

# ELEVATION CERTIFICATE

**Important:** Follow the instructions on pages 1-9.

Copy all pages of this Elevation Certificate and all attachments for (1) community official, (2) insurance agent/company, and (3) building owner.

SECTION A – PROPERTY INFORMATION				FOR INSURANCE COMPANY USE	
A1. Building Owner's Name Woodbridge Avenel LLC				Policy Number:	
A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 1600 St. Georges Avenue				Company NAIC Number:	
City Avenel	State New Jersey	ZIP Code 07001			
A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.) Tax Block 761.01, Lot 1.002(Woodbridge) & Tax Block 276, Lot 7(Rahway) - Deed Book 6799, Page 668 (Union County)					
A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.) <u>Commercial</u>					
A5. Latitude/Longitude: Lat. <u>N40.59219</u> Long. <u>W074.28909</u> Horizontal Datum: <input type="checkbox"/> NAD 1927 <input checked="" type="checkbox"/> NAD 1983					
A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain flood insurance.					
A7. Building Diagram Number <u>2A</u>					
A8. For a building with a crawlspace or enclosure(s):					
a) Square footage of crawlspace or enclosure(s) <u>1,000</u> sq ft					
b) Number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade <u>0</u>					
c) Total net area of flood openings in A8.b <u>0</u> sq in					
d) Engineered flood openings? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
A9. For a building with an attached garage:					
a) Square footage of attached garage <u>N/A</u> sq ft					
b) Number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade <u>N/A</u>					
c) Total net area of flood openings in A9.b <u>N/A</u> sq in					
d) Engineered flood openings? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
SECTION B – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION					
B1. NFIP Community Name & Community Number Woodbridge, Twp of - 345331			B2. County Name Middlesex County		B3. State New Jersey
B4. Map/Panel Number 34023C0058	B5. Suffix F	B6. FIRM Index Date 07/06/2010	B7. FIRM Panel Effective/ Revised Date 07/06/2010	B8. Flood Zone(s) AE	B9. Base Flood Elevation(s) (Zone AO, use Base Flood Depth) 13'
B10. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in Item B9: <input type="checkbox"/> FIS Profile <input checked="" type="checkbox"/> FIRM <input type="checkbox"/> Community Determined <input type="checkbox"/> Other/Source: _____					
B11. Indicate elevation datum used for BFE in Item B9: <input type="checkbox"/> NGVD 1929 <input checked="" type="checkbox"/> NAVD 1988 <input type="checkbox"/> Other/Source: _____					
B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Designation Date: _____ <input type="checkbox"/> CBRS <input type="checkbox"/> OPA					

**ELEVATION CERTIFICATE**

OMB No. 1660-0008  
Expiration Date: November 30, 2018

<b>IMPORTANT: In these spaces, copy the corresponding information from Section A.</b>			<b>FOR INSURANCE COMPANY USE</b>
Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 1600 St. Georges Avenue			Policy Number:
City Avenel	State New Jersey	ZIP Code 07001	Company NAIC Number

**SECTION C – BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)**

C1. Building elevations are based on:  Construction Drawings\*  Building Under Construction\*  Finished Construction

\*A new Elevation Certificate will be required when construction of the building is complete.

C2. Elevations – Zones A1–A30, AE, AH, A (with BFE), VE, V1–V30, V (with BFE), AR, AR/A, AR/AE, AR/A1–A30, AR/AH, AR/AO. Complete Items C2.a–h below according to the building diagram specified in Item A7. In Puerto Rico only, enter meters.

Benchmark Utilized: PID-DH2909 (20N1) Vertical Datum: NAVD 1988

Indicate elevation datum used for the elevations in items a) through h) below.

NGVD 1929  NAVD 1988  Other/Source: \_\_\_\_\_

Datum used for building elevations must be the same as that used for the BFE.

Check the measurement used.

- a) Top of bottom floor (including basement, crawlspace, or enclosure floor) 9.5  feet  meters
- b) Top of the next higher floor 17.1  feet  meters
- c) Bottom of the lowest horizontal structural member (V Zones only) N/A  feet  meters
- d) Attached garage (top of slab) N/A  feet  meters
- e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments) 14.31  feet  meters
- f) Lowest adjacent (finished) grade next to building (LAG) 12.94  feet  meters
- g) Highest adjacent (finished) grade next to building (HAG) 17.14  feet  meters
- h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support 13.39  feet  meters

**SECTION D – SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION**

This certification is to be signed and sealed by a land surveyor, engineer, or architect authorized by law to certify elevation information. I certify that the information on this Certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Were latitude and longitude in Section A provided by a licensed land surveyor?  Yes  No  Check here if attachments.

Certifier's Name Scott Den Bleyker		License Number NJ GS 33522	Place Seal Here 
Title Licensed Professional Land Surveyor			
Company Name Gluckler & Den Bleyker			
Address 310 Hudson Street			
City Hackensack	State New Jersey	ZIP Code 07601	
Signature 	Date 04/22/2019	Telephone (201) 343-3777	

Copy all pages of this Elevation Certificate and all attachments for (1) community official, (2) insurance agent/company, and (3) building owner.

Comments (including type of equipment and location, per C2(e), if applicable)  
C2e-Equipment outside building - transformer pads(14.31' & 16.14'), - All other equipment or machinery inside the building at or above floor level(17.1'). The building is situated in both the City of Rahway, Union County and the Township of Woodbridge, Middlesex County, New Jersey. Avenel is an unincorporated community located within Woodbridge Township. Note: There is a small, dirt floored, crawlspace (basement by FEMA definition) at the rear of the building, housing a sump pump. It is approximately 1,000 square feet in area, representing less than 2% of the total building area. Floor elevation=9.5±. The building is located in the following three FIRM Map/Panels: Woodbridge Township Effective Map/Panel: 34023C0058F; Rahway Preliminary Map/Panel 34039C0047G; and Effective Map/Panel 34039C0047F. See addition attachment.

**ELEVATION CERTIFICATE**

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Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 1600 St. Georges Avenue			Policy Number:
City Avenel	State New Jersey	ZIP Code 07001	Company NAIC Number

**SECTION E – BUILDING ELEVATION INFORMATION (SURVEY NOT REQUIRED)  
FOR ZONE AO AND ZONE A (WITHOUT BFE)**

For Zones AO and A (without BFE), complete Items E1–E5. If the Certificate is intended to support a LOMA or LOMR-F request, complete Sections A, B, and C. For Items E1–E4, use natural grade, if available. Check the measurement used. In Puerto Rico only, enter meters.

- E1. Provide elevation information for the following and check the appropriate boxes to show whether the elevation is above or below the highest adjacent grade (HAG) and the lowest adjacent grade (LAG).
- a) Top of bottom floor (including basement, crawlspace, or enclosure) is \_\_\_\_\_ . \_\_\_\_\_  feet  meters  above or  below the HAG.
- b) Top of bottom floor (including basement, crawlspace, or enclosure) is \_\_\_\_\_ . \_\_\_\_\_  feet  meters  above or  below the LAG.
- E2. For Building Diagrams 6–9 with permanent flood openings provided in Section A Items 8 and/or 9 (see pages 1–2 of Instructions), the next higher floor (elevation C2.b in the diagrams) of the building is \_\_\_\_\_ . \_\_\_\_\_  feet  meters  above or  below the HAG.
- E3. Attached garage (top of slab) is \_\_\_\_\_ . \_\_\_\_\_  feet  meters  above or  below the HAG.
- E4. Top of platform of machinery and/or equipment servicing the building is \_\_\_\_\_ . \_\_\_\_\_  feet  meters  above or  below the HAG.
- E5. Zone AO only: If no flood depth number is available, is the top of the bottom floor elevated in accordance with the community's floodplain management ordinance?  Yes  No  Unknown. The local official must certify this information in Section G.

**SECTION F – PROPERTY OWNER (OR OWNER'S REPRESENTATIVE) CERTIFICATION**

The property owner or owner's authorized representative who completes Sections A, B, and E for Zone A (without a FEMA-issued or community-issued BFE) or Zone AO must sign here. The statements in Sections A, B, and E are correct to the best of my knowledge.

Property Owner or Owner's Authorized Representative's Name			
Address	City	State	ZIP Code
Signature	Date	Telephone	

Comments

Check here if attachments.



# BUILDING PHOTOGRAPHS

See Instructions for Item A6.

OMB No. 1660-0008

Expiration Date: November 30, 2018

## ELEVATION CERTIFICATE

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City Avenel	State New Jersey	ZIP Code 07001	Company NAIC Number

If using the Elevation Certificate to obtain NFIP flood insurance, affix at least 2 building photographs below according to the instructions for Item A6. Identify all photographs with date taken; "Front View" and "Rear View"; and, if required, "Right Side View" and "Left Side View." When applicable, photographs must show the foundation with representative examples of the flood openings or vents, as indicated in Section A8. If submitting more photographs than will fit on this page, use the Continuation Page.



Photo One

Photo One Caption Front View



Photo Two

Photo Two Caption Rear View

**BUILDING PHOTOGRAPHS**

Continuation Page

OMB No. 1660-0008

Expiration Date: November 30, 2018

**ELEVATION CERTIFICATE**

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Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 1600 St. Georges Avenue			Policy Number:
City Avenel	State New Jersey	ZIP Code 07001	Company NAIC Number

If submitting more photographs than will fit on the preceding page, affix the additional photographs below. Identify all photographs with: date taken; "Front View" and "Rear View"; and, if required, "Right Side View" and "Left Side View." When applicable, photographs must show the foundation with representative examples of the flood openings or vents, as indicated in Section A8.



Photo One

Photo One Caption Right Side View (southeast corner)



Photo Two

Photo Two Caption Left Side View

ELEVATION CERTIFICATE – ATTACHMENT 1

1600 St. Georges Avenue

Avenel, New Jersey 07001

Additional Comments:

Note: the most stringent BFE of all aforementioned delineations is 13ft NAVD, as such, said BFE was used for construction purposes.

See flood proofing certification attached.

A handwritten signature in black ink, appearing to read "A.A. Phillips", is written in a cursive style.

THIS LAYOUT OF THE REVISED FLOODPROOFING CERTIFICATE FOR NON-RESIDENTIAL STRUCTURES, IS PROVIDED FOR YOUR REFERENCE. THE FINAL FORM WILL BE RELEASED UPON O.M.B. APPROVAL.

U.S. DEPARTMENT OF HOMELAND SECURITY  
FEDERAL EMERGENCY MANAGEMENT AGENCY  
National Flood Insurance Program

## FLOODPROOFING CERTIFICATE FOR NON-RESIDENTIAL STRUCTURES

The floodproofing of non-residential buildings may be permitted as an alternative to elevating to or above the Base Flood Elevation; however, a floodproofing design certification is required. This form is to be used for that certification. Floodproofing of a residential building does not alter a community's floodplain management elevation requirements or affect the insurance rating unless the community has been issued an exception by FEMA to allow floodproofed residential basements. The permitting of a floodproofed residential basement requires a separate certification specifying that the design complies with the local floodplain management ordinance.

BUILDING OWNER'S NAME <b>Woodbridge Avenel, LLC</b>	<b>FOR INSURANCE COMPANY USE</b>
STREET ADDRESS (Including Apt., Unit, Suite, and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER <b>1600 St. Georges Avenue</b>	POLICY NUMBER
OTHER DESCRIPTION (Lot and Block Numbers, etc.) <b>Block 761.01, Lot 1.002 (Woodbridge) &amp; Block 276, Lot 7 (Rahway)</b>	COMPANY NAIC NUMBER
CITY <b>Woodbridge</b>	STATE ZIP CODE <b>New Jersey 07001</b>

### SECTION I – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM:

COMMUNITY NUMBER	PANEL NUMBER	SUFFIX	DATE OF FIRM INDEX	FIRM ZONE	BASE FLOOD ELEVATION <small>(In A0 Zones, Use Depth)</small>
<b>345331</b>	<b>34023C0058</b>	<b>F</b>	<b>07/06/2010</b>	<b>AE</b>	<b>13'</b>

Indicate elevation datum used for Base Flood Elevation shown above:  NGVD 1929  NAVD 1988  Other/Source: \_\_\_\_\_

### SECTION II – FLOODPROOFING INFORMATION (By a Registered Professional Engineer or Architect)

All elevations must be based on finished construction.

**Floodproofing Elevation Information:**

Building is floodproofed to an elevation of 14.0 feet (In Puerto Rico only: \_\_\_\_\_ meters).  NGVD 1929  NAVD 1988  Other/Source: \_\_\_\_\_  
(Elevation datum used must be the same as that used for the Base Flood Elevation.)

Height of floodproofing on the building above the lowest adjacent grade is 1.06' feet (In Puerto Rico only: \_\_\_\_\_ meters).

**For Unnumbered A Zones Only:**

Highest adjacent (finished) grade next to the building (HAG) \_\_\_\_\_ feet (In Puerto Rico only: \_\_\_\_\_ meters)

NGVD 1929  NAVD 1988  Other/Source: \_\_\_\_\_

(NOTE: For insurance rating purposes, the building's floodproofed design elevation must be at least 1 foot above the Base Flood Elevation to receive rating credit. If the building is floodproofed only to the Base Flood Elevation, then the building's insurance rating will result in a higher premium. See the Instructions section for information on documentation that must accompany this certificate if being submitted for flood insurance rating purposes.)

**Non-Residential Floodproofed Construction Certification:**

*I certify the structure, based upon development and/or review of the design, specifications, as-built drawings for construction and physical inspection, has been designed and constructed in accordance with the accepted standards of practice (ASCE 24-14 or its equivalent) and any alterations also meet those standards and the following provisions.*

The structure, together with attendant utilities and sanitary facilities is watertight to the floodproofed design elevation indicated above, is substantially impermeable to the passage of water, and shall perform in accordance with the 44 Code of Federal Regulations (44 CFR 60.3(c)(3).

All structural components are capable of resisting hydrostatic and hydrodynamic flood forces, including the effects of buoyancy, and anticipated debris impact forces.

*I certify that the information on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.*

CERTIFIER'S NAME <b>JAY TULLER</b>	LICENSE NUMBER (or Affix Seal) <b>14914</b>
TITLE <b>SR. PARTNER</b>	COMPANY NAME <b>ROSENBAUM DESIGN GROUP</b>
ADDRESS <b>2001 MARCUS AVE.</b>	CITY STATE ZIP CODE <b>LAKE SUCCESS NY 11042</b>
SIGNATURE 	DATE PHONE <b>3/26/19 516-616-6111</b>

Copies should be made of this Certificate for: 1) community official, 2) Insurance agent/company, and 3) building owner.

Photos: Flood Proof Door and Wall at "Tunnel" Under Building



VIEW OF FLOOD-PROOF DOOR AND WATERPROOF WALL



DETAIL VIEW OF FLOOD-PROOF DOOR



DETAIL VIEW OF FLOOD-PROOF DOOR IN OPEN POSITION

March 26, 2019

**Woodbridge Township**  
1 Main Street  
Woodbridge, NJ 07095

**Attention: Mr. Tom Flynn**  
Floodplain Manager

**Re: Woodbridge Avel, LLC**  
**Flood Proof Door at Easement:**  
**Certification and Maintenance Program**  
1550 St. Georges Avenue  
Woodbridge, NJ 07095  
**RDG Project No. 09067C**

Dear Mr. Flynn:

With reference to the above noted project, the east wall of the building that spans the distance of the easement tunnel below the building, and the door mounted in said wall are water tight with walls substantially impermeable to the passage of water required under the 44 Code of the Federal Regulations (44 CFR 60.3 (c)(3).)

This certification is based on the controlled testing of the wall and door and the successful test result.

In addition, please see the following attachments and information required to accompany the Flood Certificate:

1. Specification on wall water proofing product and door:
  - a. Wall: Coated with Xypex, Megamix I;
  - b. Door: PS Flood Barriers, Model PD-525.
2. Maintenance Program for wall and door:
  - a. Wall: As described by the manufacturer, Xypex crystals, when applied to the masonry, become an integral part of the substrate and maintenance is not normally required. However, in the event the surface material requires maintenance, the following procedure shall be followed:
    - i. The surface material shall be inspected at least once a year to confirm if any delamination has occurred through visual or "sounding" methods.
    - ii. If any surface material has become delaminated, the affected area shall be "square cut" to expose the substrate.

**Founding Principal**  
**Roy I. Rosenbaum, A.I.A.**

**Senior Partners**  
**Fred C. Habenicht, A.I.A.**  
**Rand K. Rosenbaum, A.I.A.**  
**Jay E. Tuller, A.I.A.**

**Partners**  
**Dennis J. Flynn, A.I.A.**  
**Kevin M. O'Sullivan, A.I.A.**

**Director of Operations**  
**Jay D. Rosenbaum, Esq.**

**Senior Associates**  
**Susan B. Sassoon, A.I.A.**  
**Michael J. Ziatyk, A.I.A.**

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11042-1011

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## MEGAMIX I

### PATCHING & RESURFACING

Concrete Rehabilitation

### Description

XYPEX MEGAMIX I is a thin parge coat for the waterproofing and resurfacing of vertical masonry or concrete surfaces, as a cap coat for Xypex Concentrate, or as an architectural rendering. Megamix I is a unique blend of Portland cement, treated silica sand, fibers and proprietary chemicals. It is mixed with Xycrylic Admix to produce enhanced bond. Megamix I is applied by brush, trowel or spray up to a thickness of 3/8 in. (10 mm). The high performance characteristics of Megamix I are enhanced by Xypex's unique crystalline waterproofing and protection technology.

**NOTE:** For patching or resurfacing deteriorated concrete, requiring a thicker parge coat, (between 3/8 in. and 2 in. or 10 mm to 50 mm), refer to the product data sheet for Xypex Megamix II.

### Recommended for:

- Waterproof coating for vertical concrete block surfaces and cast-in-place concrete walls
- A secondary or cap coat for Xypex Concentrate applications to porous masonry surfaces
- Lining for swimming pools, tunnels and tanks

### Advantages

- Excellent adhesion and bond to concrete substrates
- Easy to apply
- Fiber reinforced
- Reduces surface absorption
- Provides good surface for painting or as a final finished surface
- Used as a cap-coat over Xypex Concentrate for rapid return to service applications
- Non-toxic, no VOCs
- NSF 61 certified

### Packaging

Megamix I is available in 60 lb. (27.2 kg) pails.

### Storage

Xypex products must be stored dry at a minimum temperature of 45°F (7°C). Shelf life is one year.

### Coverage

Required coating thickness will vary depending on project requirements. At the recommended thickness of 1/8 in. (3.2 mm), one 60 lb. (27.2 kg) pail of Megamix I will cover 47.5 sq. ft. (4.4 m<sup>2</sup>). Megamix I may be applied as thin as 1/16 in. (1.6 mm) provided it is used as a cap coat over a coat of Xypex Concentrate. For application thickness exceeding 3/8 in. (10 mm), consult with the Technical Services Department of Xypex Chemical Corporation or your local Xypex Technical Services Representative.

### Laboratory Test Data

Physical Property	Test Method	Laboratory Test Results	
		psi	MPa
Compressive Strength	ASTM C109		
@ 7 days		2420	16.7
@ 28 days		3610	24.9
Tensile Bond Pull-Off	ACI 503R Appendix A	psi	MPa
Concrete Block		220	1.54
24 hr Concentrate		180	1.24
Water Permeability/Absorption	CSN 73 2578	87% reduction	

**Note:** Sample prepared with 1.4 U.S. gal. (5.4 litre) Xycrylic Admix per a 60 lb. (27.2 kg) pail of Megamix I. For bond and absorption, mixture was applied at 1/16" (1.6 mm) thick onto pressure washed surface. Results may vary significantly based on environmental, project and other conditions.

### Application Procedures

**1. SURFACE PREPARATION** Remove loose, delaminated or unsound concrete by high pressure water blast, grit blast or other means. The concrete surface to be treated with Megamix I must be clean and free from dirt, oil, paint, or other foreign substances that could hinder bond. Structural repairs (i.e. cracks, faulty construction joints, rock pockets, tie holes, spalled concrete, etc.) should be performed prior to the application of the Megamix I coating. A roughened, open capillary surface texture such as ICRI CSP 3 - 5 is typically required to achieve adequate bond.

**2. WETTING CONCRETE SURFACE** The concrete or masonry surface must be thoroughly saturated with clean water to control substrate suction. Maintain surface in saturated, surface dry (SSD) condition during application to prevent the premature drying out of the Megamix I coating.

**3. MIXING PROCEDURES** Prepare the mixing liquid by combining 1 part Xycrylic Admix with 2 parts clean water. Mix 1.4 - 1.5 U.S. gallons (5.4 - 5.7 litres) of the mixing liquid with one 60 lb. (27.2 kg) pail of Megamix I powder. Mix thoroughly to a creamy consistency. Let mixture stand for 3 - 5 minutes, re-agitate and then apply.

**4. APPLYING MEGAMIX I** Ensure surface is saturated, surface dry (SSD) just prior to application. Apply Megamix I at a rate of 0.6 to 1.3 lb./sq. ft. (2.9 to 6.4 m<sup>2</sup>) to produce a coating thickness of between 1/16 in. and 1/8 in. (1.6 mm to 3.2 mm) depending on the porosity of the substrate. For spray application contact the Technical Services Department of Xypex Chemical Corporation or your local Xypex Technical Services Representative for specific details.

For applications such as concrete block walls where Xypex Concentrate is to be used as the initial coat in a two-coat system, the Concentrate coating should be installed as per the manufacturer's standard instructions. The recommended application thickness for a cap-coat is 1/8 in. (3.2 mm). Megamix I should be applied over the Concentrate coating after the Concentrate has set and hardened for 12 - 24 hours. During this time, moist cure the Xypex Concentrate coating per the Xypex product data sheet instructions. Maintain the Concentrate coating in a SSD condition during the installation of the Megamix I as a cap-coat. The Megamix I coating should not be applied later than 48 hours after the application of Xypex Concentrate.

**NOTE:**

- i. Setting time can vary under differing ambient and concrete surface temperatures during application.
- ii. Megamix I should not be mixed and placed at temperatures below 39°F (3°C) and rising or above 86°F (30°C) and dropping. Contact the Technical Department of Xypex Chemical Corporation or your local Xypex Technical Services Representative for technical support in such situations.
- iii. Prior to the installation, it is recommended that a test section be completed under anticipated ambient and project conditions to demonstrate acceptable bond.

**5. CURING** When used with Xycrylic Admix as specified above, Megamix I should not require any further curing. However, if weather conditions result in rapid evaporation (such as very hot or windy), then after the Megamix I coating has fully set a fine mist of water should be sprayed on the coating 2 - 3 times for one day.

**NOTE:** In potable water applications, maintain Megamix I coating at a minimum of 50°F (15°C) for at least 48 hours by appropriate heating and hoarding measures.

### Technical Services

For more instructions, alternative application / curing methods, or information concerning the compatibility of the Xypex treatment with other products or technologies, contact the Technical Services Department of Xypex Chemical Corporation or your local Xypex Technical Services Representative.

### Certification

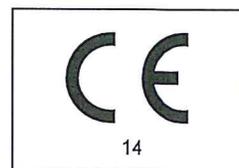
Xypex Megamix I satisfies the requirements of EN 1504-3; Initial Type Testing (ITT) according to EN 1504-3 was certified by BSI as the Notifying Body.

### Safe Handling Information

Xypex is alkaline. As a cementitious powder or mixture, Xypex may cause significant skin and eye irritation. Directions for treating these problems are clearly detailed on all Xypex pails and packaging. The Manufacturer also maintains comprehensive and up-to-date Safety Data Sheets on all its products. Each sheet contains health and safety information for the protection of workers and customers. The Manufacturer recommends you contact Xypex Chemical Corporation or your local Xypex Technical Services Representative to obtain copies of Safety Data Sheets prior to product storage or use.

### Warranty

The Manufacturer warrants that the products manufactured by it shall be free from material defects and will be consistent with its normal high quality. Should any of the products be proven defective, the liability to the Manufacturer shall be limited to replacement of the product ex factory. The Manufacturer makes no warranty as to merchantability or fitness for the particular purpose and the warranty is in lieu of all other warranties expressed or implied. The user shall determine the suitability of the product for his intended use and assume all risks and liability in connection therewith.



## WATERPROOFING OF CMU / CONCRETE BLOCK WALLS

### Xypex Recommended Procedure for the Waterproofing of CMU or Concrete Block Structures from Either the Positive or Negative Side

2016-01

CMU or concrete block is a common building material. However, the pore structure and thus the permeability of these blocks vary greatly from region to region depending on the raw materials used, mix design, manufacturing process and many other factors. As such, the waterproofing of these materials is often difficult. This said, the following procedure has been used to successfully waterproof CMU / concrete block structures against water ingress. While the procedure outlined below is best installed on the positive side, it is used successfully on either the positive or negative side with most applications having been done on the negative side. Due to the high variability in block and the many different scenarios in which block is used the following procedure is not guaranteed to provide a waterproof structure but, Xypex's experience is that this assembly has a very high success rate in most installations.

If the block structure is in an application with high hydrostatic pressures Xypex Megamix II at a thickness of ½" - 1" (12 - 25 mm) may be considered as a replacement for the Xypex Megamix I recommended below. In this scenario a reinforcing mesh mechanically affixed to the substrate may be considered.

**STEP 1:** Thoroughly clean and profile all concrete surfaces to be treated to remove any overcoating materials or contaminants and to achieve an open pore, "tooth and suction" (ICRI CSP-3) profile.

**STEP 2:** Repair all cracked, defective, deteriorated mortar or construction joints by removing all mortar in area to 1½" (37 mm) deep or until all unsound mortar is removed. Remove all loose materials within the slot and to 6" (150 mm) on either side of the slot. Clean, profile and saturate this area with water. Allow water to soak into concrete and then remove all surface water. If defective area is actively leaking, apply Xypex Patch'n Plug to the bottom half of the slot to stop active water flow. Coat slot with Xypex Concentrate slurry and fill the remainder of the slot to original level with Xypex Concentrate in Dry-Pac form. If slot is not actively leaking coat slot with Xypex Concentrate slurry and fill entire slot to the original level with Xypex Concentrate Dry-Pac.

**STEP 3:** If blocks are cracked and leaking or where there is evidence of previous leaking use one of the following procedures

If block voids are filled with concrete or cement based grout – cut a dove tailed slot over the crack 1" (25 mm) wide by 1½" (37 mm) deep and treat per the directions for treatment of mortar or construction joints.

If block voids are not filled they should not be cut into to any significant depth – rout out a shallow slot in the block, following the crack and leaving a depression to receive repair material. Use hammer and chisel, diamond blade or other means appropriate so as not to damage the block. Clean and saturate the slot and the area to 6" (150 mm) on either side of the slot. Fill the slot to the surface and mound over the top of slot and to several inches (cm)

on either side of slot to a depth of approximately ¼" - ½" (6 - 12 mm) with Xypex Patch'n Plug to stop water flow and block the crack. If crack has no indication of active or previous leaking and is less than 1/64" (0.04 mm) wide it may be left untreated.

**STEP 4:** Wet the surface of the CMU / block until a saturated surface dry (SSD) condition is obtained. Saturated surface dry CMU / block will not absorb any further water but has no glistening water on its surface. Maintain the CMU / block in an SSD condition until Xypex material is applied.

**STEP 5:** Coat surface of designated area with one coat of Xypex Concentrate at the rate of 2 lb./sq.yd. (1 kg/m<sup>2</sup>) as per manufacturer's standard specifications.

**STEP 6:** Allow Xypex Concentrate coating to set and harden for between 12 hours and 24 hours. During this time, moist cure coating per Xypex product data sheet.

**STEP 7:** Mix Xypex Megamix I with Xycrylic Admix as per product data sheet instructions.

**STEP 8:** Apply one coat of Megamix I over top of Xypex Concentrate coating at a thickness of 1/8" (3 mm) or 11.25 lb./sq.yd. (5.6 kg/m<sup>2</sup>). The thickness of the top coating may be varied from 1/16" - 3/8" (1.5 - 10 mm) per job conditions and requirements. Dampen Xypex Concentrate surface ahead of application of Megamix I as required to maintain a damp but not glistening substrate (saturated surface dry condition).

**STEP 9:** In most situations, no moist curing of Xypex Megamix I is required but in rapid drying conditions, Megamix I should be allowed to fully set and then be misted periodically to keep moist for 24 hours.

## WATERPROOFING OF CMU / CONCRETE BLOCK WALLS

### Xypex Recommended Procedure for the Waterproofing of CMU or Concrete Block Structures from Either the Positive or Negative Side

Prior to the installation, it is recommended that a test section be completed under anticipated ambient and project conditions to demonstrate acceptable bond.

This procedure will usually provide a waterproof block wall for the life of the structure.

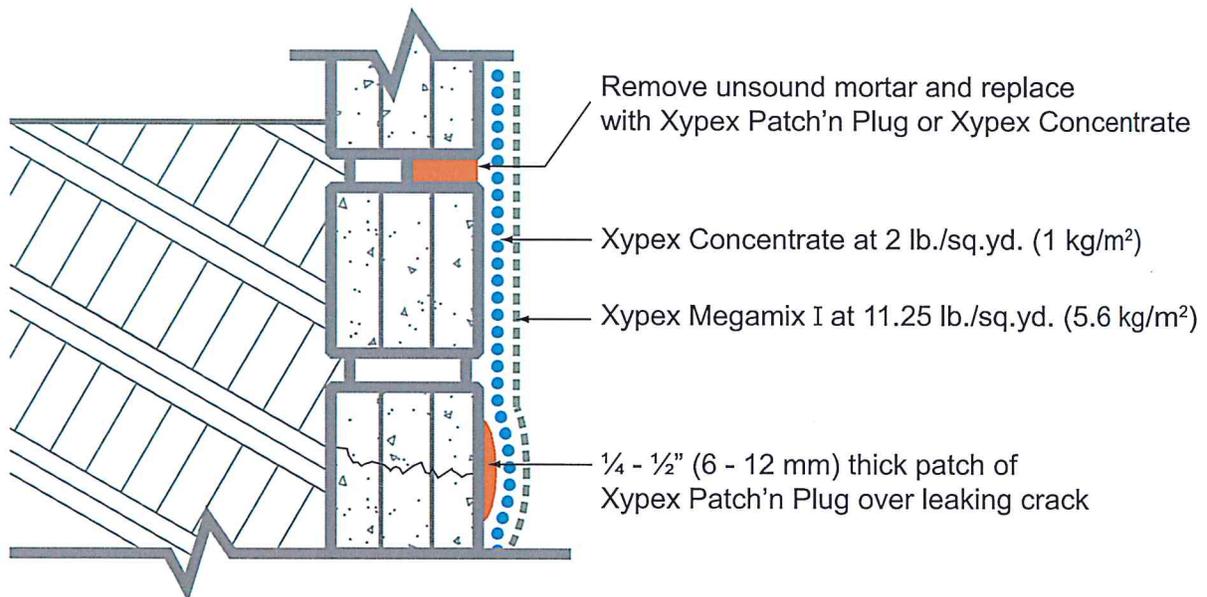
It is necessary to allow at least 30 days or longer at normal room temperatures for crystalline growth to form to a level that will indicate the expected level of performance of the above treatment. Lower temperatures will extend the times for crystalline development.

Re-application of Xypex Megamix I (or Xypex Megamix II – high strength structural mortar repair) may be required for reinforcement at the most severe points of leakage or

weakened areas of wall. Be sure to lightly acid wash and thoroughly rinse the existing coating of Xypex Megamix I prior to subsequent applications. In locations of ongoing active leaking Xypex Patch'n Plug may be required to stop active water flow.

As previously discussed, the waterproofing effectiveness of the above procedures and recommendations is very dependent on the quality and porosity of the CMU or concrete block installed. Further, installation of Xypex products by a qualified installer, especially for CMU / concrete block waterproofing applications, is highly recommended.

Contact Xypex's Technical Services Department for assistance.





# Pedestrian Flood Door Operations & Maintenance Manual



**Models**

- PD-520
- PD-520FM
- PD-522FFR
- PD-522FM
- PD-525
- PD-525FM

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**PS DOORS Contact Information**

<p><b>Mail</b>                  PS DOORS                  PS Flood Barriers                  1150 South 48th Street                  Grand Forks, ND 58201</p>	<p><b>Local Phone</b>                  701.746.4519</p> <p><b>Toll Free Phone</b>                  877.446.1519</p>	<p><b>Fax</b>                  701.746.8340</p> <p><b>Websites</b>                  www.psdors.com                  www.flooddoors.com</p>	<p><b>Email</b>                  4psinfo@psdoors.com</p> <p><b>Hours of Operation</b>                  8 A.M. to 5 P.M. CST                  Monday – Friday</p>
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**IMPORTANT!** Read entire Instruction and Operations Manual to become familiar with the product.

**NOTICE** This product is a flood protection product. The effectiveness of the product is directly related to the proper installation and operation of this product. Failure to properly maintain this product **will** affect performance.

**Publication Notice**

This manual has been compiled and published covering the latest product descriptions and specifications.

The contents of this manual and the specifications of this product are subject to change without notice.

PS DOORS reserves the right to make changes without notice in the specifications and materials contained herein and shall not be responsible for any damages (including consequential) caused by reliance on the materials presented, including but not limited to typographical and other errors relating to the publication.

## If you need to contact Customer Service

Please complete the following information and retain for future reference:

Serial Number: \_\_\_\_\_ Purchase Date: \_\_\_\_\_

PS DOORS Job Number: \_\_\_\_\_ Project Name: \_\_\_\_\_

## Safety Precautions

**The following icons are used throughout this Manual.**

**▲ DANGER** Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

**▲ WARNING** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

**▲ CAUTION** Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderated injury.

**NOTICE** Indicates manufacturer's statement of additional information.

**IMPORTANT!** Indicates a required action.

**CRITICAL** Indicates a vital component to product performance.

## Pedestrian Flood Door Product Information

The Pedestrian Flood Door is a specially designed pedestrian door capable of providing flood protection. The Pedestrian Flood Door is always in place, giving you 24/7 flood protection, while still allowing access to your facility on a daily basis.

Please keep these instructions for later reference and read them before attempting any maintenance or operation of the product.

### **NOTICE Additional Information**

1. No additional allowances have been included for hydrodynamic loads, debris impact loads or wave loads, unless specifically detailed in additional documentation provided.
2. All water pressure loads, impact loads, and operating loads are transferred to the building structure. Building structure design, capacity to accept loads from flood barriers, and evaluation of loads to structure is by others.
3. PS DOORS recommends that the owner implement a regular maintenance program to inspect the gaskets and doors. This program may require the replacement of gaskets; touch up painting and accounting for of all the latching devices.
4. If the water height exceeds the level of any door penetrations or water protective design height, leakage will occur.
5. This product is equipped with compressible seals, which are not dependent on inflation devices.
6. PS DOORS recommends a flood preparedness plan be developed, trained on, and implemented to be activated during times of potential flooding conditions.
7. PS DOORS AND/OR ITS RESPECTIVE SUPPLIERS MAY MAKE IMPROVEMENTS AND/OR CHANGES IN THE PRODUCT(S) OR SERVICE(S) OFFERED AND/OR THE PROGRAM(S) AT ANY TIME WITHOUT NOTICE.

## Pedestrian Flood Door Product Information

### Product Description

The PS DOORS Pedestrian Flood Door, Model Pedestrian Flood Door is to be constructed in accordance with PS DOORS' standard design, specification, and fabrication methods for custom flood barriers.

### The following components, in accordance with description provided, are included:

- 1. Flood Door Panel:** To be fabricated as a welded steel structural frame, and sheeted both sides with flat sheeting welded in place. Flood door panel to be designed for maximum water height as indicated in drawings. All loads transferred to adjacent structure. This design is subject to a uniformly increasing fluid pressure (hydrostatic pressure loading of water at 62.5 pcf).
- 2. Flood Door Frame:** To be of PS DOORS' design, for field installation on existing structure and/or embedded within structure. Frame members to be fabricated from structural shapes and formed members. Field grouting is required.
- 3. Gaskets:** To be factory mounted to the flood door frame. Gaskets to be compressible, field replaceable.
- 4. Flood Barrier Door Panel and Frame Finish:** Finish on all exposed surfaces to be one (1) shop coat of manufacturer's standard shop primer (S-W Kemflash Primer E61-R-26), and two (2) coats of Standard Industrial Enamel (S-W Industrial and Marine Coatings B54 Series) applied in accordance with manufacturer recommendations and instructions. (Note: Touch up of finish will be required as scratches will occur during shipment, handling, and installation).
- 5. Latching Hardware:**
  - 1. PD-520 Series:** To be Von Duprin 98/99 Series Rim Exit Device (Interior, Dry Side) and 996L Classroom function Lever Handle with Lock (Exterior latch, Wet Side), Sargent 8225 Lever/Lever
  - 2. PD-525 Series:** To be PS DOORS 2PT GTR Turn Latch Assembly (Pad-lockable).
  - 3. PD-522 Series:** VonDuprin 98F Series Rim Exit Device (fire rated), Sargent 8225 Mortise Lever/lever (fire rated), High-Security Hardware System (consult factory), Controlled Access Door Lever Hardware (consult factory).
- 6. Installation Hardware:** PS DOORS includes all sealants, water-stop, anchors, and hardware necessary for installation, hinging, latching and retaining flood doors as designed. Note: Anchors are engineered for load design and shall not be changed without factory authorization.
- 7. Warranty:** PS DOORS warrants this product and components to be free from manufacturing defects for a period of one (1) year from date of shipment.

### The following information is available upon request:

**Structural Calculations:** A copy of PS DOORS' design calculations by a qualified engineer, to verify the flood barrier's ability to withstand the design loading, is available upon request.

### The following optional services are available upon request:

**Optional:** Registered professional engineer stamped calculations from within the state or territory where the building will be constructed or substantially improved may be available at additional cost.

## Pedestrian Flood Door

PS DOORS AND/OR ITS RESPECTIVE SUPPLIERS MAY MAKE IMPROVEMENTS AND/OR CHANGES IN THE PRODUCT(S) OR SERVICE(S) OFFERED AND/OR THE PROGRAM(S) AT ANY TIME WITHOUT NOTICE.

**NOTICE** Unauthorized modification of this product voids the PS DOORS Limited Product Warranty. Accordingly, you can expect any request for warranty repair to be charged to you, if it requires service after modification. Authorized modifications, received in writing from PS DOORS, as long as the modification is accomplished strictly in accordance with PS DOORS' instructions, does not void warranty. To request product modifications contact PS DOORS.

### I. General Information

This manual contains information regarding operation and maintenance of custom water resistant flood barrier assemblies.

This product is manufactured to specific guidelines. Unauthorized alteration in any way will result in voiding Factory Warranty, some certifications, and may cause product to fail.

### II. Operation Guidelines

The following procedures and information are supplied for the operation of the Pedestrian Flood Door assemblies. Operation in a manner other than intended could result in damage or less than acceptable performance at time of need, for which the manufacturer will not be held responsible.

This product has been tested to withstand hydrostatic water pressure to an elevation as indicated on drawings. This design has been tested to allow a minimum amount of leakage. Always plan for potential leakage and condensation that can occur during flooding conditions.

**▲ WARNING** The flood protective barrier panel is heavy, verify panel weights and use appropriate lifting procedures and equipment.

### III. Safety Precautions

- A. Ensure opening is clear of all obstructions through the entire travel of the door during operation of door panels.
- B. Use the handle when contacting panel, staying clear of pinch points.
- C. Do not force panels or components if they do not operate freely.
- D. If removing panels or hardware for maintenance, consult documents for panel weights, and use appropriate hoisting equipment. Protect all gaskets and hardware. Always consult original factory drawings for all installation dimensions, details, hardware, and specifications.

### IV. Operation Under Flooding Conditions

- A. Under normal (non-flooding) conditions, operates as a normal swing door.
  - 1. Lever Handle: To operate the lever handle, turn lever handle downward approximately 45 degrees to release the latch mechanism. Pull door toward you and swing door to an open position far enough to provide a clear path to pass through the door opening. Once through the door opening move away from the door panel and return the door panel to the closed position.

## Pedestrian Flood Door

2. **Panic Device:** To operate the panic device, firmly push the panic bar fully to its stopping position to release the latch mechanism. Push the door away from you and swing door to an open position far enough to provide a clear path to pass through the door opening. Once through the door opening move away from the door panel and to return the door panel to the closed position.
3. **Latching Mechanism:** Typically, no physical interaction with the latching mechanism is necessary, as long as it is properly adjusted (see latching installation and adjustment documentation). Depending upon the environmental conditions present (refer to Maintenance and Inspection Section), the door may not completely latch and may require a person to physically push/pull the door to engage the latch. Fire rated doors are required to close and latch w/o intervention.

**NOTICE** PS DOORS recommends all facilities subject to flooding conditions, and employ any type of flood protection have a **Flood Preparedness Plan** in place for activation prior to, or in times of flooding conditions.

### B. Pre-flooding or Potential Flooding Conditions:

1. At a minimum, conduct Inspection and Maintenance activities as described in this Operations & Maintenance Manual.
2. Ensure Pedestrian Flood door is closed and latched.
3. Routinely verify that the Pedestrian Flood door remains closed and latched.

### C. Flooding conditions are Present:

1. Ensure Pedestrian Flood Door is not opened at any time when flooding conditions are present.
2. If feasible, check door for leakage or condensation accumulation.

### D. Post-flooding Conditions:

1. At a minimum, conduct Inspection and Maintenance activities as described in the Operations & Maintenance Manual.

**▲ CAUTION** When operating door keep clear of pinch points at the latching mechanism, hinge locations, and out of the travel of the door panel at all times.

**CRITICAL** Flood Protective Barrier must be latched to engage flood protective seals.

**▲ WARNING** THIS IS A FLOOD PROTECTION BARRIER. NEVER OPEN DURING ANY FLOODING CONDITIONS AS WATER LEAKAGE WILL OCCUR AND YOU MAY NOT BE ABLE TO RECLOSE THE DOOR

### V. Inspection and Maintenance

#### A. Sills, frames, and embedded items:

1. Inspect items for damage and misalignment. Adjust, repair, or replace as needed, to meet original design tolerances.
2. Check all embedded connections, making sure they meet original design standards (refer to original product drawings).

#### B. Fasteners and mechanical connections:

1. All fasteners must be in place and adjusted to their original design standards. Replace any damaged components (refer to original product drawings).

#### C. Sealants:

1. Inspect all sealants used on frames and connections to ensure their effectiveness. Replace any cracked, loose, or otherwise non-performing sealants.
2. Use only factory approved/supplied products.

**CRITICAL** Gaskets are a critical component of the flood protective barrier performance and must meet minimum compression tolerances in the latched position.

#### D. Gasketing: Check all gaskets around perimeter of opening.

1. Inspect for gasket and corner splice damage, and for continuous adhesion to the attached surface.
2. Visually inspect all gaskets for proper positioning, compression, and continuous contact with door panel.
3. Replace or repair if damage or deterioration to gaskets has occurred.
4. Use only factory approved materials (consult manufacturer for original design standards).
5. Use only factory approved installation guidelines (refer to Gasket Replacement Instructions).

**CRITICAL** Gaskets and sealing surfaces are a critical component of the flood protective barrier performance.

**IMPORTANT!** Consult drawings before replacing fasteners, as most have specific design load requirements.

#### E. Latching:

1. Operate all latching hardware to ensure smooth, uninhibited movement of all mechanical components.
2. Close door and check latches for proper engagement. If gaskets are not properly positioned and properly compressed, unlatch door panel and adjust latching accordingly (refer to original product drawings).
3. Insure that door hardware is installed and adjusted so as to not interfere with proper door closing, latching, and continued gasket compression.

#### F. Lubrication

1. Periodically lubricate hardware and other components according to manufacturer's instructions (refer to applicable hardware guides).

#### G. Finishes:

1. Inspect and clean finishes periodically.
2. Touch-up repair finishes, or refinish as necessary to protect the structural integrity of the product.

#### H. Labels and Placards:

1. Inspect all labels and placards. Replace any labels and placards which are unreadable (refer to Label and Placard Placement instructions).

#### I. Housekeeping:

1. Clean sill and jambs of any debris and keep the area clean throughout the operating area of the door.

## Installation



## PS DOORS—Limited Warranty

### Limited Warranty - Fill out warranty registration and return to PS DOORS.

PS DOORS warrants this product and components to be free from defects in material and workmanship for a period of one (1) year from date of shipment. If within the term of this warranty, any Pedestrian Flood Door or component is found to be defective upon inspection by an authorized PS DOORS representative, PS DOORS will replace or repair, at PS DOORS' discretion, any part found to be defective. Any field labor charges incurred are the sole responsibility of the customer.

To make a claim under this warranty, contact PS DOORS at the address shown below.

PS DOORS  
Attention: Warranty  
1150 South 48th Street  
Grand Forks, ND 58201

Toll Free: 877.446.1519  
Warranty Phone: 701.746.4519  
Fax: 701.746.8340  
E-mail: 4psinfo@psdoors.com

Unauthorized modification of or to this product voids the PS DOORS Limited Warranty. Accordingly, you can expect any request for warranty repair to be charged to you, if the product requires service after unauthorized modification. Authorized modifications, received in writing from PS DOORS, as long as the modification is accomplished in strict accordance with PS DOORS' instructions, does not void warranty. To request product modifications contact PS DOORS, 1150 South 48th Street, Grand Forks, ND 58201, phone 877.446.1519, email: 4psinfo@psdoors.com.

PS DOORS SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES.

All other warranty's, express or implied including any warranty of merchantability, are expressly excluded. Some states do not allow the exclusion or limitation of consequential or incidental damages, so the above limitation or exclusion may not apply to you.

WARRANTY DOES NOT APPLY TO ANY DAMAGE OR DETERIORATION CAUSED BY MODIFICATION, ABUSE, APPLIED PAINT FAILURE OR FAILURE TO PROVIDE REASONABLE AND NECESSARY MAINTENANCE.

This warranty gives you specific legal rights, and you may also have other rights, which vary, from state to state.

### **IMPORTANT! ACTION REQUIRED!**

**Warranty Registration** - Do not cut this out of the manual. Make a copy. In order to Validate your Warranty the following information must be completed and returned to PS DOORS, failure to completely fill out this information, or to return information to PS DOORS may void warranty.

Owner Name: \_\_\_\_\_ Product: \_\_\_\_\_  
Company: \_\_\_\_\_ Model: \_\_\_\_\_  
Address: \_\_\_\_\_ Serial Number(s): \_\_\_\_\_  
City: \_\_\_\_\_ Date Installed: \_\_\_\_\_  
State/Providence: \_\_\_\_\_  
Postal Code: \_\_\_\_\_  
Country: \_\_\_\_\_

#### **Warranty Registration must be returned to:**

PS DOORS  
1150 South 48th Street  
Grand Forks, ND 58201  
Fax: 701.746.8340  
Email: 4psinfo@psdoors.com

#### **Please answer the following questions:**

1. Has the installed product been tested? \_\_\_\_ Yes \_\_\_\_ No
2. Test witnessed by, Name: \_\_\_\_\_ Date: \_\_\_\_\_
3. Product initial inspection by, Name: \_\_\_\_\_ Date: \_\_\_\_\_

Warranty Registration Information will be used for activation of product warranty only.



# Mechanical Room Flood Door

## Model: PD-525

The PD-525 is a normal use pedestrian door that also acts as a flood protection door specifically for your mechanical room. As long as your door is closed and latched, your mechanical room is protected from dangerous flooding.

### 24-HOUR FLOOD PROTECTION

- Passive flood protection: door is always in place
- Compression gasket: no compressed air required for activation
- Available in single or paired configuration

### CONVENIENT INSTALLATION

- Ships ready to install
- Structurally welded door frame

### MATERIAL & FINISHES

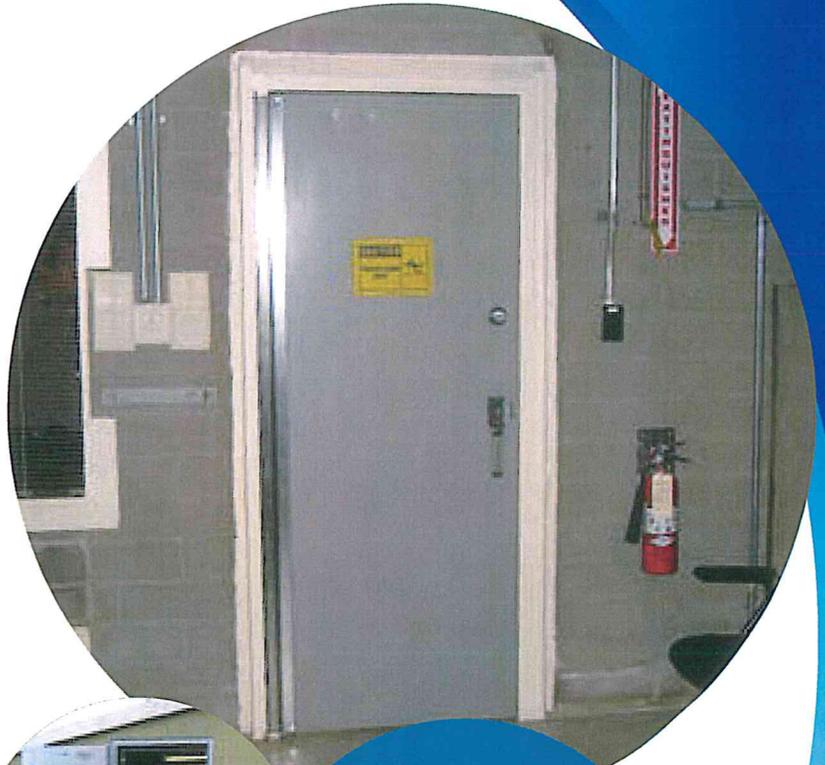
- Available in mild steel or stainless steel type 304 or 316L
  - Mild steel finish: industrial enamel
  - Stainless steel finishes: 2b mill finish and no. 4 brushed finish

### OPTIONS

- Louver: Max. 24" x 24"
- Kick plates
- Deadbolt lock
- Vision Lite: 5" x 20" or 10" x 10" security glass

### APPLICATION USE:

- Electrical rooms
- Broiler rooms
- Wastewater pump stations
- Treatment plants
- Fire pump rooms
- Emergency generator or backup generator rooms



**APPROVED**

**Made in USA.**

**877.446.1519**

**psfloodbarriers.com**

 **PS DOORS**

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