X200 DENSI-PROOF

PRODUCT PERFORMANCE

An Overview of Material Characterisation & Performance

THE NAME
SAYS IT ALL

Oxtek Solutions Pty Ltd
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Phone: 03 9798 7534
Email: reception@oxtek.com.au

Gilt Edge Industries H/O
110 Antigua Street, Addington, Christchurch 8240
Phone: 0800 445 833 Email: help@giltedge.co.nz
www.giltedge.co.nz/protect-crete

PROTECTCRETE - NZ
OXTEK SOLUTIONS PTY LTD - AU

- Established 1998 Protect Crete / Oxtek Solutions Pty Ltd
- Australian owned and manufactured
- Specialists in concrete protection
- Sole providers of unique tested technology
- Premium proven & tested propriety colloidal sillicate products
- Environmentally friendly- LOW VOC- HACCP certified
- Over 100 years experience in the concrete, flooring & protective coating industries
- Antimicrobial range
- Supply Australia, New Zealand & Malaysia

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Curing – Make the Right Choice

Curing is designed primarily to keep the concrete moist, by preventing the loss of moisture from the concrete during the period in which it is gaining strength.

Concrete that is allowed to dry out quickly will not achieve its desired strength and may undergo considerable early age drying shrinkage. Inadequate or insufficient curing is one of main factors contributing to weak, powdery surfaces with low abrasion resistance

Curing of concrete may be undertaken in a number of ways, water ponding, membrane forming compounds or by chemical means, however, the most appropriate means of curing is often dictated by the site or the construction methodology.

Water pond curing is widely regarded as the best curing method available. However, it is often replaced with less effective membrane-forming methods in deference to the logistical and economic difficulties associated with water ponding.

It is extremely important to check the subsequent floor finish as most membrane forming curing compounds require to be removed before the application of any applied floor finishes such as direct stick carpet and vinyl, epoxy or polyurethane coatings and ceramic tile adhesives.

These membrane forming compounds may affect the bond between concrete and subsequent surface treatments. Special care in the choice of a suitable curing regime needs to be exercised in such circumstances. The residue from some products may prevent the adhesion of flooring products and tiles onto the concrete surface.

X200 Densi-Proof is a colloidal silicate proprietary solution that is proven to be equal to that of water ponding and has exhibited significant improvements in the desired properties of hardened concrete to which it is introduced.

Although topically applied following the finishing phase, X200 Densi-Proof penetrates the concrete leaving no film or residue on the surface of the concrete, therefore having no adverse affect on the resultant floor finishes or coverings, providing improved flexibility and efficiencies to the project.

X200 Densi-Proof achieves the cure requirements of NZS 3109:1997 & NZS 3101:part 1 2006 & conforms to the moisture suppressant requirements as per NZAS1884-2013.

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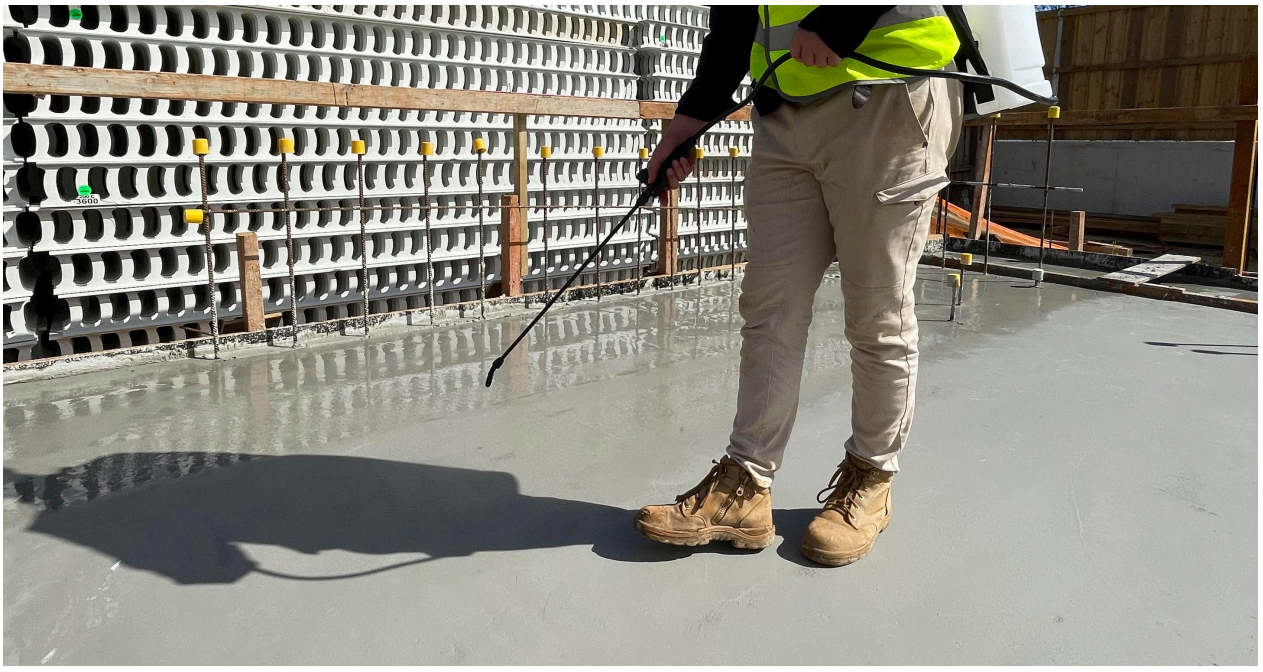
Colloidal Silicate Technology

The pore-filling ability of the colloidal silicate technology contained within X200 Densi-Proof improves the hardened mechanical properties of concrete. By contributing to a denser, less permeable and less porous structure. Concrete containing colloidal silicate demonstrates an increased compressive strength, decreased chloride diffusion, increased resistance to fire, decreased drying shrinkage, and an increased ability to withstand chemical attack.

It is well accepted that filling the voids and capillaries within the concrete will improve durability. Pores provide the primary transport routes of sources of attack in cement-based materials. It follows that to reduce the diameter of the pores reduces the access of these agents to the concrete's internal structure, thereby increasing durability



NZS 3101-1 Section 3.5
Minimum Concrete Curing Requirements “Note 3 Alternative curing methods may be used, provided a special study proves that the alternative method provides concrete durability performance equivalent to that provided by direct water application. “ Please see the following independent test results in relation to Drying Shrinkage, Compressive Strength and Abrasion Resistance highlighting the performance characteristics of our product and its ability to meet exceed the results expected by water- based curing regime”

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PRODUCT PERFORMANCE TESTING

Testing – X200 Densi - Proof

Oxtek Solutions is dedicated to the regular in-field and laboratory testing of our products, ensuring their quality and consistent performance. Our testing processes involve NATA approved laboratories and Australian University Research Departments, adhering to both Australian and International Standards. Independent consultants review and verify the results before publication.

Our VOC Testing, following ASTM D3690-05, aligns with the requirements specified in the Green Building Council of Australia's Green Star Design & As Built V1.3-13.1.1B and Green Star Interiors V1.3-12.1.1B.

Our products hold certification from HACCP International Certification Food Safety System, confirming their suitability for use in food and beverage facilities.

For X200 Densi-Proof treated concrete, slip testing is conducted by ISTS (Independent Slip Testing Services) in accordance with AS 4586-2013 standards. The slip rating remains unaffected by the application of X200 Densi-Proof, as confirmed through the testing process.

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PRODUCT PERFORMANCE TESTING

The table below provides a comprehensive summary of the performance enhancing characteristics that can be achieved in both the mechanical properties and durability when concrete is treated by X200 Densi-Proof.

Table 1 – Summary of Testing : X200 Densi-Proof - Test results available on request

Tests Undertaken		Control Sample*	X200 Densi-Proof Treated Samples	Results Comparison
Standard	Property			
AS 1012.9	Compressive Strength (28 Days)	39.6 MPa	41.7Mpa	5.30%
AS1012.11	Flexural Strength (28 Days	6.0 MPa	6.3MPa	5%
AS1012.8.4	Drying Shrinkage (56 Days)	670με	600με	-11.50%
AS1012.13	Mass Loss (56 Days)	102.5g	45.6g	-55.50%
ASTM 1202	Chloride Ion Penetration (RCPT - Coulombs)	5971 C	4019 C	-32.71%
Accelerated Carbonation Test (Depth mm)		8.73mm	4.76mm	-45.50%
AS 1012.21	AVPV%	13.3	12.02	-9.60%
BS EN 12390-9	Depth of Penetration Water Under Pressure	75mm	62mm	-17.30%
ASTM 1202 C1353M-15	Abrasion Resistance	55.2Ha	65.3Ha	18.10%

*All Control Samples were wet cured for 28 days.

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PROJECT SERVICES & SUPPORT

- Technical specifications tailored for each project
- 15 Year Warranty- Project Specific
- On-Site consultations FOC
- Application training FOC
- Technical support from start to completion

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15 YEAR WARRANTY - MOISTURE SUPPRESSANT

DRAFT WARRANTY I-02

X200 Densi-Proof (15 Year)

1.1 Oxtek Solutions Pty Ltd warrants and represents to ----------
-- and ----------
----------that, The preparation of the slab and application of X200 Densi-Proof™ to the slab will conform with Oxtek Solution's project specification, recommended installation procedure and current published Technical Data Sheets

1.1.1 X200 Densi-Proof™ will be new, free from any defects, and of best material, design and workmanship;

1.1.2 X200 Densi-Proof™ will be fit for purpose, that is to prevent existing moisture in the concrete from rising, or causing any failure to subsequent floor coverings and will not diminish normal adherence of the subsequent floor coverings installed to the surface;

1.1.3 Oxtek Solutions warrants that X200 Densi-Proof™ is compatible with, and will not detrimentally affect the performance of, the products, chemicals and adhesives to be used in the subsequent installation of floor coverings on the slab;

1.1.4 The application of X200 Densi-Proof™ will perform for a period of 15 years from the time of application and Oxtek Solutions hereby provides a written warranty as to this performance period upon completion of application, and the submission of completed satisfactory warranty form to reception@oxtek.com.au within seven days of the application.

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