

Wetsuit® Waterproofing Products Available Certifications

Certification scheme	Certificate	Products	Country	Application	
Wetsuit					
	FM Approved - FM4470	30300656	Wetsuit® 2-Part	US	Roofing Class 1
	Miami Dade NOA	17-0406.04	Wetsuit® 2-Part	US	Roofing HVHZ Maintenance Coating
	Florida Building Code 2017	FL14499	Wetsuit® 2-Part	US	Roofing HVHZ
	LARR - Los Angeles Research Report	RR 26190	Wetsuit-2-part	US	Waterproofing Methane barrier Shotcrete applications
	Methane And Gas Barrier ASTM D1434	Permeance 0	Wetsuit® 2-Part	US	Gas Barrier
	ASTM C836	R18049	Wetsuit 2-part	US	Waterproofing
	Cool Roof Rating Council	1256-0001	Reflex HPW	US	Cool Roofs
	CE Mark - EN 15814	DOP-WS16001-E	Wetsuit® 2-Part	EU	Below Grade Waterproofing
	Fire classification Fire reaction	Class E	Wetsuit® 2-Part	EU	EN 13501-1
	Fire classification - Covering exposed to external fire	BroofT1 BroofT2 BroofT3 Drooft4	Wetsuit® 2-Part	EU	Roofing EN 13501-5
	Drinking Water EN 12873-2	20/22483-1091	Wetsuit® 2-Part	EU	Dinking Water
	BEAL Appraisal for New Zealand	NZ building code	All Wetsuit products	NZ	Roofing/Waterproofing Methane barrier Shotcrete applications Asbestos encapsulation
	BEAL Appraisal for Australia	AU building code	All Wetsuit products	AU	Roofing/Waterproofing Methane barrier Shotcrete applications Asbestos encapsulation
	Drinking water AS/NZS 4020	PT-4272	Wetsuit® 2-Part	AU	Drinking Water
Other products					
	Miami Dade NOA	23-0209.05	HarcoSil	USA	Roofing
	Miami Dade NOA	23-0209.04	Reflex HPW & Reflex W200	USA	Roofing
	FM approval FM 4482	PR467530	HarcoSil & Reflex HPW	USA	Roofing

For more info, Contact Neptune quality department at info@neptunecoatings.com

Neptune Coatings Corporation.

4260 Wagon Trail Avenue ■ Las Vegas ■ NV 89118 ■ USA

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FM Approval

Scope of the certification:

The certification of roofing product by FM Approval is aimed at creating a database of roofing product suitable to be used in project needing insurance. FM Approval created standards to test those waterproofing and roofing products and they are tested and certified against these standards.

Wetsuit® 2-Part waterproofing membrane has been tested against FM 4470 "Approval standard for liquid applied waterproofing membrane to be used in Class 1 roof constructions".

Date of certification:

Wetsuit® 2-Part waterproofing membrane was certified on April 18, 2008

The corresponding assembly numbers are: 224930 - 224921-0, 224931 - 224921-0, 224932 - 224921-0, 224934 - 224921-0, 267648 - 224921-0, 267649 - 224921-0

Validity of certification:

The certification conditions are verified each year by a factory audit.

Certificate n° 30300656:



Performances:

The performances of the Wetsuit® 2-Part in this certification were:

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- Spread of flame : Class A on a slope of 2 in 12
- Wind uplift: class 1-990 on Concrete
- Hail damage: Resistance to severe hail - Class 1-SH
- Resistance to foot traffic: Passed

CE Mark

Scope of the Certification:

The CE Mark is an auto-certification (issued by the manufacturer) based on a series of tests described in a standard. Wetsuit® 2-Part Waterproofing Membrane has been tested against the harmonized European Standard EN 15814:2011+A1.

Date of Certification:

The certification has been issued by the Declaration of Performance DOP-WS16001-E dated June 14, 2016 in conformity with EU regulation 305/2011 relative to construction product Annex III.

Certificate:

The corresponding label is displayed here below:

	
1119	
Harco Americas 4260 Wagon Trail Avenue Las Vegas NV 89118 USA	
16 DOP-WS16001-E	
EN 15814:2011+A1 Polymer Modified Bituminous Emulsion Cold liquid Applied Waterproofing Membrane	
External Fire performance: (in addition to standard)	BroofT1, BroofT2, BroofT3, BroofT4
Reaction to Fire:	Class E
Crack bridging Ability:	Class CB2
Resistance to rain:	Class R3
Water resistance:	Passed
Flexibility at low Temp:	Passed
Dim. stability at high temp:	Passed
Water tightness:	Class W2B
Resistance to Compression:	Class C2B

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This label, as imposed by the regulation, details the most important performances of the Wetsuit® 2-Part Waterproofing Membrane.

As authorized by the standard, some additional performances are also indicated in the label.

Florida Building Code

Scope of Certification

The scope of certification of the Florida Building Code is aimed at attesting the compliance of the product with the Building Code of Florida.

The Wetsuit® 2-Part Waterproofing Membrane have been evaluated against the Florida Building Code version 2017 and validated for a use in High Velocity Hurricane Zone.

Date of Certification

An initial certification has been obtained in 2012. The upgrade to the 2017 version of the code has been obtained on 07/20/2020. The certification requires an adhesion to a Quality assurance contract with a quality control audit entity.

Certificate:

Florida Building Code doesn't publish certificate but register the status of the product in their database.

Wetsuit® 2-Part Waterproofing Membrane is registered under number FL32527.

FL #	FL32527
Application Type	New
Code Version	2017
Application Status	Approved

Date Submitted	07/15/2020
Date Validated	07/15/2020
Date Pending FBC Approval	
Date Approved	07/20/2020

Summary of Products		
FL #	Model, Number or Name	Description
32527.1	Wetsuit 2-Part Liquid Applied Waterproofing Coating	2-part, water-based liquid membrane, cold spray applied
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: N/A Design Pressure: N/A Other:		Installation Instructions FL32527_R0_11-17040604_NQA_Wetsuit.pdf Verified By: Miami-Dade BCCO - EVL Created by Independent Third Party: Evaluation Reports FL32527_R0_06-17040604_NQA_Wetsuit.pdf

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Miami Dade NOA

Scope of certification

The Miami Dade NOA certification scheme is aimed at listing building products that have been tested at the satisfaction of the Miami dade authorities and can be applied in project in South Florida even in High Velocity Hurricane Zone. The certification is based on an extensive program of tests.

The Wetsuit® 2-Part product is covered by the certification under number 17-0406.04.

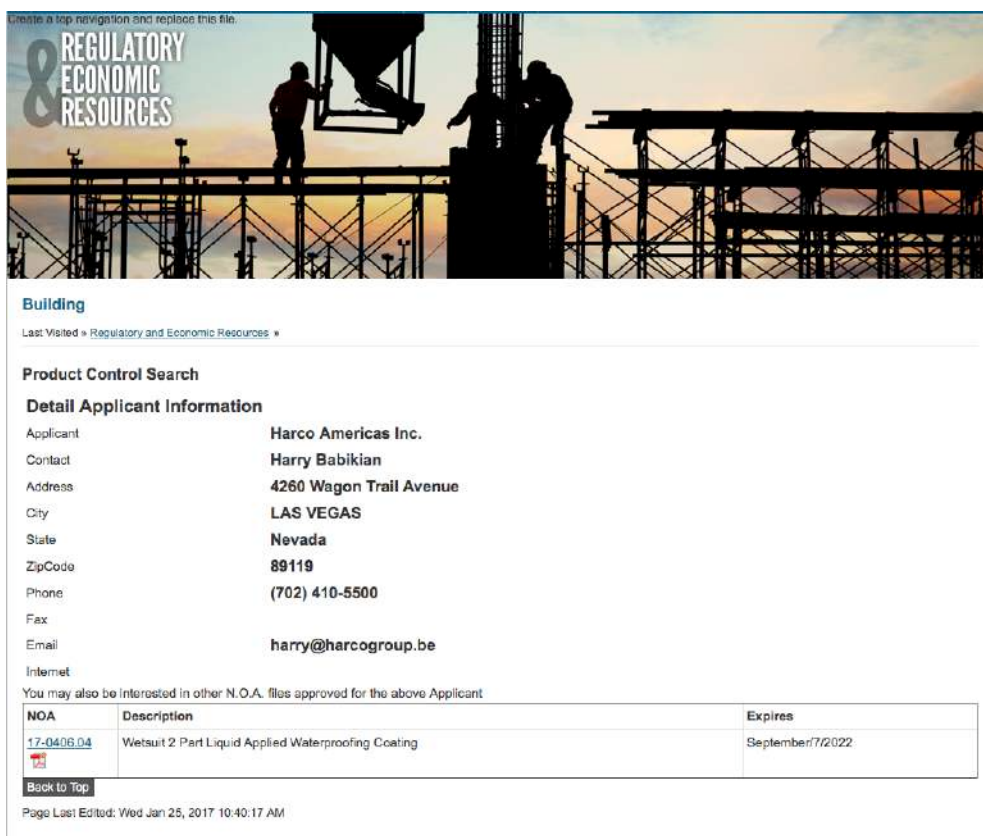
Date of certification:

The Wetsuit® 2-Part product has been approved on Sept 07, 2017. The validity of the certificate can be verified online at http://www.miamidade.gov/building/pc-result_detail_app.asp?app_alias=104697

Certificate:

The official Notice of Approval can be downloaded from the official site of Miami Dade Authorities: http://www.miamidade.gov/building/pc-result_detail_app.asp?app_alias=104697.

See copy of the NOA in appendix to the present statement



REGULATORY & ECONOMIC RESOURCES

Building

Last Visited » Regulatory and Economic Resources »

Product Control Search

Detail Applicant Information

Applicant	Harco Americas Inc.
Contact	Harry Babikian
Address	4260 Wagon Trail Avenue
City	LAS VEGAS
State	Nevada
ZipCode	89119
Phone	(702) 410-5500
Fax	
Email	harry@harcogroup.be
Internet	

You may also be interested in other N.O.A. files approved for the above Applicant

NOA	Description	Expires
17-0406.04	Wetsuit 2 Part Liquid Applied Waterproofing Coating	September 7/2/2022

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Los Angeles Research Report

Wetsuit 2-part has been granted the research report RR 26190 valid from April 1, 2020 to April 1, 2021.

The research report covers the application of waterproofing and of methane barrier.

The report state that the maximum hydrostatic pressure the barrier can withstand is 100 psi.

A copy of the research report is supplied in appendix to the present statement.

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ASTM C836

The compliance of the wetsuit 2-part has been verified by a set of certified laboratories.

The confirmed performances are the following:

Tested performance	Standard	Registered performance
Hardness	ASTM C 836 5.5 type 00	53
Adhesion in peel	ASTM C 836 5.9	4 lbs/in on concrete
Resistance to hydrostatic pressure	ASTM D 751	> 100 psi
Water vapor transmission	ASTM E96	0.089 US Perms
Stability after 6 months	ASTM C 836 5.12	Passed

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Fire Classification for Europe

Scope of the Classification

European Standard EN 13501 defines the fire classification applicable to construction product. The Wetsuit® 2-Part Waterproofing membrane has been submitted to several tests by Warrington fire laboratories and obtained the following classifications:

- External fire performance test 1 - BRoofT1 Classification report 17531C
- External fire performance test 1 - BRoofT2 Classification report 17653B
- External fire performance test 1 - BRoofT3 Classification report 17531D
- External fire performance test 1 - DroofT4 Classification report 19569A
- Reaction to Fire - Class E - Classification report 17542B

Analyze of the results

The test of external fire performance and for reaction to fire are very different approach of the fire behavior of the product. the reaction to fire test measure the maximum radiation emitted by the product wen exposed to fire, it doesn't take into consideration the specific shape of the radiation curve in time which have a very narrow peak of radiation while the average is kept low. This way of measuring the performance resulted in a class E while when evaluated against other parameters the same product get the best classification possible.

Class E is the necessary class for liquid waterproofing without flame retardant to be integrated in a building in Europe. Class D to B are mainly aimed at products integrating flame retardant and require specific production control processes. Class A are for non flammable materials.

Methane and Gas Barrier

Scope of the evaluation

The Wetsuit® 2-Part Waterproofing Membrane has been evaluated as a methane and gas barrier against the standard ASTM D1434 and ISO 15105-1.

Performances

The tests have been conducted by PRI in July 2016 and the results have been included in the test report HAAI-007-02-01.

The measured methane permeance of the Wetsuit® 2-Part is of 0 mol/m²xsxPa. The test has been replicated 3 times with exactly the same result.

The test according to ISO 15105-1 have been conducted by Fachlaboratorium für permeationsprüfung in Germany in November 2018 and The results have been included in the report HAR18001

The methane transmission rate of the Wetsuit® 2-Part was measured at 105 ml/m².d.atm for a thickness of 2.5 mm and 81.2 ml/m².d.atm for a thickness of 3.6 mm.

Drinking Water compatibility

Scope of the test

This test is aimed at evaluating the suitability of the wetsuit® 2-Part Waterproofing Membrane to be used in project where it will be in contact with drinking water. The Wetsuit® 2-Part has been tested against the AS/NZS 4020:2005 Standard by the Australian Water Quality Centre and the EN 12873-2 by APPLUS.

Performance

The tests have demonstrated the compliance of the Wetsuit® 2-Part to AS/NZS 4020 when exposed at area to volume ratios of 7500 mm²/l at 20°C and the compliance of the Wetsuit® 2-Part to EN 12873-2.

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COOL ROOF RATING COUNCIL

Scope of the certification:

Cool Roof Rating Council (CRRC) offers the certification of the performances of building product (specifically roofing products) in terms of their integration into cool Roof systems.

They issue a certification of the performance of the product in terms of Solar Reflectance and Thermal Emittance. These performances are certified as initial (new installation) and weathered (weathered membrane) to reflect the evolution of the performance in time.

Date of certification:

The last certification of reflex HPW product was issued on 6/9/2017 to include the weathered performance and validate the new label.

Authorized label:

	Initial	Weathered
	Solar Reflectance	0.87
	Thermal Emittance	0.83
	Rated Product ID	1256-0001
	Licensed Manufacturer	1256
	Classification	Production Line
Cool Roof Rating Council ratings are determined for a fixed set of conditions, and may not be appropriate for determining seasonal energy performance. The actual effect of solar reflectance and thermal emittance on building performance may vary. Manufacturer of product stipulates that these ratings were determined in accordance with the applicable Cool Roof Rating Council procedures.		

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Certificate of Compliance

This certificate is issued for the following:

Wetsuit Liquid Applied Roof Cover

Prepared for:

Harco Americas Inc.
4260 Wagon Trail Ave
Las Vegas, NV 89118
United States

FM Approvals Class: 4470

Approval Identification: 3030656 Approval Granted: 4/18/08

To verify the availability of the Approved product, please refer www.roofnav.com

Said Approval is subject to satisfactory field performance, continuing Surveillance Audits, and strict conformity to the constructions as shown in RoofNav, an online resource of FM Approvals.

A handwritten signature in dark ink that reads 'Cynthia E. Frank'.

Cynthia Frank
AVP - Manager of Materials
FM Approvals
1151 Boston-Providence Turnpike
Norwood, MA 02062



Member of the FM Global Group

Under Renewal



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION

11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
T (786) 315-2590 F (786) 315-2599

www.miamidade.gov/economy

Harco Americas Inc.
4260 Wagon Trail Avenue
Las Vegas, NV 89119

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (in Miami-Dade County) and/or the AHJ (in areas other than Miami-Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Wetsuit 2-Part Liquid Applied Waterproofing Coating

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA consists of pages 1 through 3.

The submitted documentation was reviewed by Alex Tigera.



NOA No.: 17-0406.04
Expiration Date: 09/07/22
Approval Date: 09/07/17
Page 1 of 3

Under Renewal

ROOFING COMPONENT APPROVAL

Category: Roofing
Sub-Category: Cements - Coatings - Adhesives
Materials: N/A

SCOPE:

This approves 'Wetsuit 2-Part Liquid Applied Waterproofing Coating' as maintenance coating and as described in this Notice of Acceptance, and designed to comply with the Florida Building Code and the High Velocity Hurricane Zone of the Florida Building Code.

MANUFACTURING LOCATIONS:

1. Berkeley, CA.

EVIDENCE SUBMITTED:

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Test Name/Report</u>	<u>Date</u>
PRI Construction Materials Technologies, LLC	HAAI-015-02-01	Physical Properties	03/28/17

PHYSICAL PROPERTIES OF COMPONENTS:

Trade name: Wetsuit 2-Part Liquid Applied Waterproofing Coating

Thickness: See description below

Specifications: Proprietary

Description: Two part water-based liquid membrane, cold spray applied, plural component, quick cure, seamless, rubber roofing, waterproofing, and air vapor barrier maintenance coating applied at an application rate of:

- **Concrete:** Apply at a minimum rate of 5 gal./100 ft²
- **Granule Surfaced BUR:** Apply at a minimum rate of 5 gal./100 ft².

Container Sizes: 50 gallon drum (Component A) and 5 gallon pail (Component B). Note cautions on container label.

Systems Approvals: Methods of application and quantities shall comply with the specific Roof Assembly System's Product Control Notice of Acceptance where it exceeds standards of this NOA.



NOA No.: 17-0406.04
Expiration Date: 09/07/22
Approval Date: 09/07/17
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Under Renewal

BUILDING PERMIT REQUIREMENTS:

Application for building permit shall be accompanied by copies of the following:

1. This Notice of Acceptance
2. Any other documents required by the building official or the Applicable Building Code in order to properly evaluate the installation of this system.

LIMITATIONS:

1. Fire classification is not part of this acceptance; refer to a current Approved Roofing Materials Directory for fire rating of this product.
2. Wetsuit 2 Part Liquid Applied Waterproofing System shall not be applied in inclement weather conditions.
3. The product listed herein are components of roof assemblies and are approved for use with roof assemblies that list any of the products listed herein as part of their roof assemblies Notice of Acceptance. If a product is not listed as part of roof assemblies Notice of Acceptance, a request may be made to the local building official or the Miami Dade County Product Control Section for approval provided that appropriate documentation is provided.
4. Change in materials, use, or manufacture of any of the products listed herein shall be cause for termination of this Notice of Acceptance.
5. Wetsuit 2 Part Liquid Applied Waterproofing System shall be applied in accordance with manufacturer's published application instructions.
6. All products listed herein shall have an unannounced follow-up quality control program from an approved listing agency. Follow up test results shall be made available to the Miami Dade Product Control upon request.
7. The use of a reinforcing fabric in a maintenance coating is only to enhance the coating's ability to deliver efficient and long term performance through the protection of the underlying roof system and in this particular use does not become a roof system itself.
8. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 61G20-3 of the Florida Administrative Code.
9. All approved products listed herein shall be labeled in compliance with TAS 121 and shall bear the imprint or identifiable marking of the manufacturer's name or logo, city and state of manufacturing facility, and the following statement: "Miami-Dade County Product Control Approved" or the Miami-Dade County Product Control Seal as shown below.



END OF THIS ACCEPTANCE



NOA No.: 17-0406.04
Expiration Date: 09/07/22
Approval Date: 09/07/17
Page 3 of 3

**BOARD OF
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LOS ANGELES, CA 90012

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SUPERINTENDENT OF BUILDING

JOHN WEIGHT
EXECUTIVE OFFICER

Harco Americas
4260 Wagon Trail Avenue
Las Vegas, NV 89118

Attn: Didier Varlot
Didier.Varlot@harcoamericas.com

RESEARCH REPORT: RR 26190
(CSI #07 14 16)

Expires: April 1, 2025
Issued Date: May 1, 2023
Code: 2020 LABC

Local Representative:
Tim Simpson
TS82590@gmail.com

GENERAL APPROVAL – Renewal – Neptune Coatings Wetsuit® Spray Applied Membrane
for Below-Grade Waterproofing and Methane Barrier.

DETAILS

Neptune Coatings Wetsuit® is a fluid-applied, two components, polymer-modified bitumen emulsion. Neptune Coatings Wetsuit® is a membrane for below-grade that performs as a damp-proofing, wall waterproofing, methane barrier material on cast-in-place concrete, concrete masonry unit, and insulating concrete forms. For damp proofing applications, Neptune Coatings Wetsuit® is applied directly to substrates such as cast in place (CIP) concrete or concrete masonry units (CMU). The minimum thickness of the cured polymer modified bitumen emulsion film should not be less than 80 mils. For applications directly on a substrate, a 100 mils wet film thickness should be applied as per the application instructions.

When used for methane barrier, Neptune Coatings Wetsuit® is installed over a geo-textile fabric or a vapor barrier consisting of 10 to 40 mils thick geo-textile or composite geo-membrane. The system is designed for applications on concrete over an earthen substrate or over irregular substrates such as timber lagging. The thickness of the Neptune Coatings Wetsuit® applied cured polymer modified bitumen emulsion film should be no less than 80 mils dry.

Geo-textile fabrics are adjoined by overlapping seams of minimum 4 inches reinforced with 20 mils dry of Neptune Coatings Wetsuit® Undercover or covered by a peel and stick reinforcing

RR 26190
Page 1 of 4

Harco Americas

RE: Neptune Coatings WetSuit® Liquid Spray Applied Membrane for Below-Grade Water Proofing and Methane Barrier

fabric of 6 inches width. The Neptune Coatings Wetsuit® is then applied with a minimum thickness of 80 mils dry as per the manufacturer installation instructions.

This product is approved for below-grade waterproofing and gas barrier subject to the following conditions:

1. The chloroprene modified bitumen emulsion and catalyst shall be supplied in clearly marked containers bearing the brand name and product identification. Both components shall be supplied by the same source manufacturer.
2. The manufacturer shall provide quality assurance of the materials supplied as to their formulation.
3. Application of the product shall be accomplished by an applicator approved by the manufacturer. A written statement by the manufacturer stating that the applicator is an approved applicator is required prior to use of the product.
4. All surfaces to receive membrane shall be free of laitance, sharp projections, oil, dirt or other contaminants. Prepare surfaces in accordance with the manufacturer's instructions.
5. Installation of the materials shall be in accordance with the manufacturer's instructions, a copy of which shall be kept at the job site.
6. Complete details for the membrane system shall be submitted for review and a building permit shall be obtained.
7. The design and construction of the foundation and drainage system is outside the scope of this report. The foundation drainage system shall be installed in accordance with Section 1805.4 of the 2020 Los Angeles Building Code.
8. Seams and repairs shall be completed in accordance with the manufacturer's recommendations (on file with the Engineering Research Section).
9. Prior to placing the concrete slab over the membrane, the membrane installer shall certify the membrane to be installed and tested in accordance with the manufacturer's specifications and to be free of leaks.
10. Protection for the membrane shall be provided in accordance with the written instructions by the engineer of the record.
11. The membrane is not to be placed under the building footings.

Harco Americas

RE: Neptune Coatings WetSuit® Liquid Spray Applied Membrane for Below-Grade Water Proofing and Methane Barrier

12. For gas membrane installation, continuous inspection by a Deputy Inspector registered in accordance with Section 1704.2.1 of the 2020 Los Angeles City Building Code for special inspection, is required. A Deputy Report shall be given to the Building Inspector verifying the membrane installation complies with all the requirements contained in this Approval Letter.
13. For gas membrane installations, field tests are required in accordance with the manufacturer's installation and repair procedure (on file with the Engineering Research Section).
14. The maximum hydrostatic pressure the barrier can withstand is 100 psi.
15. The membrane is approved for application with pneumatically applied concrete (shotcrete).

DISCUSSION

The report is in compliance with the 2020 City of Los Angeles Building Code.

The use of Neptune Coatings Wetsuit® as a gas barrier is based on the tests in accordance with the methane barrier test criteria.

The use of Neptune Coatings Wetsuit® as a water proofing membrane is based on the tests in accordance with the water and damp proofing test criteria.

The use of Neptune Coatings Wetsuit® is approved for shotcrete applications based on City of Los Angeles approved testing procedure.

This general approval of an equivalent alternate to the Code is only valid where an engineer and/or inspector of this Department has determined that all conditions of this Approval have been met in the project in which it is to be used.

Harco Americas

RE: Neptune Coatings WetSuit® Liquid Spray Applied Membrane for Below-Grade Water
Proofing and Methane Barrier

Addressee to whom this Research Report is issued is responsible for providing copies of it, complete with any attachments indicated, to architects, engineers and builders using items approved herein in design or construction which must be approved by Department of Building and Safety Engineers and Inspectors.

EUGENE BARBEAU, Chief
Engineering Research Section
201 N. Figueroa St., Room 880
Los Angeles, CA 90012
Phone : 213-202-9812
Email : engineering-research@lacity.org

EB
RR26190
TLB2300065
R04/25/2023
7103/7104/1403.2



Declaration of performance

**nr. DOP-WS-16001-E
V2016-100**

1. Unique identification code of the product type:

Wetsuit 2-Part, 17-WS-55

2. Identification of the construction product in accordance to article
11(4)

The batch number in the format PYYMMSS is printed on the drum

3. Intended use of the construction product

Polymer modified bituminous emulsion cold liquid applied waterproofing
membrane.

4. Contact address of the manufacturer in accordance to article
11(5)

Harco Americas Inc
4260 Wagon trail Avenue
Las Vegas NV 89118
United States of America

X.

Neptune Coatings SA

Avenue Louise 390 • B-1050 Brussels • Belgium

Tel. +32 2 6732744 • Fax +32 2 6726450 • waterproofing@wetsuiteurope.com

www.neptunecoatings.com

5. Authorized representative

Neptune Coatings SA
Avenue Louise 390
B 1050 Brussels
Belgium

6. System of assessment and verification of constancy of performance of the construction product as given in annex V:

System 3 :

The declaration of performance of the essential characteristics of the construction product by the manufacturer is made on the basis of the following items:

- a) The manufacturer carries out the factory production control in accordance with its document FPC-WS;
- b) KIWA GMBH as the notified testing laboratory carried out the determination of the product-type on the basis of type testing (based on sampling carried out by the manufacturer), type calculation, tabulated values or descriptive documentation of the product.

7. Declaration of performance for the construction product covered by an harmonized standard:

EN 15814:2011+A1 : Polymer modified bituminous thick coatings for waterproofing - Definitions and requirements

EN 13501-5:2005+A1:2009: Fire classification of construction products and building elements - Part 5: Classification using data from External fire exposure to roof tests

EN 13501-1:2007+A1:2009: Fire classification of construction products and building elements - Part 5: Classification using data from reaction to fire tests

The tests were performed by :

- WFRGENT NV - BPV-RPC 1173
- Exova Warringtonfire - UKAS 0249
- KIWA GmbH Polymer Institute - NB1119

8. Construction product covered by a European technical assessment:

Not concerned

X.

Neptune Coatings SA

Avenue Louise 390 ■ B-1050 Brussels ■ Belgium

Tel. +32 2 6732744 ■ Fax +32 2 6726450 ■ waterproofing@wetsuiteurope.com

www.neptunecoatings.com

9. Declared Performances

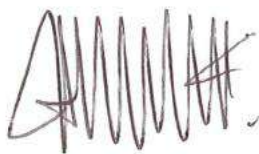
Essential Characteristics	performance	Standard	Laboratory	Document reference
External Fire performance - test 1	BroofT1	EN 13501-5	WFRGENT	17531C
External Fire performance - test 2	BroofT2	EN 13501-5	WFRGENT	17653B
External Fire performance - test 3	BroofT3	EN 13501-5	WFRGENT	17531D
External Fire performance - test 4	BroofT4	TS 1187	EXOVA Waringtonfire	364885
Reaction to Fire	Class E	EN 13501-1	WFRGENT	17542B
Crack bridging ability	Class CB2	EN 15812	KIWA	P 10050-E
Resistance to rain	Class R3	EN 15816	KIWA	P 10050-E
Water resistance	Passed	EN 15817	KIWA	P 10050-E
Flexibility at low temperature	Passed	EN 15813	KIWA	P 10050-E
Dimensional stability at high temperature	Passed	EN 15818	KIWA	P 10050-E
Reduction of layer thickness when fully dried	Passed	EN 15819	KIWA	P 10050-E
Water tightness	Class W2B	EN 15820	KIWA	P 10050-E
resistance to compression	Class C2B	EN 15815	KIWA	P 10050-E

10. The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 9

This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4 .

Signed for and on behalf of the manufactutrer by Harry Babikian CEO, Harco Ameriacs and CEO Neptune Coatings SA

Brussels, June 14 2016



Harry Babikian

Neptune Coatings SA

Avenue Louise 390 ■ B-1050 Brussels ■ Belgium
Tel. +32 2 6732744 ■ Fax +32 2 6726450 ■ waterproofing@wetsuiteurope.com

www.neptunecoatings.com

Reaction to fire classification report No. 17542B

Owner of the classification report

Harco Americas Inc.
4260 Wagon Trail Avenue
Las Vegas 89118, NV
United States of America (USA)

Introduction

This classification report defines the classification assigned to the product '**Wetsuit 2 parts**' in accordance with the procedures given in the standard EN 13501-1:2007+A1:2009: Fire classification of construction products and building elements - Part 1: classification using data from reaction to fire tests.

This classification report consists of 6 pages

1. DETAILS OF CLASSIFIED PRODUCT

a) Nature and end use application

The product **Wetsuit 2 parts** is defined as a 'liquid applied waterproofing membrane'. Its classification is valid for the following end use application(s):
Used as waterproofing membrane.

b) Description of the tested product

This description is based on information given by the sponsor.

Nominal values (*)	
PRODUCT: WETSUIT 2 PARTS	
Type of product	The tested product is a waterproofing membrane of bituminous emulsion modified with polymer.
Manufacturer	Harco Americas Inc.
Thickness (mm)	2
Surface weight (g/m ²)	2200
Use of fire retardants	No
Colour	Black
Applying method	Liquid applied, the product was sprayed onto the CaSi substrate.

More details are available in the test report(s) in support of this classification (§2a).

2. TEST REPORTS AND TEST RESULTS IN SUPPORT OF THIS CLASSIFICATION

a) Test reports

Name of the laboratory	Name of the sponsor	Test report ref. No. and test date	Test method
WFRGENT nv Ghent, Belgium	Harco Americas Inc. Las Vegas, USA	17542A: 10/12/2015	EN ISO 11925-2 (November 2010/AC:2011)

b) Test results

Test method	Parameter	Number of tests	Results		Criteria for Class E	
			Continuous parameters Mean	Compliance parameters	Continuous parameters	Compliance parameters
EN ISO 11925-2 (*) (1) 15 s flame application (**):						
<u>Surface exposure</u>	$F_s \leq 150$ mm	6	(-)	Yes	(-)	Yes
- front side	Ignition filter paper		(-)	No	(-)	No
<u>Edge exposure</u>	$F_s \leq 150$ mm	6	(-)	Yes	(-)	Yes
- front side	Ignition filter paper		(-)	No	(-)	No
(*) The material didn't melt nor pull away from the pilot burner. No burning droplets were registered. (**) According to Egolf Recommendation ER 29:2004 "material which passes the EN ISO 11925-2 test with a flame exposure time of 30 s shall be considered as passing the test with a 15 s flame exposure time". (1) Based on the results obtained in test report No. 17542A.						

(-) Not applicable.

3. CLASSIFICATION AND FIELD OF APPLICATION

a) Reference of classification

This classification has been carried out in accordance with EN 13501-1:2007+A1:2009 and is based on the product standard EN 15814:2011+A2:2014.

b) Classification

The product **Wetsuit 2 parts** in relation to its reaction to fire behavior is classified as:

Fire behavior
E

c) Field of application

This classification for the product as described in §1b, is valid for the following end use conditions:

- Substrate: Liquid applied onto a substrate of euroclass A2-s1,d0 or better with a thickness at least 9 mm and a density of at least 652,5 kg/m³.
- No joints

This classification is valid for the following product parameters:

- Nominal thickness: 2 mm
- Nominal surface weight: 2200 g/m²
- Use of fire retardants: No
- Colour: Black

4. RESTRICTIONS

At the time the standard EN 13501-1:2007+A1:2009 was published, no decision was made concerning the duration of validity of a classification report.

Provisions of Regulation (EU) 305/2011, commonly known as the Construction Products Regulation (CPR), prevail over any conflicting provisions in the harmonised standards and technical specifications.

5. WARNING

This classification report does not represent type approval nor certification of the product.

a) Concerning Declaration of Performance (DoP) according to CPR

The classification assigned to the product in this report is appropriate to a Declaration of Performance (DoP) of the essential characteristics of the construction product by the manufacturer within the context of a System 3 Assessment and Verification of Constancy of Performance (AVCP).

Under the Construction Products Regulation (CPR: EU 305/2011), such a Declaration of Performance (DoP) is a requirement for affixing the CE marking.

The manufacturer has made a declaration, which is held on file. This confirms that the product's design requires no specific processes, procedures or stages (e.g. no addition of flame-retardants, limitation of organic content, or addition of fillers) that are aimed at enhancing the fire performance in order to obtain the classification achieved. As a consequence the manufacturer has concluded that a System 3 Assessment and Verification of Constancy of Performance (AVCP) is appropriate.

The test laboratory has played no part in sampling the product for the test, although it holds appropriate references, supplied by the manufacturer, to provide evidence for the traceability of the samples tested.

b) Concerning Declaration of Conformity according to CPD (following EN 13501-1:2007+A1:2009)

According to EN 13501-1:2007+A1:2009: Annex B - Reaction to fire classification report § 5 'Limitations':

"The classification assigned to the product in this report is appropriate to a Declaration of Conformity by the manufacturer within the context of a System 3 Attestation of Conformity and CE marking under the Construction Products Directive."

"The manufacturer has made a declaration, which is held on file. This confirms that the product's design requires no specific processes, procedures or stages (e.g. no addition of flame-retardants, limitation of organic content, or addition of fillers) that are aimed at enhancing the fire performance in order to obtain the classification achieved. As a consequence the manufacturer has concluded that system 3 attestation is appropriate.

The test laboratory has, therefore, played no part in sampling the product for the test, although it holds appropriate references, supplied by the manufacturer, to provide for traceability of the samples tested."

PREPARED BY

APPROVED BY

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Classification report for roofs/roof coverings exposed to external fire

No. 17531C

Owner of the classification report

Harco Americas Inc.
4260 Wagon Trail Avenue
Las Vegas 89118, NV
United States of America (USA)

Introduction

This classification report defines the classification assigned to the roof/roof covering **“Wetsuit 2 parts”** in accordance with the procedures given in the standard EN 13501-5:2005+A1:2009: Fire classification of construction products and building elements – Part 5: Classification using data from external fire exposure to roof tests: Test 1: Method with burning brands.

This classification report consists of 5 pages.

1. DESCRIPTION OF THE ROOF/ROOF COVERING

Nominal value	
SUPPORTING DECK	
Material	Fibre reinforced calcium silicate board according to § 6.5.2.3. of the standard
ROOF COVERING	
1.1 <u>Top layer</u>	
Material	The tested product is a waterproofing membrane made out of bitumen and polymers
Trade name	Wetsuit 2 parts
Manufacturer / Supplier	Harco Americas Inc.
Colour	Black
Reinforcement (material + g/m ²)	None
Thickness (mm)	2
Surface weight (g/m ²)	2200
Flame retardants	No
Fixing method	Liquid applied

(1) Not verifiable

2. TEST REPORTS AND TEST RESULTS IN SUPPORT OF THIS CLASSIFICATION

a) Test reports

Name of the laboratory	Name of the sponsor	Test report No.	Test method
WFRGENT nv Ghent, Belgium	Harco Americas Inc.	17531A	CEN/TS 1187:2012: Test 1

b) Test results

Test conditions: 17531A

- Test pitch: 15°
- Supporting deck: Fibre reinforced calcium silicate board

Parameters	Criteria	Test results				Compliance
		1	2	3	4	
Internal fire spread upwards (mm)	< 700 mm	0	0	0	0	Yes
External fire spread upwards (mm)	< 700 mm	0	0	0	0	Yes
Internal fire spread downwards (mm)	< 600 mm	0	0	0	0	Yes
External fire spread downwards (mm)	< 600 mm	0	0	0	0	Yes
Maximum burned length internal (mm)	< 800 mm	0	0	0	0	Yes
Maximum burned length external (mm)	< 800 mm	0	0	0	0	Yes
Burning, droplets/debris falling from exposed side	None	None	None	None	None	Yes
Burning, glowing particles penetrating the roof	None	None	None	None	None	Yes
Single through opening (mm ²)	< 25 mm ²	0	0	0	0	Yes
Sum of all through openings (mm ²)	< 4500 mm ²	0	0	0	0	Yes
Lateral fire spread	< edges*	< edges	< edges	< edges	< edges	Yes
Internal glowing combustion	None	None	None	None	None	Yes
Radius of fire spread (horizontal roof) (mm)	< 200 mm	(-)	(-)	(-)	(-)	(-)

* edges measuring zone

(-) not applicable

3. CLASSIFICATION AND DIRECT FIELD OF APPLICATION

a) Reference

This classification has been carried out in accordance with clause 9 Test 1 of EN 13501-5:2005+A1:2009 and ETAG 005.

b) Classification

The roof / roof covering “**Wetsuit 2 parts**” in relation to its external fire performance is classified:

BROOF (t1)

c) Field of application

The classification is valid for the system as described in §1 for the following conditions:

- Range of pitches: < 20°
- Range of supporting decks:
 - Any non combustible, continuous deck with a minimum thickness of 10 mm.

4. LIMITATIONS

a) Restrictions

At the time the standard EN 13501-5:2005+A1:2009 was published, no decision was made concerning the duration of validity of a classification document.

Provisions of Regulation (EU) 305/2011, commonly known as the Construction Products Regulation (CPR), prevail over any conflicting provisions in the harmonised standards and technical specifications.

5. **WARNING**

This classification report does not represent type approval nor certification of the product.

6. **CONCERNING DECLARATION OF PERFORMANCE (DOP) ACCORDING TO THE CONSTRUCTION PRODUCT REGULATION (CPR)**

According to the information delivered by the sponsor to the laboratory on the technical information sheet, there was no product standard for CE marking available at the time the classification report for the tested material/product was drafted. When such a product standard is published, this report may be submitted again to the laboratory to evaluate the adequacy of the report for CE marking.

The sponsor of this report has nevertheless committed himself to use a third party for the sampling and to assure in this way the traceability of the test samples.

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Classification report for roofs/roof coverings exposed to external fire No. 17653B

Owner of the classification report

Harco Americas Inc.
4260 Wagon Trail Avenue
Las Vegas 89118, NV
United States of America (USA)

Introduction

This classification report defines the classification assigned to the roof covering « **Wetsuit 2 parts** » in accordance with the procedures given in the standard EN 13501 – 5 : 2005 + A1 : 2009 : Fire classification of construction products and building elements – Part 5: Classification using data from external fire exposure to roofs tests: Test 2: Method with burning brands and wind.

This classification report consists of 4 pages

1. DESCRIPTION OF THE ROOF / ROOF COVERING

Nominal value	
SUPPORTING DECK	
Standard substrate	Yes
Material	Wood particle board according to § 6.5.3.3 of the standard
Thickness (mm)	19
Surface weight (g/m ²)	680
Flame retardants	No
ROOF COVERING	
1.1 <u>Top layer</u>	
Material	The tested product is a waterproofing membrane made out of bitumen and polymers
Trade name	Wetsuit 2 parts
Manufacturer / Supplier	Harco Americas Inc.
Colour	Black
Reinforcement (material + g/m ²)	None
Thickness (mm)	2
Surface weight (g/m ²)	2200
Flame retardants	No
Fixing method	Liquid applied

2. TEST REPORTS AND TEST RESULTS IN SUPPORT OF THIS CLASSIFICATION

a) Test reports

Name of the laboratory	Name of the sponsor	Test report ref. no.	Test method,
WFRGENT N.V. Ghent - Belgium	Harco Americas Inc.	17653A	ENV 1187/A1: 2005: Test 2 and CEN/TS 1187: 2012 Test 2

b) Test results

Test conditions: 17653A

- Test pitch: 30°

- Substrate: Wood particle board according to § 6.5.3.3 of the standard

Parameter		Criteria		Test results					Compliance
		Mean	Max.	Spe. 1	Spe. 2	Spe. 3	Mean	Max.	
2 m/s	Damaged length roof covering (m)	≤0,550m	≤0,800m	0,450	0,450	0,470	0,457	0,470	Yes
	Damaged length substrate (m)	≤0,550m	≤0,800m	0,005	0,005	0,005	0,005	0,005	Yes
4 m/s	Damaged length roof covering (m)	≤0,550m	≤0,800m	0,460	0,520	0,460	0,480	0,520	Yes
	Damaged length substrate (m)	≤0,550m	≤0,800m	0,005	0,005	0,005	0,005	0,005	Yes

3. CLASSIFICATION AND FIELD OF APPLICATION

a) Reference

This classification has been carried out in accordance with clause 9 test 2 of EN 13501 – 5 : 2005 + A1 : 2009 and ETAG 005 / EN 15814:2011+A2:2014.

b) Classification

The roof / roof covering « **Wetsuit 2 parts** » in relation to its external fire performance is classified:

B_{ROOF} (t2)

c) Field of application

This classification is valid for the following conditions:

- Range of pitches: Valid for all pitches.
- Range of substrates:

For combustible and non - combustible substrates having a density greater than or equal to 474 kg/m³

4. **RESTRICTIONS**

At the time the standard EN 13501-5 : 2005+A1:2009 was published, no decision was made concerning the duration of validity of a classification report.

Provisions of Regulation (EU) 305/2011, commonly known as the Construction Products Regulation (CPR), prevail over any conflicting provisions in the harmonised standards and technical specifications.

5. **WARNING**

This classification report does not represent type approval nor certification of the product.

6. **Concerning Declaration of Performance (DoP) according to the construction product regulation (CPR)**

According to the information delivered by the sponsor to the laboratory on the technical information sheet, there was no product standard for CE marking available at the time the classification report for the tested material/product was drafted. When such a product standard is published, this report may be submitted again to the laboratory to evaluate the adequacy of the report for CE marking.

The sponsor of this report has nevertheless committed himself to use a third party for the sampling and to assure in this way the traceability of the test samples.

SIGNED BY

APPROVED BY

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Classification report for roofs/roof coverings exposed to external fire No. 17531D

Owner of the classification report

Harco Americas Inc.
4260 Wagon Trail Avenue
Las Vegas 89118, NV
United States of America (USA)

Introduction

This classification report defines the classification assigned to the roof/roof covering «**Wetsuit 2 parts**» in accordance with the procedures given in the standard EN 13501–5:2005+A1:2009: Fire classification of construction products and building elements – Part 5: Classification using data from external fire exposure to roofs tests: Test 3: Method with burning brands, wind and supplementary radiant heat.

This classification report consists of 5 pages

1. DESCRIPTION OF THE ROOF/ROOF COVERING

Nominal value	
SUPPORTING DECK	
Material	Fibre reinforced calcium silicate board according to § 6.5.4.4.2. of the standard
ROOF COVERING	
1.1 <u>Top layer</u>	
Material	The tested product is a waterproofing membrane made out of bitumen and polymers
Trade name	Wetsuit 2 parts
Manufacturer / Supplier	Harco Americas Inc.
Colour	Black
Reinforcement (material + g/m ²)	None
Thickness (mm)	2
Surface weight (g/m ²)	2200
Flame retardants	No
Fixing method	Liquid applied

2. TEST REPORTS AND TEST RESULTS IN SUPPORT OF THIS CLASSIFICATION

a) Test reports

Name of the laboratory	Name of the sponsor	Test report ref. no.	Test method
WFRGENT nv Ghent - Belgium	Harco Americas Inc.	17531B	CEN/TS 1187:2012: Test 3

b) Test results

Test conditions:17531B

- Test pitch: 5°

- Supporting deck: Fibre reinforced calcium silicate board

Parameter	Criteria			Test results		Compliance		
	Class B _{ROOF} (t3)	Class C _{ROOF} (t3)	Class D _{ROOF} (t3)	Spec. 1	Spec. 2	Class B _{ROOF} (t3)	Class C _{ROOF} (t3)	Class D _{ROOF} (t3)
External fire spread time (T _E)	≥ 30 min	≥ 10 min	N.a.	≥ 30 min	≥ 30 min	Yes	Yes	N.a.
Time to fire penetration (T _P)	≥ 30 min	≥ 15 min	≥ 5 min	≥ 30 min	≥ 30 min	Yes	Yes	Yes

N.a. = Not applicable

3. CLASSIFICATION AND FIELD OF APPLICATION

a) Reference

This classification has been carried out in accordance with clause 9 test 3 of EN 13501–5:2005+A1:2009 and ETAG 005.

b) Classification

The roof / roof covering « **Wetsuit 2 parts** » in relation to its external fire performance is classified:

BROOF (t3)

c) Field of application

The classification is valid for the system as described in §1 for the following conditions:

- Range of pitches: <10°
- Range of decks:
 - Any non-combustible continuous deck with a minimum thickness of 10 mm

4. **LIMITATIONS**

At the time the standard EN 13501–5:2005+A1:2009 was published, no decision was made concerning the duration of validity of a classification document.

Provisions of Regulation (EU) 305/2011, commonly known as the Construction Products Regulation (CPR), prevail over any conflicting provisions in the harmonised standards and technical specifications.

5. **WARNING**

This classification report does not represent type approval nor certification of the product.

6. **CONCERNING DECLARATION OF PERFORMANCE (DOP) ACCORDING TO THE CONSTRUCTION PRODUCT REGULATION (CPR)**

According to the information delivered by the sponsor to the laboratory on the technical information sheet, there was no product standard for CE marking available at the time the classification report for the tested material/product was drafted. When such a product standard is published, this report may be submitted again to the laboratory to evaluate the adequacy of the report for CE marking.

The sponsor of this report has nevertheless committed himself to use a third party for the sampling and to assure in this way the traceability of the test samples.

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Classification report for roofs/roof coverings exposed to external fire No. 19569A

Owner of the classification report

HARCO AMERICAS INC.
4260 Wagon Trail Avenue
89118NV – Las Vegas
UNITED STATES OF AMERICA

Introduction

This classification report defines the classification assigned to the roof/roof covering «**Wetsuit 2 parts**» in accordance with the procedures given in the standard EN 13501-5:2016 : Fire classification of construction products and building elements – Part 5: Classification using data from external fire exposure to roofs tests: Test 4: Method with two stages incorporating burning brands, wind and supplementary radiant heat

This classification report consists of 5 pages

1. DESCRIPTION OF THE ROOF/ROOF COVERING

		Nominal values
Trade name / product reference		Wetsuit 2 parts
General description		Coated particle board
Overall (total) thickness (mm)		21
Overall weight per unit area (g/m ²)		6,87
Name of manufacturer / supplier		Harco Americas
Coating Product	Generic type	Polymer modified bitumen emulsion – 2components
	Product reference	17-WS-552
	Name of manufacturer	Harco Americas
	Colour	Black
	Thickness of coating (mm)	2,0
	Number of coats	1
	Application method	Spraying 2-components
	Specific gravity (kg/m ³)	1,0135
	Curing process per coat	Natural curing
	Use of fire retardants	No
Substrate	Generic type	Wood particle board
	Product reference	Standard supply of market according to CEN/TS 1187
	Name of manufacturer	(1)
	Thickness (mm)	19
	Density (kg/m ³)	680
	Colour reference	Brown
	Flame retardant	No
Brief description of manufacturing process		(2)

(1) Customer unable to provide information

(2)The sponsor of the test was unwilling to provide this information

2. TEST REPORTS AND TEST RESULTS IN SUPPORT OF THIS CLASSIFICATION

a) Test reports

Name of the laboratory	Name of the sponsor	Test report ref. no.	Test method
Exova WarringtonFire Warrington UK	Harco Americas	364885	CEN/TS 1187:2012: Test 4

b) Test results

Test conditions:

- Test pitch: 0°
- Deck: Wood particle board with gaps ≤ 0,5 mm

PRELIMINARY TEST (STAGE 1)

Parameter	Criteria				Test ^(a) results	Compliance			
	Class B _{ROOF} (t4)	Class C _{ROOF} (t4)	Class D _{ROOF} (t4)	Class E _{ROOF} (t4)	Spec. 1	Class B _{ROOF} (t4)	Class C _{ROOF} (t4)	Class D _{ROOF} (t4)	Class E _{ROOF} (t4)
Burn time	< 5 min	< 5 min	< 5 min	< 5 min	00:00	Yes	Yes	Yes	Yes
Flame spread distance	< 0,38 m	< 0,38 m	< 0,38 m	No limit	0	Yes	Yes	Yes	Yes
Penetration	None	None	None	None	None	Yes	Yes	Yes	Yes

(a) Not for extended application.

PENETRATION TEST (STAGE 2)

Parameter	Criteria			
	Class B _{ROOF} (t4)	Class C _{ROOF} (t4)	Class D _{ROOF} (t4)	Class E _{ROOF} (t4)
Penetration	≥ 60 min	< 60 min ≥ 30 min	< 30 min	< 30 min
Parameter	Test ^(a) results			
	Spec. 1	Spec. 2	Spec. 3	Mean ^a
Penetration	28:00	24:02	18:22	23:00
Parameter	Compliance			
	Class B _{ROOF} (t4)	Class C _{ROOF} (t4)	Class D _{ROOF} (t4)	Class E _{ROOF} (t4)
Penetration	No	No	Yes	Yes

(a) If one or two of the specimens have not failed at one hour, a time of 60 min shall be used in calculating the mean time of penetration.

3. CLASSIFICATION AND FIELD OF APPLICATION

a) Reference

This classification has been carried out in accordance with clause 9 test 4 of EN 13501-5:2016 and ETAG 005 and EN 15814:2011+A2:2014.

b) Classification

The roof / roof covering «**Wetsuit 2 parts**» in relation to its external fire performance is classified:

DROOF (t4)

c) Direct field of application

The classification is valid for the system as described in §1 for the following conditions:

- Range of pitches: $\leq 10^\circ$,
- Range of supporting deck: Wood particle board

Density:	680 kg/m ³
Thickness:	19 mm or thicker
Flame retardants	No
Reaction to fire classification according to EN 13501-1	D-s2,d0

4. **LIMITATIONS**

At the time the standard EN 13501-5:2016 was published, no decision was made concerning the duration of validity of a classification document.

Provisions of Regulation (EU) 305/2011, commonly known as the Construction Products Regulation (CPR), prevail over any conflicting provisions in the harmonized standards and technical specifications.

5. **WARNING**

This classification report does not represent type approval nor certification of the product.

6. **CONCERNING DECLARATION OF PERFORMANCE (DoP) ACCORDING TO THE CONSTRUCTION PRODUCT REGULATION (CPR)**

Annex ZA of the harmonised standard ETAG 005 and EN 15814:2011+A2:2014 declare that a System 3 Attestation of Conformity (AoC) under the Construction Products Directive (CPD: 89/106/EEC) is required for all external fire performance declarations better than class F_{roof} (t1, t2, t3, t4). Under the Construction Products Regulation (CPR: EU 305/2011) this corresponds with a System 3 of Assessment and Verification of Constancy of Performance (AVCP) as basis for a Declaration of Performance (DoP).

The classification assigned to the product in this report is appropriate to such a Declaration of Performance of the essential characteristics of the construction product by the manufacturer within the context of a System 3 Assessment and Verification of Constancy of Performance. Under the Construction Products Regulation a Declaration of Performance (DoP) is a requirement for affixing the CE marking.

PREPARED BY

APPROVED BY

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LGAI Technological Center S.A. (APPLUS)

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E-08193 Bellaterra (Barcelona)
Spain
T +34 93 567 20 00
www.appluslaboratories.com



Bellaterra : 30th July 2020
Dossier number : 20/22483-1091
Petitioner Reference : **HARCO AMERICAS**
4260 Wagon Trail Avenue
NV 89118, LAS VEGAS

TEST REPORT

RECEIVED MATERIAL:

On May 12, 2020, several specimens were received at Applus Laboratories, with the following reference according to the Petitioner:

WETSUIT SAMPLES

TEST REQUESTED

1.- Influence of materials on water intended for human consumption. Influence due to migration.
Part 2: Test method for non-metallic and non-cementitious site-applied materials according to the norm UNE-EN 12873-2:2005 for compliance with RD 140/2003.

TEST DATE: From 22/05/2020 to 30/07/2020.

RESULTS : See attached pages.

Responsible for Construction Materials
LGAI Technological Center S.A.

Technician Responsible
LGAI Technological Center S.A.

The results included in this document refer exclusively to the indicated materials and has been tested according to the specifications given.

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The present document consists of 4 pages long, whereof 0 are appendices

Dossier number	20/22483-1091	Page 2
HARCO AMERICAS		WETSUIT SAMPLES

TEST CONDITIONS:

Sampling, transport and storage of samples: The sample was supplied by HARCO AMERICAS And no special storage conditions were necessary.

Preparation of samples: Samples supplied by the petitioner.

The sample has been prepared in such a way that only the study surface is exposed to the water of migration.

Pre-treatment without disinfection treatment: Initial wash of the sample by flowing tap water at a speed between 1 and 3 m / min for 60 ± 5 minutes in upstream. It is then immersed completely in test water for 24 ± 1 hours in static contact. In this case no disinfection treatment was required. Finally, the prewash is performed by repeating the initial wash with tap water for 60 ± 5 minutes.

Migration test: 3 cycles of 72 hours are performed, obtained 3 test samples. The parameters are analysed in the first cycle of 72 hours, And only those parameters that are not within the limits of RD 140/2003 in the first cycle are repeated in the second and third cycle.

TEST DATA:

- Extraction environment: Chlorinated water at 1 ppm chlorine.
- Migration temperature: 23 °C.
- Test water volume: 4 liters for each of the cycles.
- Contact surface: 100 cm²
- Surface/volume ratio: 2 dm²/l

RESULTS

Control of content:

PARAMETER	RESULT	LEGISLATIVE NORM
Colour (Ud. Pt/Co)	<5	≤ 15
Odour (Indices de dilution)	1	≤ 3
Conductivity at 20°C (μS/cm)	<76	≤ 2500
Reaction at 20 ppm de chlorine	No abnormal changes	No abnormal changes
Turbidity (U.N.F.)	<0,3	≤ 5
pH a 25°C (Ud. pH)	6,59 ± 0,20	≥ 6,5 ≤ 9,5
Oxidizability (mg O2/l)	1,60 ± 0,22	≤ 5,0
Total Organic Carbon (TOC) (mg/l)	3,51 ± 0,88	No abnormal changes
Combined Residual Chlorine (mg/l)	0,16	≤ 2,0
Free Residual Chlorine (mg/l)	0,05	≤ 1,0
Bromates (μg/l)	≤ 10	≤ 10
Chlorides (mg/l)	2,89 ± 0,95	≤ 250
Ammonium (mg/l)	≤ 0,50	≤ 0,50
Cyanides (mg/l)	< 0,02	≤ 0,05
Sulphates (mg/l)	7,74 ± 2,01	≤ 250

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HARCO AMERICAS	WETSUIT SAMPLES	

Control of content:

PARAMETER	RESULT	LEGISLATIVE NORM
Fluorides (mg/l)	< 0,1	≤ 1,5
Nitrates (mg/l)	< 0,5	≤ 50
Nitrites (mg/l)	< 0,01	≤ 0,5
Sodium (mg/l)	≤ 200	≤ 200
Volatile Organic Compounds		
- 1,2 Dichloroethane (μg/l)	< 0,5	≤ 3,0
- Trichloroethane + Tetrachloroethene (μg/l)	< 2,5	≤ 10
- Benzene (μg/l)	< 0,25	≤ 1,0
- Trihalomethanes (μg/l) (Nota 2)	17,3 ± 3,8	≤ 100
Dissolved Aluminum (Al) (μg/l)	< 5	≤ 200
Dissolved Antimony (Sb) (μg/l)	< 1	≤ 5,0
Arsenic dissolved (As) (μg/l)	< 1	≤ 10
Boron dissolved (B) (μg/l)	≤ 1000	≤ 1000
Dissolved cadmium (Cd) (μg/l)	< 0,05	≤ 5,0
Copper dissolved (Cu) (μg/l)	1,65 ± 0,73	≤ 2000
Chromium dissolved (Cr) (μg/l)	< 1	≤ 50
Dissolved iron (Fe) (μg/l)	2,63 ± 0,67	≤ 200
Manganese dissolved (Mn) (μg/l)	8,71 ± 2,16	≤ 50
Dissolved Mercury (Hg) (μg/l)	<0,015	≤ 1,0
Nickel dissolved (Ni) (μg/l)	< 1	≤ 20
Dissolved lead (Pb) (μg/l)	< 0,5	≤ 10
Dissolved selenium (Se) (μg/l)	< 0,5	≤ 10
Polycyclic aromatic hydrocarbons		
- Benzo-pyrene (μg/l)	< 0,001	≤ 0,010
- Sum of polycyclic aromatic hydrocarbons (μg/l) (Note 1)	< 0,032	≤ 0,10
Pesticides		
- Aldrin (μg/l)	< 0,02	≤ 0,03
- Dieldrin (μg/l)	< 0,02	≤ 0,03
- Heptachlor epoxide B (μg/l)	< 0,02	≤ 0,03
- Heptachlor epoxide A (μg/l)	< 0,02	≤ 0,03

Dossier number	20/22483-1091	Page 4
HARCO AMERICAS	WETSUIT SAMPLES	

Control of content

PARAMETER	RESULT	LEGISLATIVE NORM
Total pesticides ($\mu\text{g/l}$) (Nota 3)	<0,455	$\leq 0,50$
Acrylamide ($\mu\text{g/l}$)	< 0,05	$\leq 0,1$
Epichlorohydrin ($\mu\text{g/l}$)	< 0,10	$\leq 0,1$
Vinyl chloride ($\mu\text{g/l}$)	< 0,1	$\leq 0,5$

Biological / Microbiological Analysis:

PARAMETER	RESULT	LEGISLATIVE NORM
Total microcystins ($\mu\text{g/l}$)	<0,5	≤ 1
Escherichia Coli (ufc/100ml)	0	≤ 0
Enterococos (ufc/100ml)	0	≤ 0
Clostridium perfringens (ufc/100ml)	0	≤ 0
Total Coliforms (ufc/100ml)	0	≤ 0
Aerobic bacteria at 22°C (72h) (ufc/ml)	2800	No abnormal changes

Note 1: The limit value for Aromatic Polycyclic Hydrocarbons (sum) ($0,1 \mu\text{g} / \text{l}$) corresponds to the sum of benzo- (b) -fluoranthene, benzo- (k) -fluoranthene, indene-1,2,3, c , D-pyrene and benzo- (g, h, i) -perylene.

Note 2: Sub parameter "Trihalomethanes" has been obtained by adding the concentrations of Chloroform, Bromoform, Dibromochloromethane and Bromodichloromethane volatile compounds to R.D 140/2003.

Note 3: Sub parameter "Total Pesticides" has been obtained by summing the quantification limits of all sub-parameters analysed within the semi-volatile compounds s / R.D 140/2003.

CONCLUSION

Based on the parameters analysed, the material conforms with all the requirements established in Royal Decree 140/2003, modified by R.D. 314/2016 and by R.D. 902/2018, which establishes sanitary criteria for the quality of water for human consumption.

Service Quality Assurance

Applus+, guarantees that this work has been made in accordance with our Quality and Sustainability System, fulfilling the contractual conditions and legal norms.

Within our improvement program we would be grateful if you would send us any commentary that you consider opportune, to the person in charge who signs this document, or to the Quality Manager of Applus+, in the following e-mail address: satisfaccion.cliente@applus.com



BEAL Appraisal Certificate



APPRAISAL # M1955

THIS CERTIFICATE
EXPIRES 31 Jan 2024

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 waterproofing 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.



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Owner of the Wetsuit IP, Patents & Trademarks
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89118 Las Vegas, USA
E-Mail: info@neptunecoatings.com
Web: www.neptunecoatings.com

Appraised by:

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Plimmerton, Porirua, NZ
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The most up to date version of this BEAL Appraisal Certificate can be viewed at 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.

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 be 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 shotcrete 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.

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]





BEAL Appraisal Certificate



APPRAISAL # M1965

THIS CERTIFICATE
EXPIRES 31 Jan 2024

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 waterproofing 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 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.

Compliance with NCC Volumes One & Two

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 Building Code of Australia:

NCC Volume One:

Performance FP1.4 Weatherproofing

Use of The WetSuit® System will meet this performance requirement.

Performance FP1.5 Rising damp

Use of The WetSuit® System will meet this performance requirement.

NCC Volume Two:

Performance P2.2.2 Weatherproofing

Use of The WetSuit® System will meet this performance requirement.

Performance P2.2.3 Rising damp

Use of The WetSuit® System will meet this performance requirement.

2.2 The WetSuit® System has been appraised as an Alternative Solution in terms of the Building Code of Australia.

2.3 Evidence of suitability has been provided in accordance with NCC Volume One, Section A5.2, Para 1 (e) and (f).



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www.beal.co.nz

C R Prouse
Director

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 Building Code of Australia; 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 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](#).

Weatherproofing

6.3 The Wetsuit® waterproofing membrane has satisfactory in-service history over a wide range of substrates.

Rising Damp

6.5 The Wetsuit® waterproofing membrane has satisfactory in-service history over a wide range of below and above grade slabs and wall substrates.

Potable Water Contact

6.8 The Wetsuit® system has been shown to not present a health hazard to people using the roof to collect potable water.

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.

7.2 The application of Wetsuit® products over any new and or repaired substructures, other for very minor re

pairs, 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 provisions of NCC Volumes One and Two 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

- ⇒ The Building Code of Australia, including NCC Volumes One and Two published in 2019;
- ⇒ 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 Building Code of Australia 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.

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 relevant provisions of the Building Code of Australia 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]





Internet: www.awqc.com.au

Email: producttesting@awqc.com.au

FINAL REPORT

Report ID : 292406

Report Information

Submitting Organisation : 00100541 : Harco Americas
Account : 144037 : Harco Americas
AWQC Reference : 144037-2020-CSR-1 : Prod Test: Wetsuit Membrane (One Variant)
Project Reference : PT-4272
Product Designation : Wetsuit 2-Part Membrane
Composition of Product : Polychloroprene and Asphalt Emulsion (see attachment).
Product Manufacturer : Harco Americas, California, USA.
Use of Product : In-Line/Waterproofing Membrane for Foundations, Roofs and Tanks.
Sample Selection: As provided by the submitting organisation.
Testing Requested : **AS/NZS 4020 TESTING OF PRODUCTS FOR USE IN CONTACT WITH DRINKING WATER**
Product Type : Composite
Samples : Samples were prepared and controlled as described in Appendix A of AS/NZS 4020:2018

Extracts : Extracts were prepared as described in Appendix/Clause C, D, E, F, G, H, 6.8.
Project Completion Date : 28-Sep-2020
Project Comment : The results presented herein demonstrate compliance of Wetsuit 2-Part Membrane to AS/NZS 4020:2018 when exposed at area to volume ratios up to 7500 mm²/L at 20°C ± 2°C.

PLEASE NOTE THAT THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL

THE RESULTS STATED IN THIS REPORT RELATE TO THE SAMPLE OF THE PRODUCT SUBMITTED FOR TESTING. ANY CHANGES IN THE MATERIAL FORMULATION, PROCESS OF MANUFACTURE, THE METHOD OF APPLICATION, OR THE SURFACE AREA-TO-VOLUME RATIO IN THE END USE, COULD AFFECT THE SUITABILITY OF THE PRODUCT FOR USE IN CONTACT WITH DRINKING WATER

Michael Glasson
APPROVED SIGNATORY



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FINAL REPORT

Report ID : 292406

Summary of Results

APPENDIX/CLAUSE	RESULTS
C – Taste	Passed at an exposure of 7500 mm ² per Litre.
D – Appearance	Passed at an exposure of 15000 mm ² per Litre.
E – Growth of Aquatic Micro-organisms	Passed at an exposure of 15000 mm ² per Litre.
F – Cytotoxic Activity	Passed at an exposure of 15000 mm ² per Litre.
G – Mutagenic Activity	Passed at an exposure of 15000 mm ² per Litre.
H – Metals	Passed at an exposure of 15000 mm ² per Litre.
6.8 – Organic Compounds	Passed at an exposure of 15000 mm ² per Litre.

Test Methods

Test(s) in Appendix	AWQC Test Method	Reference Method
C	T0320-01	AS/NZS 4020:2018
D	TO029-01 & TO018-01	APHA 2120c & APHA 2130b
E	TO014-03	APHA 4500 O G
F	TM-001	AS/NZS 4020:2018
G	TM-002	AS/NZS 4020:2018
H	TIC-006	EPA 200.8

Organic Test Methods

Test(s) in Clause	Test Method	Reference Method
Clause 6.8	TMZ-M36	USEPA524.2
	EP239	USEPA521
	EP132-LL	USEPA_SW846-8270D
	EP075C	USEPA_SW846-8270D
	EP075ASIM	USEPA_SW846-8270D

Summary Comment : Not applicable.



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Email: producttesting@awqc.com.au

FINAL REPORT

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CLAUSE 6.2 Taste

Sample Description The sample consisted of one panel with dimensions 50 mm x 75 mm providing a surface area of approximately 7500 mm² per Litre. Extracts were prepared using 1000 mL volumes of 50 mg/L hardness water.

Extraction Temperature 20°C ± 2°C.

Test Method Taste (Appendix C)

Test Information

Scaling Factor Not applied.

Results Not detected (sample and controls).

Evaluation The product passed the requirements of clause 6.2 when tested at an exposure of 7500m² per Litre.

Number of Samples 2.

Test Comment Panellists detected chemical and phenolic tastes in the final (7th) chlorinated extract when tested at an exposure of 15,000mm²/L at 20°C. Test repeated at 7500mm²/L where no discernible tastes were detected.

Peter Christopoulos
APPROVED SIGNATORY



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FINAL REPORT

Report ID : 292406

CLAUSE 6.3 Appearance

Sample Description The sample consisted of one panel with dimensions 75 mm x 100 mm providing a surface area of approximately 15000 mm² per Litre. Extracts were prepared using 1000 mL volumes of 50 mg/L hardness water.

Extraction Temperature 20°C ± 2°C.

Test Method Appearance (Appendix D)

Scaling Factor Not applied.

Results

	<u>Test (- Blank)</u>	<u>Maximum Allowed</u>	<u>Units</u>
Colour	<1	5	HU
Turbidity	<0.1	0.5	NTU

Evaluation The product passed the requirements of clause 6.3 when tested at an exposure of 15000 mm² per Litre.

Number of Samples 1.

Test Comment Not applicable.

Andrew Paul Ford

Andrew Ford
APPROVED SIGNATORY



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Email: producttesting@awqc.com.au

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Report ID : 292406

CLAUSE 6.4 Growth of Aquatic Micro-organisms

Sample Description	The sample consisted of one panel with dimensions 75 mm x 100 mm providing a surface area of approximately 15000 mm² per Litre. Extracts were prepared using 1000 mL volumes of test water.														
Test Method	Growth of Aquatic Micro-organisms (Appendix E)														
Inoculum	The volume of the inoculum was 100 mL														
Scaling Factor	Not applied.														
Results	<table><tr><td>Mean Dissolved Oxygen</td><td>Control</td><td>7.6 mg/L</td></tr><tr><td>Mean Dissolved Oxygen Difference</td><td>Positive Reference</td><td>1.6 mg/L</td></tr><tr><td></td><td>Negative Reference</td><td><0.1 mg/L</td></tr><tr><td></td><td>Test</td><td>1.30 mg/L</td></tr></table>			Mean Dissolved Oxygen	Control	7.6 mg/L	Mean Dissolved Oxygen Difference	Positive Reference	1.6 mg/L		Negative Reference	<0.1 mg/L		Test	1.30 mg/L
Mean Dissolved Oxygen	Control	7.6 mg/L													
Mean Dissolved Oxygen Difference	Positive Reference	1.6 mg/L													
	Negative Reference	<0.1 mg/L													
	Test	1.30 mg/L													
Evaluation	The product passed the requirements of clause 6.4 when tested at an exposure of 15000 mm² per Litre.														
Number of Samples	1.														
Test Comment	Not applicable.														


Tuy Diep
APPROVED SIGNATORY



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Internet: www.awqc.com.au

Email: producttesting@awqc.com.au

FINAL REPORT

Report ID : 292406

CLAUSE 6.5 Cytotoxic Activity

Sample Description The sample consisted of one panel with dimensions 75 mm x 100 mm providing a surface area of approximately 15000 mm² per Litre. Extracts were prepared using 1000 mL volumes of 50 mg/L hardness water.

Extraction Temperature 20°C ± 2°C.

Test Method Cytotoxic Activity (Appendix F)

Scaling Factor Not applied.

Results Non-cytotoxic (sample and controls).

Evaluation The product passed the requirements of clause 6.5 when tested at an exposure of 15000 mm² per Litre.

Number of Samples 1.

Test Comment The test extracts and blank extracts were used to prepare nutrient growth medium and subsequently used to grow a cell line (ATCC Number CCL 81) in the analysis. In addition zinc sulphate (0.4 mmol) was used for the positive control in the analysis.

Stella Fanok
APPROVED SIGNATORY



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Email: producttesting@awqc.com.au

FINAL REPORT

Report ID : 292406

CLAUSE 6.6 Mutagenic Activity

Sample Description The sample consisted of one panel with dimensions 75 mm x 100 mm providing a surface area of approximately 15000 mm² per Litre. Extracts were prepared using 1000 mL volumes of 50 mg/L hardness water.

Extraction Temperature 20°C ± 2°C.

Test Method Mutagenic Activity (Appendix G)

Scaling Factor Not applied.

Results

<u>Bacteria Strain</u>		<u>Number of Revertants per Plate</u>			
	S9	Blank	Sample Extract	Positive Controls	
<i>Salmonella typhimurium</i> TA98	-	19, 28, 33	23, 33, 33	3180, 3356, 1352	<u>NPD</u> (20µg)
Mean ± Standard deviation		26.7 ± 7.1	29.7 ± 5.8	2629.3 ± 1109.7	
	+	25, 32, 25	31, 30, 36	3746, 3567, 3748	<u>2-AF</u> (20µg)
Mean ± Standard deviation		27.3 ± 4.0	32.3 ± 3.2	3687.0 ± 103.9	
<i>Salmonella typhimurium</i> TA102	-	542, 579, 509	561, 588, 556	3943, 4113, 4288	<u>Mitomycin C</u> (10µg)
Mean ± Standard deviation		543.3 ± 35.0	568.3 ± 17.2	4114.7 ± 172.5	
	+	483, 469, 546	599, 575, 512	2793, 2674, 2537	
Mean ± Standard deviation		499.3 ± 41.0	562.0 ± 44.9	2668.0 ± 128.1	

Comments S9 was used as the metabolic activator. NPD (4-nitro-o-phenylenediamine) and Mitomycin C are specific positive controls for strains TA98 - and TA102 (- and +) respectively, while 2-AF (2-aminofluorene) when used in conjunction with S9 is a positive control for TA98+.

Evaluation The product passed the requirements of clause 6.6 when tested at an exposure of 15000 mm² per Litre.

Number of Samples 1.

Test Comment Not applicable.

Peter Christopoulos
APPROVED SIGNATORY



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FINAL REPORT

Report ID : 292406

CLAUSE 6.7

Metals

Sample Description

The sample consisted of one panel with dimensions 75 mm x 100 mm providing a surface area of approximately 15000 mm² per Litre. Extracts were prepared using 1000 mL volumes of 50 mg/L hardness water.

Extraction Temperature

20°C ± 2°C.

Test Method

Metals (Appendix H)

Scaling Factor

Not applied.

Method of Analysis

All methods used to determine concentrations of metals are based on those described in the US EPA method 200.8 Determination of Trace elements in Waters and Wastes by Inductively Coupled Plasma - Mass Spectrometry. The methods have been adapted for the instrumentation in use at the Australian Water Quality Centre.

Concentration of the metals described in Table 2 of the AS/NZS 4020:2018 are determined as follows:

Aluminium, Antimony, Arsenic, Barium, Boron, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium and Silver by Inductively Coupled Plasma Mass Spectrometry.

Results	Limit of Reporting mg/L	Blank mg/L	Test 1 mg/L	Test 2 mg/L	Max Allowed mg/L
Final Extract					
Aluminium	0.001	0.003	0.004	0.004	0.2
Antimony	0.0005	<0.0005	<0.0005	<0.0005	0.003
Arsenic	0.0003	<0.0003	<0.0003	<0.0003	0.01
Barium	0.0005	<0.0005	<0.0005	<0.0005	0.7
Boron	0.020	<0.020	<0.02	<0.02	1.4
Cadmium	0.0001	<0.0001	<0.0001	<0.0001	0.002
Chromium	0.0001	<0.0001	<0.0001	<0.0001	0.05
Copper	0.0001	<0.0001	0.0002	0.0002	2.0
Iron	0.0005	<0.0005	<0.0005	<0.0005	0.3
Lead	0.0001	<0.0001	<0.0001	<0.0001	0.01
Manganese	0.0001	<0.0001	0.0001	0.0002	0.1
Mercury	0.00003	<0.00003	<0.00003	<0.00003	0.001
Molybdenum	0.0001	<0.0001	<0.0001	<0.0001	0.05
Nickel	0.0001	<0.0001	<0.0001	<0.0001	0.02
Selenium	0.0001	<0.0001	<0.0001	<0.0001	0.01
Silver	0.00003	<0.00003	<0.00003	<0.00003	0.1

Evaluation

The product passed the requirements of clause 6.7 when tested at an exposure of 15000 mm² per Litre.

Number of Samples

1.

Test Comment

Not applicable.

Dzung Bui
APPROVED SIGNATORY



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FINAL REPORT

Report ID : 292406

CLAUSE 6.8 Organic Compounds

Sample Description The sample consisted of one panel with dimensions 75 mm x 100 mm providing a surface area of approximately 15000 mm² per Litre. Extracts were prepared using 1000 mL volumes of 50 mg /L hardness water.

Extraction Temperature 20°C ± 2°C.

Test Method Organic Compounds (Clause 6.8). Max Allowed values are taken from the Australian Drinking Water Guidelines and Drinking-water Standards for New Zealand. Please note, some reported compounds have no guideline value.

Scaling Factor Not applied.

Results

Organic Compound Nitrosamines

	Blank µg/L	Test µg/L	Max Allowed
External Lab Report No.	ES2020302	ES2020302	
1-Nitrosopiperidine (NPip)	<0.003	<0.003	
1-Nitrosopyrrolidine (NPyr)	<0.01	<0.01	
Nitrosomorpholine (NMor)	<0.003	<0.003	
N-Nitrosodiethylamine (NDEA)	<0.01	<0.01	
N-Nitrosodimethylamine (NDMA)	0.004	0.006	0.1 µg/L
N-Nitrosodi-n-propylamine (NDPA)	<0.003	<0.003	
N-Nitrosomethylethylamine (NMEA)	<0.003	<0.003	

Organic Compound Phenols

	Blank µg/L	Test µg/L	Max Allowed
External Lab Report No.	ES2020302	ES2020302	
2 4 5-trichlorophenol	<1.0	<1.0	
2 4 6-trichlorophenol	<1.0	<1.0	20 µg/L
2 4-dichlorophenol	<1.0	<1.0	200 µg/L
2 4-dimethylphenol	<1.0	<1.0	
2 6-dichlorophenol	<1.0	<1.0	
2-chlorophenol	<1.0	<1.0	300 µg/L
2-nitrophenol	<1.0	<1.0	
4-chloro-3-methylphenol	<1.0	<1.0	
m+p cresol	<2.0	<2.0	
o-cresol	<1.0	<1.0	
pentachlorophenol	<2.0	<2.0	9 µg/L
phenol	<1.0	<1.0	



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FINAL REPORT

Report ID : 292406

Organic Compound

Phthalate Esters

	Blank µg/L	Test µg/L	Max Allowed
External Lab Report No.	ES2020302	ES2020302	
Bis(2-ethylhexyl) phthalate	<10	<10	10 µg/L
Butyl benzyl phthalate	<2	<2	
Di(2-ethylhexyl) adipate	<2	<2	
Diethyl phthalate	<2	<2	
Dimethyl phthalate	<2	<2	
Di-n-butyl phthalate	<2	<2	
Di-n-octyl phthalate	<2	<2	

Organic Compound

Polycyclic Aromatic Hydrocarbons

	Blank µg/L	Test µg/L	Max Allowed
External Lab Report No.	ES2020302	ES2020302	
Acenaphthene	<0.02	<0.02	
Acenaphthylene	<0.02	<0.02	
Anthracene	<0.02	<0.02	
Benzo(a)anthracene	<0.02	<0.02	
Benzo(a)pyrene	<0.005	<0.005	0.01 µg/L
Benzo(a)pyrene TEQ	<0.005	<0.005	
Benzo(b+j)fluoranthene	<0.02	<0.02	
Benzo(ghi)perylene	<0.02	<0.02	
Benzo(k)fluoranthene	<0.02	<0.02	
Chrysene	<0.02	<0.02	
Dibenzo(a-h)anthracene	<0.02	<0.02	
Fluoranthene	<0.02	<0.02	
Fluorene	<0.02	<0.02	
Indeno(123-cd)pyrene	<0.02	<0.02	
Naphthalene	<0.02	0.03	
PAH - Total	<0.005	0.030	
Phenanthrene	<0.02	<0.02	
Pyrene	<0.02	<0.02	



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Organic Compound

Volatile Organic Compounds GCMS

	Blank µg/L	Test µg/L	Max Allowed
1 1 1 2-Tetrachloroethane	<1	<1	
1 1 1-Trichloroethane	<1	<1	
1 1 2 2-Tetrachloroethane	<1	<1	
1 1 2-Trichloroethane	<1	<1	
1 1-Dichloropropene	<1	<1	
1 2 3-Trichlorobenzene	<1	<1	
1 2 3-Trichloropropane	<1	<1	
1 2 4-Trichlorobenzene	<1	<1	
1 2 4-Trimethylbenzene	<1	<1	
1 2-Dibromo-3-chloropropane	<1	<1	1 µg/L
1 2-Dibromoethane	<1	<1	1 µg/L
1 2-Dichlorobenzene	<1	<1	1500 µg/L
1 2-Dichloroethane	<1	<1	3 µg/L
1 2-Dichloropropane	<1	<1	
1 3 5-Trimethylbenzene	<1	<1	
1 3-Dichlorobenzene	<1	<1	
1 3-Dichloropropane	<1	<1	
1 4-Dichlorobenzene	<1	<1	40 µg/L
1,1-Dichloroethane	<1	<1	
1,1-Dichloroethene	<1	<1	30 µg/L
2,2-Dichloropropane	<1	<1	
2-Chlorotoluene	<1	<1	
4-Chlorotoluene	<1	<1	
4-Isopropyltoluene	<1	<1	
Benzene	<1	<1	1 µg/L
Bromobenzene	<1	<1	
Bromochloromethane	<1	<1	
Bromodichloromethane	<1	<1	60 µg/L
Bromoform	<1	<1	100 µg/L
Bromomethane	<4	<4	
Carbon tetrachloride	<1	<1	3 µg/L
Chlorobenzene	<1	<1	300 µg/L
Chloroethane	<4	<4	
Chloroform	<1	<1	400 µg/L
Chloromethane	<4	<4	
cis-1 3-Dichloropropene	<1	<1	
cis-1,2-Dichloroethene	<1	<1	
Dibromochloromethane	<1	<1	150 µg/L
Dibromomethane	<1	<1	
Dichlorodifluoromethane	<1	<1	
Dichloromethane	<4	<4	4 µg/L
Ethylbenzene	<1	<1	300 µg/L
Hexachlorobutadiene	<0.7	<0.7	0.7 µg/L
Isopropylbenzene	<1	<1	
m+p-Xylenes - Total	<2	<2	



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FINAL REPORT

Report ID : 292406

Organic Compound

Volatile Organic Compounds GCMS

	Blank µg/L	Test µg/L	Max Allowed
Naphthalene	<1	<1	
n-Butylbenzene	<1	<1	
n-Propylbenzene	<1	<1	
o-Xylene	<1	<1	
sec-Butylbenzene	<1	<1	
Styrene	<1	<1	30 µg/L
tert-Butylbenzene	<1	<1	
Tetrachloroethene	<1	<1	50 µg/L
Toluene	<1	<1	800 µg/L
Total 1,2-dichloroethene	<2	<2	60 µg/L
Total 1,3-dichloropropene	<2	<2	20 µg/L
Total Trichlorobenzene	<2	<2	30 µg/L
Total Xylene	<3	<3	600 µg/L
trans-1,3-Dichloropropene	<1	<1	
trans-1,2-Dichloroethene	<1	<1	
Trichloroethene	<1	<1	
Trichlorofluoromethane	<1	<1	
Trihalomethanes - Total	<4	<4	250 µg/L
Vinyl chloride	<0.3	<0.3	0.3 µg/L

Evaluation

The product passed the requirements of clause 6.8 when tested at an exposure of 15000 mm² per Litre.

Number of Samples 1.

Test Comment Not applicable.

Qiong Huang

APPROVED SIGNATORY



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Safety Data Sheet
Wetsuit® 2-Part
17-WS-55 / 17-WSE-55 / 17-WSP-55

according to Regulation
(EC) No. 1907/2006 (REACH)
with its amendment Regulation (EC) No. 453/2010
Federal register / vol 77 n° 58 03/26/2012
Rules & regulations

Date of issue: Revision date: 30/07/2019 Supersedes: V3.6 Version: 3.7

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Liquid mixture
Product name : Wetsuit® 2-Part Roofing & Waterproofing Coating
Wetsuit® EKO & Wetsuit® EPLUS
Product Code : 17-WS-55 / 17-WSE-55 / 17-WSP-55
Type of product : Roofing & waterproofing 2 component coating

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Main use category : Industrial use / Professional use
Industrial/Professional use spec : Wide dispersive use
Use of the substance/mixture : Coating

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Neptune Coatings Inc
4260 Wagon Trail Avenue
Las Vegas, NV 89118 USA
T +1 (702) 410 5500 - F +1 (702) 410 5889
info@neptunecoatings.com

Australian Water Quality Centre

Report Number... 292406

Date... 28/9/2020

Document reviewed by... MICHAEL GLASSOR

Signature... M. Glassor

Informations : +1 702 751 0460 & Neptune Coatings working days +1 702 410 5500 9 AM to 5PM

1.4. Emergency telephone number

Country	Official advisory body	Address	Emergency number
United States	Neptune Coatings Emergency number (English Speaking)	Las Vegas NV	+1 702 605 3881
United Kingdom	Neptune Coatings Emergency number (English Speaking)	London	+44 203239 7225
United States	National Capital Poison Center		+ 1 800 222 1222
United Kingdom	NPIS Edinburgh (Scottish Poisons Information Bureau) Royal Infirmary of Edinburgh	51 Little France Crescent EH16 4SA Edinburgh	0844 892 0111
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	0870 243 2241
Belgique	Centre Anti-Poisons/Antigifocentrum c/o Hôpital Central de la Base - Reine Astrid	Rue Bruyn 1 1120 Bruxelles/Brussel	+32 70 245 245
France	Centre Antipoison Hôpital Edouard Hérriot	5 Place d'Arsonval F-69437 Lyon Cedex 03	+33 4 72 11 69 11
Nederland	Nationaal Vergiftigingen Informatie Centrum	Huispostnummer B.00.118 PO Box 85500 3508 GA Utrecht	+31 30 274 88 88

Neptune Coatings Corporation



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION

11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
T (786) 315-2590 F (786) 315-2599
www.miamidade.gov/economy

Harco Americas Inc.
4260 Wagon Trail Avenue
Las Vegas, NV 89118

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami-Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (in Miami-Dade County) and/or the AHJ (in areas other than Miami-Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: HarcoSil Roof Coating

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA consists of pages 1 through 3.

The submitted documentation was reviewed by Jorge L. Acebo.



NOA No.: 23-0209.05
Expiration Date: 11/18/26
Approval Date: 06/22/23
Page 1 of 3

ROOFING COMPONENT APPROVAL

Category: Roofing
Sub-Category: Cements and Coatings
Material: Silicone
Fire Classification: See General Limitation #1

SCOPE:

This approves **HarcoSil Roof Coating**, as described in this Notice of Acceptance. This product has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone of the Florida Building Code.

MANUFACTURING LOCATION

1. Houston, TX

EVIDENCE SUBMITTED:

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Test Name/Report</u>	<u>Date</u>
PRI Construction Materials Technologies Inc.	1746T0009	ASTM D6694	07/21/21

PHYSICAL PROPERTIES OF COMPONENTS:

Trade names: HarcoSil Roof Coating

Application Rate: Application rate varies due to substrate. See Approved Substrates below for application rates.

Specifications: ASTM D6694

Description: A high solids, white or light gray, single component, silicone roof coating. May be applied by brush, roller or spray applications at an application rate listed below;

Container Size: 5 gallon pails, 55 gallon drums, and 275 gallon totes.

Substrate Preparation: All surfaces to receive coatings must be sound, clean, dry and free from any foreign matter such as dirt, oils, grease or other debris that could inhibit the adhesion. Visually inspect all metal and non-metal flashings, edges, drains, valleys and through-roof penetrations and repair as needed in compliance with Polyglass current published application instructions.

NOTE: Ponding water on any roof is unfavorable. All roof systems should ensure positive drainage.

All surface preparation shall be in compliance with Harco Americas' current published application instructions.

<u>Surface</u>	<u>Application Rate</u>
Spray Polyurethane Foam Roofs	Apply at a rate of 1.5-2.5 gallons per 100 square feet.



NOA No.: 23-0209.05
Expiration Date: 11/18/26
Approval Date: 06/22/23
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GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance; refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Product shall be applied in strict compliance with Manufacturer's published application instructions when not in conflict with the information contained herein.
3. Coating products shall not be applied in inclement weather conditions.
4. The product listed herein are components of roof assemblies and are approved for use with roof assemblies that list any of the products listed herein as part of their Roof Assembly Notice of Acceptance. If a product is not listed as part of roof assemblies Notice of Acceptance, a request may be made to the local building official or the Miami Dade County Product Control Section for approval provided that appropriate documentation is provided.
5. All products listed herein shall have an unannounced follow-up quality control program from an approved listing agency. Follow up test results shall be made available to RER upon request.
6. All approved products listed herein shall be labeled in compliance with TAS 121 and shall bear the imprint or identifiable marking of the manufacturer's name or logo and following statement: "Miami-Dade County Product Control Approved" or the Miami-Dade County Product Control Seal as shown below.



7. The use of a reinforcing fabric in a maintenance coating is only to enhance the coatings' ability to deliver efficient and long term performance through the protection of the underlying roof system and in this particular use does not become a roof system itself
8. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 61G20-3 of the Florida Administrative Code.

END OF THIS ACCEPTANCE





DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION

11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
T (786) 315-2590 F (786) 315-2599

www.miamidade.gov/economy

Harco Americas Inc.
4260 Wagon Trail Avenue
Las Vegas, NV 89118

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (in Miami-Dade County) and/or the AHJ (in areas other than Miami-Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein and has been designed to comply with the Florida Building Code including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Reflex HPW and Reflex W200 Roof Coatings

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA consists of pages 1 through 4.

The submitted documentation was reviewed by Jorge L. Acebo.



NOA No.: 23-0209.04
Expiration Date: 05/05/26
Approval Date: 06/22/23
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ROOFING COMPONENT APPROVAL

Category: Roofing
Sub-Category: Cements - Coatings - Adhesives
Materials: Acrylic Elastomeric

SCOPE:

This approves '**Reflex HPW and Reflex W200 Roof Coatings**' as roof maintenance coatings, as described in this Notice of Acceptance, and designed to comply with the Florida Building Code and the High Velocity Hurricane Zone of the Florida Building Code.

MANUFACTURING LOCATIONS:

1. Houston, TX

EVIDENCE SUBMITTED:

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Test Name/Report</u>	<u>Date</u>
PRI Construction Materials Technologies	EVST-002-02-01	ASTM D6083	07/16/15
	EVST-001-02-01	ASTM D6083	07/16/15
	EVST-003-02-01	ASTM D6083	07/12/19

PHYSICAL PROPERTIES OF COMPONENTS:

Trade name: Reflex HPW
Thickness: See System Approvals Below
Specifications: ASTM D6083/FM 4470 Foot Traffic/ASTM G154

Description: Water-based general purpose elastomeric acrylic coatings suitable for application to a clean and sound surface. All surfaces shall be prepared in accordance with manufacturer's current published technical data/application instructions. Allowable substrates are as follows:

- **Galvanized Steel:** Apply two coats at a rate of 1.5 gal./100 ft² per coat to yield an average total thickness of 48 mils wet (25 mils DFT)
- **Single Ply EPDM:** Prepare surface with PrimeMate ER. Apply two coats at a rate of 1.5 gal./100 ft² per coat to yield an average total thickness of 48 mils wet (25 mils DFT)
- **Single Ply PVC:** Prime surface with PrimeMate PTP Primer. Apply two coats at a rate of 1.5 gal./100 ft² per coat to yield an average total thickness of 48 mils wet (25 mils DFT)
- **Spray Applied Polyurethane Foam:** Apply two coats at a rate of 1.5 gal./100 ft² per coat to yield an average total thickness of 48 mils wet (25 mils DFT)

Container Sizes: 5 and 55 gallons. Note cautions on container label.

Systems Approvals: Methods of application and quantities shall comply with the specific Roof Assembly System's Product Control Notice of Acceptance where it exceeds standards of this NOA.



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Expiration Date: 05/05/26
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- Trade name:** Reflex W200
- Thickness:** See System Approvals Below
- Specifications:** ASTM D6083
- Description:** Water-based general purpose elastomeric acrylic coatings suitable for application to a clean and sound surface. All surfaces shall be prepared in accordance with manufacturer's current published technical data/application instructions. Allowable substrates are as follows:
- **SBS Modified Bitumen – Granule surface:** Apply two coats at a rate of 1.5 gal/100 sq ft, for a combined total of 3.0 gal/100 sq ft (25 mils dry film thickness calculated, 20 mils minimum)
 - **Soprema Sopralene FR GR:** Apply two coats at a rate of 1.5 gal/100 sq ft, for a combined total of 3.0 gal/100 sq ft (25 mils dry film thickness calculated, 20 mils minimum)
 - **Galvanized Steel:** Apply two coats at a rate of 1.5 gal/100 sq ft, for a combined total of 3.0 gal/100 sq ft (25 mils dry film thickness calculated, 20 mils minimum)
- Container Sizes:** 5 and 55 gallons. Note cautions on container label.
- Systems Approvals:** Methods of application and quantities shall comply with the specific Roof Assembly System's Product Control Notice of Acceptance where it exceeds standards of this NOA.

BUILDING PERMIT REQUIREMENTS:

Application for building permit shall be accompanied by copies of the following:

1. This Notice of Acceptance
2. Any other documents required by the building official or the Applicable Building Code in order to properly evaluate the installation of this system.



NOA No.: 23-0209.04
Expiration Date: 05/05/26
Approval Date: 06/22/23
Page 3 of 4

LIMITATIONS:

1. Fire classification is not part of this acceptance; refer to a current Approved Roofing Materials Directory for fire rating of this product.
2. **Reflex HPW and Reflex W200 Roof Coatings** shall not be applied in inclement weather conditions.
3. The products listed herein are components of roof assemblies and are approved for use with roof assemblies that list the products listed herein as part of their Roof Assembly System's Notice of Acceptance.
4. Change in materials, use, or manufacture of any of the products listed herein shall be cause for termination of this Notice of Acceptance.
5. **Reflex HPW and Reflex W200 Roof Coatings** shall be applied in accordance with manufacturer's published application instructions.
6. All products listed herein shall have an unannounced follow-up quality control program from an approved listing agency. Follow up test results shall be made available to the Miami Dade Product Control upon request.
7. The use of a reinforcing fabric in a maintenance coating is only to enhance the coating's ability to deliver efficient and long term performance through the protection of the underlying roof system and in this particular use does not become a roof system itself.
8. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 61G20-3 of the Florida Administrative Code.
9. All approved products listed herein shall be labeled in compliance with TAS 121 and shall bear the imprint or identifiable marking of the manufacturer's name or logo, city and state of manufacturing facility, and the following statement: "Miami-Dade County Product Control Approved" or the Miami-Dade County Product Control Seal as shown below.



END OF THIS ACCEPTANCE



NOA No.: 23-0209.04
Expiration Date: 05/05/26
Approval Date: 06/22/23
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Certificate of Compliance

This certificate is issued for the following:

HarcoSil 19-97 and Reflex HPW

Prepared for:

Harco Americas Inc
4260 Wagon Trail Ave
Las Vegas, NV 89118
United States

FM Approvals Class: 4482

Approval Identification: PR467530 Approval Granted: 14 December 2023

To verify the availability of the Approved product, please refer to www.roofnav.com

Said Approval is subject to satisfactory field performance, continuing Surveillance Audits, and strict conformity to the constructions as shown in RoofNav, an online resource of FM Approvals.

A handwritten signature in black ink, reading 'Phillip J. Smith', is placed on a light purple rectangular background.

Phillip J. Smith
VP - Manager of Materials
FM Approvals
One Technology Way
Norwood, MA 02062



Member of the FM Global Group