

MasterSeal[®] 914

High strength impermeable flowable epoxy mortar

DESCRIPTION

MasterSeal 914 is a high performance non-shrink, solvent-free impermeable flowable epoxy mortar for pile cap surfaces, to ensure the proper transmission of static and dynamic loads to the foundations. These properties combined with its impermeability to moisture, make it ideal for pilecap waterproofing applications.

ADVANTAGES

MasterSeal 914 is a three component system that includes a two-part epoxy resin and carefully blended aggregate. At elevated temperatures, MasterSeal 914 provides excellent resistance to creep, high compressive strength, modulus of elasticity and excellent resistance to cracking. This product also produces a high percentage of bearing surface, and good adhesion to steel and concrete. MasterSeal 914 is chemically stable for temperatures up to 150°C.

The product is easily mixed on-site to a pourable consistency. **MasterSeal 914** is suitable for an application thickness range of 20mm-150mm above which steel reinforcement should be used. **MasterSeal 914** is resistant to oil, synthetic lubricants, water and most chemicals, and cures quickly which means the pile cap can be placed and waterproofed rapidly.

- Versatile application thickness.
- High tensile, flexural and compressive strength.
- Excellent adhesion to steel and concrete.
- Rapid installation and strength gain.
- Excellent fatigue resistance.
- High resistance to dynamic loads and chemical attack.
- Non-shrink and damp tolerant.

TYPICAL APPLICATIONS

- Anchors, rails and bolt fixing.
- Structural filling of holes and cavities in concrete.
- Suitable for max. 1% sloped areas
- Bridge bearing seats.
- Pile cap waterproofing.

PACKAGING

MasterSeal 914 is supplied in 13.5 liter units - combined weight of components.

TYPICAL PROPERTIES*

Compressive strength ASTM C 579 Method B @ 25°C	80MPa at 7 days
Flexural strength BS 6319 Part 3 @ 25°C	>18N/mm ² at 7 days
Tensile strength BS 6319 Part 7 @ 25°C	>9N/mm ² at 7 days
Resistance to water	Resistant to passage of water

CHEMICAL RESISTANCE

MasterSeal 914 resists non-oxidising mineral acids and salts, caustics, dilute oxidising acids and salts, plus some organic acids and solvents. For more specific information contact your Master Builders Solutions Representative.

CURE TIME VS. TEMPERATURE

Cure time of the mortar will depend upon the temperature of the base and foundation rather than the ambient air temperature. Unless the ambient air temperature has been constant for several days the base / foundation temperature will generally be lower than air temperature. A surface thermometer and field judgement should be used to determine actual cure rates. Cured grout should have solid, almost metallic ring when struck lightly with a hammer, checking as close to the base as possible.

APPLICATION THICKNESS

MasterSeal 914 can be used for thick section applications.

The following procedures briefly describe the installation of **MasterSeal 914**

CONCRETE PREPARATION & SEALING SURFACE PREPARATION:

As with all epoxy resin applications the quality of surface preparation has a direct effect on the performance and durability of the system. Concrete surfaces should be sound, dimensionally stable, clean, free from laitance, paint, oil, grease, mold release agent and residual curing compound. The concrete surface must be scraped so that large aggregate is exposed to ensure removal of all laitance and weak surface material.

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New concrete should have a compressive strength of at least 25 MPa; greater strength is preferred. THE CONCRETE SURFACE MUST BE CLEAN AND DRY WHEN THE GROUT IS Poured. The concrete areas to be grouted should not be primed or sealed.

Do not apply MasterSeal 914 when the contact surfaces are less than 10°C. If the ambient temperature is less than 10°C then artificial heating may be used. In summer weather shade host concrete from direct sunlight.

MIXING

Do not split packs or alter the ratio of resin components in any way. Mix with a slow speed drill and paddle. Add the contents of the reactor container to the base component in a suitable mixing vessel, ensuring complete transfer of both resin components.

Mix for one minute before slowly adding the aggregate and continue mixing until a pourable consistency is achieved. Do not overmix as this may entrain air.

METAL PREPARATION AND PRIMING

Metal surfaces or components to be bedded, should be free from any rust or scaling. Base plates or rails and other metal surfaces to be grouted should be cleaned to obtain proper adhesion. This is preferably done just prior to grouting. Primer should be used ONLY when a long delay between cleaning and grouting will allow rusting or contamination. Surfaces where a bond is not desired should be protected with heavy coats of wax.

FORMING

MasterSeal 914 requires forms. Forms are generally wood, the same as used for forming concrete. They should be of sufficient strength, anchored or braced to withstand pressure from the grout and must be liquid tight. Wrapping forms in Polyethelene will ensure clean release.

PLACING

Place immediately after mixing, into the prepared area and use a steel trowel to level.

90-180 min at 10°C

Allow the grout to set prior to removal of formwork (normally after 6 hours).

WORKING TIME

The following chart is a guide for the working time of a fresh grout mix at various ambient temperatures. The working time of a MasterSeal 914 mix begins when the hardener is added to the liquid.

40-60 min at 35°C

50-100 min at 20°C

STORAGE

Store under cover, out of direct sunlight, and protect from extremes of temperature. In tropical climates the product must be stored in an air conditioned environment. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice consult Master Builders Solutions's Technical Services Department.

SAFETY PRECAUTIONS

MasterSeal 914 is formulated for industrial and professional use only and must be kept out of the reach of children. These products contain chemicals which may be COMBUSTIBLE and potentially HARMFUL to your health if not stored and used properly. Hazards can be significantly reduced by observing all precautions which are found on material safety data sheets, and product labels. Please read this literature carefully before using the product.

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs (which can also be tainted with vapor until product is fully cured or dried). Treat splashes to skin and eyes immediately. If accidentally ingested, seek medical attention. Reseal containers after use. For specific storage and disposal instructions refer to the Material Safety Data Sheet.

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NOTE

Field service, where provided, does not constitute supervisory responsibility. For additional information contact your local Master Builders Solutions representative.

Master Builders Solutions reserves the right to have the true cause of any difficulty determined by accepted test methods.

QUALITY AND CARE

All Master Builders Solutions Products are manufactured under a management system independently certified to conform to the requirements of the quality, environmental and occupational health and safety standards of ISO 9001 and Master Builders Solutions ESHQ recommendations.

* Properties listed are based on laboratory controlled tests.

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

CONTACT

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Disclaimer:

In view of widely varying site conditions and fields of application of our products, this technical data sheet is meant to provide general application guidelines only. This information is based on our present knowledge and experience. The customer is not released from the obligation to conduct careful testing of suitability and possible application for the intended use. The customer is obliged to contact the technical help-line for fields of application not expressly stated in the technical data sheet under "Fields of Application". Use of the product beyond the fields of application as stated in the technical data sheet without previous consultation with Master Builders Solutions and possible resulting damages are in the sole responsibility of the customer.

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