

MasterCast[®] 121AE

Multi-purpose polyvinyl acetate (PVA) emulsion adhesive admixture

DESCRIPTION

MasterCast 121AE is a multi-purpose PVA emulsion adhesive, surface sealer, primer and bonding agent admixture for cement screeds, render, plaster, mortar and concrete.

MasterCast 121 is specifically formulated for the Middle Eastern conditions.

PRIMARY USES

- As a bonding agent for cement screeds and render, plaster and concrete.
- As an admixture for mortar.
- Production of light weight concrete with EPS beads.
- As a sealer, surface improver and dust-proofer for cement-based renders, plasters and screeds.

TYPICAL APPLICATIONS

Bonding agent:

MasterCast 121AE will bond cement screeds, rendering and plaster to structurally sound concrete, stone, brick, terrazzo and slate floor tiles, and new concrete to old.

Admixture:

MasterSeal 121AE is used as an admixture to improve the application, bond, and other physical properties of sand/cement, and granolithic floor screeds, toppings, renders, and plasters.

MasterCast 121AE is used as a sealer to prevent bitumen bleed.

MasterCast 121AE is used for temporary soil and sand stabilization.

ADVANTAGES

- Provides cost effective solutions for multiple construction challenges and application
- Economical and easy-to-use
- Exceptional bond strengths on most materials.
- Quick drying
- Safe and non-toxic product

- Increases strength, durability, and reduces permeability of sand/cement screeds and mortars

PACKAGING

MasterCast 121AE is supplied in 20 L and 200 L containers.

STANDARDS

BS 5270

TYPICAL PROPERTIES*

pH	4 to 6
Minimum film forming temperature	5°C

APPLICATION GUIDELINES

1. As a bonding agent for cement screeds and renderings, plaster, etc.:

Seal the surface using **MasterCast 121AE** to 4 parts of water. Allow this to dry, then apply a bonding coat of 1 part **MasterCast 121AE** diluted with 2 parts water (1:1 on low porosity surfaces). Screed, plaster or render on the tacky bonding coat using normal techniques. Cure cementitious screeds and renders properly.

Note:

On totally non-absorbent surfaces such as polished granite, paintwork etc., the sealer coat may be omitted and the bonding coat should be 1 part of water to 2 parts **MasterCast 121AE**.

2. Bonding new concrete to old:

Ensure that the substrate is stable, sound thoroughly clean and free from oil, grease and lightly physically abraded to remove weak laitance layers and a mechanical key for bonding. Apply a sealing coat of **MasterCast 121AE** diluted with 4 parts of clean water and allow to dry. Apply a bonding coat of **MasterCast 121AE** diluted with an equal volume of water and lay the new concrete while this coat is still tacky. To ensure maximum bond strength, add 5 litres of **MasterCast 121AE** per 100kg bag of cement.

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3. As a surface sealing coat:

To seal highly porous and dusty, friable concrete or granolithic subfloors, apply 2 coats of

MasterCast 121AE diluted at the rate of 1 part **MasterCast 121AE** to 4 parts water and a final coat diluted 1 part **MasterCast 121AE** to 3 parts water. Allow each coat to dry before proceeding. On less porous floors, the first coat may be omitted.

4. As a bitumen primer:

To prevent bitumen coatings from bleeding through subsequent films, they may be primed with **MasterCast 121AE** diluted with equal parts of water which will form a barrier and may then be safely covered with most oil based paints.

5. As an admixture in sand/cement and granolithic screeds:

The use of **MasterCast 121AE** in the mix allows thin, floor screeds (9-18mm thick) to be laid.

For **domestic** and other areas subject to light traffic, use 1 part cement, 3 parts sharp sand and 20 litres of **MasterCast 121AE** per 100kg of cement.

For an **industrial** floor finish or where there is heavy traffic, use a granolithic mix 1 part cement 1 part sand and 2 parts granite chips (3 to 6mm) (no dust) plus 20 to 30 litres of **MasterCast 121AE** per 100kg of cement.

Follow the instructions given above for sealing and bonding, particularly ensuring that the substrate surface is stable, sound and thoroughly clean. Thoroughly mix the mortar to a semi-dry consistency; do not mix the mortar too wet - the addition of **MasterCast 121AE** will reduce the amount of water needed to achieve a given workability thus increasing strength, reducing permeability and increasing durability.

Lay the screed on to the tacky bonding coat, tamping well to ensure maximum contact with the floor beneath. Trowel to a smooth finish.

Under normal temperature conditions with the maximum addition of **MasterCast 121AE**, the setting time of sand/cement is 36 to 48 hours and granolithic 24 to 36 hours. Allow 3 days to 7 days before opening to traffic, depending upon the severity of the traffic (longer may be required if

temperatures are low and reduced in high temperatures).

All cementitious surfaces must be effectively cured. The use of polyethylene sheet laid over the surface supported by battens to prevent marking the surface is recommended. Tape down the edges to prevent air movement under the sheeting. Keep in place for a minimum of 3 days.

6. Soil and sand stabilization

For average stabilization and dust control, mix 1 part of **MasterCast 121AE** to 5 parts clean water and spray immediately on to the surface of the soil or sand. Penetration depth will vary according to the type of soil but will be at least 12mm. Coverage is approximately 5.0 litre/m². For full specification details and advice on specific applications contact your local representative.

CLEANING

Clean equipment in water immediately after use.

COVERAGE / YIELD

As a primer/adhesive:

Neat:	1 litre per 6-12 square metres
Diluted 1:1:	1 litre per 16-24 square metres
Diluted 1:3:	1 litre per 24-40 square metres

The above figures will vary according to the degree of porosity and texture of the surface to which **MasterCast 121AE** is applied.

As an admixture:

MasterCast 121AE is added at the rate of 20 to 30 litres per 100 kg of cement used i.e. approx. 100 to 150 litres per cu. metre of mortar.

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WATCHPOINTS

High strength concrete toppings for floors, including granolithic:

High strength toppings should always be executed in accordance with established practice, including mechanical preparation of the substrate before application of **MasterCast 121AE**.

1. **MasterCast 121AE** is not suitable where conditions of rising damp or permanent dampness are likely to occur. In these cases use **MasterCast 141**.
2. Do not use when ambient temperature is less than 5°C.
3. Do not lay mix too wet.
4. Do not overrowel.
5. Always lay both sealing coat and bonding coat as recommended.

For further advice consult Master Builders Solutions Technical Services Department.

SPECIFICATION CLAUSE

Where indicated **MasterCast 121AE** shall be used as the adhesive, sealer, primer, bonding agent and admixture. **MasterCast 121AE**, manufactured by Master Builders Solutions, or similar approved, shall comply with the following specification:

Composition:	Opaque, white, non-toxic externally plasticised PVA dispersion of high viscosity
pH:	4 to 6
Minimum film forming temperature:	5°C

MasterCast 121AE shall be used strictly as recommended by the manufacturer.

STORAGE AND SHELF LIFE

Shelf life is 12 months from date of manufacturing in unopened original containers. Product must be kept out of direct sunlight and in a dry, cool, preferably air-conditioned warehouse below 35°C temperature. Store clear of the ground on pallets and do not stack pallets. Protect from frost.

HEALTH AND SAFETY

Avoid contact with eyes and prolonged contact with skin. During application always wear gloves and appropriate clothing to minimise contact. In case of contact with eyes, immediately flush with plenty of water for at least 15 minutes. Should skin contact occur, wash immediately with soap and water. Seek the advice of a physician should symptoms persist.

QUALITY AND CARE

All products originating from Master Builders Solutions Dubai, UAE facility are manufactured under a management system independently certified to conform to the requirements of the quality, environmental and occupational health & safety standards ISO 9001 and ISO 14001.

** Properties listed are based on laboratory controlled tests.

® = Registered trademark of the MBCC Group in many countries.

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STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this Master Builders Solutions publication are based on the present state of our best scientific and practical knowledge. As the information 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. 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 Master Builders Solutions either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not Master Builders Solutions, are responsible for carrying out procedures appropriate to a specific application.

