OXICOAT AC

High performance elastomeric protective coating for concrete, masonry and exposed conditions

PRODUCT DATA SHEET

Description

Oxicoat AC is an elastomeric, water-based protective coating based on a special acrylic polymer. It provides excellent elongation and recovery, resistance to aggressive elements. It is available in a wide range of colours. The complete system also includes a film-forming, stabilising primer (Oxiprime AC or Oxiprime WR) which is supplied as a clear liquid and is based on an acrylic resin and a silane-siloxane dissolved in a penetrating organic carrier. The primer is reactive and capable of producing a chemically-bound hydrophobic barrier, thus inhibiting the passage of water and water-borne contaminants. A thin surface film is produced which consolidates and stabilises porous substrates.

Oxicoat AC system thus comprises a single component penetrating silane-siloxane primer and a single component elastomeric pigmented coating, both ready for immediate site use.

Advantages

- Crack accommodation – withstands substrate cracking up to 2mm and cyclic movement up to 1mm.
- High performance – comprehensive barrier against Carbon dioxide, water, sulphates and chloride ions.
- Extremely durable – maintains elastomeric performance, with high recovery, even after long term UV weathering.
- Breathable – water vapour can escape from the structure.

Uses

Oxicoat AC is designed to protect atmospherically exposed, reinforced concrete structures (above any splash zones) from attack by chloride ions, oxygen and moisture ingress. Typical uses include:

- Concrete storage tanks – external surfaces
- Bridge structures
- Coastal environments
- Marine applications

Technical Properties

Solids by weight	:	64%
Volume solids	:	50%
Co2 diffusion resistance equivalent thickness of air (Taywood method)	:	240 metres
Co2 diffusion resistance equivalent thickness of 30N conc. (Taywood method)	:	>500mm
Static crack spanning capability @ 200 microns dft @23°C (modified ASTM C836-76)	:	2mm
Tear resistance (ASTM D1004-76)	:	15 N/mm
Tensile strength ASTM D412-87	:	5.0 N/mm2
Adhesion BS 1881	:	1.0 N/mm2
VOC	:	4.75 g/l

Application Instruction

Substrate preparation

All surfaces should be dry and free from contamination such as oil, grease, loose particles, decayed matter, moss, algal growth laitance, and all traces of mould release oils. This is best achieved by lightly grit-blasting the surface to the point where the fine aggregates are exposed but not polished. Where moss, algae or similar growths have occurred, treatment with proprietary biocide should be carried out after the grit-blasting process.

It is essential to provide an unbroken coating of Oxicoat AC. Thus, all blow holes and similar surface irregularities should be filled using Oxirock FF and should be allowed to cure properly before the application of Oxicoat AC. Consult the Al Majara office for further details.

Substrate Priming

A primer coat is required to penetrate and 'stabilise' the substrate. The depth of penetration of the primer, and thus its coverage rate, are determined by substrate profile, porosity and general condition.

Hence for low permeability concretes, primer penetration will be low and area covered per litre

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will be high – permeability may be affected by cement replacements (e.g. micro silica). It is thus recommended that general coverage rate of 4m^2/L be observed, noting that this may change according to substrate condition.
The primer is best applied by using portable spray equipment. A uniform surface appearance (sheen) has been achieved. If any matt, porous patches remain, then a further application of Oxiprime AC or Oxiprime WR should be made.

Application
The correct application rates and Overcoating times should be observed, in order to obtain the complete benefits of the protective properties of the Oxicoat AC system, expect where substrate condition dictates different application rates for the primer.

Oxiprime WR	
Number of coats	1
Theoretical application rate per coat	4m^2/L
Theoretical wet film thickness per coat	N/a
Over coating time @25°C @35°C	 2 hours 1 hour
Oxiprime AC	
Number of coats	1
Theoretical application rate per coat	4 m^2/L
Over coating time @25°C @35°C	 2 hours 1 hour

Note: The primer should be allowed to dry for a minimum of 2 hours at 20°C (or 1 hour at 35°C) before application of Oxicoat AC. Under no circumstances should the primer be over coated until the surface is properly dry.

Oxicoat AC	
Number of coats	2
Theoretical application rate per coat	5m^2/L
Theoretical wet film thickness per coat	200 microns
Over coating time	when firm to the touch

Oxicoat AC should preferably be applied by airless spray equipment but can also be applied by roller. For further information about application techniques and equipment consult the Al Majara office. All primed substrates should be treated with two coats of Oxicoat AC. It is important that no gaps or 'raw edges' appear in the finished coating. Special care Should be taken to provide an unbroken coating at external corners and similar exposed protrusions.
The first coat should be applied to achieve a uniform coating with a wet film thickness not less than 200 microns. This coat should be allowed to dry until firm to the touch. Typically, this will be after approximately 12 hours in dry weather at 35°C.
Prior to application of the second coat, a close visual inspection of the surface should be made to check for any pin holes or surface irregularities. Any such irregularities should be filled with Oxicoat filler and allowed to dry before proceeding.
The second coat of Oxicoat AC should be applied at 90° to the first, to ensure a final full unbroken coating to the substrate. The second coat should once more be applied at a wet film thickness of not less than 200 microns.

Cleaning
Oxicoat AC, Oxiprime WR and Oxicoat filler should be removed from tools and equipment with clean water immediately after use. Oxiprime AC to be removed using Oxisolvent 100.

Limitations
Oxicoat AC should not be used in submerged or permanently wet conditions. Consult the Al Majara office for the recommendations.
Oxicoat AC should not be applied in windy conditions where early- age dust adhesion may occur, or where rain is likely within 2 hours.

Packing

Supply		
Oxiprime WR	:	20 L drums
Oxiprime AC	:	20 L Drums
Oxicoat AC	:	20L Drums
Oxicoat filler	:	18L Drums
Oxirepair FF	:	10/20 Kg bags
Oxisolvent 100	:	5L drums

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Coverage

Oxiprime WR/Oxiprime AC	:	4.0m^2/L (total)
Oxicoat AC	:	4.0m^2/L (total)
Oxicoat filler		2.5m^2/L (total)
Oxirepair FF		5.8L/10Kg bag

Note: The coverage figures given are theoretical – due to wastage factors and the variety and nature of possible substrates, practical coverage figures will be reduced. Application rates and coverage of Oxicoat AC may be varied according to particular service conditions. However, to ensure that the desired performance properties of the material are attained, it is important to observe correct application procedure.

Storage

When stored in a cool, dry conditions between 10 and 25 °C away from sources of heat and naked flames, in the original, unopened packs. All products have a shelf life may be reduced. Oxicoat AC should be protected from frost.

Health and Safety

Oxiprime AC, Oxiprime WR, Oxicoat AC and Oxisolvent 100 should not come in contact with the skin and eyes or be swallowed. Ensure adequate ventilation and avoid inhalation of vapours. Some people are sensitive to alkalis, resins and solvents. Wear suitable protective clothing, gloves and eye protection. If working in confined area, suitable respiratory protective equipment must be used. The use of barrier creams provides additional skin protection. In case of contact with skin, rinse with plenty of clean water, then cleanse with soap and water.

Do not use solvent. In case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice, if swallowed, seek medical attention immediately – do not induce vomiting.

Information

Al Majara Polychem Ind. LLC products are guaranteed against defective materials and are sold subject to standard terms and condition of sale, copies of which are available on request which are reasonable care it's taken compiling this technical data sheet, all recommendations regarding the use of product are made without guarantee since the conditions used are beyond the company' direct control. It is the customer responsibility to satisfy themselves that each product is fit for the purpose for which they indent to use it.

Quality Matters

All products originating from Al Majara Polychem Ind. LLC are manufactured under a management system independently certified to conform to the requirements of the quality, environmental and occupational health & safety standards ISO 9000, ISO 14001 and OHSAS 18001.

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