

VR Containment

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176- 25 Union Turnpike Suite 175 Fresh Meadows NY 11366

SECTION 08316

WATERTIGHT AIRTIGHT SPECIAL ACCESS DOORS & HATCHES, PART 1 GENERAL

HIGHLIGHTED AREAS TO BE INSERTED BY SPECIFYING ENGINEER.

1.1 WORK OF THIS SECTION

- A. THE WORK OF THIS SECTION INCLUDES PROVIDING ALL LABOR MATERIALS, TOOLS, EQUIPMENT AND ALL APPURTENANT WORK NECESSARY TO FURNISH DELIVER & INSTALL SPECIAL DOORS AS OUTLINED IN THE CONTRACT DRAWINGS.
- B. TYPES OF SPECIAL DOORS REQUIRED SHALL INCLUDE WATERTIGHT CLOSURES AS IDENTIFIED IN THE PROJECT SPECIFICATIONS AND PROJECT DRAWINGS.
- C. SIZE & LOCATION OF SPECIAL DOORS SHALL CONSIST OF

(INSERT PROPER AREAS)

AS INDICATED BY THE CONTRACT DRAWINGS.

1.2 RELATED SECTIONS

- A THE WORK OF THE FOLLOWING SECTIONS APPLIES TO THE WORK OF THIS SECTION. OTHER SECTIONS OF THE SPECIFICATIONS, NOT REFERENCED BELOW, SHALL ALSO APPLY TO THE EXTENT REQUIRED FOR PROPER PERFORMANCE OF THIS WORK

1. SECTION

(INSERT PROPER SECTION #)

CAST-IN-PLACE CONCRETE

1.3 CODES

- A THE WORK OF THIS SECTION SHALL COMPLY WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY

(INSERT PROPER JURISDICTION)

1. UNIFORM BUILDING CODE

1.4 SHOP DRAWINGS AND SAMPLES

- A. THE FOLLOWING SHALL BE SUBMITTED IN COMPLIANCE WITH SECTION

(INSERT PROPER SECTION)

- 1. PRODUCT DATA: CONTRACTOR SHALL SUBMIT MANUFACTURER'S PRODUCT SPECIFICATIONS, STANDARD DETAILS, CERTIFIED PRODUCT TEST RESULTS, INSTALLATION INSTRUCTIONS AND GENERAL THE RECOMMENDATIONS, AS -APPLICABLE TO MATERIALS AND FINISHES FOR EACH COMPONENT AND FOR TOTAL SYSTEM
- 2. SAMPLES: CONTRACTOR SHALL SUBMIT THE FOLLOWING SAMPLES AND ACCOMPANYING DESCRIPTIVE DATA:

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A. FASTENERS: TWO OF EACH TYPE TO BE USED, WITH STATEMENT REGARDING INTENDED USE.

B. CLOSURES: GASKET SEAL.

2. SHOP DRAWINGS: CONTRACTOR SHALL SUBMIT SMALL SCALE LAYOUTS OF DOORS AND LARGE SCALE details of edge conditions, joints, comers, custom profiles, support, anchorage, trim sections, closures and special details. Distinction shall be made between factory & field assembly work.

4. ENGINEERING DATA: DESIGN CALCULATIONS, CERTIFIED BY A STRUCTURAL ENGINEER LICENSED THAT THE PROPOSED SPECIAL DOORS WILL MEET THE SPECIFIED DESIGN CRITERIA.

1.5 EXPERIENCE & QUALIFICATIONS

A. MANUFACTURER'S QUALIFICATIONS: THE MANUFACTURER SHALL HAVE HAD AT LEAST FIVE YEARS EXPERIENCE IN PRODUCING THE SPECIFIC SPECIAL DOORS INDICATED.

1.6 QUALITY ASSURANCE

A. THE MANUFACTURER SHALL OBSERVE AND APPROVE THE INSTALLATION OF THE SPECIAL DOORS.

PART 2 - PRODUCTS

2.1 GENERAL

A. PERFORMANCE TEST STANDARDS: CONTRACTOR SHALL PROVIDE SPECIAL DOORS HAVE BEEN PRE TESTED AND CERTIFIED BY THE MANUFACTURER TO PROVIDE THE INDICATED RESISTANCE TO AIR AND WATER INFILTRATION AND STRUCTURAL DEFLECTION AND FAILURE WHEN INSTALLED AS INDICATED AND WHEN TESTED IN ACCORDANCE WITH TEST PROCEDURES DESCRIBED HEREIN.

B. THE SPECIAL DOORS SHALL BE MODEL

(PLEASE SELECT & INSERT PROPER MODEL #)

MODEL #	DESCRIPTION	OPERATION	GASKET TYPE	MATERIAL
WTD2004-12 – H-ALM	HINGED DOOR (VERTICAL PLAIN)	MANUAL – SWING	DUAL INFLATABLE	ALUMINUM
WTD2004-Dc – H-ALM	HINGED DOOR (VERTICAL PLAIN)	MANUAL – SWING	SINGLE COMPRESSION DOG LEVER	ALUMINUM
WTD2004-Dc – H- STL	HINGED DOOR (VERTICAL PLAIN)	MANUAL – SWING	SINGLE COMPRESSION DOG LEVER	MILD STEEL
WTD2004-Dc - H- SS	HINGED DOOR (VERTICAL PLAIN)	MANUAL – SWING	SINGLE COMPRESSION DOG LEVER	STAINLESS STEEL
WTD2004-12-QA –H-ALM	HINGED DOOR (VERTICAL PLAIN) QUICK ACTING WHEEL / LEVER OPERATED	MANUAL – SWING	DUAL INFLATABLE	ALUMINUM
WTD2004-Dc-QA –H-ALM	HINGED DOOR (VERTICAL PLAIN) QUICK ACTING WHEEL / LEVER OPERATED	MANUAL – SWING	MULTIPLE COMPRESSION DOG LEVER	ALUMINUM
WTD2004-Dc-QA –H- STL	HINGED DOOR (VERTICAL PLAIN) QUICK ACTING WHEEL /	MANUAL – SWING	MULTIPLE COMPRESSION DOG LEVER	MILD STEEL

VR Containment

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	LEVER OPERATED			
WTD2004-Dc-QA -H- SS	HINGED DOOR (VERTICAL PLAIN) QUICK ACTING WHEEL / LEVER OPERATED	MANUAL – SWING	MULTIPLE COMPRESSION DOG LEVER	STAINLESS STEEL
WTH2004-DC -RH-ALM	HINGED HATCH (HORIZONTAL RAISED PLAIN)	MANUAL – SWING	SINGLE COMPRESSION DOG LEVER	ALUMINUM
WTH2004-DC -RH- STL	HINGED HATCH (HORIZONTAL RAISED PLAIN)	MANUAL – SWING	SINGLE COMPRESSION DOG LEVER	MILD STEEL
WTH2004-DC -RH- SS	HINGED HATCH (HORIZONTAL RAISED PLAIN)	MANUAL – SWING	SINGLE COMPRESSION DOG LEVER	STAINLESS STEEL
WTH2004-DC -FH-ALM	HINGED HATCH (HORIZONTAL FLUSH PLAIN)	MANUAL – SWING	SINGLE COMPRESSION DOG LEVER	ALUMINUM
WTH2004-DC -FH- STL	HINGED HATCH (HORIZONTAL FLUSH PLAIN)	MANUAL – SWING	SINGLE COMPRESSION DOG LEVER	MILD STEEL
WTH2004-DC -FH-SS	HINGED HATCH (HORIZONTAL FLUSH PLAIN)	MANUAL – SWING	SINGLE COMPRESSION DOG LEVER	STAINLESS STEEL
WT2004-DC- SLD - ALM	SLIDE DOOR	SLIDE IN TRACK	SINGLE COMPRESSION DOG LEVER	ALUMINUM
WT2004-DC – SLD – STL	SLIDE DOOR	SLIDE IN TRACK	SINGLE COMPRESSION DOG LEVER	MILD STEEL
WT2004-DC – SLD - SS	SLIDE DOOR	SLIDE IN TRACK	SINGLE COMPRESSION DOG LEVER	STAINLESS STEEL
WT2004-I2 – SLD - ALM	SLIDE DOOR	SLIDE IN TRACK	DUAL INFLATABLE	ALUMINUM

- C. DISSIMILAR MATERIALS SHALL BE SEPARATED FROM EACH OTHER THROUGH THE USE OF APPROVED GASKETS OR COATINGS.

2.2 MATERIALS

A

SELECT APPROPRIATE MATERIAL	
PANELS AND FRAMES STEEL ASTM A36 SHEET	
PANELS AND FRAMES STAINLESS STEEL ASTM A240 SHEET	SELECT GRADES 304, 304L, 316, 316L
PANELS AND FRAMES ALUMINUM ASTM B209	SELECT 5052 H32, 5086, 6061 T-6.

B.

SELECT APPROPRIATE MATERIAL	
EXTRUSIONS & SHAPES: STEEL ASTM A36	
EXTRUSIONS & SHAPES: STAINLESS STEEL ASTM A276.	SELECT GRADES 304, 304L, 316, 316L

VR Containment

VR Containment

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EXTRUSIONS & SHAPES: ALUMINUM ASTM B209	SELECT 6061 T-6.
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- C. FASTENERS: 300 SERIES STAINLESS STEEL.
- D. GASKETS: NEOPRENE HYPALON, OR EQUAL.
- E. EXPANSION ANCHOR BOLTS: SERIES 300 STAINLESS STEEL.
- F.

SELECT APPROPRIATE MATERIAL	
STIFFENER ANGLES: STEEL ASTM A36	
STIFFENER ANGLES EXTRUSIONS & SHAPES: STAINLESS STEEL ASTM A276.	SELECT GRADES 304, 304L, 316, 316L
STIFFENER ANGLES EXTRUSIONS & SHAPES: ALUMINUM ASTM B209	SELECT 6061 T-6.

STRUCTURAL ANGLES AS REQUIRED BY THE MANUFACTURER.

2.3 METAL FINISHES

SELECT APPROPRIATE FINISH	
A.	(FOR FLUSH AND WALKED ON SURFACE) INTEGRAL NON-SKID FINISH SHALL BE PROVIDED TO ALL SURFACES THAT MAY BE SUBJECT TO FOOT TRAFFIC. THE NON-SKID SURFACE SHALL NOT BE ACHIEVED BY THE USE OF PAINT OR ADHESIVE TAPES
B.	(FOR ALL STEEL PRODUCTS) BRUSH OFF BLAST CLEAN PER SSPC-SP7. PRIME WITH ONE COAT RUST INHIBITIVE, LEAD FREE PRIMER. APPLY FIELD FINAL COAT AFTER INSTALLATION IN ACCORDANCE WITH PAINT AND FINISH SCHEDULE SEE SEC (INSERT APPROPRIATE SECTION...)
C.	(FOR STAINLESS STEEL AND ALUMINUM PRODUCTS) ABRASIVE CLEAN, OR ACID WASH AT THE OPTION OF THE MANUFACTURER. OR/ BRUSH OFF BLAST CLEAN PER SSPC-SP7. WITH USE OF SAND / GLASS BEADS

2.4 DESIGN CRITERIA

- A. THE SPECIAL DOORS FRAME AND SKIN SHALL BE DESIGNED IN ACCORDANCE WITH THE SPECIFICATIONS AS PUBLISHED BY THE ASTM ASSOCIATION AND DESIGNED FOR FULL DEAD LOAD PLUS LIVE LOAD IN ACCORDANCE WITH THE UNIFORM BUILDING CODE LATEST EDITION AS APPLICABLE FOR THIS LOCATION. SPECIAL DOOR DEFLECTION SHALL BE LESS THAN OR EQUAL TO L/360 UNDER TOTAL DEAD AND LIVE LOAD CONDITION.
- B. WATERTIGHT DOORS SHALL BE DESIGNED WITH A MINIMUM 2:1 FACTOR OF SAFETY BASED ON MATERIAL YIELD STRENGTH.
- C. STIFFENER ANGLES SHALL BE WELDED TO PANEL UNDERSIDE AND CONCEALED FROM VIEW. BOLTED OR RIVETED CONSTRUCTION IS NOT ACCEPTABLE.
- D. THE DIRECT ATTACHMENT OF PANELS TO THE SURFACE OF FRAME MEMBERS BY MEANS OFF BOLTS, SCREWS OR SELF DRILLING FASTENERS EXTENDING THROUGH THE PANELS, OTHER TOP FLANGES, OR OUTER EDGES OF THE PANEL WILL NOT BE ACCEPTABLE
- E. SPECIAL DOORS SHALL BE HINGED TO ASSURE PROPER AND SMOOTH SWING OF THE COVER UP TO 180 DEGREES OR TO THE EXTENT THAT HOLD BACK OR RESTRICTIVE MECHANISMS MAY APPLY. HINGES SHALL HAVE SLOTTED HOLES TO PROTECT THEM FROM SEAL PRESSURE LOADS. SEAL LOADS SHALL NOT BE TRANSMITTED TO THE HINGES. HINGE PINS AND WASHERS SHALL BE OF 304 STAINLESS, UNLESS OTHERWISE SPECIFIED.
- F. THE SPECIAL DOORS SHALL BE EQUIPPED WITH STAINLESS STEEL DOGS. (LATCHING DEVICES). THE NUMBER SIZE AND LOCATION WILL BE DICTATED BY THE SPECIAL DOOR SIZE AS WELL AS THE SPECIFIED DESIGN CONDITIONS. DOGS ARE SPACED TO TRANSMIT THE SEALING LOAD EQUALLY TO THE SURROUNDING FRAME AND GRADE. DOGS SHALL BE FLUSH TO AVOID INTERFERENCE WITH PERSONNEL, EQUIPMENT AND VEHICLE TRAFFIC.
- G. SPECIAL DOORS SHALL BE DESIGNED TO CONFORM TO THE -FOLLOWING CRITERIA FOR WATER

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PENETRATION AND AIR INFILTRATION:

1. WATER PENETRATION: NO LEAKAGE AT XX FT OF WATER HEAD STANDING WATER.

- H. THE SPECIAL DOORS SHALL HAVE COMPRESSION STOPS TO ASSURE THAT TRAFFIC AND WATER PRESSURE WILL NOT DAMAGE THE GASKET SEAL. ALL SEALS ARE OF CONTINUOUS MATERIAL AS SPECIFIED AND DETERMINED BY THE CONDITIONS. SEALS ARE SECURELY EMBEDDED IN A SEAL GROOVE.
- I. LIFT POCKETS OR HANDLES WITHOUT THE PENETRATION OF HATCH / DOOR COVER SHALL BE PROVIDED WITH EACH PANEL.
- J. STRAP ANCHOR DEVICES MAY BE FIELD WELDED TO THE FRAME IN ORDER TO ENSURE THEY ARE PROPERLY EMBEDDED IN CONCRETE. OTHER OPTIONS INCLUDE SURFACE GASKETS, BOLTS AND WEDGE ANCHORS.

2.5 INSPECTION & TESTS

- A. ALL WELDS IN THE POTENTIAL "LEAK PATH" SHALL BE LIQUID PENETRANT INSPECTED IN ACCORDANCE WITH APPENDIX VIII OF SECTION VIII Div. 1 OF ASME CODE.
- B. FINISHED ASSEMBLY, OR ASSEMBLY SIMILAR IN DESIGN SHALL BE FACTORY LEAK TESTED IN ACCORDANCE WITH ASTM E283.

2.6 MANUFACTURERS

- A. PRODUCTS OF THE TYPE INDICATED SHALL BE PROVIDED BY THE FOLLOWING MANUFACTURERS:

- 1. VR CONTAINMENT
176-25 UNION TURNPIKE SUITE 175
FRESH MEADOWS NY 11366
TEL (516) 673 4961 FAX (866) 286 5616

E-MAIL: VR_CONTAINMENT@YMAIL.COM / WEB SITE WWW.VRCONTAINMENT.COM

- 2. OR PRE APPROVED EQUAL.

3.1 INSTALLATION

- A. **GENERAL:** CONTRACTOR SHALL COMPLY WITH SPECIAL DOOR MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS FOR INSTALLATION, AS APPLICABLE TO PROJECT CONDITIONS AND SUPPORTING SUBSTRATES. A MANUFACTURER'S BE PRESENT TO SUPERVISE, INSPECT AND ASSIST IN THE INSTALLATION AT THE START UP STAGE AND "ON AN AS NEEDED BASIS" THEREAFTER AS DETERMINED BY THE ENGINEER.
 - 1. EXCESS SCRAP SHALL BE REMOVED AND WORKING SURFACES SHALL BE KEPT FROM DEBRIS ON REGULAR DAILY BASIS.
 - 2. FILINGS CAUSED BY DRILLING OR CUTTING SHALL BE REMOVED IMMEDIATELY FROM FINISHED SURFACES.
- B. **INSTALLATION TOLERANCES:** SPECIAL DOORS SHALL BE PLUMB, LEVEL, AND ALIGNED WITHIN AN INSTALLED TOLERANCE OF 1/4-INCH IN 20 FEET AND WITHIN 1/8-INCH ONSET OF ADJOINING FACES AND OF ALIGNMENT OF MATCHING PROFILES.
- C. AT THE COMPLETION OF THE INSTALLATION, A CHALK TEST IS TO BE PERFORMED TO DETERMINE THE ACTUAL CONDITIONS OF THE SPECIAL DOORS.

END OF SECTION