

MITCH FERROSEAL

Metallic Waterproofing System

DESCRIPTION

MITCH FERROSEAL is iron based cementitious coating material that has been extensively used and recommended over many decades for parget coat hydrolithic waterproofing of interior concrete surfaces. Typical installation includes elevator, sump and other pits, and interior surfaces of pipe and other utility tunnels.

MITCH FERROSEAL is a combination of specially graded and purified iron particles blended with workability and oxidation promoting agents. The iron particles are clean, oil-free and proportioned so that after oxidation they completely seal the pores of the concrete surfaces to which they have been applied.

MITCH FERROSEAL is an odorless formulation.

FERROSEAL is supplied as a powder and mixed to a slurry consistency with water. **FERROSEAL** is applied directly to concrete, masonry, block-work or cement renders in areas where strong waterproofing is required. In powder form, the product may be used as a dry shake on horizontal construction joints.

WATER RETAINING

Water Tanks / Towers
Reservoirs
Swimming Pools
Water Treatment Works
Dams
Canals
Harbors
Concrete Pipes

WATER EXCLUDING

Basements
Tunnels
Inspection Pits
Foundations
Retaining Walls
Lift Shafts
Construction Joints
Sea Defense Walls
Bridge Decks
Jetties
Pontoons

ADVANTAGES

- Provides total and permanent waterproofing properties by becoming an integral part of the structure to which it is applied.
- Active ingredients will not delaminate, peel off or wear away.
- Simple Application.
- Can be applied over old and new surfaces.
- Surfaces coated with **MITCH FERROSEAL** can be plastered or painted.
- Low cost economical product.

PACKAGING

25 kg Polypropylene Bags.

ACTION

MITCH FERROSEAL contain a mixture of sand and cement with finely graded iron aggregate or filings. When mixed with water to form a slurry for application, the water acts as an agent permitting the iron filings to oxidize. These materials expand due to this oxidizing, which then effectively seals a substrate and prohibits further transmission of water through the material. This system is one of the oldest methods used for waterproofing.

STANDARD COMPLIANCES

MITCH FERROSEAL comply with US Federal specifications GSA 2014-3, Federal Construction guide specification 07- 2.

MITCH FERROSEAL meets V.O.C contents in accordance with EPA 40 CFR part 59-D for waterproofing treatments with a maximum specified V.O.C content Of 600 g/l.

TYPICAL PHYSICAL PROPERTIES

Color	Blackish gray powder
V.O.C content	< 5 g/l
Toxicity	NIL
% passing mesh # 325	99%
Flammability	NIL
Solids %	100
Setting Time	20 % faster than normal 1:3 cement / sand mortar at specific temperature and weather conditions

DIRECTIONS FOR USE

NEW CONSTRUCTION

The vast majority of leaking water retaining (or excluding) structures constructed of sound dense concrete, leak only at construction or day work joints. Costly remedial work can be avoided by the use of **MITCH FERROSEAL** as a dry shake onto the horizontal surfaces of joints or as a slurry application on vertical surfaces.

In conditions of high water table **MITCH FERROSEAL** may be applied as slurry or dry shake over blinding concrete immediately prior to casting the slab. This sandwich system will prevent ingress of ground water preventing deterioration, and dampness or flooding. Foundations should be treated on the external face wherever possible, as should the face of construction joints. **MITCH FERROSEAL** can be applied immediately after the formwork has been removed, as the water curing process required for **MITCH FERROSEAL** will also ensure full hydration of the concrete.

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If the treatment is to be exposed and an aesthetically pleasing finish is required, the **MITCH FERROSEAL** after curing, should receive a sand/cement render on which to apply the desired finish.

EXISTING STRUCTURES:

Structures subject to water leakage or ingress must be carefully inspected to determine the cause. Any water present should be cleared away so that a thorough survey can be conducted. Static cracks over 1mm must be chased out, dampened down and repaired with **MITCH FERROSEAL** mixed with fresh cement sand mortar on an **MITCH FERROSEAL** coat. Dynamic cracks must be formed into a watertight elastomeric movement joint.

SURFACE PREPARATION

In common with all surface treatments to concrete, the quality of substrate preparation directly affects the performance of the system. Surfaces to be treated must be free from dust, oil, grease, paint residual curing compound, mold oil or any previous surface treatment that will impair adhesion of the **MITCH FERROSEAL** treatment, or inhibit penetration of the chemicals or water into the surface. These include polymer modified renders and those substrates treated with silicon or silane water repellents. Remove any laitance and provide an open pored, slightly rough surface sufficient to act as a mechanical key, essential for adequate adhesion of the **MITCH FERROSEAL** treatment.

Areas of weak or honeycombed concrete must be repaired. Hollow, de-bonding renders must be removed and made good. Surfaces to be treated if not already wet, should be saturated for a period of 24 hours before first applications.

MIXING

Always add water to **MITCH FERROSEAL** - not in reverse order. Mix 1 part of water to 2.25 - 2.5 parts **MITCH FERROSEAL** powder by volume. Mix only sufficient **MITCH FERROSEAL** that can be used in 20 minutes.

APPLICATION

MITCH FERROSEAL mixes are applied by brush or spray onto the dampened substrate. Apply the material in 2 coats at right angles, the second coat whilst the first is firm, but 'green' - usually 3-4 hours after first coat (dependent on temperature).

For old concrete, brickwork and granular concrete blocks, **MITCH FERROSEAL** coat with a render 5-10 mm thick containing 10 Kg **MITCH FERROSEAL** per 50 Kg cement.

CURING

The **MITCH FERROSEAL** must be prevented from drying out too rapidly and should be kept damp for 5-7 days. Mist spraying with water and covering with polythene is effective when drying out would otherwise take place. Curing compounds are

unsuitable for use with **MITCH FERROSEAL** system technology. Protect from weathering, sun, frost and wind for a similar minimum period.

Tanks and other water retaining structures may be filled 24 hours after final **MITCH FERROSEAL** application as this is accelerated by water pressure.

COVERAGE

Two coat slurry application:

MITCH FERROSEAL: 1kg per m² per coat.

Dry shake application:

MITCH FERROSEAL: 1kg per m².

STORAGE

Store out of direct sunlight, clear of the ground on pallets protected from rainfall. Avoid excessive compaction. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging.

SAFETY PRECAUTIONS

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs. Treat splashes to eyes and skin immediately. If accidentally ingested, seek immediate medical attention. Reseal containers after use. Should be handled to minimize dust formation during mixing. Use a light mask if excessive dust is unavoidable.

TECHNICAL ASSISTANCE:

For further details and assistance for specific application requirements and for other product information please contact Mitchell.