Instructions

Surface preparation

All surfaces to be protected by Aegis MSP must be structurally sound and strong.

Structural defects must be repaired prior to the Aegis MSP application.

Application

The substrate should be clean, sound and free from loose material and contamination such as curing compounds, oil, paint and grease.

New concrete should be at least 14 days old.

Laitance should be removed by acid etching followed by neutralising and water flushing, light scabbling or captive shot blasting followed by vacuuming to remove dust debris. Oil and grease must be removed.

Large cracks (non moving)

Use an angle grinder to create a “V” along crack line. Apply Aegis Surface Primer # 1 to the “V”, along crack line then fill the “V” with Aegis MPS before the general application of the Aegis MSP to the entire area.

Mixing equipment

- Heavy duty spiral mixers such as a Festo 2 speed stirrer is suitable to mix in a 20 litre plastic pail
- Rotary cement mixer 2 - 3 cubic foot capacity is also suitable for larger applications

Mixing instructions

Aegis MSP is a two-component, pre measured product, (packed in a sealed plastic 20 lt. pail) and comprising a 1.4 litre bottle of “wet mix” and 18.6 kilograms of “dry mix”.

Thoroughly shake the bottle of “WET MIX” and pour into a clean cement mixer or 20 litre pail.

Water content: the following amount of clean water should be added to “Wet Mix” liquid to provide the appropriate consistency of mixed material. The Wet Mix bottle can be used to measure the added water. it has a volume of approx. 1.5 litres.

- Trowel & Screed Application 1.5 litres ie.1 full bottle (1.5 litres) of water
- Squeegee & Broom Application; 2.1 - 2.5 litres
- Spray Gun Application; 1.75 - 2.0 litres

Note: refilling the “wet mix” bottle, to add the water will ensure transfer all of the “wet mix” to the mixing container.

Water content will vary between jobs, according to local conditions and ambient temperature.

Only add extra water while mixing. DO NOT add water to the applied product.

Strength, colour, consistency and final finish will be affected by excessive water.

Slowly, add all the “dry mix” to the “wet mix” (and water), while mixing in the cement mixer or pail.

Further small amounts of water, up to 200 ml, may be added to obtain the desired consistency.

Mix thoroughly for three minutes to produce an even consistency then allow to stand for two minutes before applying to the prepared / primed surface.

Squeegee or broom application – use Aegis MPS Fine grade only.

Apply Aegis Surface Primer # 1, to porous surfaces with brush or roller and allow to “damp dry” / become tacky. Do not allow the Sealer to completely dry – re-apply if substrate is porous. Do not apply Sealer more than 2 – 3 minutes ahead of application of the Aegis MSP.

Pour mixed Aegis MSP onto surface to be coated in a quantity which can be quickly worked, with the selected squeegee or broom. Pull Aegis MSP in front of squeegee (or broom) while applying firm downward pressure on the “blade”. This will ensure Aegis MSP is forced into all surface pores and irregularities and produce a good bond.

Apply the first coat as thin as possible. Bonding will be better and the second coat will be easier to apply.

After the first application has dried for 30 minutes, trowel fill any obvious holes before applying the second coat to the required thickness and finish.

Wash equipment every 30 minutes, do not allow Aegis MSP

to build up on the squeegee blade or broom

Clean up spills and splashes immediately.

Trowel or screed application – both fine and coarse grades are suitable

When applying to floors, a mix blend of equal parts Fine and Coarse Grades is most suitable. Apply Aegis Surface Primer # 1, to porous surfaces with brush or roller and allow to "damp dry" / become tacky. Do not allow the Sealer to completely dry – re-apply if substrate is porous. Do not apply Sealer more than 2 – 3 minutes ahead of application of the Aegis MSP.

Horizontal surfaces: Pour the mixed Aegis MSP onto the surface, working it into all pores and irregularities. If using a screed, work in two directions, the second at 90 deg. to the first. Avoid over working Aegis MSP, this brings excessive moisture to the surface.

Finish small areas, of 2 - 3 m², before moving on.

"Finishing off" floors is best achieved with the use of a short nap mohair roller (for a "rough" finish) or a sponge trowel (for a "smooth" finish).These methods will help eliminate trowel marks from the finish.

Caution: DO NOT place more AEGIS on the surface than can be finished in 15 minutes.

Vertical surfaces: Apply Aegis MSP from a Halk onto the wall in small amounts, finishing each area before moving on.

Wash all tools every 30 minutes. DO NOT allow Aegis MSP to build up on equipment.

Clean up all spills and droppings immediately.

Spray application – both fine and coarse grades are suitable

Equipment needed.

- Hopper Spray Gun.

Nozzle size to be used:

Fine application (0.5 mm thick)
Use 3 or 5 mm Nozzle with 6 - 7 Bar Pressure.

Thin application (1mm thick).
Use 5 mm Nozzle with 5 - 6 Bar Pressure.

Thick application (2 mm thick)
Use 5 or 7 mm Nozzle with 4 - 5 Bar pressure.

- 12-15 cfm (cubic foot per minute) compressor
- Extension Leads and Air Lines
- Large Bucket of clean water (20 litre pail is suitable)
- Ground Sheet and Masking Tape (to prevent over spray)
- Hand Finishing Tools (if necessary)

Mask up all areas needing over spray protection.

Thoroughly mix Aegis MSP as detailed previously

Apply Aegis Surface Primer # 1, to porous surfaces with brush or roller and allow to "damp dry" / become tacky. Do not allow the Sealer to completely dry – re-apply if substrate is porous. Do not apply Sealer more than 2 – 3 minutes ahead of application of the Aegis MSP.

Fill the hopper and begin spraying. Test spray a small area to confirm the technique and that the mix is at the desired consistency.

Spray Aegis MSP on to the surface, using broad sweeps, side to side, from top to bottom. Move the gun at a constant speed and at 90° to the surface to ensure even application and texture. Ensure there is a 100 mm overlap to previously sprayed section.

Clean gun, with running water (hose is sufficient), every 30 minutes. Do not allow Aegis MSP to build up in corners or curves; remove excess Aegis MSP with small scraper.

Clean up over spray and floor immediately.

When spraying horizontal surfaces (eg. patios, balconies, driveways etc.) allow Aegis MSP to visibly dry (2 - 4 hours at 25°C, ambient temperature) then sweep up all excess sand (overspray) from the sprayed surface.

Curing periods

Aegis MSP achieves full strength and resistance capability after a 28 day curing period however its characteristics provide for a high early strength and thereby allow an early practical use of treated surfaces.

Recommended curing times (at 2 mm thick and 25°C):	
Light pedestrian traffic:	24 hours
Off-form concrete basement walls (prior to backfilling):	24 hours
Concrete block basement walls (prior to backfilling):	24 hours
Animal traffic (pigs, cattle etc.):	48 hours
Light vehicle traffic:	48 hours
Waterproofing (prior to flood test):	7 days
Heavy pedestrian traffic (high heels):	10 days
Industrial traffic (steel wheels):	10 days
Wash with "tap temperature" hot water (approx. 70°C):	10 days
Resistance to most commercial acids and chemicals:	28 days

Although Aegis MSP provides a waterproof surface it is not a flexible waterproof membrane. Where a flexible waterproof membrane is required please consider our Durafloor TC External Waterproof System or consult our website for information on Parchem's range of flexible waterproof membranes.

Aegis® MSP

Limitations

Do not apply at temperatures below 10°C or above 30°C.

Do not apply in hot windy conditions.

Aegis MSP is not designed for structural applications. Final properties are not achieved until 28 days after application.

Do not wash floors / pavements treated with Aegis MSP for 10 days after application using hot water nor use caustic cleaning solutions for 14 days.

Aegis MSP is resistant to many dilute acids and chemicals, however it is possible that Aegis MSP will suffer some surface discolouration under some conditions including the following:

- Oil or petrol spills and splashes
- Animal or vegetable fats
- Beverage spills or splashes (eg. coffee, cola etc.)
- Part of treated surface exposed to rain or water spillage
- Surfaces exposed to continual dusty conditions

Freshly applied Aegis MSP must be protected form rain and other sources of water for at least 24 hours after application. If rain is forecast the application should be delayed.

Supply

752001 - Aegis MSP Fine Grey:	20 kg packs
752003 - Aegis MSP Coarse Grey:	(containing 1.4 kg liquid and 18.6 kg powder)
750007 - Aegis Surface Primer #1:	20 litre plastic drums

Coverage

Aegis MSP:	10 litre / 20 kg pack; 5 m² @ 2 mm thick
Aegis Surface Primer #1:	5 m² / litre depending on surface porosity

Shelf life

12 months if kept in a dry store in the original, unopened packs.

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