



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

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

NOTICE OF ACCEPTANCE (NOA)

Exolon Group Inc.
203 N LaSalle Street-Suite 2550
Chicago, IL 60601

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 High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: 16MM Polycarbonate Storm Panel Shutter

APPROVAL DOCUMENT: Drawing No. EXN0001, titled "16MM Polycarbonate Storm Panels-HVHZ ", sheets 1 through 3 of 3, prepared by PTC Product Design Group, LLC, dated January 13, 2023, signed and sealed by Robert J. Amoruso, P.E., on August 02, 2023 bearing the Miami-Dade County Product Control Approval stamp with the Notice of Acceptance number and the approval date by the Miami-Dade County Product Control Section.

MISSILE IMPACT RATING: Large and Small Missile Impact Resistant

LABELING: Each panel shall bear a permanent label with the manufacturer's name or logo, city, state, the following statement: "Miami-Dade County Product Control Approved", and NOA number, per TAS-201, TAS-202, and TAS-203, 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 this page 1, evidence submitted page E-1 as well as approval document mentioned above.

The submitted documentation was reviewed by **Helmy A. Makar, P.E., M.S.**



Helmy A. Makar
09/07/2023

NOA No. 23-0615.01
Expiration Date: 09/07/2028
Approval Date: 09/07/2023
Page 1

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

1. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 07-0606.10

A. DRAWINGS

1. Drawing No. *EXN0001*, titled “*16MM Polycarbonate Storm Panels-HVHZ*”, sheets 1 through 3 of 3, prepared by PTC Product Design Group, LLC, dated January 13, 2023, signed and sealed by Robert J. Amoruso, P.E., on August 02, 2023.

B. TESTS

1. Test reports on 1) Uniform Static Air Pressure Test, Loading per TAS 202-94
2) Cyclic Wind Pressure Loading per TAS 203-94
3) Large Missile Impact Test per TAS 201-94
along with marked-up drawings and installation diagram of a polycarbonate Storm Panel Shutter, prepared by QAI Laboratories, Test Report No. 13219, dated 10/21/2022, signed & sealed by Idalmis Ortega, P.E., on 11/29/2022.
2. Test reports on 1) Self-Ignition Temp. per ASTM D1929
2) Rate of Burning per ASTM D635
3) Smoke Density per ASTM D2843
along with marked-up drawings and installation diagram of a polycarbonate Storm Panel Shutter, prepared by QAI Laboratories, Test Report No. 13190, dated 11/11/2022, signed & sealed by Idalmis Ortega, P.E., on 11/14/2022.
3. Test reports on 1) Tensile test per ASTM D638
along with marked-up drawings and installation diagram of a polycarbonate Storm Panel Shutter, prepared by QAI Laboratories, Test Report No. 13189, dated 03/30/2023, signed & sealed by Idalmis Ortega, P.E., on 04/04/2023.

C. CALCULATIONS

1. Comparative Analysis and Anchor Calculations, 11 sheets, prepared by PTC Product Design Group, LLC, dated January 13, 2023, signed and sealed by Robert J. Amoruso, P.E., on March 27, 2023.

D. QUALITY ASSURANCE


1. By Miami-Dade County Department of Regulatory and Economic Resources.

E. MATERIAL CERTIFICATIONS

1. None.

F. STATEMENTS

1. Florida Building Code, 2020 Edition Compliance Letter prepared by PTC Product Design Group, LLC, dated March 29, 2023, signed and sealed by Robert J. Amoruso, P.E., on August 02, 2023.



Helmy A. Makar, P.E., M.S.
Product Control Section Supervisor
NOA No. 23-0615.01
Expiration Date: 09/07/2028
Approval Date: 09/07/2023

GENERAL NOTES:

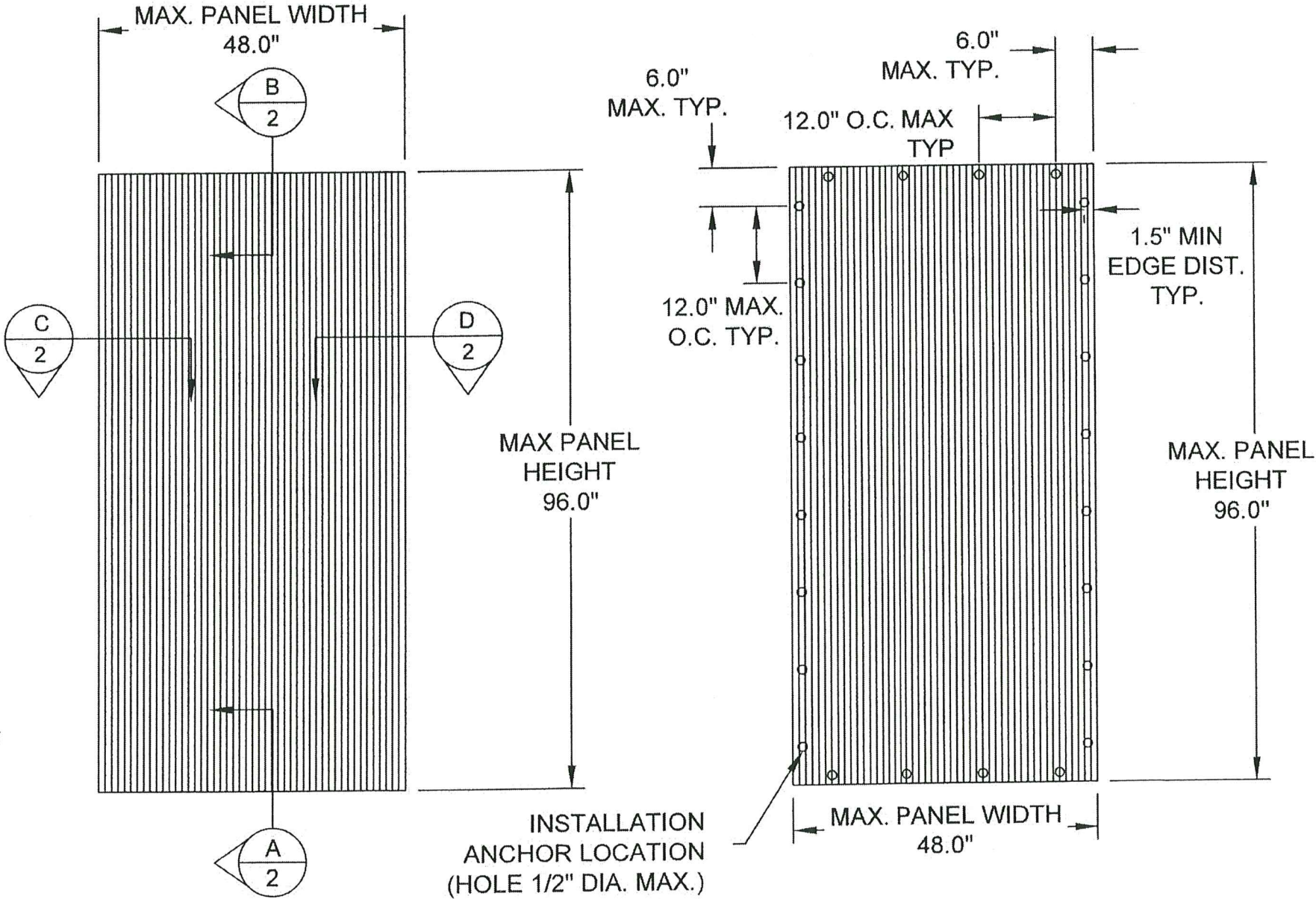
1. THE PRODUCT SHOWN HEREIN IS DESIGNED TO COMPLY WITH THE CURRENT EDITION OF THE FLORIDA BUILDING CODE INCLUDING (HVHZ) HIGH VELOCITY HURRICANE ZONE.
2. THE DESIGN BASIS FOR THE PRODUCT SHOWN HEREIN IS DERIVED FROM TEST REPORT 13219, DATED 10/21/22 BY QAI LABORATORIES.
3. PANEL FRAME MATERIAL: EXOLON MULTI UV 5X/16-25 POLYCARBONATE 16MM (5/8").
4. MAXIMUM PANEL SIZE: 48" X 96".
5. PANELS MAY BE MOUNTED VERTICALLY (AS SHOWN ON THIS SHEET) OR HORIZONTALLY.
6. DETAILS A, B, C AND D ON SHEET 2 DEPICT TYPICAL CONCRETE / MASONRY AND WOOD ANCHORAGE CONNECTIONS, RESPECTIVELY THESE DETAILS MAY BE USED INTERCHANGEABLY AS FIELD CONDITIONS DICTATE.
7. DETAILS A, B, C AND D ON SHEET 2 DEPICT INSTALLATION USING THE PANELMATE OR STORM GUARD TYPE INSTALLATION ANCHOR. PANELMATE INSERT IS ALSO APPROVED FOR USE. SEE INSTALLATION ANCHOR SCHEDULE AND NOTES ON SHEET 3.
8. A MINIMUM REQUIRED SEPARATION OF 6.21 INCHES BETWEEN POLYCARBONATE STORM PANELS AND FENESTRATION GLAZING OR FRAMING MEMBERS IS REQUIRED.
9. CONCRETE / MASONRY OPENING AND 2X BUCKS ARE TO BE DESIGNED AND ANCHORED TO PROPERLY TRANSFER ALL LOADS TO STRUCTURE. CONCRETE / MASONRY OPENING AND 2X BUCKS ARE THE RESPONSIBILITY OF THE ARCHITECT OR ENGINEER OF RECORD.
10. PRODUCTS SHOWN HEREIN ARE APPROVED FOR USE WHERE LARGE MISSILE IMPACT RESISTANCE IS REQUIRED.
11. SEE DESIGN PRESSURE RATINGS ON THIS SHEET.
12. ALL INSTALLATION ANCHORS AND ASSOCIATE HARDWARE MUST BE MADE OF CORROSION RESISTANT MATERIAL OR HAVE A CORROSION RESISTANT COATING. DISSIMILAR METALS OR MATERIALS IN CONTACT WITH PRESSURE TREATED WOOD MUST BE PROTECTED TO PREVENT REACTION.
13. PANELS SHALL BE PERMANENTLY LABELED WITH A MINIMUM OF ONE LABEL PER PANEL CONTAINING THE FOLLOWING:

EXOLON GROUP, STRADA DI VAGNO 15/A - 05035, NERA MONTORO (TR), ITALY
MIAMI-DADE NOTICE OF ACCEPTANCE (NOA) NUMBER
TAS 201-94, TAS 202-94 AND TAS 203-94

INSTALLATION NOTES:

1. ONE (1) ANCHOR IS REQUIRED AT EACH INSTALLATION ANCHOR LOCATION SHOWN.
2. SPACE INSTALLATION ANCHORS 6" FROM EACH CORNER AND 12" O.C. MAXIMUM. MINIMUM ANCHOR SPACING OF 6".
3. FOR CONCRETE / MASONRY INSTALLATION USE 1/4" ELCO PANELMATE OR ITW TAPCON SG W/ WASHERED WING NUTS WITH 1/4" x 1 1/2" O.D. STEEL FLAT WASHER AND 1/4" x 1 1/2" O.D. EDPM FLAT WASHER. MINIMUM EMBEDMENT AND EDGE DISTANCE AS SHOWN IN TABLE ON SHEET 3. 1/4" ELCO PANELMATE INSERT ALSO APPROVED (SEE SHEET 3).
4. FOR WOOD FRAMING INSTALLATION USE 1/4" ELCO PANELMATE W/ WASHERED WING NUTS, 1/4" x 1 1/2" O.D. STEEL FLAT WASHER AND 1/4" x 1 1/2" O.D. EDPM FLAT WASHER. MINIMUM EMBEDMENT AND EDGE DISTANCE AS SHOWN IN TABLE ON SHEET 3. 1/4" ELCO PANELMATE INSERTS ALSO APPROVED (SEE SHEET 3).

EXOLON GROUP
16MM POLYCARBONATE STORM PANELS - HVHZ
INSTALLATION ANCHORAGE DETAILS



48" X 96" PANEL
EXTERIOR ELEVATION

PERFORMANCE RATING TABLE	
DESIGN PRESSURE RATING (PSF)	IMPACT RATING
+/-60 PSF	HVHZ LARGE MISSILE IMPACT

48" x 96" PANEL
ANCHOR LAYOUT

TABLE OF CONTENTS	
SHEET	SHEET DESCRIPTION
1	ELEVATIONS, ANCHOR LAYOUT, & NOTES
2	CROSS SECTIONS & DETAILS
3	BILL OF MATERIALS & COMPONENTS

PROJECT NUMBER:		422-0308	
REV	DESCRIPTION	DATE	BY

Exolon Group Inc.
203 N LaSalle Street - Suite 2550
Chicago, IL 60601

TITLE: 16MM POLYCARBONATE STORM PANELS - HVHZ
ELEVATIONS, ANCHORING LAYOUT & NOTES

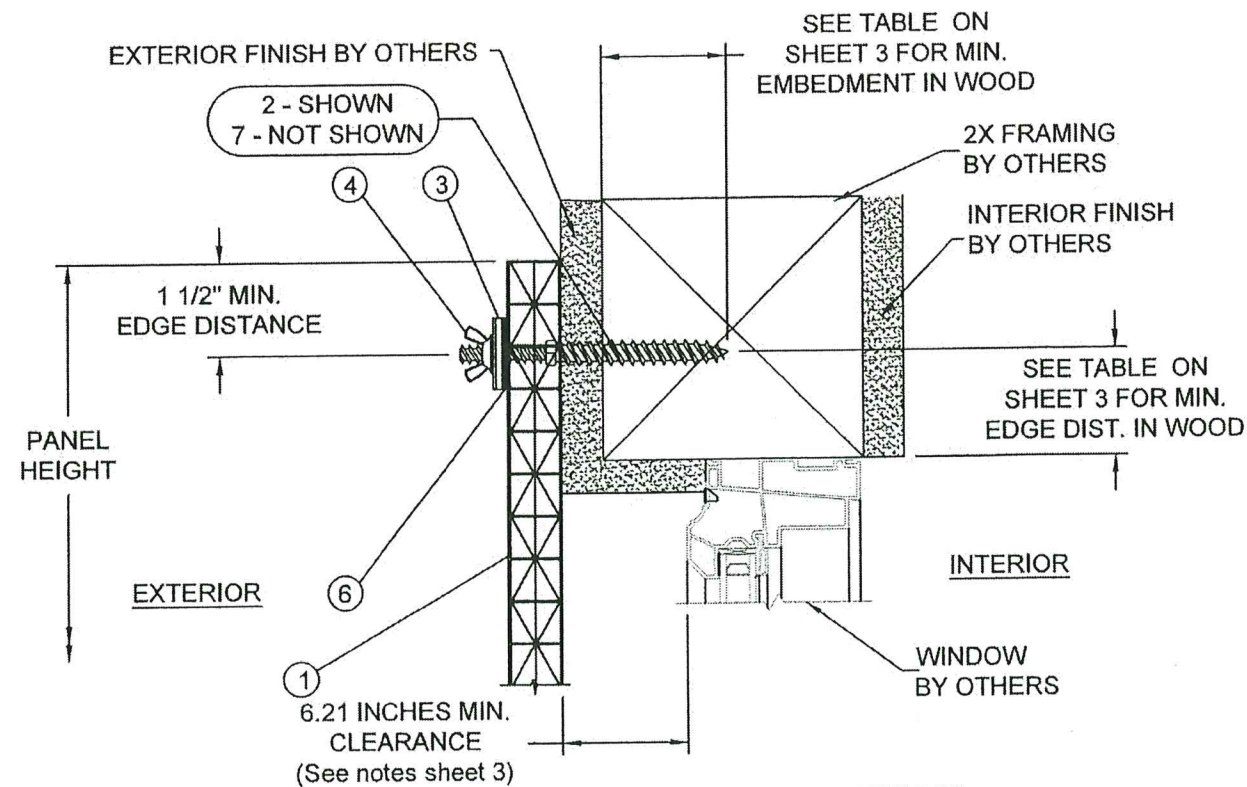
PREPARED BY: RJA
DATE: 1/13/2023
SCALE: N.T.S.
SHEET: 1 OF 3

PTC PRODUCT DESIGN GROUP, LLC
PO BOX 520775
LONGWOOD, FLORIDA 32752
Phone: 321.690.1788
Fax: 321.690.1789
Email: info@ptc-corp.com

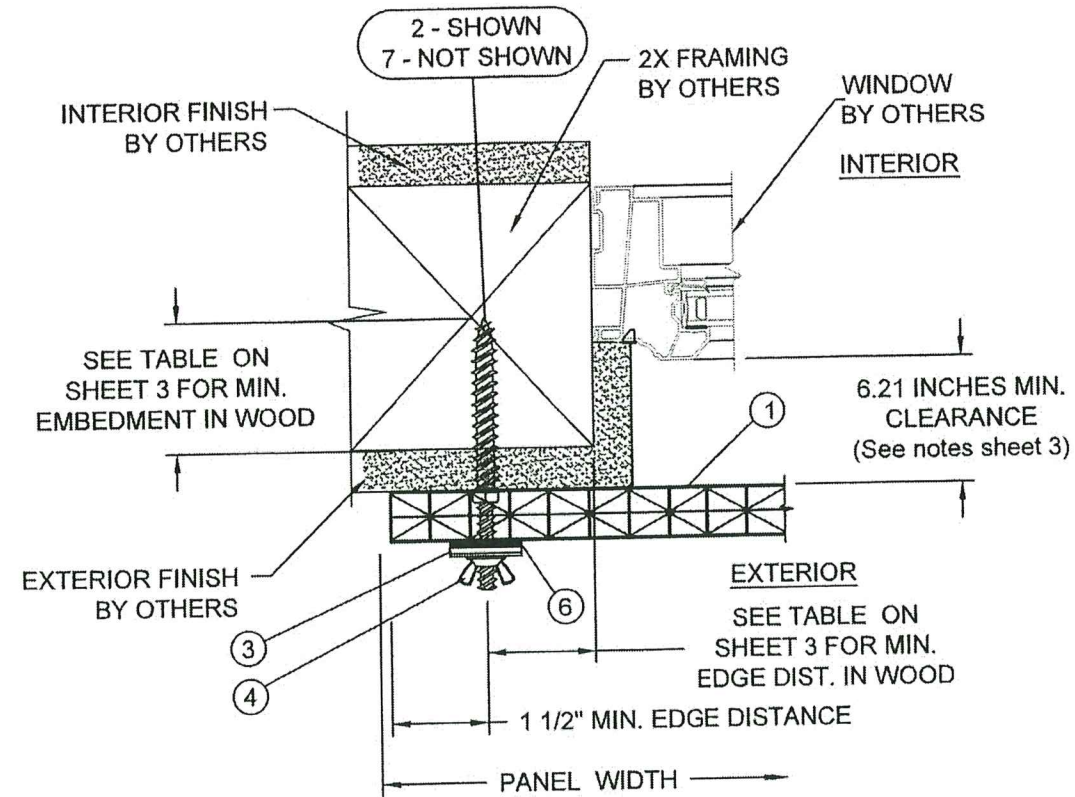
Approved as complying with the
Florida Building Code
Date 09/07/2023
NOA# 23-0615-01
Miami Dade Product Control
By *Healy A. M. Jr.*

Robert J. Amoruso, P.E.
FL P.E. No. 49752

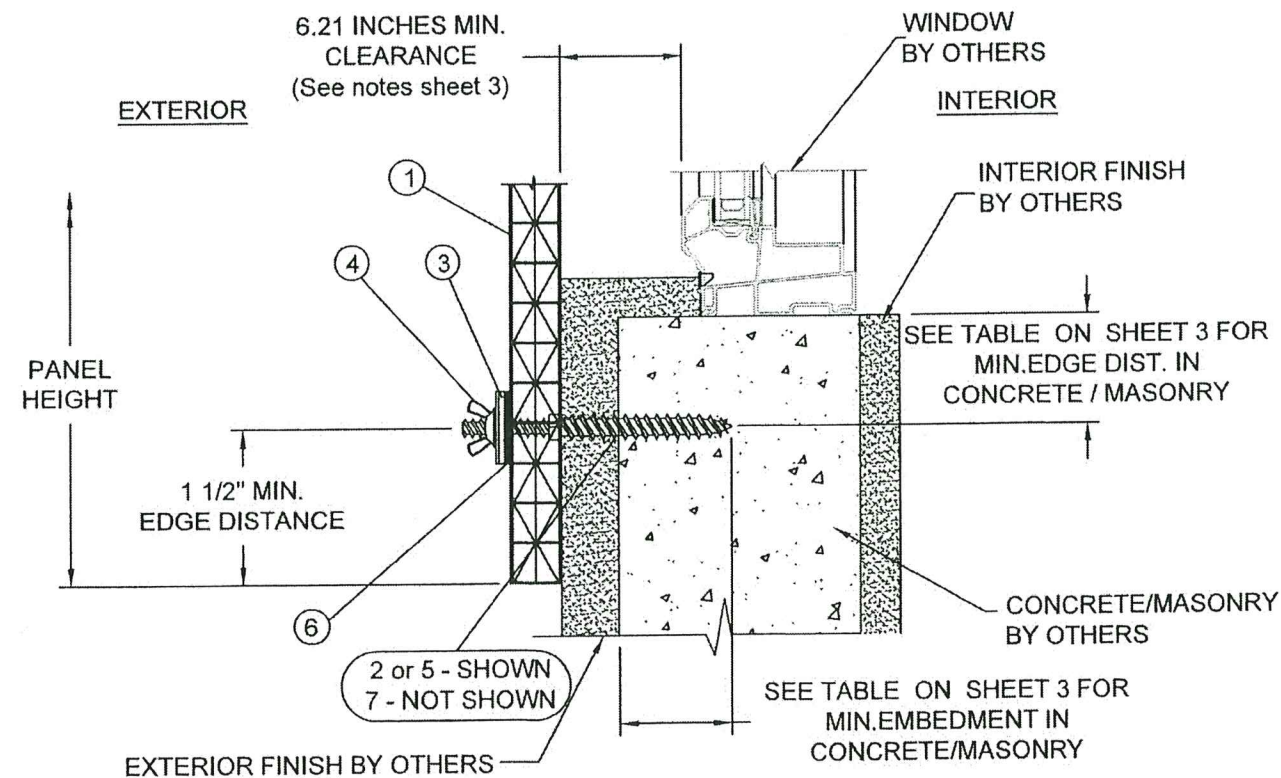
PROF. ROBERT JAMES AMORUSO
LICENSE
No. 49752
STATE OF
FLORIDA
PROFESSIONAL ENGINEER



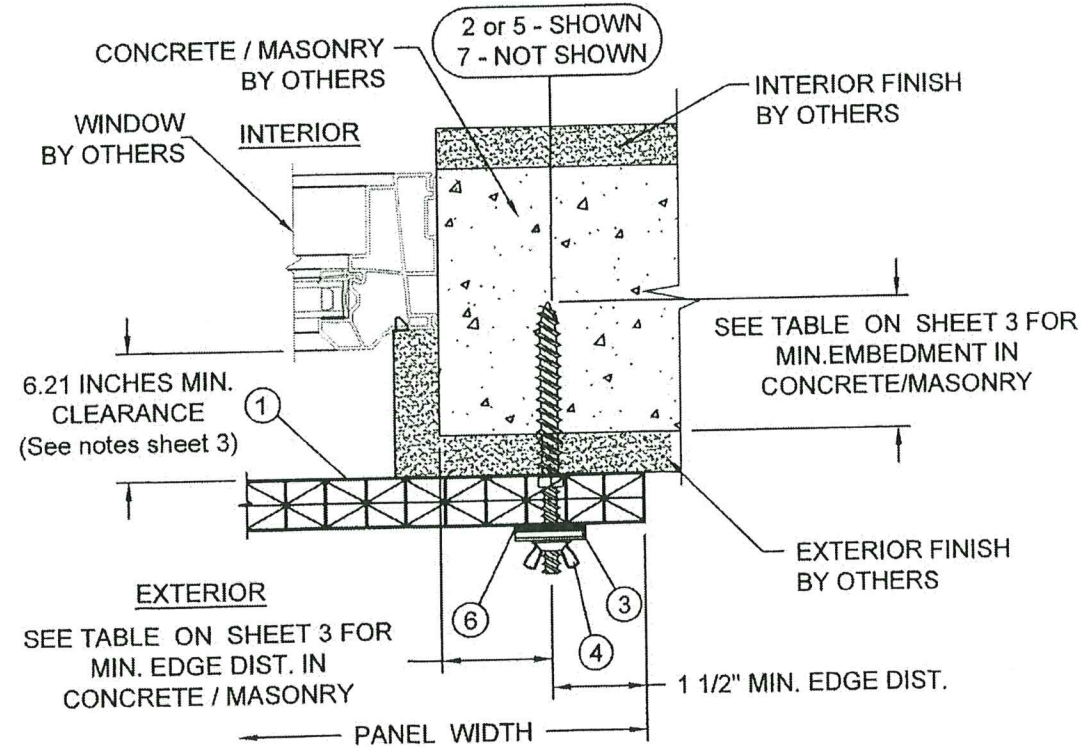
B VERTICAL SECTION
2 WOOD FRAMING SUBSTRATE



C HORIZONTAL SECTION
2 WOOD FRAMING SUBSTRATE



A VERTICAL SECTION
2 CONCRETE / MASONRY SUBSTRATE



D HORIZONTAL SECTION
2 CONCRETE / MASONRY SUBSTRATE

SECTION VIEWS ABOVE SHOW INSTALLATION USING PANELMATE OR STORM GUARD TYPE ANCHORS. PANELMATE INSERTS ALSO ALLOWED. SEE SHEET 3 FOR EDGE DISTANCE AND EMBEDMENT REQUIREMENTS.

PROJECT NUMBER: 422-0308

Exolon Group Inc.
203 N LaSalle Street - Suite 2550
Chicago, IL 60601

TITLE: 16MM POLYCARBONATE STORM PANELS - HVHZ

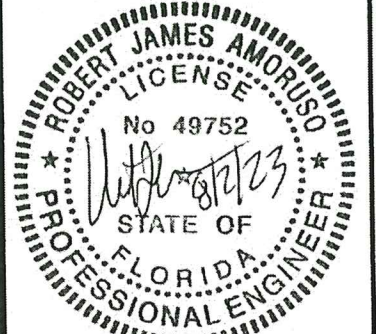
CROSS SECTIONS & DETAILS

PREPARED BY: **PTC**
PTC PRODUCT DESIGN GROUP, LLC
LONGWOOD, FLORIDA 32752
FBPE C.A. NO. 25935

DRAWN BY: RJA
SCALE: N.T.S.
DATE: 9/9/2022
DRAWING NO: EXN0001
SHEET: 2 OF 3

Approved as complying with the
Florida Building Code
Date: 09/07/2023
NOA# 23-0615-01
Miami Dade Product Control
By: *Helga M. M.*

Robert J. Amoruso, P.E.
FL P.E. No. 49752



INSTALLATION ANCHOR
TABLE OF MINIMUM EMBEDMENTS AND EDGE DISTANCES

SUBSTRATE		1/4" ITW TAPCON STORM GUARD		1/4" ELCO MALE PANELMATE PRO		1/4" ELCO PANELMATE INSERT	
TYPE	STRENGTH	EMBEDMENT DEPTH (IN)	EDGE DISTANCE (IN)	EMBEDMENT DEPTH (IN)	EDGE DISTANCE (IN)	EMBEDMENT DEPTH (IN)	EDGE DISTANCE (IN)
CONCRETE	2500 PSI	1-3/4	3	1-3/4	2-1/2	1-7/16	4
HOLLOW BLOCK	ASTM C90. MEDIUM WEIGHT DENSITY	1-1/4	1-1/4	1-1/4	1-1/4	1-1/4	1-3/4
GROUT FILLED BLOCK	ASTM C90. MEDIUM WEIGHT DENSITY W/O GROUT FILLING PER FBC	1-3/4	1-1/4	N/R	N/R	1-7/16	4
WOOD	0.55 SG (HVHZ)	N/R	N/R	1-1/2	2	1-5/8	3/4

- NOTES:
- TABLE VALUES CORRESPOND TO MANUFACTURER'S PUBLISHED DATA FOR 1/4 INCH ANCHORS.
 - TABLE VALUES INDICATE MINIMUM EMBEDMENT AND EDGE DISTANCE.
 - FOR HOLLOW BLOCK AND GROUT FILLED BLOCK DO NOT INSTALL ANCHORS INTO MORTAR JOINTS.
 - EDGE DISTANCE IS MEASURED FROM FREE EDGE OF BLOCK OR EDGE OF MORTAR JOINT INTO FACE SHELL OF BLOCK.
 - TABLE VALUES CORRESPOND TO THE MINIMUM EMBEDMENTS AND EDGE DISTANCES PER SUBSTRATE.
 - USE OF THESE EMBEDMENT DEPTHS AND EDGE DISTANCES WITH THE CORRESPONDING ANCHOR TYPE PROVIDES ANCHOR CAPACITIES ADEQUATE FOR THE APPLIED DESIGN PRESSURE INDICATED HEREIN.
 - OTHER ANCHOR TYPES ARE ACCEPTABLE AS LONG AS THE MANUFACTURERS INSTALLATION REQUIREMENTS FOR STRENGTH, EMBEDMENT AND EDGE DISTANCE ARE MET. ADDITIONALLY, A MINIMUM TENSION (PULL-OUT) STRENGTH OF 137 LBS. MUST BE MET FOR ALL ANCHOR SUBSTITUTIONS.
 - N/R - NOT RECOMMENDED.

GLASS SEPARATION NOTES

- GLASS SEPARATION OF 6.21 INCHES PROVIDES FOR 1 INCH MINIMUM SEPARATION DISTANCE REQUIRED BETWEEN EXTERIOR FACE OF GLAZING (OR OTHER PRODUCT BEING PROTECTED) AND INTERIOR FACE OF INSTALLED STORM PANEL.
- SEPARATION DISTANCE IS REQUIRED FOR USE WITH POSITIVE LOADS ONLY.
- SEPARATION DISTANCE FROM GLASS IS REQUIRED ONLY WHEN INSTALLED WITHIN THE HIGH VELOCITY HURRICANE ZONE, ASTM WIND ZONE 4 AND ESSENTIAL FACILITIES.

EXOLON MULTI UV 5X/16-25 POLYCARBONATE 16MM PRODUCT PROPERTIES

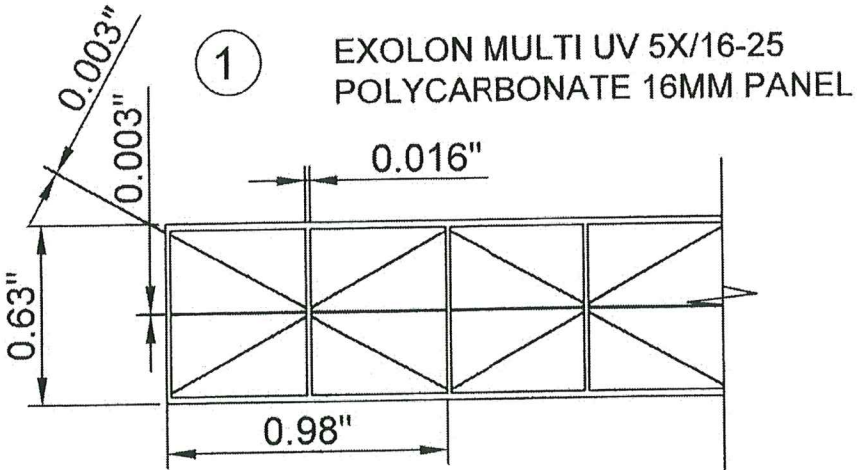
(REFERENCE 1: TEST REPORT NO. 13190, DATED 11/11/22 BY QAI LABORATORIES)
(REFERENCE 2: TEST REPORT NO. 13189, DATED 03/30/23 BY QAI LABORATORIES)

TEST DESCRIPTION	TEST METHOD	RESULTS	
SELF IGNITION TEMPERATURE	ASTM D1929-16	810°F > 650°F	
SMOKE DENSITY RATING	ASTM D2843-16	70.31% < 75%	
LINEAR RATE OF BURN	ASTM D635-18	CC1	
TENSILE STRENGTH (MEAN)	ASTM D638-10	6113 PSI	6682 PSI
		BEFORE	AFTER

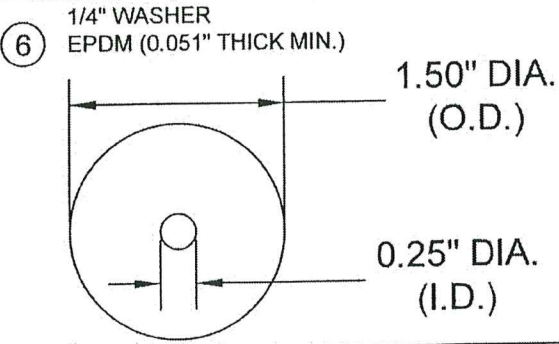
★ THE CHANGE IN THE AVERAGE TENSILE STRESS OF THIS MATERIAL BETWEEN THE UNEXPOSED AND 4500 HOUR ASTM G155 EXPOSED SAMPLES WAS 8.9%.

BILL OF MATERIALS

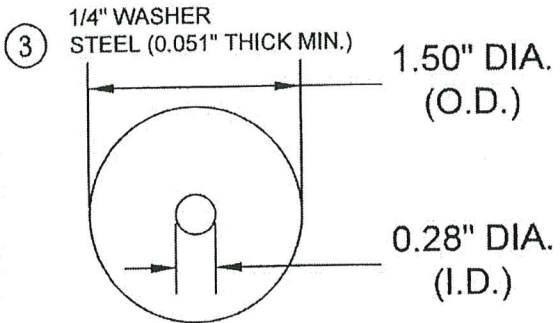
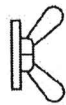
ITEM #	PART #	DESCRIPTION	MATERIAL	VENDOR
1	---	EXOLON MULTI UV 5X/16-25 POLYCARBONATE 16MM PANEL	EXOLON MULTI UV 5X/16-25 POLYCARBONATE 16MM PANEL	EXOLON GROUP
2	---	1/4" PANELMATE MALE FASTENER	STEEL	ELCO
3	---	1/4" STEEL FENDER WASHER	STEEL	---
4	---	1/4-20 ZAMAC NICKEL PLATED WASHERED WINGNUT	STEEL	---
5	---	1/4" TAPCON STORM GUARD (SG)	STEEL	ITW BUILDEX
6	---	1/4" EPDM WASHER	EPDM RUBBER	---
7	---	1/4" PANELMATE INSERT W/1/4" COATED SCREW W/WASHER & EPDM WASHER	STEEL & EPDM RUBBER FOR WASHER	ELCO



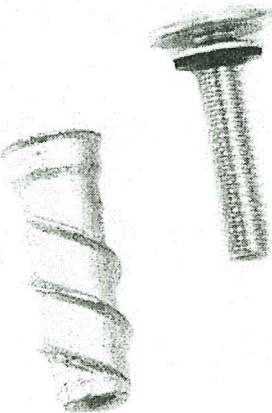
- ② 1/4" PANELMATE PRO MALE FASTENER (ELCO OR OTHER)
⑤ 1/4" TAPCON SG (ITW BUILDEX)



- ④ 1/4-20 ZAMAC NICKEL PLATED WASHERED WINGNUT



- ⑦ 1/4" PANELMATE INSERT WITH 1/4" COATED SCREW WITH WASHER & EPDM WASHER (ELCO OR OTHER)



PROJECT NUMBER: 422-0308

Exolon Group
203 N LaSalle Street - Suite 2550
Chicago, IL 60601

TITLE: 16MM POLYCARBONATE STORM PANELS - HVHZ

PREPARED BY: BILL OF MATERIALS & COMPONENTS

DRAWN BY: RJA
DATE: 1/13/2023
SCALE: N.T.S.
DRAWING NO: EXN0001
SHEET: 3 OF 3

Approved as complying with the
Florida Building Code
Date: 09/07/2023
NOA# 23-0615.01
Miami Dade Product Control
By: Kelly A. Martin

Robert J. Amoroso, P.E.
FL P.E. No. 49752

