BEAL Appraisal Certificate

APPRAISAL # M1955

THIS CERTIFICATE EXPIRES 31 Jan 2025

The Neptune Coatings' Wetsuit® Liquid Applied Membrane System

Product

1.1 **The Neptune Coatings' Wetsuit® Liquid Applied Membrane System (The Wetsuit® System) is an instant set water-proofing membrane that is suitable for Roofing, Waterproofing, as an Air & Vapor Barrier and for specialty applications. Wetsuit® is used on Foundation Slabs, Below & Above Grade Walls, Shotcrete (Blind Side, Foundations & Walls), Balconies & Terraces, Elevator Pits, Garden Roofs, Plaza Decks, Planter Boxes and over Metal Roofs. Wetsuit is also suitable for encapsulating Asbestos on roofs. WetSuit® can be applied on both horizontal and vertical substrates.**

1.2 The Neptune Coatings' WetSuit® System is to be applied only by persons trained and approved by Neptune Coatings or their authorised agents in conformance with the Neptune Coatings' **Building Product Quality Plan** and site checklists.

NZ Building Regulations

2.1 In the opinion of BEAL, the WetSuit® System, when designed, installed and maintained in accordance with the statements and conditions of this Appraisal Certificate, will meet the following provisions of the New Zealand Building Code:

Clause B2 Durability

Performance B2.3.1(a) 50 years for new or repair work *and* Performance B2.3.1(c) 5 years, where protection or decoration of the membrane is sought. The Blue Barrier system meets this requirement. *Refer paragraph 6.3 and 6.4*

Clause E2 External Moisture

Performance E2.3.1 and E2.3.2 where the product is used for exterior roofs, decks and walls. *Refer paragraphs 6.6*

Clause E3 Internal Moisture

Performance E3.3.1 and E2.3.3 where the product is used on floors and walls. *Refer paragraphs 6.7*

Clause F2 Hazardous Building Materials

Performance F2.3.1. The WetSuit® System will not present a health hazard to people. *Refer paragraph 6.8*

Clause G12 Potable Water

Performance G12.3.1 where the product is used for the collection of drinking water. *Refer paragraphs 6.9*

2.2 The Wetsuit® system has been appraised as an **Alternative Solution** in terms of NZ Building Code Compliance.

Applicant:

HARCO Americas, Inc
Owner of the Wetsuit IP, Patents & Trademarks
4260 Wagon Trail Avenue
89118 Las Vegas, USA
E–Mail: info@neptunecoatings.com
Web: www.neptunecoatings.com

Appraised by:

BEAL*
2A Plimmerton Drive
Plimmerton, Porirua, NZ
Tel: +64 4 233 6661
E-Mail: bts@beal.co.nz
www.beal.co.nz

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Scope and Limitations

3.1 The Wetsuit system has been appraised for use as a waterproofing membrane for new and existing roofs and deck substrates, to wet areas as well as below grade foundations, above grade walls, over geo-textile substrates over which shotcrete can be applied, for encapsulating asbestos on asbestos roofs, within the following scope :

⇒ With building structures designed and constructed to comply with the NZBC; and,

⇒ Over existing coated wall substrates that have been shown to comply with all requirements described in the Wetsuit® Technical Manual and in particular the inspection and testing requirements where applicable;

3.2 The design and construction of any new replacement substructure, including control joints, or termination points or the like, are to be specific design and therefore the responsibility of the owner/building designer and are outside the scope of this Appraisal Certificate;

3.3 The Wetsuit® system shall be installed only by Neptune Coatings trained and approved applicators;

3.4 The owner of the building is responsible for the proper maintenance of the applied system as set out in an owner's maintenance schedule.

Technical Literature

4.1 The Wetsuit® system Technical Manual must be read in conjunction with this Appraisal. All aspects of design, use, installation and maintenance contained within the Technical Literature and scope of this Appraisal Certificate must be followed.

4.2 For a copy of this Technical Literature and any subsequent updates please refer to www.neptunecoatings.com

Technical Details

5.1 Materials supplied by Neptune Coatings are:

- **Wetsuit® 2-part Instant set liquid applied membrane**
- **Wetsuit® 1-part self leveling liquid applied membrane**
- **Wetsuit® Undercover**
- **Wetsuit® Trowel grade**
- **Wetsuit® Fiberated Trowel**
- **Invisilink**
- **Harseal90**
- **Wetsuit® Waterbased Primemate**
- **Wetsuit® Asbestos Sealer**
- **Reflex® Base coat**
- **Reflex® HPW & HPG Reflective top coat**

5.2 Minimum cured film thicknesses are:

⇒ 1.5 mm / 60 mils roofing

⇒ 2 mm / 80 mils vertical waterproofing

⇒ 2.5 mm / 100 mils horizontal waterproofing

⇒ 1 mm / 40 mils air/vapor barrier

5.3 Storage requirements:

Note that all products must be stored inside, in a well ventilated area, up off concrete floors, kept dry, out of direct sunlight and away from freezing conditions. The products, in the original unopened containers, have a shelf life of 18 months from date of manufacture.

Advice for designers

6.1 The Wetsuit system is designed for waterproofing of new and existing roofs and deck substrates, for wet areas as well as below grade foundations, of above grade walls, and onto geo-textile substrates over which shotcrete can be applied. It can also be used for encapsulation of asbestos on asbestos roofs.

6.2 Before any application can be carried out, it is essential that a full survey, including a detailed inspection of the intended areas to be waterproofed, is completed. Refer to the Wetsuit® system Technical Manual.

Adhesion

6.3 The Wetsuit® products have exceptional adhesion to a wide range of substrates and therefore meets the requirements of clause B1.3.2.

Durability

6.4 The Wetsuit® products when subjected to normal conditions of environment and use, are expected to have a serviceable life of at least 15 or at least 50 years for difficult ease of access, and therefore meet the requirements of clause B2.3.1 (a) or (b)

External Moisture

6.5 The application of the Wetsuit® system to decks, roofs, walls and foundations, has a satisfactory in-service history for waterproofing and therefore meets the requirements of clause E2.3.2.

Internal Moisture

6.6 The application of the Wetsuit® system to wet areas, has satisfactory in-service history and therefore meet the requirements of clause E3.3.1 and E3.3.3.

Hazardous Building Materials

6.7 The Wetsuit® system has been shown to not present a health hazard to people using the building, and therefore meet the requirements of clause F2.3.1.

Potable Water Contact

6.8 The Wetsuit® system has been shown to not present a health hazard to people using the building, and therefore meet the requirements of clause F2.3.1.

Installation Requirements

7.1 Installation of the Wetsuit® products from Neptune Coatings must be completed by persons who have been trained and approved by either Neptune Coatings or their authorised agents.

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7.2 The application of Wetsuit® products over any new and or repaired substructures, other for very minor repairs, is subject to specific design and outside the scope of the this Appraisal Certificate.

7.3 The safe use and handling of the coating system and related products are provided in the Technical Literature. The products must used in conjunction with the relevant materials safety data sheet for each product.

7.4 The safe design and application of shotcrete over the Wetsuit® system will require a SED from an engineer and schotcrete applicators are expected to be certified to the requirements of the NZ Shotcrete Association.

Basis of this Appraisal

BEAL use the compliance verification procedure to demonstrate compliance with the relevant performance clauses of the NZBC based on a risk assessment procedure. The following is a summary of the technical investigations carried out by BEAL:

8.1 Tests to verify compliance

The following testing of the Wetsuit® system has been undertaken by BEAL to verify compliance:

⇒ Durability by way of UV exposure testing
⇒ Durability by way of tensile and elongation testing before and after accelerated age conditioning
⇒ Durability by way of testing of crack-bridging over cyclic moving cracks
⇒ Assessment of low temperature resistance
⇒ Bond strength to nominated substrate materials
⇒ Water resistance by way of hydrostatic water resistance
⇒ Assessment of asbestos encapsulation on an asbestos roof

The above testing and respective laboratory test reports were reviewed by BEAL and found satisfactory.

Other assessment work

9.1 An opinion has been provided by BEAL of the

⇒ Expected durability of Wetsuit® system based on test data and in-service history.
⇒ An opinion has also been provided on the use of Wetsuit over a geo-textile substrate over which shotcrete was applied.

9.2 The practical installation of the Wetsuit® system was also evaluated based on the following;

⇒ Ease of installation
⇒ Potential risks of non-performance when being installed
⇒ Any external factors that could affect the quality of the installed product
⇒ Ease of repair or maintenance

9.3 The Technical Literature has been examined by BEAL and found to be satisfactory.

Quality Control

10.1 While the manufacture of the Wetsuit® system has not been assessed by BEAL, details regarding the quality and composition of the materials used were obtained by BEAL and found to be satisfactory.

10.2 The quality of products and accessories supplied by Neptune Coatings is managed through the use of a **Building Product Quality Plan**. The Neptune Coatings. Building Product Quality Plan ensures continuous conformance with the quality requirements from purchase to supply of products and accessories.

10.3 Neptune Coatings' Building Product Quality Plan is reviewed and audited at least annually by BEAL or a BEAL appointed agent.

10.4 Designers are responsible for the substructure design, and building contractors are responsible for the quality of construction of the substructure or new substrate in accordance with the instructions of the substrate manufacturer and this Appraisal Certificate.

10.5 Building owners are responsible for the maintenance of the Wetsuit® system in accordance with the instructions of Neptune Coatings and this Appraisal Certificate.

Sources of Information

⇒ New Zealand Building Code Handbook and Building Regulations 1992, up to, and including, 2012 Amendment;
⇒ Test data and technical literature supplied by the manufacturer, including test report P 10050-E from KIWA dated 9-6-2019 according to EN 15814 - Polymer modified bituminous thick coatings for waterproofing - Definitions and requirements;
⇒ A Potable Water Test report dated 28-9-2020 from the Australian Water Quality Centre;
⇒ Various Test Reports from BEAL including an assessment of asbestos encapsulation;
⇒ An assessment of the ability of Wetsuit to form a suitable substrate for shotcrete.

Concluding statement

11.1 In the opinion of BEAL, the Wetsuit® system supplied by Neptune Coatings is fit for purpose and will comply with the NZBC to the extent described in the scope of use and limitation statement provided that it is used, designed, installed and maintained as set out in this Appraisal Certificate.

The Appraisal Certificate is issued only to Neptune Coatings and is valid until the expiry date, subject to the conditions of this Appraisal.

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Conditions of Appraisal

12.1 This appraisal Certificate :
a) Relates only to the Wetsuit® system as described herein;
b) Must be read, considered and used in full, together with the current version of the Technical Literature
c) Does not address any legislation, regulations, codes or standards, not specifically named herein;
d) Is copyright of BEAL and subject to BEAL's terms and conditions.

12.2 The Appraisal Certificate holder continues to meet the quality requirements of the Neptune Coatings. Building Product Quality Plan and has the plan audited and Appraisal certificate revalidated by BEAL on an annual basis.

12.3. Neptune Coatings shall notify BEAL and obtain approval of any changes of the product specification or quality assurance prior to product being marketed including any trade literature, web site info or the like.

12.4. BEAL makes no representation as to:
a) The nature of individual examples of, batches of, or individual installations of the product, including methods and workmanship;
b) The presence or absence of any patent or similar rights subsisting in the product or any other product;
c) Any guarantee or warranty offered by the Appraisal Certificate holder.

12.5. BEAL's verification of the building product or system complying with one or more of the above-mentioned criteria is given on the basis that the criteria used were those that were appropriate to demonstrate compliance with the NZBC at the date of this Appraisal Certificate. In the event that the criteria is withdrawn or amended at a later date, this Appraisal may no longer remain valid.

12.6. Any reference in this Appraisal Certificate to any other publication shall be read as a reference to the version of publication specified in this Appraisal Certificate.

Authorised Signatory

C R Prouse - Director
BEAL (Building Element Assessment Laboratory Limited)
[January 2021]

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