Listing

A Duly Authenticated Report from an Approved Agency

Report No: 2311-03

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Owens Corning® Lumber Marine Grade Decking®

Trade Secret Report Holder:

Owens Corning

Phone: 800-GET-PINK Website: owenscorning.com Email: productcompliance@owenscorning.com

CSI Designations:

DIVISION: 06 00 00 - WOOD, PLASTICS AND COMPOSITES Section: 06 73 00 - Composite Decking Section: 06 73 13 - Composite Structural Decking

1 Innovative Product Evaluated[1]

1.1 Owens Corning Lumber Marine Grade Decking

2 Product Description and Materials

2.1 The innovative product evaluated in this report is shown in **Figure 1** and is described in **Table 1**.



Figure 1. Owens Corning Lumber Marine Grade Decking

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Table 1. Owens Corning Lumber Marine Grade Decking Product Information

Owens Corning Lumber Marine Grade Decking Profile ID	Description	Material	Standard Length[2]	Actual Width	Actual Thickness	Available Colors[1]
1" x 6"	Wood-Free Composite Lumber for Decking Applications	High-Density Polyethylene (HDPE) Reinforced with Advantex® Fiberglas™	12', 16', 20' (3,660 mm, 4,880 mm, 6,100 mm)	5 1/2" (140 mm)	1.02" (26 mm)	Moonstone, Shale, Sanddollar, Stratus, Fog, Mink, Gobi, Saddlestone, Obsidian
1" x 8"				7 1/4" (184 mm)	1.02" (26 mm)	
2" x 6"				5 1/2" (140 mm)	1.35" (34 mm)	
Joists[3] (Owens Corning® Lumber Structural Framing)	Reinforced polymeric lumber for joist applications (edgewise orientation) available in the following sizes: Nominal: 2x6, 2x8, 2x10, and 2x12 Actual: 1.5" x 5.5", 1.5" x 7.5", 1.5" x 9.25" and 1.5" x 11.25"					
Posts[4] (Owens Corning® Lumber Structural Posts)	Chopped fiberglass reinforced PVC extrusion with an acrylic surface coating: ≥ 15% of overall total weight is fibrous glass < 2.5% by weight of organic surface binder					

SI: 1 in = 25.4 mm, 1 ft = 305 mm

1. Refer to **Figure 2** for additional details.
2. Custom lengths up to 28' (8,540 mm) are available.
3. See Report Number 2302-42 for material properties.
4. See Report Number 2307-07 for material properties



Figure 2. Owens Corning Lumber Marine Grade Decking – Available Colors

2.2 As needed, review material properties for design in **Section 6**.

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3 Definitions[2]

3.1 New Materials[3] are defined as building materials, equipment, appliances, systems, or methods of construction, not provided for by prescriptive and/or legislatively adopted regulations, known as alternative materials.[4] The design strength and permissible stresses shall be established by tests[5] and/or engineering analysis.[6]

3.2 Duly authenticated reports[7] and research reports[8] are test reports and related engineering evaluations that are written by an approved agency[9] and/or an approved source.[10]

3.2.1 This report utilizes intellectual property and/or trade secrets to create public domain material properties for commercial end-use.

3.2.1.1 This report protects confidential Intellectual Property and trade secrets under the regulation, 18.US.Code.90, also known as Defend Trade Secrets Act of 2016 (DTSA).[11]

3.3 An approved agency is *"approved"* when it is ANAB ISO/IEC 17065 accredited. DrJ Engineering, LLC (DrJ) is accredited and listed in the ANAB directory.

3.4 An approved source is *"approved"* when a professional engineer (i.e., Registered Design Professional, hereinafter RDP) is properly licensed to transact engineering commerce. The regulatory authority governing approved sources is the state legislature via its professional engineering regulations.[12]

3.5 Testing and/or inspections conducted for this duly authenticated report were performed by an ISO/IEC 17025 accredited testing laboratory, an ISO/IEC 17020 accredited inspection body, and/or a licensed RDP.

3.5.1 The Center for Building Innovation (CBI) is ANAB[13] ISO/IEC 17025 and ISO/IEC 17020 accredited.

3.6 The regulatory authority shall enforce[14] the specific provisions of each legislatively adopted regulation. If there is a non-conformance, the specific regulatory section and language of the non-conformance shall be provided in writing[15] stating the nonconformance and the path to its cure.

3.7 The regulatory authority shall accept duly authenticated reports from an approved agency and/or an approved source with respect to the quality and manner of use of new materials or assemblies as provided for in regulations regarding the use of alternative materials, designs, or methods of construction.[16]

3.8 ANAB is an International Accreditation Forum (IAF) Multilateral Recognition Arrangement (MLA) signatory. Therefore, recognition of certificates and validation statements issued by conformity assessment bodies accredited by all other signatories of the IAF MLA with the appropriate scope shall be approved.[17] Thus, all ANAB ISO/IEC 17065 duly authenticated reports are approval equivalent,[18] and can be used in any country that is an MLA signatory found at this link: https://iaf.nu/en/recognised-abs/

3.9 Approval equity is a fundamental commercial and legal principle.[19]

4 Applicable Standards for the Listing[20]

4.1 *Local, State, and Federal*

4.1.1 Approved in all local jurisdictions pursuant to ISO/IEC 17065 duly authenticated report use, which includes, but is not limited to, the following featured local jurisdictions: Austin, Baltimore, Broward County, Chicago, Clark County, Dade County, Dallas, Detroit, Denver, DuPage County, Fort Worth, Houston, Kansas City, King County, Knoxville, Las Vegas, Los Angeles City, Los Angeles County, Miami, Nashville, New York City, Omaha, Philadelphia, Phoenix, Portland, San Antonio, San Diego, San Jose, San Francisco, Seattle, Sioux Falls, South Holland, St. Louis County, Texas Department of Insurance, and Wichita.[21]

4.1.2 Approved in all state jurisdictions pursuant to ISO/IEC 17065 duly authenticated report use, which includes, but is not limited to, the following featured states: California, Florida, New Jersey, Oregon, New York, Texas, Washington, and Wisconsin.[22]

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4.1.3 Approved by the Code of Federal Regulations Manufactured Home Construction: Pursuant to Title 24, Subtitle B, Chapter XX, Part 3282.14[23] and Part 3280[24] pursuant to the use of ISO/IEC 17065 duly authenticated reports.

4.1.4 Approved means complying with the requirements of local, state, or federal legislation.

4.2 *Standards*

4.2.1 *ASTM D1037: Standard Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials*

4.2.2 *ASTM D1761: Standard Test Methods for Mechanical Fasteners in Wood and Wood-Based Materials*

4.2.3 *ASTM D2394: Standard Test Methods for Simulated Service Testing of Wood and Wood-Based Finish Flooring*

4.2.4 *ASTM D6109: Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastic Lumber and Related Products*

4.2.5 *ASTM D7032: Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards, and Handrails*

4.2.6 *ASTM E84: Standard Test Method for Surface Burning Characteristics of Building Materials*

5 Listed[25]

5.1 Equipment, materials, products, or services included in a List published by a nationally recognized testing laboratory (e.g., CBI), an approved agency (e.g., CBI and DrJ), and/or and approved source (e.g., DrJ), or other organization(s) concerned with product evaluation (e.g., DrJ), that maintains periodic inspection (e.g., CBI) of production of listed equipment or materials, and whose listing states either that the equipment or material meets nationally recognized standards or has been tested and found suitable for use in a specified manner.

6 Tabulated Properties Generated from Nationally Recognized Standards

6.1 *Structural Properties*

6.1.1 Flexural properties of the Owens Corning Lumber Marine Grade Decking profiles listed in **Table 2** were evaluated in accordance with ASTM D7032.

6.1.1.1 Flexural properties at ambient conditions (as defined in ASTM D7032: 68° F ±4° F and 50 ±5% Relative Humidity [RH]) are provided in **Table 2**.

Table 2. Owens Corning Lumber Marine Grade Decking Flatwise Orientation Flexural Design Values[1]

Owens Corning Lumber Marine Grade Decking Profile ID	F_b (psi)	EI (lb-in^2)	MOE (psi)	Nominal I_x (in^4)	Nominal S_x (in^3)
1" x 6"	1,800	250,000	510,000	0.49	0.95
1" x 8"	1,800	310,000	490,000	0.64	1.26
2" x 6"	1,600	480,000	430,000	1.13	1.67

SI: 1 psi = 6.9 kPa, 1 lb-in^2 = 2.87 kN-mm^2, 1 in^4 = 41.6 cm^4, 1 in^3 = 16.4 cm^2

1. Flexural properties based on a temperature factor of 1.0.

6.1.2 Span ratings for the listed Owens Corning Lumber Marine Grade Decking profiles are presented in **Table 3**.

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6.1.2.1 The effects of temperature (-20° F and 125° F) and freeze-thaw cycles on Owens Corning Lumber Marine Grade Decking were evaluated.

6.1.2.2 Allowable loads in **Table 3** have been adjusted for high temperature and freeze-thaw effects in accordance with ASTM D7032 Section 5.1.1.

6.1.2.3 The maximum allowable total load at various deflection points per joist spacing is provided in **Table 4**.

Table 3. Span Ratings for Owens Corning Lumber Marine Grade Decking[1,2]

Owens Corning Lumber Marine Grade Decking Profile ID	Maximum Deck Board Span (in)	Allowable Load Capacity (psf)
1" x 6"	24	100
1" x 8"		
2" x 6"		

SI 1 in = 25.4 mm, 1 psf = 47.9 Pa

1. Span ratings do not account for UV or moisture.
2. Allowable load capacity based on ASTM D7032 requirements, load at $L/180$.

Table 4. Maximum Allowable Total Uniform Load (psf) at Various Deflection Points[1]

Owens Corning Lumber Marine Grade Decking Profile ID	Span (Joist Spacing)								
	12" o.c.			16" o.c.			24" o.c.		
	L/180	L/240	L/360	L/180	L/240	L/360	L/180	L/240	L/360
1" x 6"	1,570	1,180	785	665	495	330	195	145	100
1" x 8"	1,570	1,180	785	665	495	330	195	145	100
2" x 6"	3,135	2,350	1,565	1,320	990	660	390	295	195

SI 1 in = 25.4 mm, 1 psf = 47.9 Pa

1. Allowable loads based on a temperature factor of 1.0.

6.1.3 *Stair Tread Performance*

6.1.3.1 Owens Corning Lumber Marine Grade Decking profiles, as listed in **Table 5**, were evaluated to assess performance for use as stair treads in accordance with ASTM D7032 Section 5.3.2.

6.1.3.1.1 See **Table 5** for assessment of stair tread performance.

Table 5. Stair Tread Performance

Owens Corning Lumber Marine Grade Decking Profile ID	Span (in)	Deflection[1] (in)	Pass/Fail Criteria[1]	Support[2]
1" x 6"	14	< 0.125	Meets Criteria	Maximum 14" span
1" x 8"				
2" x 6"				

SI: 1 in = 25.4 mm

1. Deflection at 354 lb (300 lb + 18% adjustment). The deflection at the adjusted load shall not be greater than $1/8$".
2. Minimum concentrated load of 1,037 lb (750 lb + 38% adjustment).

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6.1.4 *Creep Resistance*

6.1.4.1 Owens Corning Lumber Marine Grade Decking was evaluated for creep recovery in accordance with ASTM D7032 Section 5.4.

6.1.4.1.1 See **Table 6** for assessment of creep recovery.

Table 6. Creep Recovery

Product	Span (in)	Average Percent Recovery (%)	Pass/Fail[1] Criteria
Owens Corning Lumber Marine Grade Decking	24	≥75%	Meets Criteria

SI: 1 in = 25.4 mm

1. Based on requirements specified in ASTM D7032 Section 5.4.

6.2 *Mechanical Fasteners*

6.2.1 Head pull-through resistance of Owens Corning Lumber Marine Grade Decking installed with the fasteners stated in **Table 7** was evaluated in accordance with ASTM D1761 per ASTM D7032 Section 5.5.

6.2.1.1 Allowable pull-through values are presented in **Table 7**.

Table 7. Allowable Fastener Head Pull-Through Values

Owens Corning Lumber Marine Grade Decking Profile ID	Fastener		
	Deckmate® Composite Screw, #9 x 2 1/2"[1]	CAMO Premium 316 Stainless Steel Deck Screw, #10 x 2 1/2"[2]	Starborn CAP-TOR xd 305 Stainless Steel Composite/PVC Screw, #10 x 2 3/4"[3]
1" x 6"	235	265	280
1" x 8"	235	260	320
2" x 6"	235	370	370

SI: 1 in = 25.4 mm, 1 lbf = 4.45 N

1. Average measured head diameter of 0.261".
2. Nominal head diameter of 0.354".
3. Average measured head diameter of 0.265".

6.2.2 Resistance to lateral movement of fasteners through Owens Corning Lumber Marine Grade Decking installed with #10 x 2 1/2" CAMO Premium 316 Stainless Steel deck screws, and #10 x 2 3/4" Starborn CAP TOR xd 305 Stainless Steel deck screws were evaluated in accordance with ASTM D1037 per ASTM D7032 Section 5.5.

6.2.2.1 Allowable lateral values are presented in **Table 8** for fasteners installed into the wide face of the Owens Corning Lumber Marine Grade Decking profiles.

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Table 8. Allowable Lateral Resistance Design Values[1] (lb) for Fasteners Installed in the Wide Face

Owens Corning Lumber Marine Grade Decking Profile	Loaded Towards Factory Edge		Loaded Towards Cut End	
	CAMO Premium 316 Stainless Steel Deck Screw, #10 x 2 1/2"	Starborn CAP-TOR xd 305 Stainless Steel Composite/PVC Screw, #10 x 2 3/4"	CAMO Premium 316 Stainless Steel Deck Screw, #10 x 2 1/2"	Starborn CAP-TOR xd 305 Stainless Steel Composite/PVC Screw, #10 x 2 3/4"
1/2" x 6" or 1/2" x 10"	210	210	200	205
1" x 6" or 1" x 8"	335	355	275	280
2" x 6"	400	415	325	355

SI: 1 in = 25.4 mm, 1 lb = 4.45 N

1. Loads are applicable when listed fasteners are installed minimum 1/2" (12.5 mm) from the edge or end of the deck board. Direction of loading is towards the shortest distance between the fastener and the edge or end of the deck board.

6.2.3 Allowable lateral values are presented in **Table 9** for fasteners installed into the narrow face (edge) of the Owens Corning Lumber Marine Grade Decking profiles.

Table 9. Allowable Lateral Resistance Design Values[1] (lb) for Fasteners Installed in the Narrow Face (edge)

Owens Corning Lumber Marine Grade Decking Profile	Loaded Towards Factory Edge		Loaded Towards Cut End	
	CAMO Premium 316 Stainless Steel Deck Screw, #10 x 2 1/2"	Starborn CAP-TOR xd 305 Stainless Steel Composite/PVC Screw, #10 x 2 3/4"	CAMO Premium 316 Stainless Steel Deck Screw, #10 x 2 1/2"	Starborn CAP-TOR xd 305 Stainless Steel Composite/PVC Screw, #10 x 2 3/4"
1" x 6"	450	460	315	330
1" x 8"				
2" x 6"				

SI: 1 in = 25.4 mm, 1 lb = 4.45 N

1. Loads are applicable when listed fasteners are installed minimum 1/2" (12.5 mm) from the edge or end of the deck board. Direction of loading is towards the shortest distance between the fastener and the edge or end of the deck board.

6.3 *Protection Against Decay*

6.3.1 Owens Corning Lumber Marine Grade Decking contains no wood or cellulosic materials and meets the requirements of the IBC and IRC where protection against biodegradation and decay is required.

6.4 *Protection Against Termites*

6.4.1 Owens Corning Lumber Marine Grade Decking contains no wood or cellulosic materials and meets the requirements of the IBC and IRC where protection against termite attack is required.

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6.5 *Surface-Burning Characteristics*

6.5.1 Owens Corning Lumber Marine Grade Decking was evaluated to assess flame spread in accordance with ASTM E84.

6.5.1.1 The flame spread index is presented in **Table 10**.

Table 10. Flame Spread Index[1]

Product	Flame Spread Index (FSI)
Owens Corning Lumber Marine Grade Decking	≤ 75

1. Tested in accordance with ASTM E84.

6.6 *Slip Resistance*

6.6.1 Slip resistance of Owens Corning Lumber Marine Grade Decking was evaluated in accordance with ASTM D2394. Results are in shown **Table 11**.

Table 11. Slip Resistance – Coefficient of Friction

Product	Surface	Direction of Test[1]			
		A		B	
		Coefficient of Static Friction, μ_s	Coefficient of Kinetic Friction, μ_k	Coefficient of Static Friction, μ_s	Coefficient of Kinetic Friction, μ_k
Owens Corning Lumber Marine Grade Decking	Dry	0.38	0.23	0.33	0.23
	Wet	0.43	0.26	0.42	0.32

1. Direction of tests are as follows:
   a. Parallel to the direction of manufacture (along the length).
   b. Perpendicular to the direction of manufacture (along the width).

6.7 Alternative techniques shall be permitted in accordance with accepted engineering practice and experience. These provisions for the use of alternative materials, designs, and methods of construction are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed herein. This includes, but is not limited to, the following areas of engineering: mechanics of materials, structures, building science, and fire science.

7 Certified Performance[26]

7.1 All construction methods shall conform to accepted engineering practices to ensure durable, livable, and safe construction and shall demonstrate acceptable workmanship reflecting journeyman quality of work of the various trades.[27]

7.2 The strength and rigidity of the component parts and/or the integrated structure shall be determined by engineering analysis or by suitable load tests to simulate the actual loads and conditions of application that occur.[28]

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8 Installation

8.1 Installation shall comply with the approved construction documents, the manufacturer installation instructions, this report, and the applicable building code.

8.2 In the event of a conflict between the manufacturer installation instructions and this report, contact the manufacturer for counsel on the proper installation method.

8.3 *General*

8.3.1 The installation guide detailing the installation process can be found on the Owens Corning website: Owens Corning's Installation Guide, Deck Construction: Structural Framing and Marine Grade Decking.[29]

8.3.2 Pencils shall not be used on Owens Corning Lumber Marine Grade Decking products.

8.3.2.1 Use a blue chalk line or a blue wax-coated carpenter pencil.

8.3.2.2 Red chalk is not recommended, as it is difficult to remove.

8.3.2.3 Stainless steel composite deck screws are recommended for their corrosion-resistant properties.

8.3.3 *Minimum Screw Lengths*

8.3.3.1 3" long screws for Owens Corning Lumber Marine Grade Decking profiles: 2" x 6"

8.3.3.2 $2^1/_2$" long screws for Owens Corning Lumber Marine Grade Decking profiles: 1" x 6" and 1" x 8"

8.3.3.3 $1^1/_2$" long screws for Owens Corning Lumber Marine Grade Decking profiles: $^1/_2$" x 6" and $^1/_2$" x 10"

8.3.4 When cutting Owens Corning Lumber Marine Grade Decking products, use a 40T blade for miter saws and a 14 TPI carbide blade for jigsaws.

8.4 *Installation Procedure*

8.4.1 Install a ledger board to the desired structure per building code requirements.

8.4.1.1 For fasteners not specified in building codes, fastener spacing provisions from other approved sources may be permitted for the installation of the ledger board.

8.4.1.2 Ledger board shall be greater than or equal to the joist size.

8.4.2 Assemble 3-ply posts using 2 x 6 Owens Corning Lumber Structural Framing and #10 x 4" screws.

8.4.2.1 Screws shall be staggered and place 8" o.c.

8.4.2.2 Posts shall be anchored to footings in compliance with the applicable building codes.

8.4.3 Maximum allowable post spacing for specific projects may be found by using the installation guide or Report Number 2302-42.

8.4.4 Install drop beams (2-ply or 3-ply) onto the posts per building code requirements and manufacturer instructions.

8.4.4.1 Overhangs up to 2' over the sides of the joists may be permitted.

8.4.4.2 Overhangs are limited to the lesser of 2' or twenty-five percent (25%) of the length of the beam span between posts.

8.4.5 Install Owens Corning Lumber Structural Framing band joists, comprised of two 2x Owens Corning Lumber Structural Framing, using #10 x 3" composite deck screws.

8.4.5.1 Use "*Table 5: Max. Allowable Joist Spans*" in the installation guide, or Table 2 through Table 5 in Report Number 2302-42 to determine spacing and allowable joist span for specific projects.

8.4.5.2 Screws shall be staggered and placed 12" o.c.

8.4.5.3 Secure the band joists and subsequent single 2x joists using the appropriate joist hangers and fasteners.

8.4.6 Install blocking between each joist every 4' to 5' using #10 x 3" composite deck screws.

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8.4.7 Install front rim joist using #10 x 3" composite deck screws.

8.4.8 Install Owens Corning Lumber Marine Grade Decking boards perpendicular to each joist using two #9 x $2^{1}/_{2}$" composite deck screws.

8.4.8.1 Minimum end-to-end and side-to-side spacing between each board shall be at least a $^{1}/_{16}$". Spacing of $^{3}/_{16}$" is recommended.

8.5 *Stair Tread*

8.5.1 Minimum of a two span configuration shall be installed when deck boards are used for stair tread applications.

8.5.2 Stringers shall be reinforced with blocking.

9 Substantiating Data

9.1 Testing has been performed under the supervision of a professional engineer and/or under the requirements of ISO/IEC 17025 as follows:

9.1.1 Flexural testing in accordance with ASTM D6109 per ASTM D7032 with additional conditioning requirements specified in ASTM D7032 Section 4.5 and 4.7.

9.1.1.1 Conditioning requirements to assess the effects of the following on the flexural properties of Owens Corning Lumber Marine Grade Decking:

9.1.1.2 High temperature (125° F)

9.1.1.3 Low temperature (-20° F)

9.1.1.4 Freeze/thaw cycles

9.1.2 Creep recovery in accordance with ASTM D7032

9.1.3 Fastener head pull-through in accordance with ASTM D1761

9.1.4 Fastener lateral resistance in accordance with ASTM D1037

9.1.5 Surface burning characteristics in accordance with ASTM E84

9.1.6 Slip resistance in accordance with ASTM D2394

9.2 Information contained herein may include the result of testing and/or data analysis by sources that are approved agencies, approved sources, and/or an RDP. Accuracy of external test data and resulting analysis is relied upon.

9.3 Where applicable, testing and/or engineering analysis are based upon provisions that have been codified into law through state or local adoption of regulations and standards. The developers of these regulations and standards are responsible for the reliability of published content. DrJ's engineering practice may use a regulation-adopted provision as the control. A regulation-endorsed control versus a simulation of the conditions of application to occur establishes a new material as being equivalent to the regulatory provision in terms of quality, strength, effectiveness, fire resistance, durability, and safety.

9.4 The accuracy of the provisions provided herein may be reliant upon the published properties of raw materials, which are defined by the grade mark, grade stamp, mill certificate, or duly authenticated reports from approved agencies and/or approved sources provided by the supplier. These are presumed to be minimum properties and relied upon to be accurate. The reliability of DrJ's engineering practice, as contained in this duly authenticated report, may be dependent upon published design properties by others.

9.5 *Testing and Engineering Analysis*

9.5.1 The strength, rigidity, and/or general performance of component parts and/or the integrated structure are determined by suitable tests that simulate the actual conditions of application that occur and/or by accepted engineering practice and experience.[30]

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9.6 Where additional condition of use and/or regulatory compliance information is required, please search for Owens Corning Lumber Marine Grade Decking on the DrJ Certification website.

10 Findings

10.1 As outlined in **Section 6**, Owens Corning Lumber Marine Grade Decking has performance characteristics that were tested and/or meet applicable regulations. In addition, they are suitable for use pursuant to its specified purpose.

10.2 When used and installed in accordance with this duly authenticated report and the manufacturer installation instructions, Owens Corning Lumber Marine Grade Decking shall be approved for the following applications:

10.2.1 Use as decking material for balconies, porches, decks, stair treads, and other exterior walking surfaces in accordance with the IBC and IRC.

10.3 Unless exempt by state statute, when Owens Corning Lumber Marine Grade Decking is to be used as a structural and/or building envelope component in the design of a specific building, the design shall be performed by an RDP.

10.4 Any application specific issues not addressed herein can be engineered by an RDP. Assistance with engineering is available from Owens Corning.

10.5 IBC Section 104.2.3[31] (IRC Section R104.2.2[32] and IFC Section 104.2.3[33] are similar) in pertinent part state:

> **104.2.3 Alternative Materials, Design and Methods of Construction and Equipment.** The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative is not specifically prohibited by this code and has been approved.

10.6 **Approved:**[34] Building regulations require that the building official shall accept duly authenticated reports.[35]

10.6.1 An approved agency is *"approved"* when it is ANAB ISO/IEC 17065 accredited.

10.6.2 An approved source is *"approved"* when an RDP is properly licensed to transact engineering commerce.

10.6.3 Federal law, Title 18 US Code Section 242, requires that, where the alternative product, material, service, design, assembly, and/or method of construction is not approved, the building official shall respond in writing, stating the reasons why the alternative was not approved. Denial without written reason deprives a protected right to free and fair competition in the marketplace.

10.7 DrJ is a licensed engineering company, employs licensed RDPs and is an ANAB Accredited Product Certification Body – Accreditation #1131.

10.8 Through the IAF Multilateral Arrangement (MLA), this duly authenticated report can be used to obtain product approval in any jurisdiction or country because all ANAB ISO/IEC 17065 duly authenticated reports are equivalent.[36]

11 Conditions of Use

11.1 As defined in **Section 6**, where material and/or engineering mechanics properties are created for load resisting design purposes, the resistance to the applied load shall not exceed the ability of the defined properties to resist those loads using the principles of accepted engineering practice.

11.2 As listed herein, Owens Corning Lumber Marine Grade Decking shall:

11.2.1 Be limited to use as decking for balconies, porches, decks, stair treads, and other walking surfaces in accordance with the IRC and IBC provisions for Type V-B construction.

11.2.2 Bear a label on its packaging that indicates compliance with ASTM D7032 and include the allowable load and maximum allowable span in accordance with ASTM 7032, IBC Section 2612.2, and IRC Section R507.2.2.1.

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11.3 Use of Owens Corning Lumber Marine Grade Decking as a component of a fire resistance rated assembly is outside the scope of this report.

11.4 Compatibility of the specified fasteners in **Section 6.2** and **Section 8** with other hardware components used in the construction of the deck and the supporting structure are outside the scope of this report.

11.5 When required by adopted legislation and enforced by the building official, also known as the Authority Having Jurisdiction (AHJ) in which the project is to be constructed:

11.5.1 Any calculations incorporated into the construction documents shall conform to accepted engineering practice and, when prepared by an approved source, shall be approved when signed and sealed.

11.5.2 This report and the installation instructions shall be submitted at the time of permit application.

11.5.3 This innovative product has an internal quality control program and a third-party quality assurance program.

11.5.4 At a minimum, this innovative product shall be installed per **Section 8**.

11.5.5 The review of this report by the AHJ shall comply with IBC Section 104.2.3.2 and IBC Section 105.3.1.

11.5.6 This innovative product has an internal quality control program and a third party quality assurance program in accordance with IBC Section 104.7.2, IBC Section 110.4, IBC Section 1703, IRC Section R104.7.2, and IRC Section R109.2.

11.5.7 The application of this innovative product in the context of this report is dependent upon the accuracy of the construction documents, implementation of installation instructions, inspection as required by IBC Section 110.3, IRC Section R109.2, and any other regulatory requirements that may apply.

11.6 The approval of this report by the AHJ shall comply with IBC Section 1707.1, where legislation states in part, *"the building official shall make, or cause to be made, the necessary tests and investigations; or the building official shall accept duly authenticated reports from approved agencies in respect to the quality and manner of use of new materials or assemblies as provided for in Section 104.2.3,"* all of IBC Section 104, and IBC Section 105.3.

11.7 Design loads shall be determined in accordance with the regulations adopted by the jurisdiction in which the project is to be constructed and/or by the building designer (i.e., owner or RDP).

11.8 The actual design, suitability, and use of this report for any particular building, is the responsibility of the owner or the authorized agent of the owner.

12 Identification

12.1 Owens Corning Lumber Marine Grade Decking, as listed in **Section 1.1**, is identified by a label on the board or packaging material bearing the manufacturer name, product name, this report number, and other information to confirm code compliance.

12.2 Additional technical information can be found at owenscorning.com/en-us.

13 Review Schedule

13.1 This report is subject to periodic review and revision. For the latest version, visit drjcertification.org.

13.2 For information on the status of this report, please contact DrJ Certification.

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Notes

1 For more information, visit drjcertification.org or call us at 608-310-6748.

2 Capitalized terms and responsibilities are defined pursuant to the applicable building code, applicable reference standards, the latest edition of TPI 1, the NDS, AISI S202, US professional engineering law, Canadian building code, Canada professional engineering law, Qualtim External Appendix A: Definitions/Commentary, Qualtim External Appendix B: Project/Deliverables, Qualtim External Appendix C: Intellectual Property and Trade Secrets, definitions created within Design Drawings and/or definitions within Reference Sheets. Beyond this, terms not defined shall have ordinarily accepted meanings as the context implies. Words used in the present tense include the future; words stated in the masculine gender include the feminine and neuter; the singular number includes the plural and the plural, the singular.

3 https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1702

4 Alternative Materials, Design and Methods of Construction and Equipment: The provisions of any regulation code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by a regulation. Please review https://www.justice.gov/atr/mission and https://up.codes/viewer/mississippi/ibc-2024/chapter/1/scope-and-administration#104.2.3

5 https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1706.2:~:text=the%20design%20strengths%20and%20permissible%20stresses%20shall%20be%20established%20by%20tests

6 The design strengths and permissible stresses of any structural material shall conform to the specifications and methods of design of accepted engineering practice. https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1706.1:~:text=Conformance%20to%20Standards-,The%20design%20strengths%20and%20permissible%20stresses,-of%20any%20structural

7 https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1707.1:~:text=the%20building%20official%20shall%20make%2C%20or%20cause%20to%20be%20made%2C%20the%20necessary%20tests%20and%20investigations%3B%20or%20the%20building%20official%20shall%20accept%20duly%20authenticated%20reports%20from%20approved%20agencies%20in%20respect%20to%20the%20quality%20and%20manner%20of%20use%20of%20new%20materials%20or%20assemblies%20as%20provided%20for%20in%20Section%20104.2.3.

8 https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1703.4.2

9 https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#approved_agency

10 https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#approved_source

11 https://www.law.cornell.edu/uscode/text/18/1832 (b) Any organization that commits any offense described in subsection (a) shall be fined not more than the greater of $5,000,000 or 3 times the value of the stolen trade secret to the organization, including expenses for research and design and other costs of reproducing the trade secret that the organization has thereby avoided. The federal government and each state have a public records act. To follow DTSA and comply state public records and trade secret legislation requires approval through ANAB ISO/IEC 17065 accredited certification bodies or approved sources. For more information, please review this website: Intellectual Property and Trade Secrets.

12 https://www.nspe.org/resources/issues-and-advocacy/professional-policies-and-position-statements/regulation-professional AND https://apassociation.org/list-of-engineering-boards-in-each-state-archive/

13 https://www.cbitest.com/accreditation/

14 https://up.codes/viewer/mississippi/ibc-2024/chapter/1/scope-and-administration#104.1:~:text=directed%20to%20enforce%20the%20provisions%20of%20this%20code

15 https://up.codes/viewer/mississippi/ibc-2024/chapter/1/scope-and-administration#104.2.3 AND https://up.codes/viewer/mississippi/ibc-2024/chapter/1/scope-and-administration#105.3.1

16 https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1707.1

17 https://iaf.nu/en/about-iaf-mla/#:~:text=Once%20an%20accreditation%20body%20is%20a%20signatory%20of%20the%20IAF%20MLA%2C%20it%20is%20required%20to%20recognise%20certificates%20and%20validation%20and%20verification%20statements%20issued%20by%20conformity%20assessment%20bodies%20accredited%20by%20all%20other%20signatories%20of%20the%20IAF%20MLA%2C%20with%20the%20appropriate%20scope

18 True for all ANAB accredited product evaluation agencies and all International Trade Agreements.

19 https://www.justice.gov/crt/deprivation-rights-under-color-law AND https://www.justice.gov/atr/mission

20 Unless otherwise noted, the links referenced herein use un-amended versions of the 2024 International Code Council (ICC) 2024 International Code Council (ICC) model codes as foundation references. Mississippi versions of the IBC 2024 and the IRC 2024 are un-amended. This material, product, design, service and/or method of construction also complies with the 2000-2012 versions of the referenced codes and the standards referenced therein. As pertinent to this technical and code compliance evaluation, CBI and/or DrJ staff have reviewed any state or local regulatory amendments to assure this report is in compliance.

21 See Adoptions by Publisher for the latest adoption of a non-amended or amended model code by the local jurisdiction. https://up.codes/codes/general

22 See Adoptions by Publisher for the latest adoption of a non-amended or amended model code by state. https://up.codes/codes/general

23 https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3282/subpart-A/section-3282.14

24 https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280

25 https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280#p-3280.2(Listed%20or%20certified); https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#listed AND https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#labeled

26 https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1703.4

27 https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280#:~:text=All%20construction%20methods%20shall%20be%20in%20conformance%20with%20accepted%20engineering%20practices%20to%20insure%20durable%2C%20livable%2C%20and%20safe%20housing%20and%20shall%20demonstrate%20acceptable%20workmanship%20reflecting%20journeyman%20quality%20of%20work%20of%20the%20various%20trades

28 https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280#:~:text=The%20strength%20and%20rigidity%20of%20the%20component%20parts%20and/or%20the%20integrated%20structure%20shall%20be%20determined%20by%20engineering%20analysis%20or%20by%20suitable%20load%20tests%20to%20simulate%20the%20actual%20loads%20and%20conditions%20of%20application%20that%20occur

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[29] https://dcpd6wotaa0mb.cloudfront.net/mdms/dms/Roofing/10028619/10028619-Lumber-Installation-Guide---Structural-Framing-and-Marine-Grade-Decking%C2%AE.pdf?v=1779860632000

[30] See Code of Federal Regulations (CFR) Title 24 Subtitle B Chapter XX Part 3280 for definition: https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280

[31] 2021 IBC Section 104.11

[32] 2021 IRC Section R104.11

[33] 2018: https://up.codes/viewer/wyoming/ifc-2018/chapter/1/scope-and-administration#104.9 AND 2021: https://up.codes/viewer/wyoming/ibc-2021/chapter/1/scope-and-administration#104.11

[34] Approved is an adjective that modifies the noun after it. For example, Approved Agency means that the Agency is accepted officially as being suitable in a particular situation. This example conforms to IBC/IRC/IFC Section 201.4 (https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#201.4) where the building code authorizes sentences to have an ordinarily accepted meaning such as the context implies.

[35] https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1707.1

[36] Multilateral approval is true for all ANAB accredited product evaluation agencies and all International Trade Agreements.

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