



International Roofing Expo
March 8, 2023 -- Dallas, TX

NRCA update on roofing technical issues

Mark S. Graham

National Roofing Contractors Association

Jean-Paul Grivas, AIA

Patrick D. Murphy Co., Inc., Architects/Ray Nolan Roofing Co., Inc.

T. Eric Stafford, PE

T. Eric Stafford & Associates, Inc.

1

Jean-Paul Grivas, AIA

Patrick D. Murphy Co., Inc., Architects/Ray Nolan Roofing Co., Inc.
Louisville, KY

2

NRCA Technical Services staff

Mark S. Graham
Vice President

Glen Clapper
Director

Maciek Rugar
Director

Kurt Fester
Project Engineer

Nick Gallagher
Director

Andrea Khalil
Manager

3

NRCA Technical Operations Committee

Jean-Paul Grivas, Chair
Louisville, KY

Jim Barr
Abilene, TX

Chuck Chapman
Phoenix, AZ

Collin DeBuysere
Davenport, IA

Allen Hughes
Fort Hill, SC

Scott Kawulok
Fredrick, CO

George Patterson
Romeoville, IL

Robert Therrien
Keene, NH

David Tilsen
Madison, WI

4

NRCA Manual Update Committee

Steve Harvey , Chair

Seekonk, MA

Tyler Allwood

Bradenton, Florida

Tupac De La Cruz

Baton Rouge, LA

Collin DeBuysere

Davenport, IA

Ed Gallos

Winnipeg, MB

Jean-Paul Grivas

Louisville, KY

Allen Hughes

Fort Hill, SC

Cindy McCarter

Nashville, TN

Lynn Price

Cedar Rapids, IA

Chris Riskus

Canonsburg, PA


Kurt Sosinski

Hudson, OH

5



6



Professional Roofing
February 2023

[Link](#)

7

NRCA CERTA Committee

Bob Willis Dayton, OH	Collin DeBuysere Davenport, IA
David Hesse Fredrick, MD	George Patterson Romeoville, IL
Diana Petersen Orange, CA	Dennis Runyan Cedar Rapids, IA

8

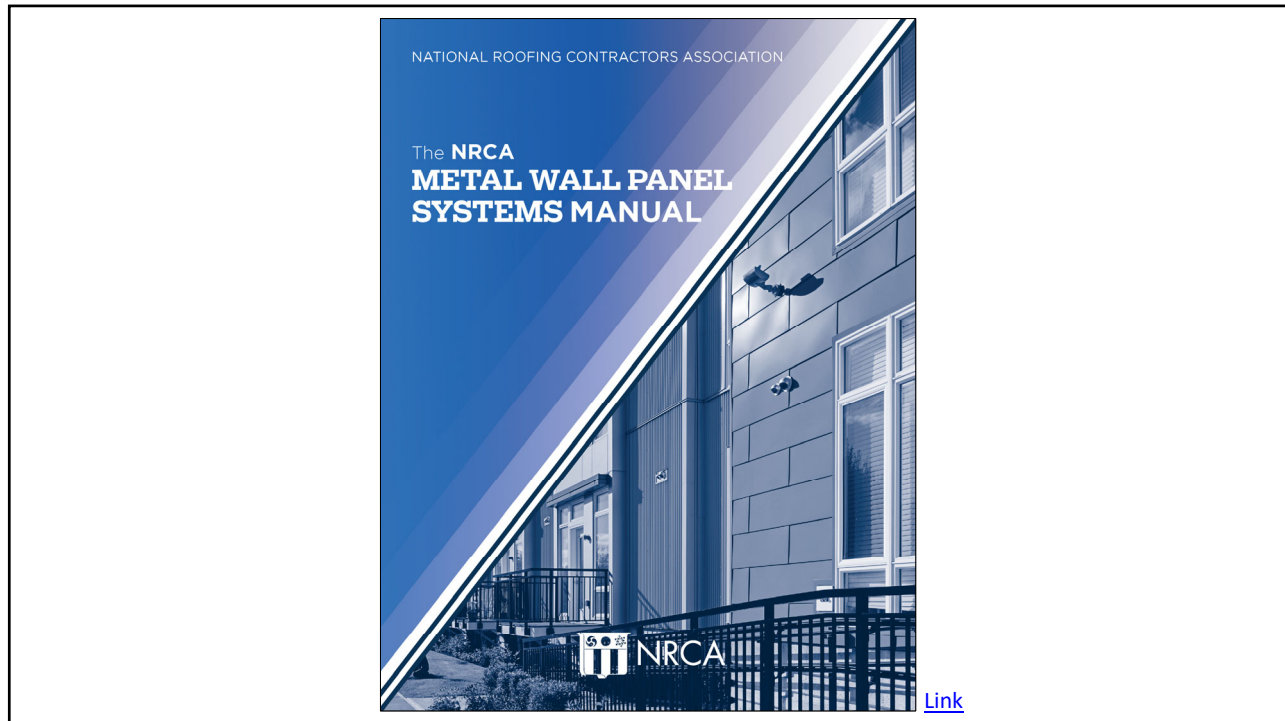


2,742 Trainers
42,505 Applicators

9

Other new NRCA technical publications....

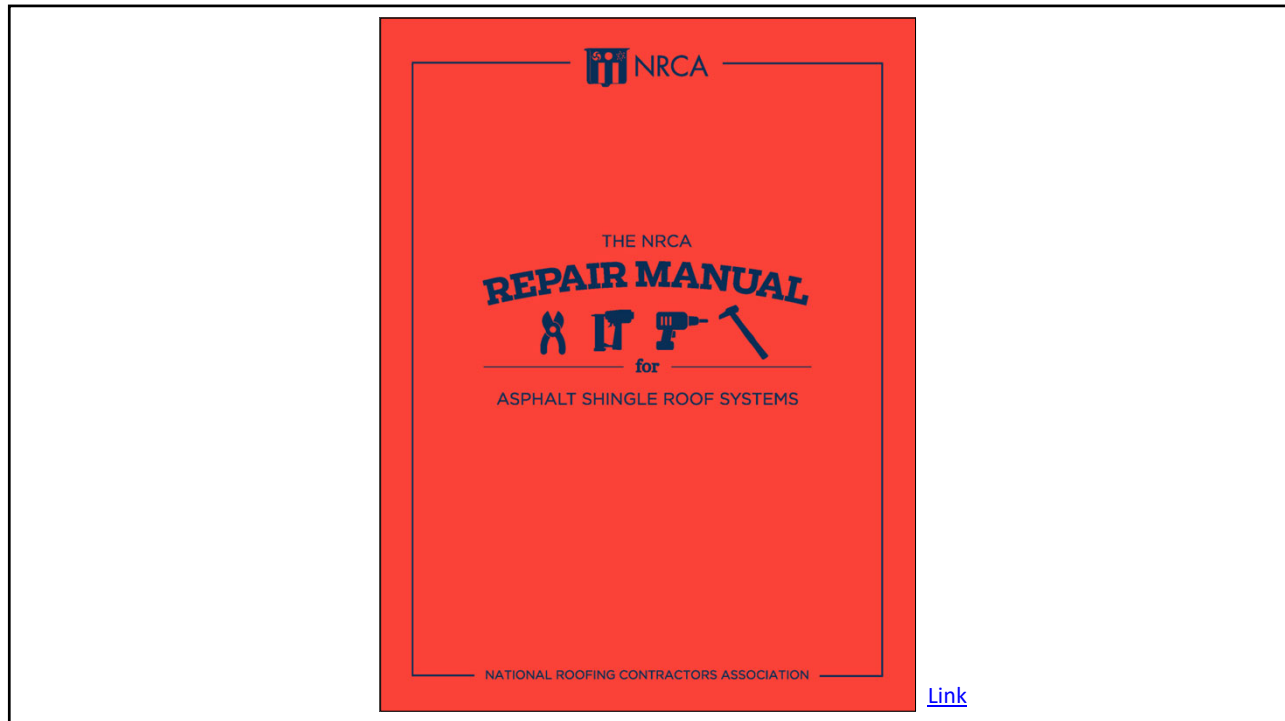
10



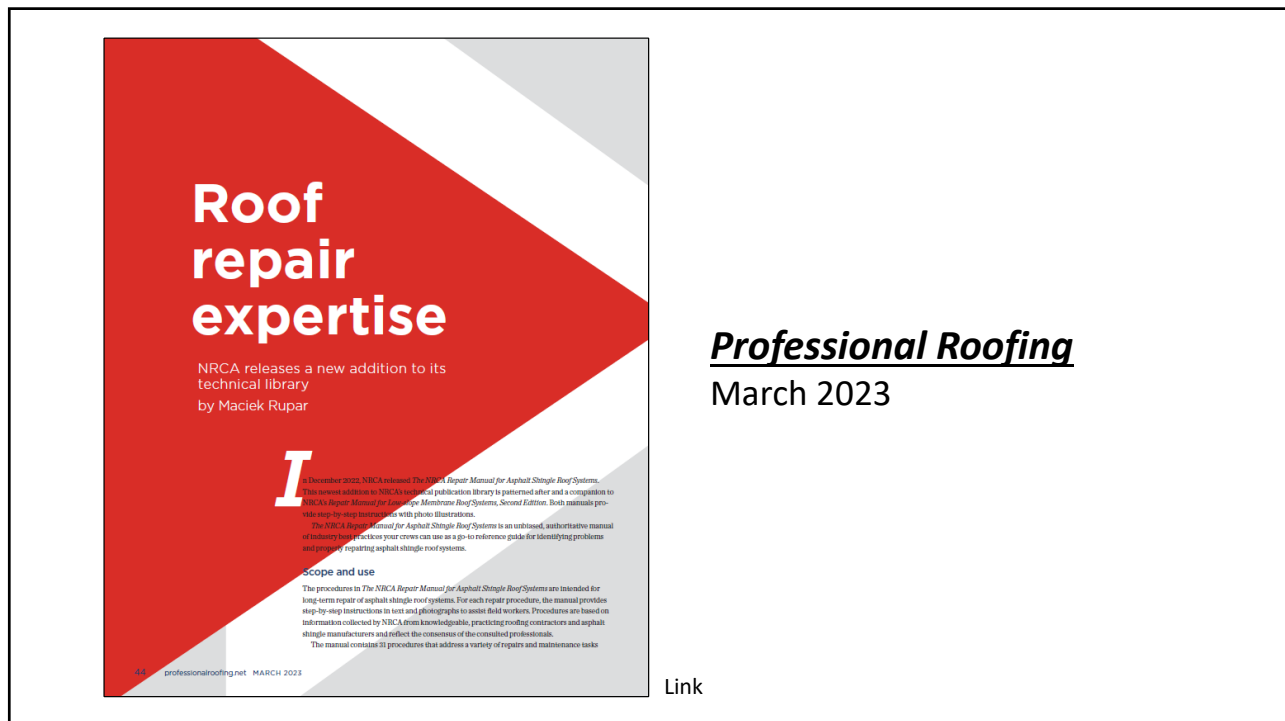
11



12



13



14

Consider becoming an NRCA committee member....

APPLICATION PROCESS

Volunteers play a vital role in the development of key programs, resources, events and initiatives, and we look forward to your increased involvement. If you are interested in serving in a leadership position or on a committee, please complete the following application form and have your NRCA member ID, available, you must be a member in good standing to serve. An NRCA staff will contact you once your application has been received.

APPLICATION

Please complete the form below.

NRCA Member ID (Required)

First Name **Last Name**

Company Name

City/State/ZIP **Email**

Phone

Please select which of the following opportunities interest you:

NRCA Board of Directors The deadline for nominations has passed. The 2024-25 nominations will be open in October 2023.

Committees or Task Forces Applications are now being accepted for committee membership for the 2023-24 year. The deadline is March 31, 2023. The year begins June 1, 2023.

You can review the descriptions of each NRCA committee and task force and select those that best fit your areas of expertise. If you already serve on an NRCA committee, there is no need to reapply. NRCA will communicate with you regarding your committee assignments.

Identification Events Diversity + Inclusion Public Relations/Industry Affairs Green Advisory

Government Relations Health and Safety Industry Impact and Outreach Operational Excellence

Manual Update Membership Steering NRCA CTE Workforce Development

NRCA Legal Resource Center NRCA University Operations PAC Advisory

ProConstruction Overhaul Recruitment Coordinator Roofing City Advisory Technical Operations

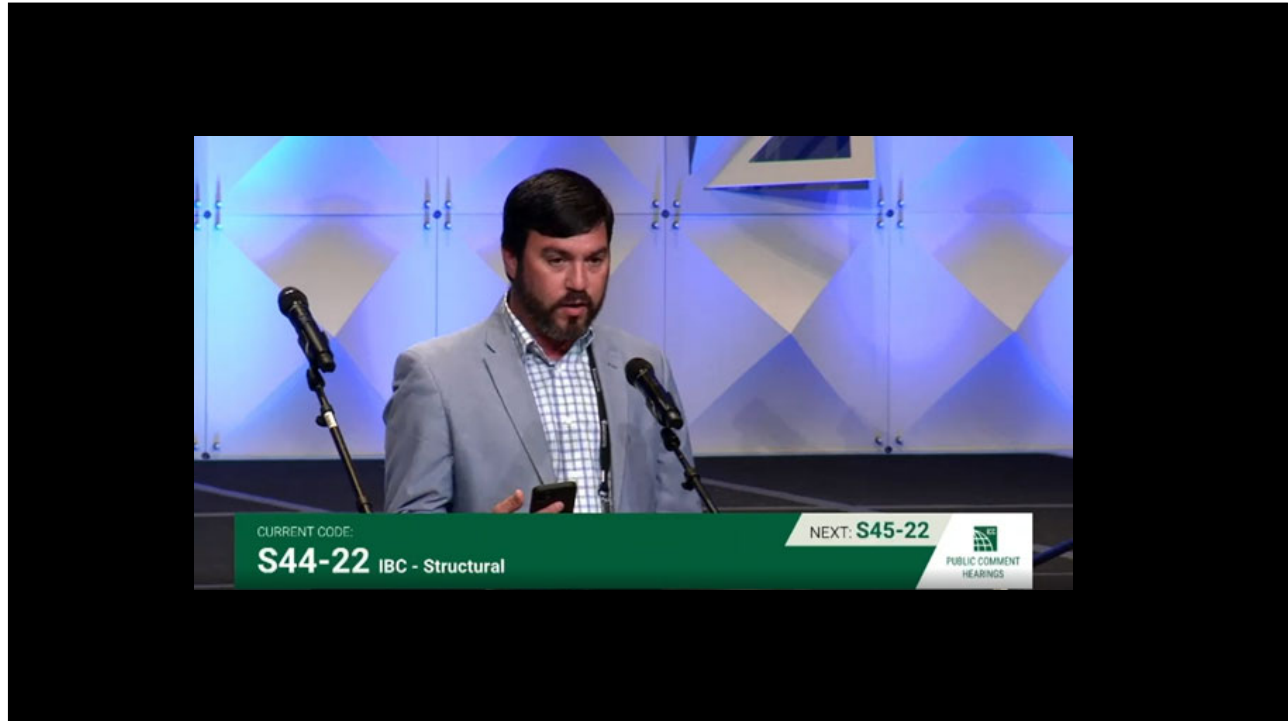
Please note any current NRCA activities or experiences and qualifications for serving:

[Link](#)

15

Mark S. Graham
 National Roofing Contractors Association
 Rosemont, IL

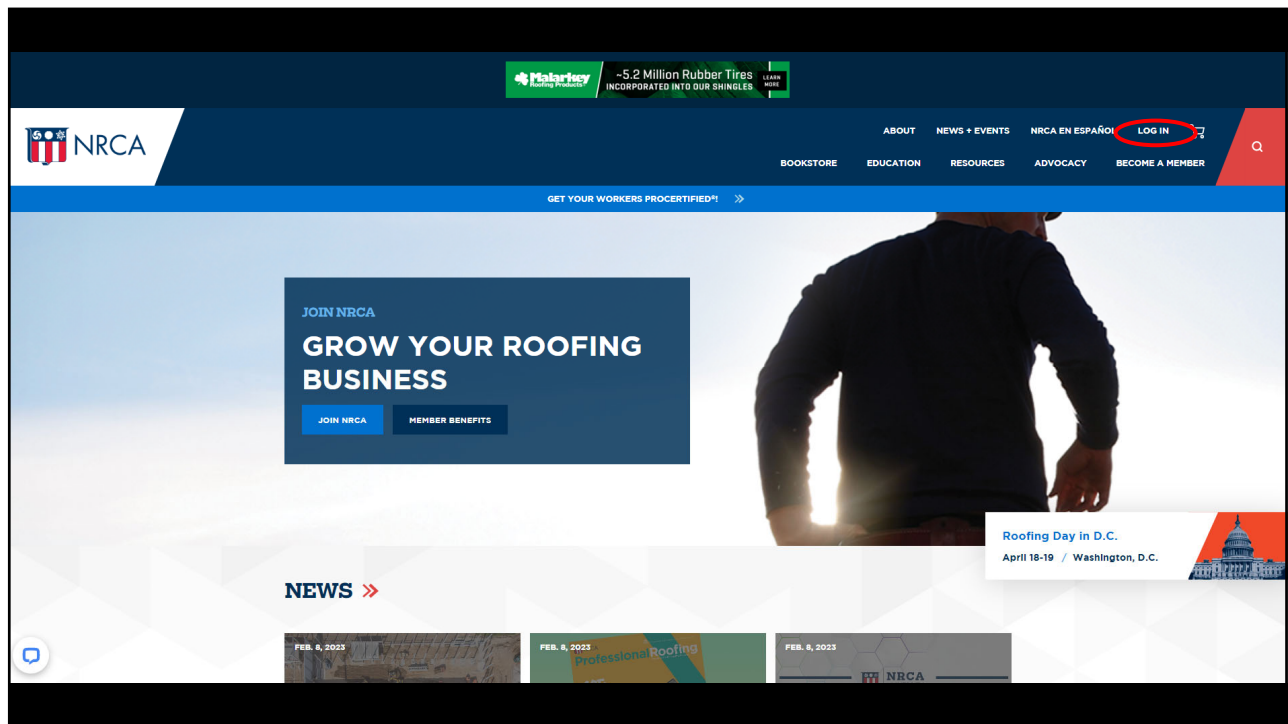
16



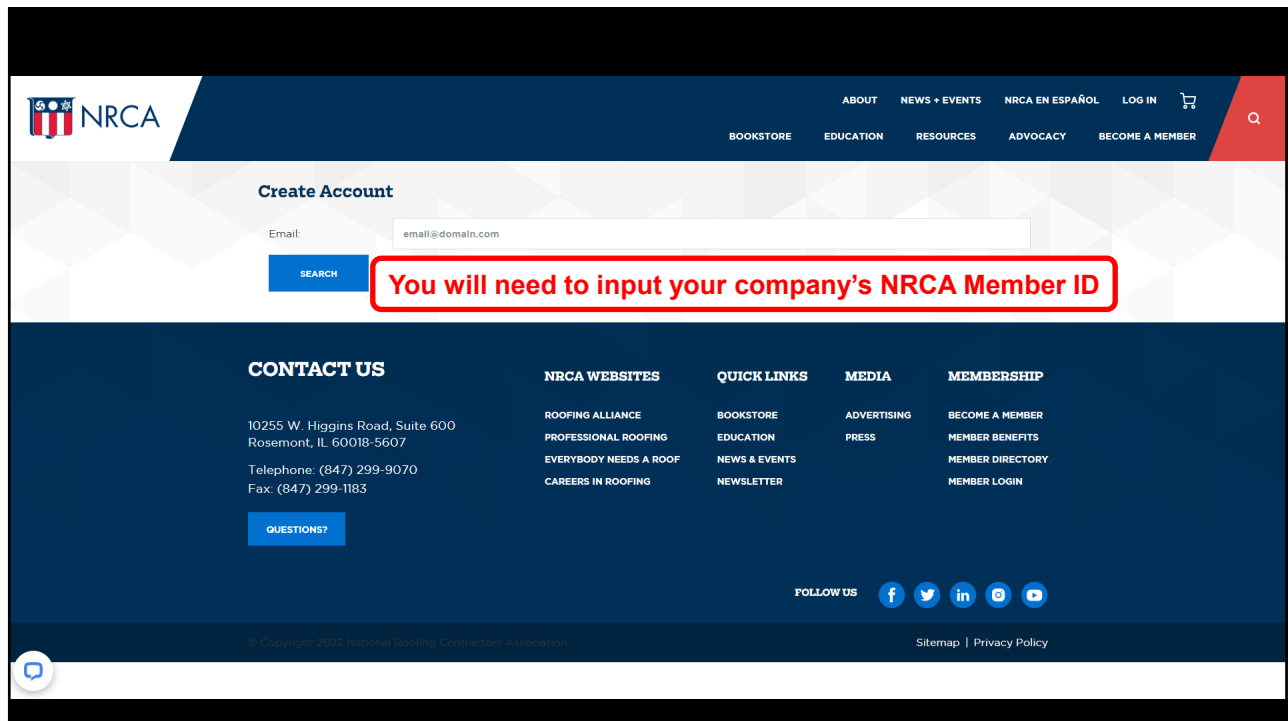
17



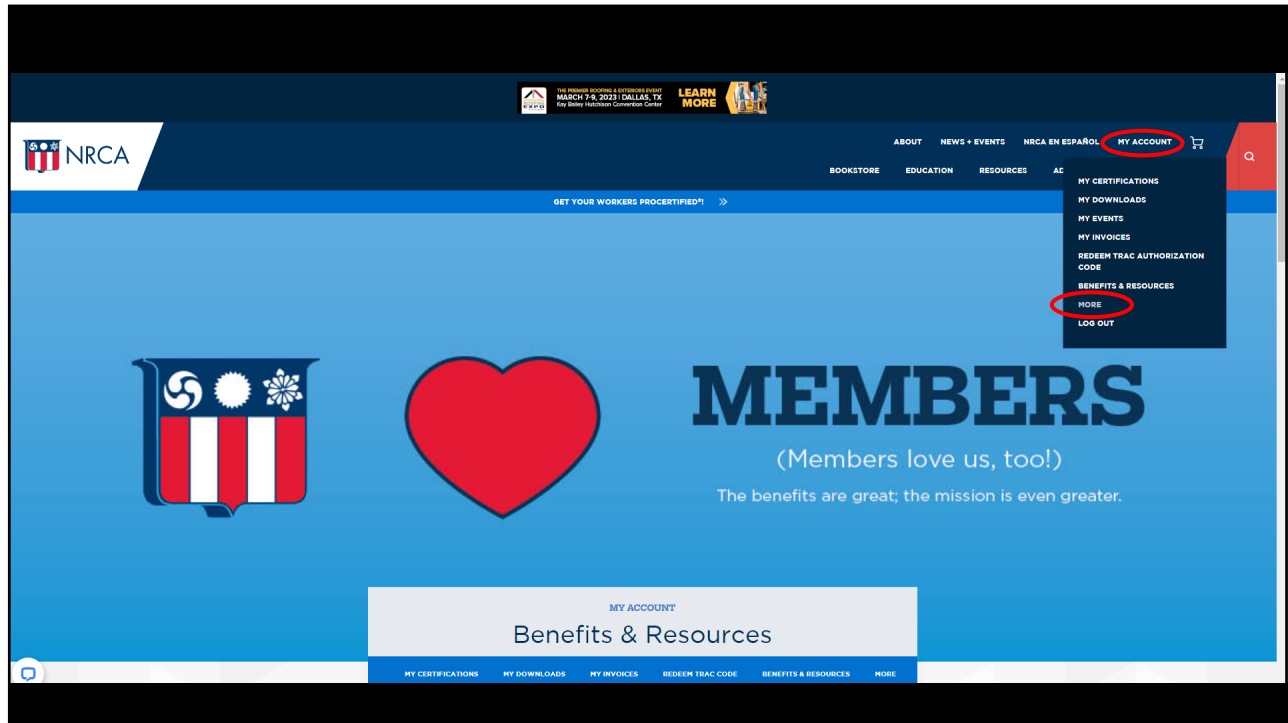
18



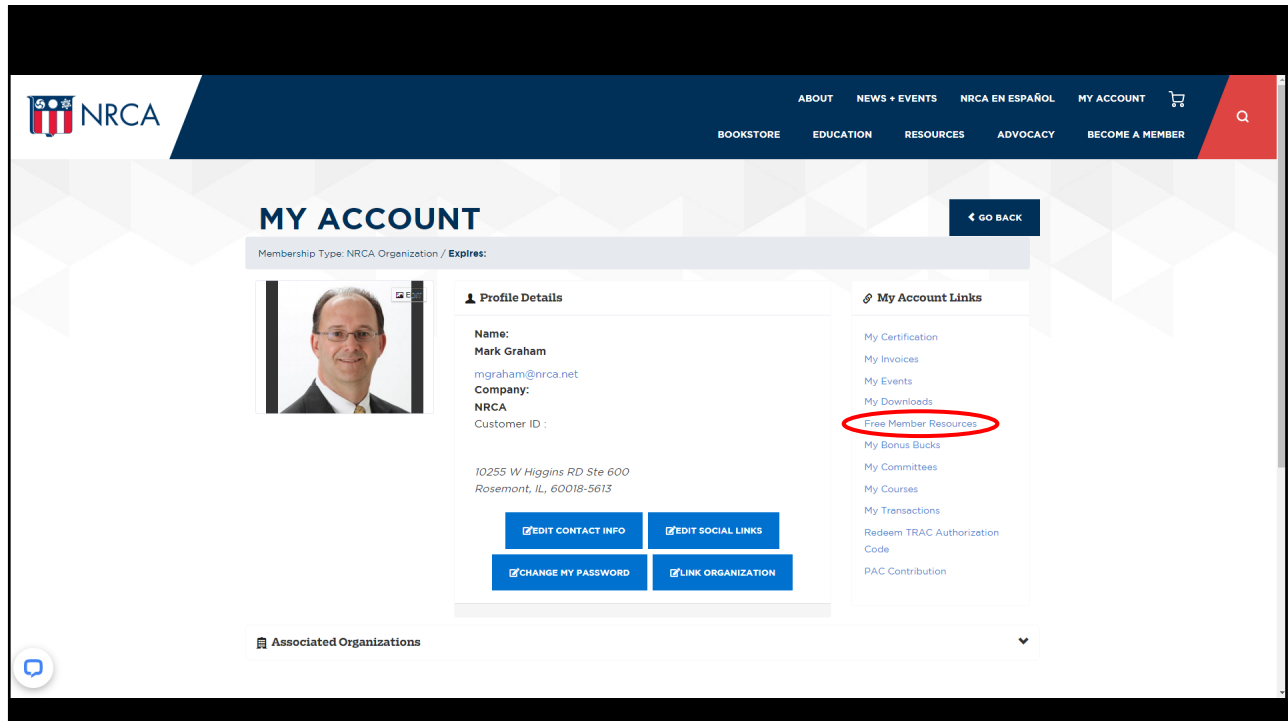
19



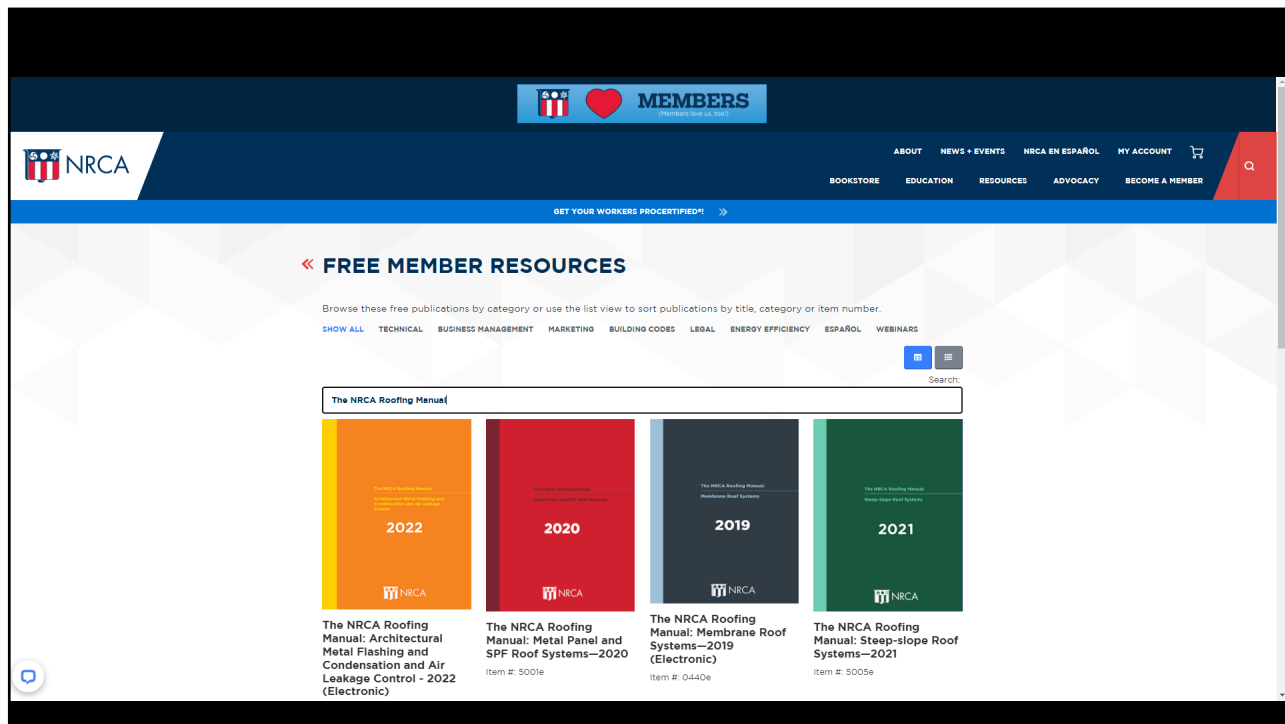
20



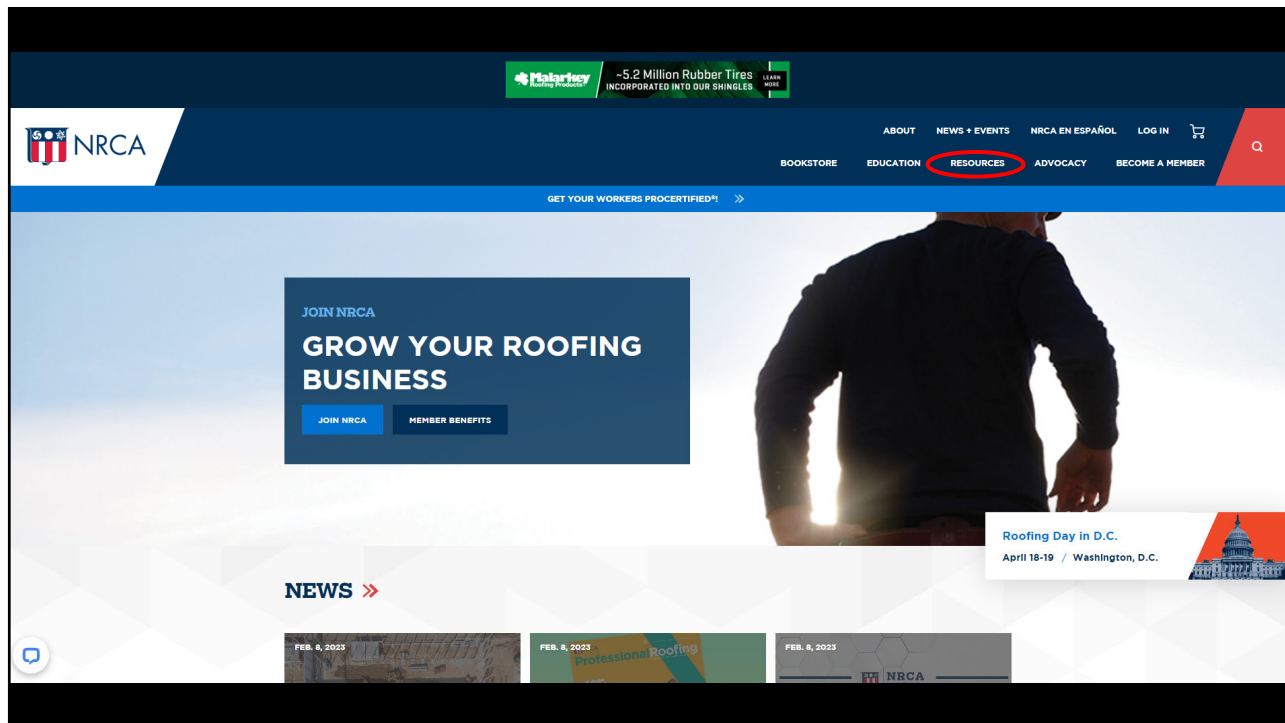
21



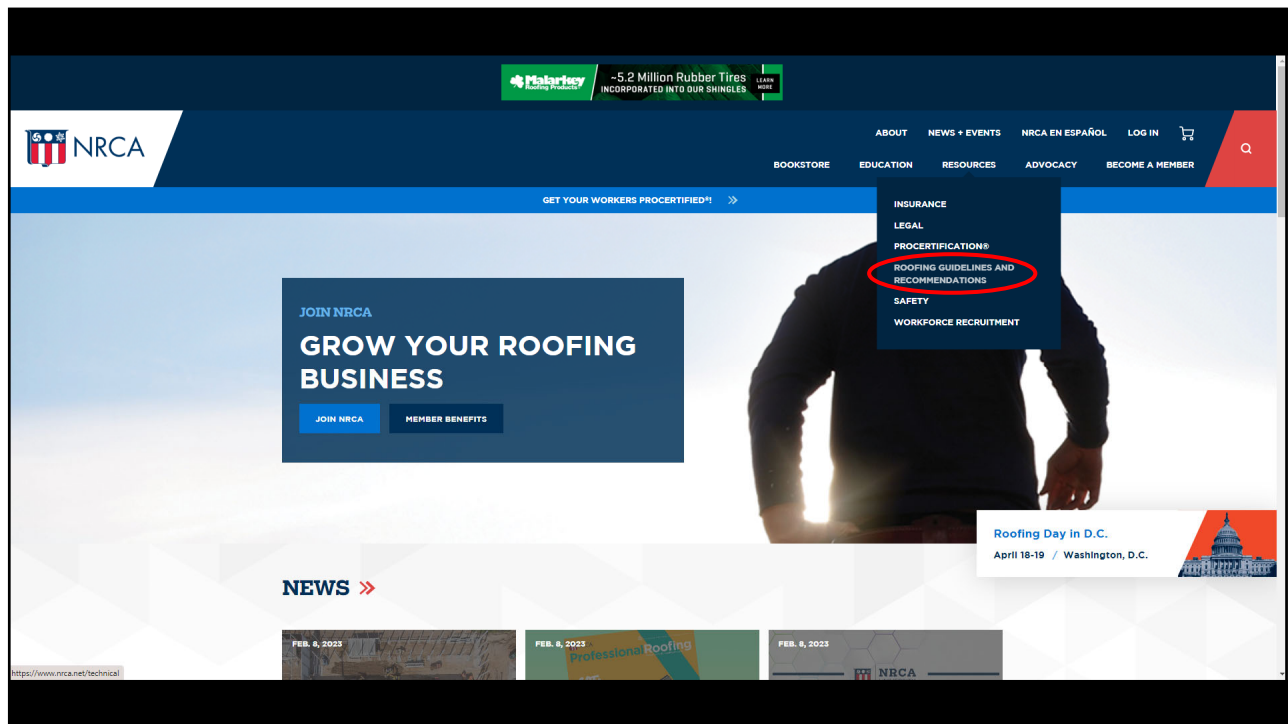
22



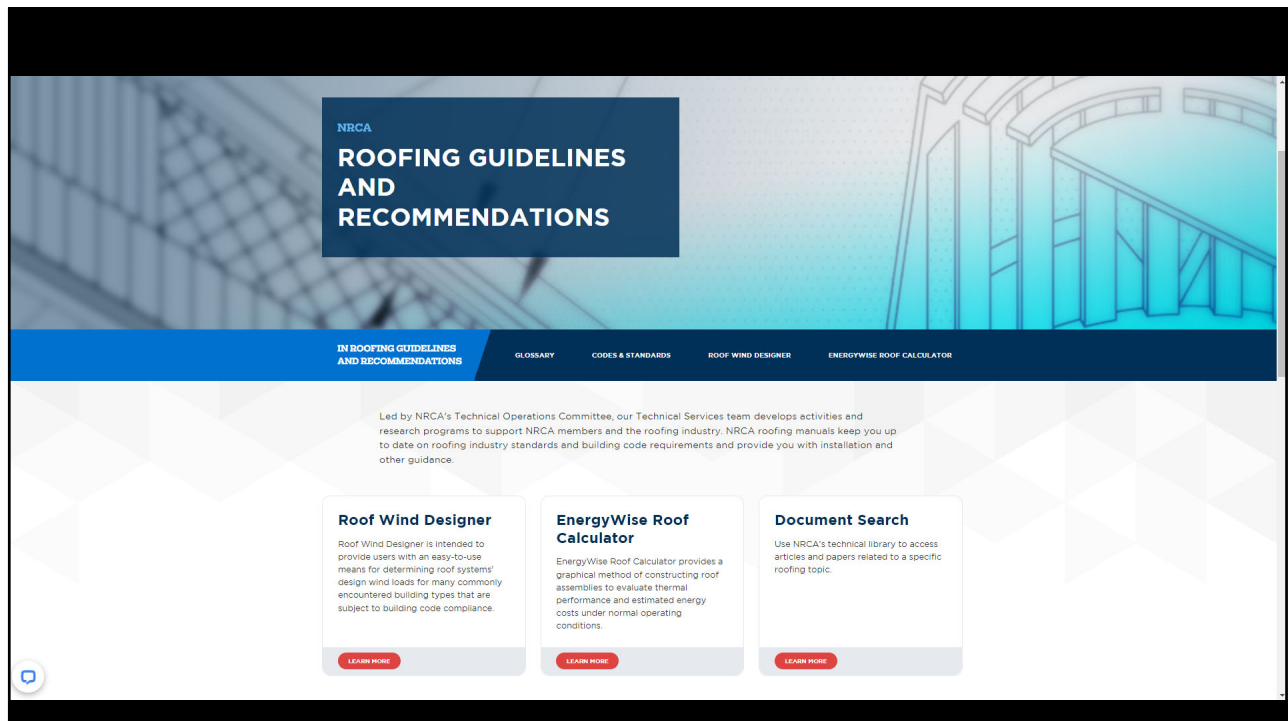
23



24



25




26



27

**Hurricane Ian
FEMA Mitigation Assessment Team (MAT)**

**An Overview of the MAT Observations on the
Performance of Roof Coverings**

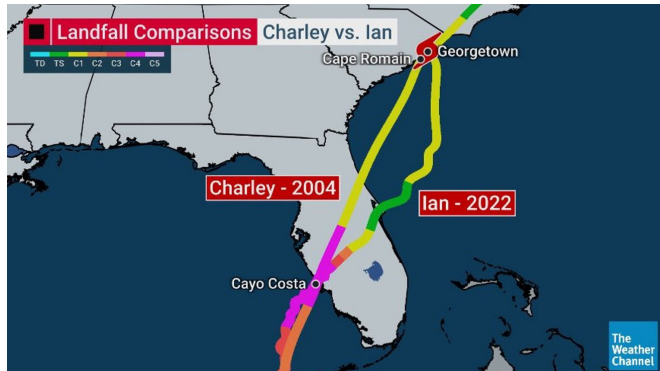
 **FEMA**

Building Science Branch

28

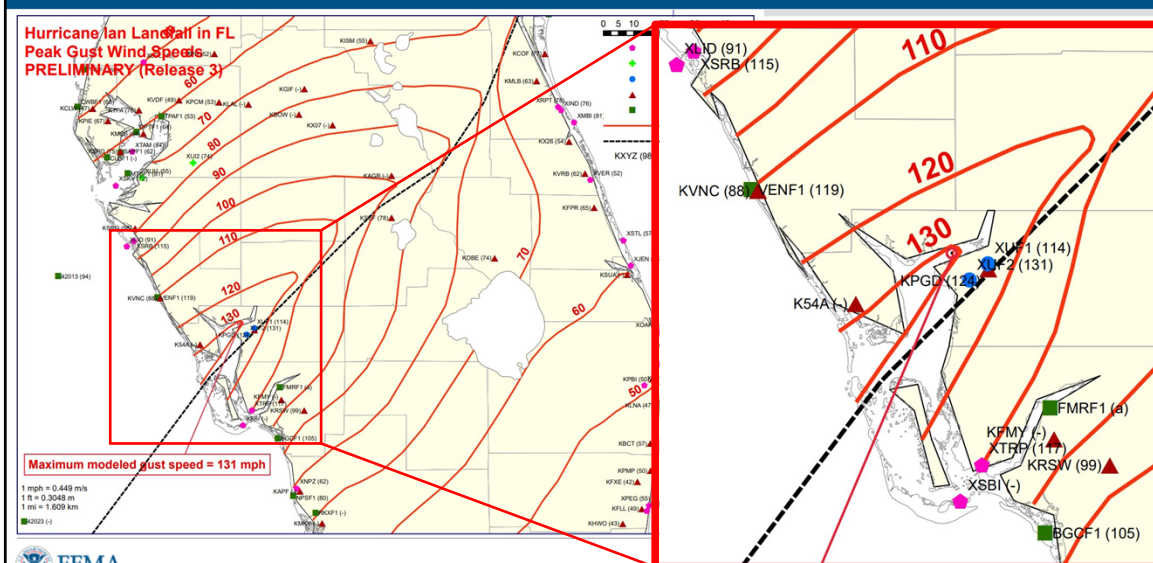
Wind Team Primary Objectives

- Evaluate the overall performance of new construction vs. older construction
 - Buildings built to the Florida Building Code (FBC) with an emphasis on those built to the 2010 FBC and later
- Water intrusion due to envelope failure
- Determine the performance of newer roof coverings
 - New construction
 - Buildings recently reroofed (reroof permit data)
 - Effects of FBC underlayment requirements on water intrusion

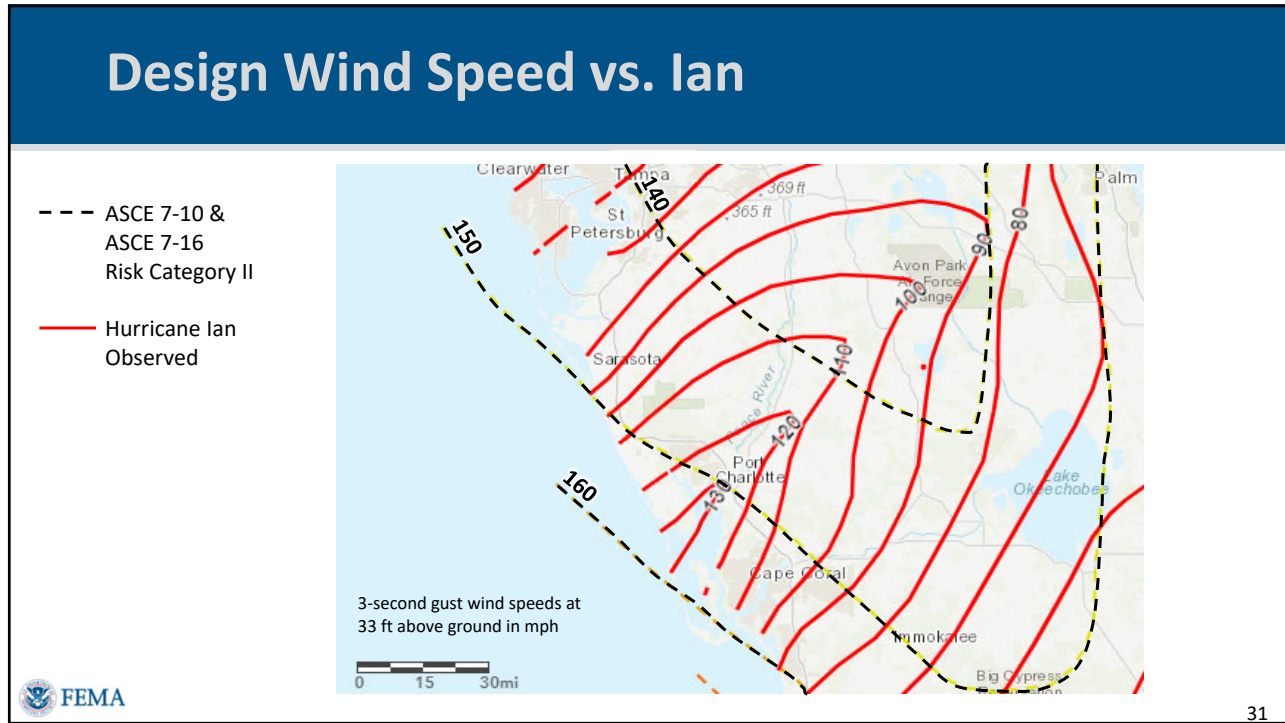


29

Hurricane Ian Wind Speeds



30



31

Hurricane Ian - Wind

- Limited structural damage observed
- Heaviest wind damage in and around St. James City
- Envelope failure and subsequent water intrusion primary damage observed
 - Roofing
 - Soffits
 - Windows/doors

2020 Construction

1990 Construction

2005 Construction

1995 Construction

Stafford 32

32

Wind – Envelope Damage and Water Intrusion

- Water intrusion
 - Fewer reports from homeowner interviews of water intrusion through roofs than previous storms
 - Backed up by limited observations of interior contents placed by curbs
 - Homeowners repeatedly reported water through soffits and sliding glass doors



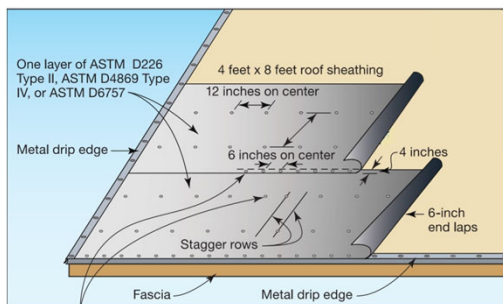
Typical Hurricane Michael (2018) Wind and Water Intrusion Damage – Panama City area



Timeline of FBC Improvements to Roof Underlayment

- 2010 FBC and Prior Editions
 - Minimal requirements for underlayment
 - 15# or 30# equivalents permitted
 - Fastened at 36 inches on center at laps

- 5th Ed. (2014) FBC
 - Improved underlayment thickness and attachment requirements
 - Effective Date: June 30, 2015



- 7th Ed. (2020) FBC
 - Underlayment requirements similar to IBHS Sealed Roof Deck
 - Self-adhered
 - Tape joints and improved underlayment covering the taped joints
 - Double layer



FBC Improved Underlayment



2014 FBC improved underlayment



35

35

Hurricane Ian – Newer Roof Covering Performance

- Primary focus on residential roofs
- Commercial damage difficult to get access to and see from ground. Repair often already underway.



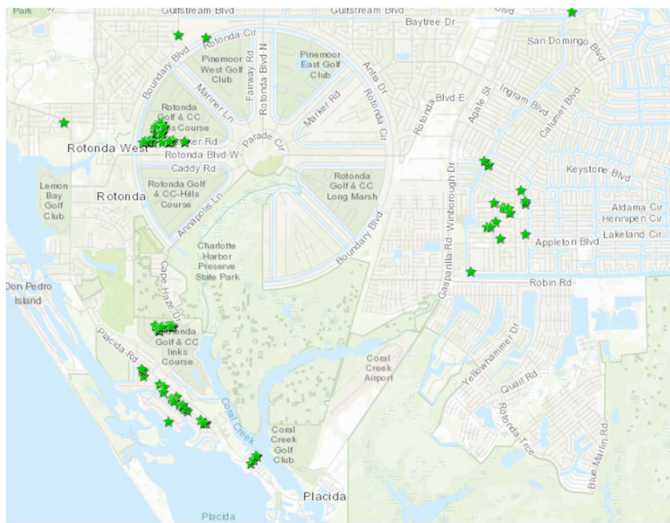
Punta Gorda area.
Reroofed 6 – 9 months
before Ian.



36

36

Hurricane Ian – Roof Covering Performance Data Collected

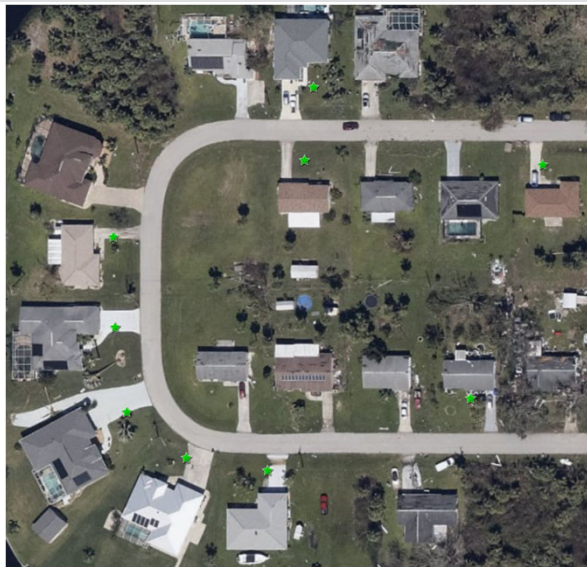


37

37

Hurricane Ian – Roof Covering Performance Data Collected

- Data on roof age was collected in clusters throughout the impacted areas
- Roof age determined by parcel data and analysis of permit data for selected areas
 - ★ Roof coverings less than 7 years old



38

38

Hurricane Ian – Roof Covering Performance Data Collected



2017 Construction

1958 Construction

1985 Construction
Shingles removed and replaced with metal panels May 2021

1987 Construction

1978 Construction






39

39

Hurricane Ian Roof Covering Performance

- Tesla roof replaced Summer 2022



40

40

FEMA MAT Preliminary Field Observations Summary

- Roof Coverings - Wind
 - Hurricane Ian wind speeds were below the design level for this area
 - Roof covering damage widespread in areas visited
 - Damage was observed for all roof covering types
 - Hip and ridge damage was most common failure observed
 - Water infiltration damage due to roof covering loss was less predominate than in previous storms
 - Data on performance of newer roof coverings still being analyzed
 - While damage was observed to all types of roof coverings, metal roofs appeared to perform the best



41

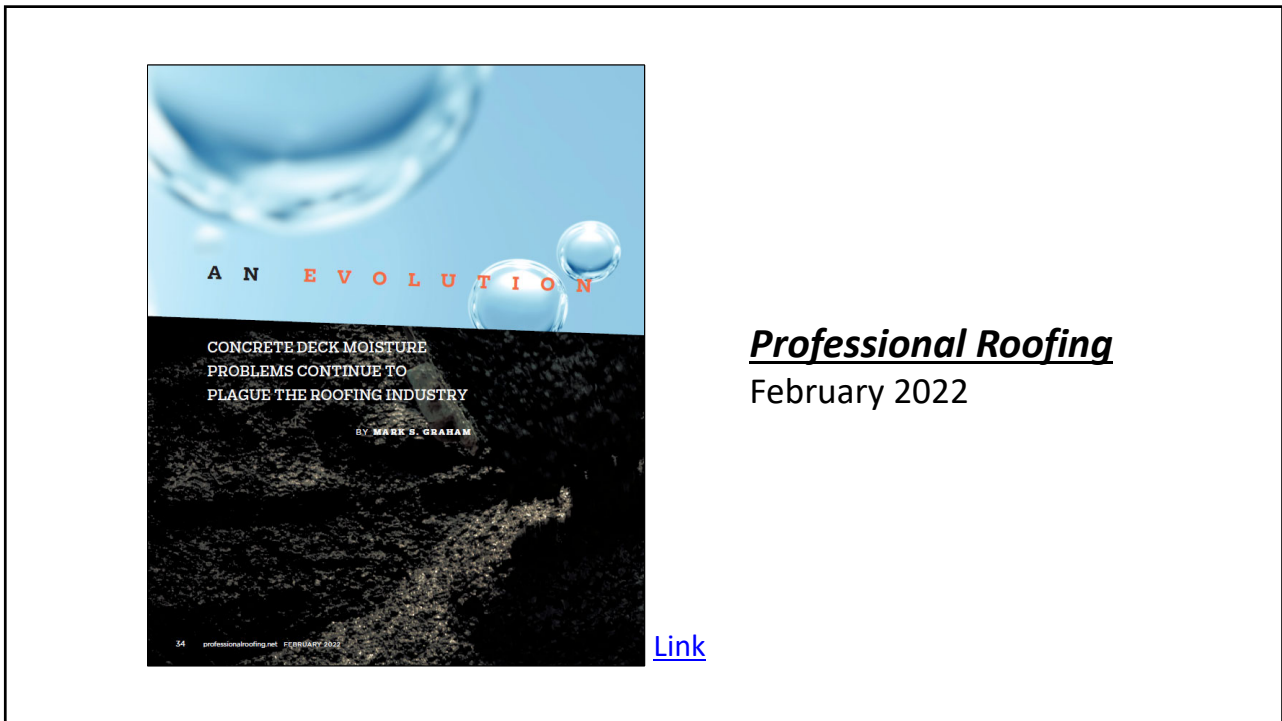
41

Mark S. Graham
National Roofing Contractors Association
Rosemont, IL

42



43



44

*NRCA recommends designers specify and adhere vapor retarder...
but isn't adhesion of the vapor retarder still a concern?*

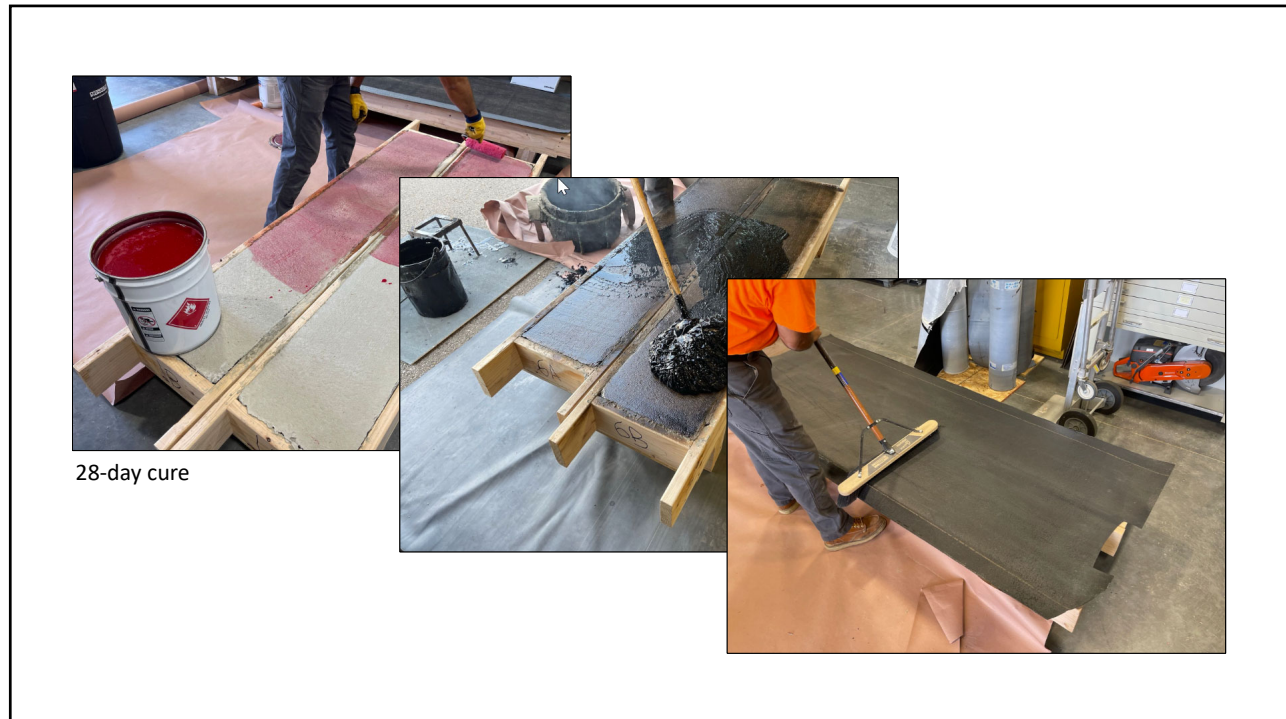
45

What we tested...

Vapor retarder adhesion testing

- 2-ply asphalt BUR membrane
- Manufacturer A-SA vapor retarder
- Manufacturer B-SA vapor retarder
- Manufacturer C-SA vapor retarder
- Manufacturer D-SA vapor retarder

46



47

Sample conditioning

After vapor retarder application

- Conditioned for 60-days
- One set of each at standard laboratory conditions
- Other set of each at a 30 F temperature differential
 - The temperature differential creates an upward vapor pressure drive

48



49

Test results

Vapor retarder adhesion

Sample	Tested pull resistance		Difference	
	Lab. conditions 60-day conditioning (Average of 5 specimens)	Vapor drive 60-day conditioning (Average of 5 specimens)	Differential	Percent differential
2-ply built-up membrane	1,421 psf	833 psf	-588 psf	-41%

50

Conclusions

Vapor retarder adhesion

- Results vary
- For 4 of 5 samples, vapor drive conditioning resulted in lower values, but Manufacture 3-SA VR is higher
- All results greater than 90 psf (i.e., FM 1-90)

51

Recommendations

Vapor retarder adhesion

- Designers should specify vapor retarders after considering vapor retarder adhesion both at the time of application and in-service.
- Manufacturers should incorporate some form of vapor drive conditioning assessment in their product development and assessment and make that information available to specifiers.
- The vapor drive conditioning used in this testing is one possible assessment method.

52



Field uplift testing

ASTM E907 or FM 1-52

53



INTERNATIONAL ROOFING EXPO
MEMBER

INDUSTRY ISSUE UPDATE

NRCA Member Benefit

Field-uplift testing

ASTM E907 and FM 1-52 tests continue to be problematic

June 2015

NRCA continues to receive a significant number of reports from roofing contractors, manufacturers and designers regarding the use of field problems associated with field-uplift tests as pre-installation quality assurance measures for membrane roof systems. NRCA has addressed these testing issues a number of times during the year. Following is a summary of NRCA's previous discussions, as well as updated information and recommendations.

ASTM E907/FM 1-52
There are two recognized field test methods for determining adhered membrane roof systems' uplift resistance: ASTM E907, "Standard Test Method for Field Testing Uplift Resistance of Adhered Membrane Roofing Systems," and FM Global Loss Prevention Data Sheet 1-52 (FM 1-52), "Field Verification of Roof Wind Uplift Resistance."



An example of a test chamber used for negative-pressure uplift testing.

Both test methods are similar and provide for affixing a 5- by 5-foot dome-like chamber to a roof surface's topside and applying a defined negative uplift pressure inside the chamber to the roof system's exterior-side surface using a vacuum pump (see photo). During the test, membrane surface deflection inside the chamber is visually monitored and measured to determine whether a roof system passes or is "snapped."

Using ASTM E907, a roof system is considered to be suspect if the deflection measured during the test is 25 mm (about 1 inch) or greater. During FM 1-52 testing, a roof system is suspect if the measured deflection is between 1/4 of an inch and 1/2 of an inch depending on the maximum test pressure: 1 inch where a thin topping board (cover board) is used or 2 inches where a thin cover board or flexible, mechanically attached insulation is used.

If an ASTM E907 or FM 1-52 test yields a suspect result, a test cut should be taken in the test area to determine whether failure has occurred and the specific failure mode.

ASTM E907 and FM 1-52 differ notably in their test cycles and maximum test pressures for determining roof system deflections and whether a roof system passes or is suspect. ASTM E907 testing is conducted in 15-pounds per square foot (psf) pressure intervals up to the calculated design wind (uplift) pressure for the specific roof system being evaluated. FM 1-52 testing is conducted using an initial 15-pounds psf pressure followed by 7.5-pound psf increments up to a maximum test pressure of 1.25 times the design uplift pressure for the specific roof system being evaluated.

Considering maximum test loading and allowable test deflections in combination, FM 1-52 requires 25 percent higher test loads, yet only allows as little as 1/4 the test deflection of ASTM E907. That said, FM 1-52 is a significantly more stringent test than ASTM E907.

ASTM E907 originally was published as a recognized consensus standard in 1983, and it was revised in 1996. In 2013, ASTM withdrew ASTM E907 because a consensus could not be reached regarding necessary revisions—most significantly, defining the test method's precision and bias (accuracy). ASTM E907-96 still is available for use and can be obtained directly from ASTM's website, www.astm.org.

FM 1-52 is an FM Global-premulgated evaluation method and test, a recognized industry-consensus test standard. FM 1-52's scope indicates it only is intended to confirm acceptable wind-uplift resistance on completed roof systems in hurricane-prone regions, where a partial blow-off has occurred or where inferior roof system construction is suspected or known to be present.

FM 1-52 originally was published by FM Global in October 1970. The negative-pressure uplift test was added in August 1980 and has been revised several times. The current edition is dated July 2012 and includes an option for "visual contraction observation (VCO)" as an alternative to negative pressure uplift testing. VCO provides for full-time, third-party monitoring of a roof system application to verify roof system installation in accordance with contract documents.


NRCA Industry Issue Update

June 2015

[Link](#)

54

RESEARCH+TECH



Revisiting field uplift testing
NRCA's long-standing concerns continue with this issue
by Mark S. Graham

I have been a while since I have written about NRCA's concerns with field uplift testing, which sometimes is inappropriately used as a way to assess the quality of an adhered membrane roof system installation. Despite the time that has passed, NRCA continues to have reservations about field uplift testing, and the test procedure has not yet been revised to address NRCA's concerns.

ASTM E907
In 2013, ASTM International withdrew its consensus-based test method for field uplift testing, ASTM E907, "Standard Test Method for Field Testing Uplift Resistance of Adhered Membrane Roofing Systems."
ASTM International requires its test method standards to include a precision statement addressing two things:

"...NRCA is participating in this interlaboratory study program..."

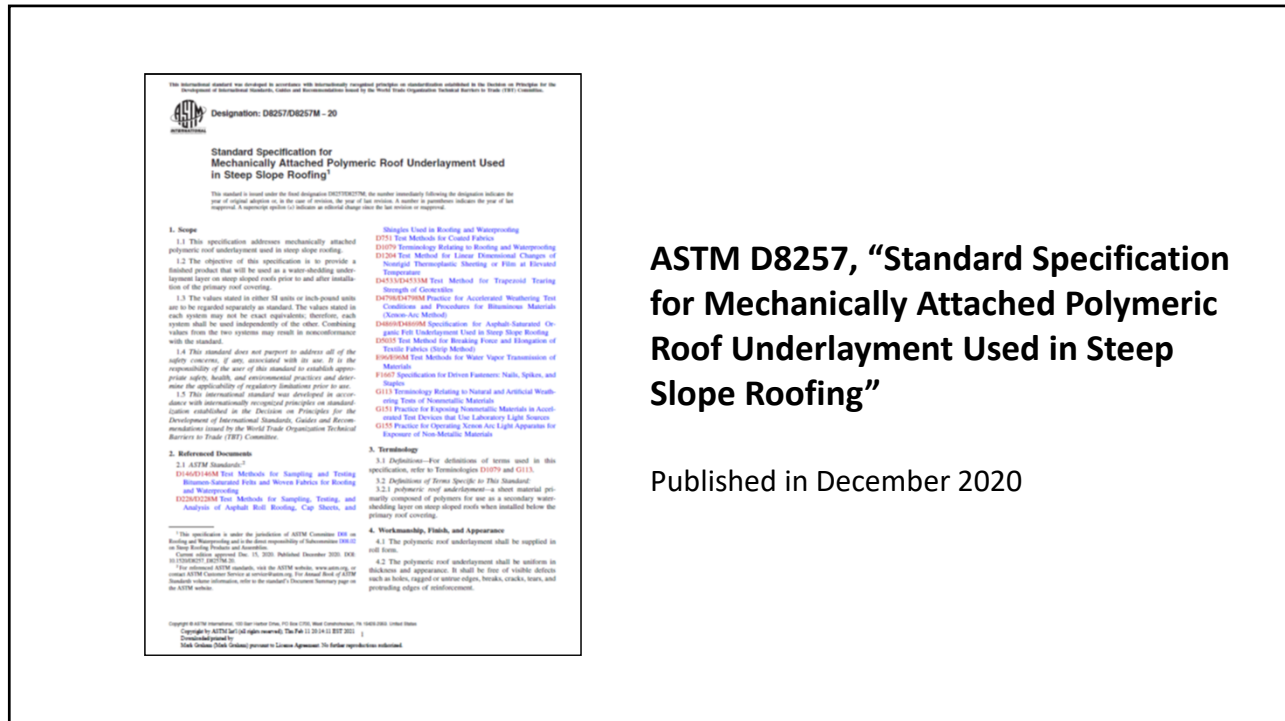
[Link](#)

Professional Roofing
December/January 2022-23

55

Synthetic underlayment

56



57



58

D8257/D8257M - 20

4.3 The surface of the underlayment sheet shall be designed to provide traction and slip resistance to the applicator. **7. Test Methods**
7.1 Conditioning—Unless otherwise stated, all specimens to be tested shall be conditioned for a minimum period of 24 h at

TABLE 1 Requirements for Polymeric Roof Underlayments

Test Requirement	Specimen Type	Test Method	Conditions of Acceptance
Unrolling	As received	7.2	No visible cracking, tearing, or delamination of underlayment
Pliability	As received	7.3	No visible cracking or delamination of underlayment
Water Vapor Transmission	As received	7.4	Results shall be reported in perms
Liquid Water Transmission	As received	7.5	Shall meet the "PASS" requirements of ASTM D4869/D4869M
Linear Dimensional Change	As received	7.6	Max. linear change of -2.5 to +1 %
Tensile Strength (machine as received)	As received	7.9	Min. 111 N [25 lbf]
Tearing Strength (machine as received)	As received	7.9 and 7.11	
Fastener Pull-through Resistance	As received After Thermal Cycling After Laboratory Accelerated Weathering	7.9 and 7.11 7.9 and 7.12	
Hydrostatic Resistance	As received After Thermal Cycling After Laboratory Accelerated Weathering	7.10 7.10 and 7.11 7.10 and 7.12	No water shall pass through any specimen
Thermal Cycling	As received	7.11	No visible damage such as peeling, chipping, crazing, spitting, cracking, flaking, or pitting
Laboratory Accelerated Weathering ^a	As received	7.12	No visible damage such as peeling, chipping, crazing, spitting, cracking, flaking, or pitting

^a The effect of laboratory accelerated weathering on the tensile strength, tearing strength, fastener pull-through resistance, and hydrostatic resistance of the roof underlayment is for the purpose of simulating the effect of solar radiation, heat, and moisture on the roof underlayment during the period in which it is exposed to the environment before the roof covering is installed.

Copyright by ASTM Int'l (all rights reserved). This file is 20:14:31 EST 2023. 2
Downloaded from www.astm.org by Mark Gribben (Mark.Gribben) pursuant to License Agreement. No further reproduction authorized.

Some synthetic underlayments are vapor retarders, while others are vapor "open"

59

Measurement of a vapor retarder's effectiveness

Classification	Permeance ¹
Class I vapor retarder	0.1 perm or less
Class II vapor retarder	1.0 perm or less and greater than 0.1 perm
Class III vapor retarder	10 perm or less and greater than 1.0 perm

¹ Permeance determined according to ASTM E-96 Test Method A (the desiccant method or dry cup method)

60

VAPOR PERMEABILITY PROVIDES

TEST MATERIAL	PERMEANCE RATING
Asphalt shingles – individual	0.9
#15 felt	7.0
Breathable synthetic	9.5
Nonbreathable synthetic	0.1
7/16-in. OSB decking	1.0

TEST MATERIAL	PERMEANCE RATING
OSB, #15 felt, Classic® shingles	0.31
OSB, Fiberglas™-reinforced felt, Classic® shingles	0.32
OSB, nonbreathable, Classic® shingles	0.27

IIBEC (formerly RCI) Interface

December 2011

Link

61

Designation: E96/E96M - 22

Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials¹

1. Scope

1.1 These test methods cover the determination of water vapor transmission rate (WVTR) of materials, such as, but not limited to, paper, plastic films, other sheet materials, coatings, foams, fiberboards, gypsum and plaster products, wood products, and plastics. Two basic methods, the Desiccant Method and the Water Method, are provided for the measurement of WVTR. In these tests, the desired temperature and side-to-side humidity conditions, with resultant vapor drive through the specimens, are used. Agreement is not to be expected between results obtained by different methods. The test conditions employed are at the discretion of the user, but in all cases, are reported with the results.

1.2 The values stated in either Inch-Pound or SI units are to be regarded separately as standard. The values stated in each system are not necessarily exact equivalents; therefore, each system shall be used independently of the other. Derived results are converted from one system to the other using appropriate conversion factors (see Table 1).

1.3 This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.

1.4 This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

ASTM E96, “Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials”

62

ASTM E96 Procedure A results

NRCA permeance testing of asphalt shingle roof assemblies

Sample	Water vapor permeance (Perms)
7/16" OSB sheathing	1.4
15/32" CDX plywood sheathing	0.9

63

ASTM E96 Procedure A results -- continued

NRCA permeance testing of asphalt shingle roof assemblies

Sample	Water vapor permeance (Perms)
Non-breathable synthetic underlayment	0.02
Breathable synthetic underlayment	0.5

64

ASTM E96 Procedure A results -- continued

NRCA permeance testing of asphalt shingle roof assemblies

Sample	Water vapor permeance (Perms)
Non-breathable synthetic underlayment over 7/16" OSB sheathing	0.03
Non-breathable synthetic underlayment over 15/32" CDX plywood sheathing	0.05
Breathable synthetic underlayment over 7/16" OSB sheathing	0.50
Breathable synthetic underlayment over 15/32" CDX plywood sheathing	0.22

65

ASTM E96 Procedure A results -- continued

NRCA permeance testing of asphalt shingle roof assemblies

Sample	Water vapor permeance (Perms)
Laminated asphalt shingle over non-breathable synthetic underlayment over 7/16" OSB sheathing	0.05
Laminated asphalt shingle over non-breathable synthetic underlayment over 15/32" CDX plywood sheathing	0.04
Laminated asphalt shingle over breathable synthetic underlayment over 7/16" OSB sheathing	0.40
Laminated asphalt shingle over breathable synthetic underlayment over 15/32" CDX plywood sheathing	0.09

66

ASTM E96 Procedure A results -- continued

NRCA permeance testing of asphalt shingle roof assemblies

Sample	Water vapor permeance (Perms)
Laminated asphalt shingle over non-breathable synthetic underlayment over 7/16" OSB sheathing	0.05 0.10 with nail
Laminated asphalt shingle over non-breathable synthetic underlayment over 15/32" CDX plywood sheathing	0.04 0.10 with nail
Laminated asphalt shingle over breathable synthetic underlayment over 7/16" OSB sheathing	0.40 0.50 with nail
Laminated asphalt shingle over breathable synthetic underlayment over 15/32" CDX plywood sheathing	0.09 0.18 with nail

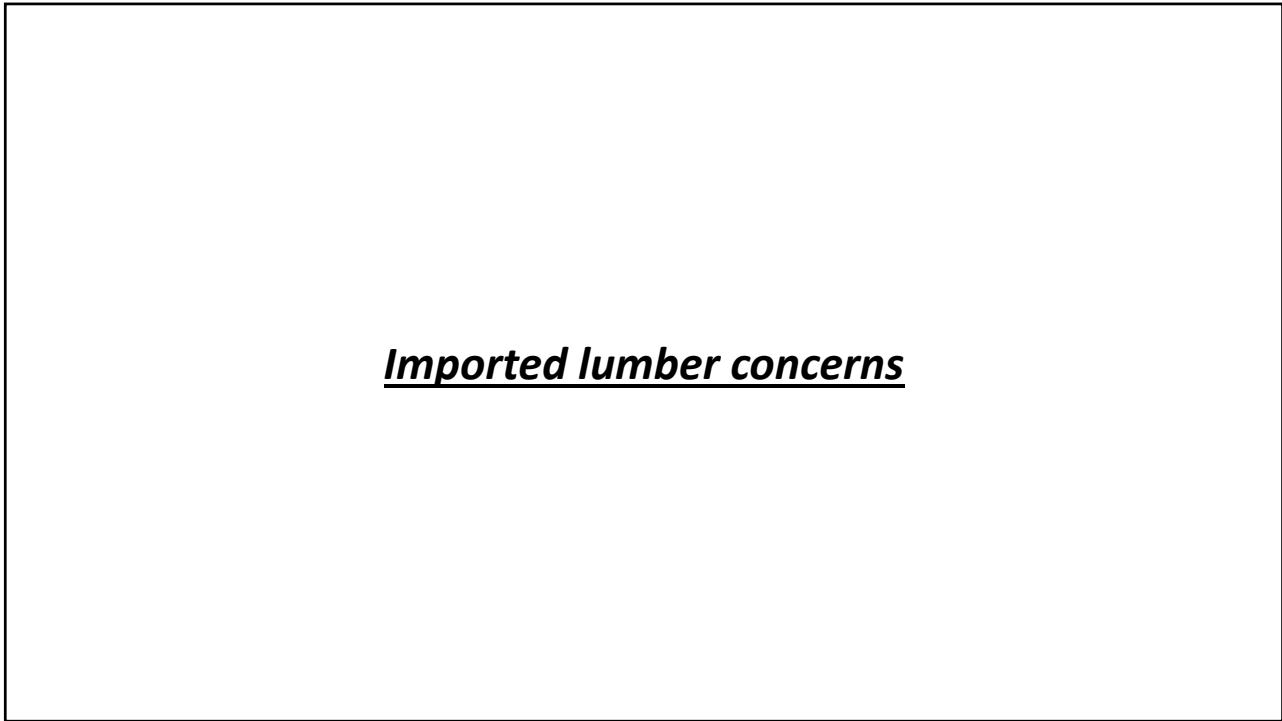
67

"Preliminary" conclusions

NRCA permeance testing of asphalt shingle roof assemblies


- There is a potential for condensation development at the roof deck level when using synthetic underlayment
- Functional below-deck ventilation is (even more) important for mitigating condensation development at the roof deck level when using synthetic underlayment

68



Imported lumber concerns

69



RESEARCH+TECH

Considering substitutions
Be aware of potential consequences with product substitution
by Mark S. Graham

With ongoing shortages of building materials and products, substitutions have become more commonplace – but they can have unintended consequences. One issue that has arisen involves substituting European lumber for North American lumber, a decision that could result in unintended consequences.

The situation

At the start of the COVID-19 pandemic, wood product producers were operating under the same uncertainty as the rest of the world. Many mills curtailed production in anticipation of worker shortages and reduced demand. At the same time, many wholesale and retail lumber customers significantly reduced inventory levels. Also, because of the Global Forestry, several mills had closed permanently. The American Wood Council reports between 2007 and 2017, mill closures in the South resulted in a lumber capacity loss between 1.7 to 2.4 billion board feet. Mill closures in the Pacific Northwest represented 10% of the area's mills.

Although the demand for wood products had dipped, it quickly rebounded during the pandemic because of increased remodeling projects and new housing starts spurred, in part, by low interest

Professional Roofing
September 2021

[Link](#)

70

Element of a Grade Stamp

Mill number

Grading Agency Symbol

Indicates the species or combination of species of lumber.

Photo #2 Lumber Grade Stamp

Lumber is graded based on the quality and appearance of the wood. No. 2 lumber is the most common grade for framing. However, lumber with the same No. 2 grade could have different wood properties.

For species imported from outside North America, the grade stamp will include the designation "(I)", indicating imported".

AS-N SPR-SC P (I) AUS ROM UKR

NORWAY SPRUCE ROMANIA & UKRAINE	N SPR (I) ROM; UKR	0.38
---------------------------------	--------------------	------

Page 1 of 9

[Link](#)

71

Imported plywood and OBS concerns

72

Standards for wood structural panels

International Residential Code, 2018 Edition

Plywood:

- U.S. Department of Commerce PS-1, “Structural Plywood”
- CSA Group O325, “Construction Sheathing”

Oriented-strand board (OSB):

- U.S. Department of Commerce PS-2, “Performance Standard for Wood-based Structural-use Panels”
- CSA Group O437, “Standards for OSB and Waferboard”

73

Concerns with Brazilian plywood



Applies to product shipped from January 1, 2016 through early 2022

HOME > NEWS >

Lawsuit highlights inferior Brazilian plywood and false certification

A recent lawsuit has shined a light on the use of inferior Brazilian plywood and its false certification by long-time certifier PFS-TECO, according to NRCA General Counsel Trent Cotney.

What the lawsuit claimed

The suit was filed by U.S. Structural Plywood Integrity Coalition, which includes nine family-owned plywood manufacturers. The group alleged that PFS-TECO designated PS 1 certification for the plywood despite failing to meet U.S. standards. The lawsuit claimed negligence, false advertising and loss of revenue.

PS 1 certification indicates structural integrity for plywood panels used in floors, roofs and walls of commercial and residential buildings. After its production, PFS-TECO inspected the plywood and stamped it PS 1 before it was made available in the U.S.; however, the plywood had substantial failure rates during American Plywood Association testing and evaluation from other laboratories. Unfortunately, the plywood in question has been used throughout the U.S. for new construction projects, as well as for reconstruction in Florida, Puerto Rico and other areas affected by hurricanes.


The suit alleges that dating to Jan. 1, 2016, the inspection services “made false statements of fact through certifications that authorized 35 Brazilian plywood producers to export plywood into Florida” they either knew or



JUL./AUG. 2023
VOL. 52 ISSUE 6

[Link](#)

74



PFS Corporation d/b/a PFS-TECO
An Employee-Owned Company

NEWS RELEASE

For Immediate Release
For more information, contact:
Scott Drake
Office: (858) 836-1013
scott.drake@pfs-teco.com

Court-Issued Permanent Injunction related to Brazilian Plywood

Cottage Grove, WI (May 31, 2022) — In September 2019, a group of US plywood manufacturers filed a complaint in the Southern District of Florida concerning PFS-TECO's work as an accredited third-party agency in Southern Brazil. The complaint alleged that the PFS-TECO certification mark should be considered false advertising because their group believes it is not possible for plywood made from pine grown in Southern Brazil to meet the requirements of US DOC Product Standard 1 (PS 1).


PFS-TECO has tested and certified plywood in Brazil for over 20 years. PFS-TECO has been accredited and reaccredited by International Accreditation Services, Inc. as an inspection and testing agency and Standards Council of Canada as a certification agency. The third-party certification system for building products involves the manufacturer taking responsibility for their product while the third-party agency's role is to be the impartial link between the manufacturer and the local building official's review of the application of the product. The certification mark is intended to inform the building official that the manufacturer has demonstrated they have the capability to comply with the product standard and they had third-party oversight at the time the product was manufactured. The referenced product type and grade in the mark are then used during the building official's inspection.

On May 23, 2022, PFS-TECO and the U.S. Structural Plywood Integrity Coalition agreed on the terms of a permanent injunction to settle the ongoing dispute between them. On the following day, according to the terms agreed by the parties, the Judge issued a permanent injunction under which PFS-TECO exits the certification market for PS 1 rated plywood in Southern Brazil. The case was settled before the jury trial took place and/or the Court has made any determination on the case's merits. Therefore, the federal district court has not made any determination concerning the accuracy of the plaintiffs' allegations concerning the "strength" of the Brazilian plywood bearing the PFS-TECO stamps or what "wholesalers and retailers" must or should do regarding existing stocks of the labeled product.

Indeed, the injunction does not prohibit, limit, or restrain the sale and/or use of the products labeled with PFS-TECO mark on or before May 31, 2022. The injunction entered by the Court addresses only the future actions of PFS-TECO. The injunction was made without any findings of fact about the products that have been labeled. The injunction specifically does not order the removal or obliteration of any label applied to the product on or before May 31, 2022. The relevant injunction language states:

"IT IS ORDERED AND ADJUDGED that, within seven (7) days of the entry of this Judgment, PFS-TECO is ordered to revoke all of the PS 1 certificates and grade stamps that PFS-TECO has issued to plywood mills located in southern Brazil by emailing a notice of PS 1 certificate revocation to each Brazilian licensee and to remove all revoked PS 1 certificates from the PFS-TECO website."

608.836.1013 | 1507 Main Pkwy. Cottage Grove, WI 53027
WWW.PFS-TECO.COM



PFS-TECO New Release

May 31, 2022

[Link](#)

75

MARKETPLACE
Search For & Place Classifieds

Imported Russian plywood

Post Crescent.

SUBSCRIBE NOW
\$1 for 3 Months

News Sports Packers Business Go 920! Life Obituaries eNewspaper Legals
36°F
Subscribe Sign In

MONEY

Russian plywood reportedly still sold in U.S. a year into Ukraine war – including by a Wisconsin company

Becky Jacobs | Appleton Post-Crescent
Published 5:04 a.m. CT Feb. 24, 2023

[f](#)
[t](#)
[e](#)
[r](#)

EAU CLAIRE – More than a billion dollars worth of Russian "conflict timber" has been sold in the U.S. since Russia invaded Ukraine a year ago, and some of that plywood has been put up for sale by Menards, according to a report released Thursday.

"U.S. consumers will be horrified to discover they could be purchasing products bought from Russian oligarchs who are key allies of Putin and whose cash helps prop up his regime," said Sam Lawson, director of Earthsight, the London-based environmental group that published the report, in a statement.

More than 260,000 cubic meters of Russian "Baltic birch" plywood, with an estimated retail value of \$1.2 billion, has landed in U.S. ports since the conflict, Earthsight says, citing customs records.

[Link](#)

76

International Roofing Expo
Dallas, TX

38

Conclusions and recommendations

Concerns with imported lumber and plywood and OSB sheathing

- Be cautious of newly-installed lumber and plywood and OSB
- You may want to check grade stamps
- Roof deck acceptance should be limited
- Prepare yourself for more roof deck replacement

77

Revisions to PIMA's QualityMark^{CM} program

78

POLYISO
Surround yourself with the best.

CONTACT US SIGN IN Enter search criteria...

ABOUT POLYISO APPLICATIONS TECHNICAL CODES EDUCATION ENVIRONMENT & SAFETY NEWS ABOUT PIMA

QualityMark™ Certification Program

Program Results

The QualityMark certification program publishes a quarterly report of the polyiso manufacturing locations that conform to the LTTR-value certification and R-value verification requirements. The conformance report with results for the R-value verification selection period occurring in the **second quarter of 2022 (April - June 2022)** is available at the link below. The conformance report is updated on a quarterly basis.

[DOWNLOAD CONFORMANCE REPORT](#)

Approved Laboratories

Third-party, accredited laboratories that have been approved for LTTR-value testing under the QualityMark certification program include:

- Element
- Intertek
- PRI
- QAI Laboratories
- R&D Services

PIMA requires each laboratory to submit an annual attestation of its LTTR-value testing accreditation.

[Link](#)

79

PIMA
POLYISOCYANURATE INSULATION
MANUFACTURERS ASSOCIATION

3333 Wilson Blvd., Suite 700
Arlington, VA 22201
703.266.0083
www.polyiso.org

QualityMark™ Program Quarterly Conformance Report
Reporting Period: Q2 2022 (April - June 2022)
Last revised on February 20, 2023

About:
The QualityMark Program is a voluntary program for manufacturers of polyisocyanurate roof insulation (ASTM C1289, Type II, Class I, Grade 2) in Canada and the United States. The program enables participants to obtain third-party certification of long-term thermal resistance (LTTR) values for insulation products independently selected from manufacturing locations. Additionally, the program provides third-party verification of thermal resistance values (R-values) tested in accordance with the ASTM C518 standard for full

PIMA QualityMark™

LTTR-value Certification for Products Selected from Manufacturing Locations:
Samples for LTTR-value certification are selected from manufacturing locations by independent third parties. The testing is performed by approved laboratories to obtain LTTR-values for 2.0", 3.0", and 4.0" product. Participating manufacturers are required to obtain an initial certification for each manufacturing location, which are then recertified every 3 years. The certification is used to validate the LTTR-values published by participating manufacturers.

R-value Verification for Products Selected from Distribution:
Samples for R-value verification (ASTM C518) are selected on a quarterly basis from distribution locations by an independent third party. A sample is selected for each participating manufacturing location. After selection, the samples are held at laboratory conditions and tested at full thickness 180-days after the date of manufacture. A manufacturing location is deemed to conform to the program requirements when the measured R-value at 180-days is equal to or greater than the published LTTR-value for the product at the same labeled thickness. Manufacturing locations that receive non-conforming R-value verification results in consecutive quarters (inclusive of the current reporting period) are not in compliance with the program requirements.

80

QualityMark Program Quarterly Conformance Report ¹ Reporting Period: Q2 2022 (April – June 2022)		
Manufacturing Location		Manufacturer
City	State/Province	
High River*	Alberta	IKO Industries Ltd.
Phoenix	Arizona	Atlas Roofing Corporation
Vancouver	British Columbia	Atlas Roofing Corporation
Northglenn	Colorado	Atlas Roofing Corporation
Bristol	Connecticut	Holcim Building Envelope
Jacksonville	Florida	Holcim Building Envelope
Jacksonville*	Florida	Johns Manville
Lake City	Florida	Carlisle Construction Materials
LaGrange	Georgia	Atlas Roofing Corporation
Statesboro	Georgia	GAF
Florence	Kentucky	Holcim Building Envelope
East Moline	Illinois	Atlas Roofing Corporation
Franklin Park	Illinois	Carlisle Construction Materials
Bremen*	Indiana	Johns Manville
Fernley*	Nevada	Johns Manville
Montgomery	New York	Carlisle Construction Materials
Cornwall*	Ontario	Johns Manville
Toronto	Ontario	Atlas Roofing Corporation
Camp Hill	Pennsylvania	Atlas Roofing Corporation
Hazleton*	Pennsylvania	Johns Manville
Smithfield	Pennsylvania	Carlisle Construction Materials
Youngwood	Pennsylvania	Holcim Building Envelope
Drummondville	Quebec	SOPREMA
Corsicana	Texas	Holcim Building Envelope
Diboll	Texas	Atlas Roofing Corporation
Gainesville	Texas	GAF
Terrell	Texas	Carlisle Construction Materials
Cedar City	Utah	GAF
Tooele	Utah	Carlisle Construction Materials
Puyallup	Washington	Carlisle Construction Materials

Last revised on February 20, 2023. Current report available at www.polyiso.org/QUALITYMARK

*This manufacturing location has a pending result for its LTTR-value certification. The table above will be periodically updated as LTTR-value certifications are completed.

81

Table Note 1:
The manufacturing locations listed below have recently been brought on-line. The time represented by the current reporting period was prior to the date the location either started commercial production or completed its initial LTTR-value certification. Results for these plants will be included in future reporting periods.

- Hagerstown, Maryland – IKO Industries Ltd.
- New Columbia, Pennsylvania – GAF
- Hillsboro, Texas – Johns Manville

Questions:
For questions regarding the QualityMark Program, please contact PIMA using the "Contact Us" form on the website [pima](#).

Page 3 of 3

82

Recommendations

- Watch for updates to PIMA's Quarterly Conformance Report
- Consider asking polyiso. manufacturers to certify their current compliance

83

Contractor-reported problems...

84

Questions... and other topics

85

Mark S. Graham

National Roofing Contractors Association

mgraham@nrca.net

Jean-Paul Grivas, AIA

Patrick D. Murphy Co., Inc., Architects/Ray Nolan Roofing Co., Inc.

jpgrivas@pdmarchitects.com

T. Eric Stafford, PE

T. Eric Stafford & Associates, Inc.

testafford@charter.net

86