Line 309
074213 Qualification
paragraph # 1.5.3

Manufacturer Qualification

Kingspan Group are global leaders in the design and manufacture of insulated roof, architectural wall and façade systems that offer designers and architects unlimited choice to create energy-efficient buildings that deliver 'signature' architectural and aesthetic impact.

Fact sheet

Kingspan is recognized throughout the construction industry for its commitment to innovation, design, quality and technical expertise. Across a wide range of sectors within the industry, Kingspan's integrated approach to building envelope solutions has made them first choice in meeting the specialist needs of architects, specifiers, developers and owners. Operating on an International level Kingspan has manufacturing and distribution operations throughout Europe, the Far East, the United States, and Canada. Kingspan products are designed to reduce capital costs and improve the quality and working environment in both new and refurbished buildings. Many products can be integrated on the same project offering the client improved build speed, exceptional thermal performance and undisputed fire-safe construction. Through its continued investment in research and development, its recognized commitment to quality and performance Kingspan confidently looks forward to a future of continued service to the construction industry world-wide

History

1970 - 1980 The Group was founded in 1972 as a small family business by Eugene and Brendan Murtagh (both currently members of the Board of Directors). The Group was initially involved in the manufacture of metal cladding and roll formed structural sections. Later, Kingspan layered the foundations for its current full environmental offering

Listings

Kingspan is quoted on the Irish Stock Exchanges (Symbol: KSP:ISE)

Employees

Over 5,500 people are employed by Kingspan world-wide, including approximately 3,000 people in an operational or technical capacity.

Head office and registered office

Kingspan Group Plc
Dublin Road,
Kingscourt,Co. Cavan. Ireland.
Tel: +353 (0) 42 9698000 Fax: +353 (0) 42 9667501

North American Offices

Kingspan Insulated Panels
2000 Morgan Road
Modesto, CA 95358, USA
Tel: +1 800 377 5110 Fax: +1 209 531 9099

Kingspan Insulated Panels
726 Summerhill Drive
Deland, FL 32724, USA
Tel: +1 877 638 3266 Fax: +! 386 626 6884

Kingspan Benchmark
720 Marion Road
Columbus, OH 43207, USA
Tel: +1 614-444-0110 Fax: +1 614-444-7759

Kingspan Insulated Panels
12577 Coleraine Drive
Caledon, ON L7E 3B5, Canada
Tel +1 905-951-5600 Fax +1 905-951-3944

Kingspan Insulated Panels
5202 – 272nd Street
Langley, BC V4W 1S3, Canada
Tel +1 604-607-1101 Fax +1 604-607-1142

www.kingspanpanels.us
www.kingspanpanels.ca

To Whom It May Concern,

Kingspan is a leading manufacturer and has demonstrated a successful history of providing Insulated Metal Wall Panels and accessories for over (20) years. Kingspan is a member of the Metal Construction Association (MCA), and all materials are manufactured in conformance with MCA guidelines and tolerances.

Regards,

Royce Chitty
Engineer Technician
Technical Services
Kingspan Insulated Panels

Line 310
Section 074213
Qualification of Installation Contractor 1.5.4

May 3, 2021

Mr. Tom Wills
Alloyd Sheet Metal & Insulation Company
5734 Webster St.
Dayton, OH 45413

RECOGNITION LETTER

Dear Tom:

This letter is written to document our recognition of Alloyd Sheet Metal & Insulation Company's installation of Kingspan insulated panels of similar size and scope on many projects with great success. Alloyd Sheet Metal & Insulation Company's knowledge of Kingspan panel products and the quality installation that is always completed continuously makes for a successful project.

If any other information is required, please contact me.

Best regards,
KINGSPAN INSULATED PANELS

Alex R. Detmer

Alex R. Detmer
Manager
Field Technical Services

726 Summerhill Dr., Deland, FL 32724, USA 386-626-6789 p 386-626-6887 f
2000 Morgan Rd., Modesto, CA 95358, USA 209-531-9091 p 209-531-9055 f
720 Marion Road (P.O. Box 07928) Columbus, OH 43207, USA 614-444-0110 p 614-444-7759 f
12557 Coleraine Dr., ON L7E 3B5, Canada 905-951-5600 p 905-951-3944 f
5202-272nd St., Langley, B.C. V4W 1S3, Canada 604-607-1101 p 604-607-1142 f
www.kingspanpanels.us
www.kingspanpanels.ca

Line 312
074213 Warranty
Paragraph 1.8

Line 341
074213 Closeout Submittals 1.8

LIMITED WARRANTY – PANELS

(NO DOLLAR LIMITATION FOR REPAIR OR REPLACEMENT)

PROJECT: _____ OWNER: _____

_____ _____

_____ _____

CUSTOMER: _____

_____

_____

DATE OF SHIPMENT: _____
KINGSPAN JOB NO.: _____
PLANT LOCATION: _____
PANEL TYPE(S): _____

Kingspan Insulated Panels Inc. (or Kingspan Insulated Panels Ltd. for projects located in Canada), hereinafter referred to as "Kingspan", shall extend a limited warranty for a period of **(XX)** year(s) on the insulated panels furnished by Kingspan for the project referenced above subject to the following terms and conditions:

TERMS AND CONDITIONS

I. WARRANTY DESCRIPTION AND DURATION

Kingspan warrants to the owner of the building ("Owner") that the panels covered hereunder will be free from defects in material and workmanship under normal use and service for the period noted above. Panels, if properly installed, will not show evidence of excessive deflection or delamination under conditions within panel design limits determined by Kingspan. The warranty period commences on the date of substantial completion, or six months from date of shipment, whichever occurs first. Exterior finish coating is excluded from this limited warranty; see separate finish warranty available upon request from Kingspan. A separate weathertightness limited warranty may be available at an additional cost. This warranty does not include any matter relating to corrosion.

II. OWNER'S OBLIGATIONS

1. Owner, or its designated contractor, shall, prior to installation, inspect the material received from Kingspan, and shall forthwith notify Kingspan of any nonconformity of the material. Installation of the material shall constitute acceptance of the material as in conformity with the material ordered.

2. Caulking and sealing materials shall be maintained and replaced as necessary as outlined in the maintenance guidelines.

3. Owner shall periodically clean the panels to remove debris, silt and other contaminants and obstructions to flow of runoff. This cleaning shall be performed at least as frequently as outlined in the maintenance guidelines.

4. Owner must provide Kingspan free access to all panels on the subject building during normal business hours to conduct any and all investigations and repairs.

5. Any claim arising from this limited warranty for any cause whatsoever shall be deemed WAIVED by Owner unless written notice thereof is given to the Plant Manager of the Kingspan plant location listed above within the earlier of (a) thirty (30) days after discovery of claimed defect, or (b) thirty (30) days from time such defect should have been discovered after exercise of reasonable diligence, and within the warranty period. Owner's notice shall include Kingspan's order number, date of shipment and date of panel installation. On request, Owner must provide duly authenticated records describing the defect which were made in the ordinary course of business contemporaneously with the events noted thereon. Owner shall, on demand, present evidence that establishes any claimed defects are due to a breach of the limited warranty stated herein, and that the Owner's obligations under the limited warranty have been fulfilled.

6. Owner must install, use and maintain the panels strictly in accordance with the instructions and recommendations contained in Kingspan's installation and maintenance guidelines and accepted industry practices. Owner understands and agrees that Kingspan's written instructions and recommendations contained in Kingspan's installation and maintenance guidelines and accepted industry practices control, and that it shall not rely on any oral statements or recommendations of Kingspan personnel. Owner acknowledges that any shop drawings prepared by Kingspan are solely for the purpose of finalizing Kingspan's bill of materials, and are not for reliance by Owner or Installer.

7. Kingspan shall be given reasonable opportunity to inspect the installation prior to Owner making or causing to be made any repairs to the panels. All repair attempts made must be pre-approved in writing by Kingspan. Owner agrees to reimburse Kingspan for all investigation costs incurred by Kingspan for claims made by Owner which are determined not to be valid hereunder. No components or materials shall be returned to Kingspan without Kingspan's inspection and approval and receipt from Kingspan of written shipping instructions.

III. EXCLUSIVE REMEDY

1. If it is determined to Kingspan's reasonable satisfaction, upon inspection by Kingspan, that a valid warranty claim has been made pursuant to the terms of this limited warranty, Kingspan shall, at its sole discretion, (i) provide replacements for any defective panels, (ii) repair the defective panels (subject always to such repair obligation being limited solely to the cost of material and labor), or (iii) pay to the Owner an amount equal to the price originally paid for the defective panels by Customer. The warranty period for any repaired or replaced panels shall be limited to the unexpired warranty period for the originally supplied panels.Liability under this Limited Warranty shall be limited to the actual cost of the warranty repair work, but is not limited to the original cost of the material supplied by Kingspan. Kingspan shall not be liable for claims resulting from improper or incorrect installation of Kingspan's panels. Kingspan's sole liability for breach of warranty shall be as set forth in this Section III.1.

2. Should the product covered under this limited warranty be discontinued, Kingspan reserves the right to substitute a product of equal quality or price at its discretion. It is understood and

SAMPLE

accepted by Owner that normal exposure to the elements may preclude a perfect color match between the original and any replacement material.

3. *Owner and Customer hereby WAIVE all remedies not expressly provided herein, including, but not limited to, losses due to damage to property, any direct or indirect losses or costs, or incidental or consequential damages for loss of use, loss of revenue or loss of profit. Such waiver shall apply even if Kingspan has been advised of the possibility of such claims, losses or damages.*

IV. WARRANTY LIMITATIONS

1. THE WARRANTY ISSUED TO OWNER HEREUNDER IS EXCLUSIVE AND IN LIEU OF ANY AND ALL OTHER WARRANTIES, CONDITIONS, RIGHTS OR REMEDIES, EXPRESS OR IMPLIED, STATUTORY OR OTHERWISE TO OWNER OR CUSTOMER, INCLUDING THE **WARRANTY OF *MERCHANTABILITY*** OR FITNESS FOR A PARTICULAR PURPOSE AND THE CONDITION OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. KINGSPAN HEREBY DISCLAIMS, AND OWNER AND CUSTOMER HEREBY WAIVE, ANY LIABILITY OF KINGSPAN IN CONTRACT OR TORT, STRICT OR OTHERWISE, OR UNDER ANY STATUTE FOR DAMAGES, DIRECT OR CONSEQUENTIAL, RESULTING FROM A DEFECT IN DESIGN, MATERIAL, WORKMANSHIP, OR MANUFACTURE, WHETHER OR NOT OCCASIONED BY KINGSPAN'S NEGLIGENCE.

2. This limited panel warranty will be null and void if one or more of the following conditions exist, whether or not such conditions result from or are occasioned by the negligence or fault of any other party:

    a. Failure of Owner to fulfill his obligations as set forth in Section II above.

    b. Improper installation, including but not limited to non-compliance with information set forth in current Kingspan installation guidelines, Kingspan shop drawings or Kingspan approved shop drawings, non-conformance to SMACNA principles for sheet metal practices, facing or changing the factory finished color by any means such as adhering a membrane to the facing, or installation of panels with any accessories or by any means not approved in writing by Kingspan.

    c. Alterations made to the panels without prior authorization from Kingspan, including but not limited to, structures, fixtures, or utilities being placed upon or attached to the panels, or attachments of signs, the installation of vents or manual perforations or penetrations such as skylights or solar panels or the addition or relocation of curb units, smoke hatches, HVAC units, electrical or pip penetrations or ventilators.

    d. Damage caused by settlement, expansion or deflection of structural load-bearing members or movement of roof, walls, steel frame or secondary structural members of building systems or equipment including building foundations, or vibrating, reciprocating or rotating machinery.

    e. Damage resulting from natural or man-made disasters such as tornadoes, hurricanes, hail, floods, cyclones, sand storms, earthquakes, lightning, fire, acts of war, vandalism or terrorism, or other force majeure events.

SAMPLE

f. Damage resulting from acts of negligence including but not limited to improper storage, shipping and/or handling, accident or misuse, aggressive cleaning products or methods, etc.

g. Damage resulting from falling objects, projectiles, however propelled, foot traffic, recreational activities, or storage of material of any kind in contact with the panels or other improper use of the panels.

h. Changes in building usage or utilization without prior written consent of Kingspan.

i. Standing water (ponding or pooling) or inadequately sealed overlaps allowing retention of water or other contaminants.

j. Corrosion of any sort, including corrosion resulting from drainage, roof top equipment, leaky gutters, exposure to marine (salt water) atmosphere, atmospheric contaminants or contaminants generated inside the building, including moisture build-up due to inadequate or poor ventilation of interior. The fact that contaminants may not have been identified or existent at time of installation shall not obligate Kingspan under the provisions of this limited warranty.

k. Movement or deterioration of metal components and/or dissimilar metals in direct contact with or adjacent to the panels unless such components are an integral part of the panel system and have been approved or designated by Kingspan in writing as a part of the panel system purchased, or deterioration caused by contact with wet, green or treated lumber or due to direct or indirect contact with corrosive materials.

l. Failure of any materials, assemblies or components furnished by others whether or not identified to Kingspan at the time of entry into the contract with Customer for the sale of panels.

m. Fair wear and tear, misuse, willful damage, negligence, abnormal working conditions, default or breach of any statutory duty by Owner or its contractors, failure to follow Kingspan's instructions, or misuse of the panels.

n. Any change in the atmospheric conditions at the site where the Project is located from those conditions notified to Kingspan on the date of Kingspan's entry into the contract with Customer for the panels, or any atmospheric conditions not in compliance with the established air quality standards set forth in the U.S. Clean Air Act or any and all other applicable laws of any federal, provincial, state, municipal or local governmental body.

o. Repairs or attempted repairs by persons other than Kingspan or its appointed agents, or the occurrence of any events which are commonly covered by a building insurance policy.

p. Exposure to continuous temperatures howsoever caused greater than 180ºF / 82ºC.

q. The performance of any touch-up paint or overpaint used on the panels before, during or after erection.

r. The panels being in direct contact with, or run off from, materials with advance corrosion.

11217387.1

SAMPLE

s. The panels being removed and/or installed in a different location after the original installation.

3. The Owner's rights, and entitlement to bring a claim or otherwise make recovery under this limited warranty (and Kingspan's liability) shall be subject to the Customer, the Customer's sub-contractors and the Owner (including Owner's agents and representatives) having followed Kingspan's technical documents in all respects, but particularly in relation to design loads, supporting spans, fastener spacing and type, detail installation design and fixing. Where not covered by Kingspan's latest published product literature, then such parties shall have followed best practice and all reasonable skill and care have been employed.

4. The limited warranty is given by Kingspan in reliance upon and upon condition of the accuracy of the information provided by the Customer and/or Owner. Any inaccuracy in such information provided by the Customer and/or Owner shall result in Kingspan ceasing to be liable or having any responsibility under this limited warranty and the Owner shall not be entitled to make a claim and/or recovery or otherwise commence any legal action against Kingspan under or in connection with this limited warranty.

5. Kingspan shall have no liability under this limited warranty if a defect or fault in the panels results from any drawing, design or specification supplied by the Customer or Owner or a failure to comply with Kingspan's design guidelines issued from time to time.

6. The internal and external environmental conditions prevailing at the time of installation of the goods are deemed "designed for" and then only when full and accurate audited information is available to Kingspan. Kingspan will not be liable for any defect or failure which may occur to the panels due to change of building usage or variations in atmospheric conditions.

7. Gutter assemblies (gutter components) of any kind are excluded from this limited warranty.

V. TRANSFERS, ASSIGNMENTS AND REPRESENTATIONS

1. This Limited Warranty is extended to the above named Owner only and is non-transferable and assignable only to future owners of the Project on which the panels have been originally installed, subject, in all instances, to the terms of this Limited Warranty including the conditions and limitations hereof.

VI. TERMINATION

1. Kingspan reserves the right to terminate this Limited Warranty except with respect to orders which it has already accepted, upon giving of written notice thereof.

VII. ENTIRE AGREEMENT/MERGER

1. Oral statements made by Kingspan's representatives and written descriptions of the products appearing elsewhere than in this Limited Warranty are not warranties and shall not be relied upon by Owner. This writing constitutes the final, complete and exclusive expression of the terms of the parties' agreement. Any modifications hereof, to be effective, shall be in writing, shall expressly refer to this Limited Warranty, and shall be signed by an authorized representative of Kingspan.

2. Kingspan will not participate in any claims or pay any claims until the full contract price for all work performed and materials furnished is received by Kingspan, unless the claim of an

SAMPLE

alleged failure of the warranted product is made prior to completion of the installation. This requirement also includes payment to Kingspan for the additional cost of this Limited Warranty, if any. Kingspan's obligations under this Limited Warranty are conditioned on compliance with all of the terms of the contract of sale between Kingspan and Customer, including the terms of this Limited Warranty.

3. Kingspan's failure at any time to enforce any of the terms and / or conditions stated herein shall not be construed to be a waiver of those provisions.

4. In the event of a material breach by the Owner of any of the conditions of this Limited Warranty, Kingspan shall have no liability for any panel failure claims.

5. The laws of the state of Florida shall govern the construction, interpretation and performance of this limited warranty, except for projects located in Canada which shall be governed by the laws of the Province of Ontario in each case without regard to the laws of such jurisdiction relating to conflicts of laws. In the event that any provision shall be deemed illegal, unenforceable or null and void, all remaining provisions shall remain in effect. Any controversy or dispute arising out of or related to this Limited Warranty shall be addressed and resolved in accordance with the process set forth in Kingspan's Sales Terms and Conditions (U.S.) available at **[URL]** (the "Sales Terms").

6. In case any one or more of the provisions or parts of a provision contained herein are, for any reason, held to be invalid, illegal or unenforceable in any respect in any jurisdiction, such invalidity, illegality or unenforceability will not affect any other provision or part of a provision hereof or any other jurisdiction, but this Limited Warranty will be reformed and construed in any such jurisdiction as if such invalid or illegal or unenforceable provision or part of a provision had never been contained herein and such provision or part will be reformed so that it would be valid, legal and enforceable to the maximum extent permitted in such jurisdiction.

7. The parties acknowledge that they have requested that this Limited Warranty and all documents relating hereto be drawn up in the English language, and the English language shall prevail. Les parties reconnaissent qu'elles ont exigés que les présentes conditions de ventes et tous documents qui y sont afférents soient rédigés en langue anglaise et le langue anglaise prédominera.

8. This Limited Warranty is issued pursuant to, and in connection with, the Sales Terms, and, except to the extent, if any, that this Limited Warranty directly conflicts with the Sales Terms, this limited warranty is subject to all applicable provisions of the Sales Terms. In the case of a direct conflict, the provisions of this Limited Warranty shall control with respect to such Limited Warranty only.

WARRANTY RESPONSIBILITY

Date of Issuance: _____

Kingspan Insulated Panels

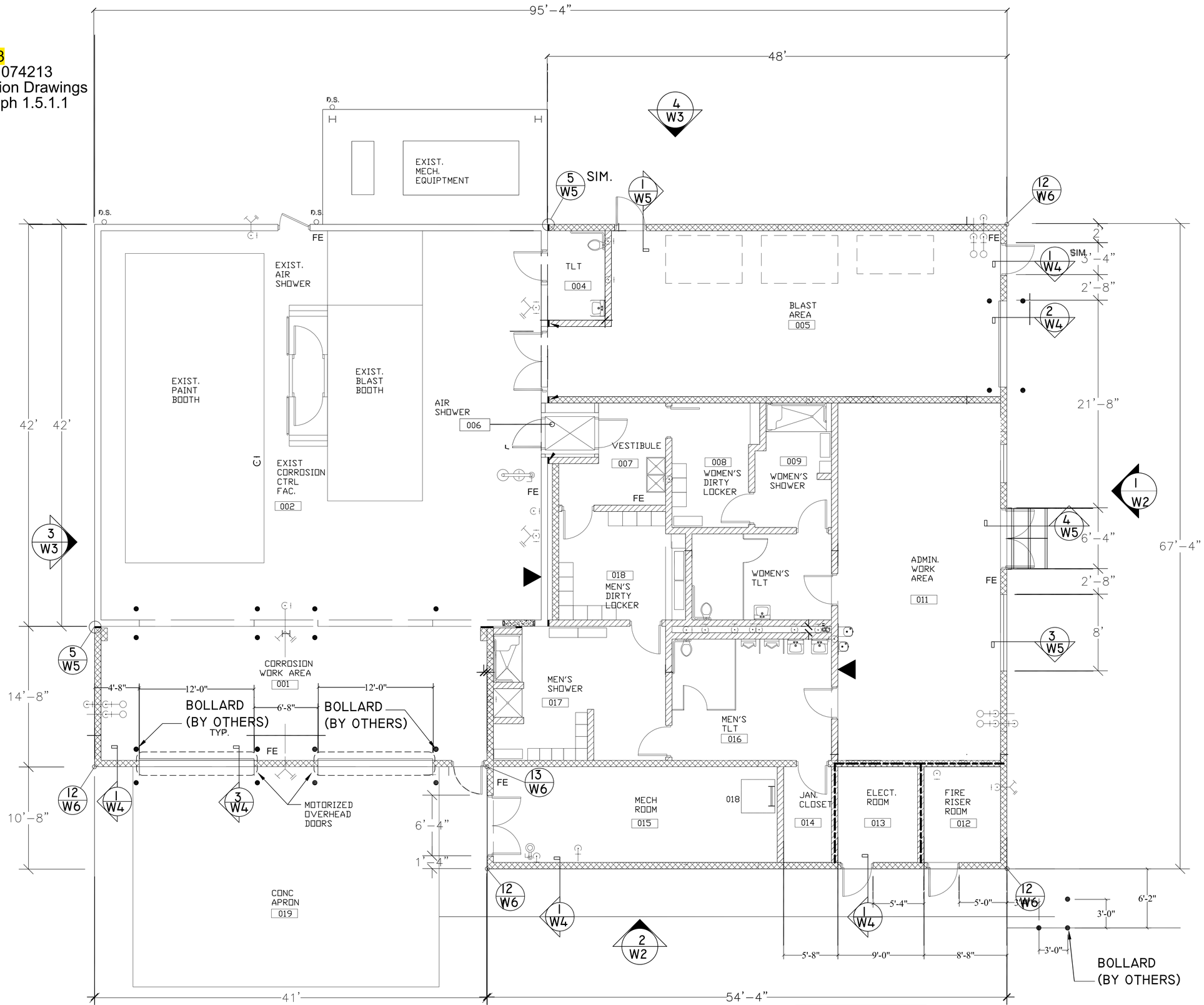
By: _____
Title:

SAMPLE

726 Summerhill Dr., Deland, FL 32724, USA 386-626-6789 p 386-626-6887 f
2000 Morgan Rd., Modesto, CA 95358, USA 209-531-9091 p 209-531-9055 f
720 Marion Road (P.O. Box 07928) Columbus, OH 43207, USA 614-444-0110 p 614-444-7759 f
12557 Coleraine Dr., ON L7E 3B5, Canada 905-951-5600 p 905-951-3944 f
5202-272nd St., Langley, B.C. V4W 1S3, Canada 604-607-1101 p 604-607-1142 f
www.kingspanpanels.us
www.kingspanpanels.ca

SAMPLE

Line 313
Section 074213
Installation Drawings
Paragraph 1.5.1.1



FLOOR PLAN

SCALE: ¼"=1'-0"

CONTRACTOR TO VERIFY ALL DIMENSIONS

FIRST DRAFT
SERVICES LLC.
249 WOOD FORGE CIRCLE
LEBANON, OHIO 45036
(513) 315-0939 (513) 932-0939 Fax
menottingham@firstdraftservices.com

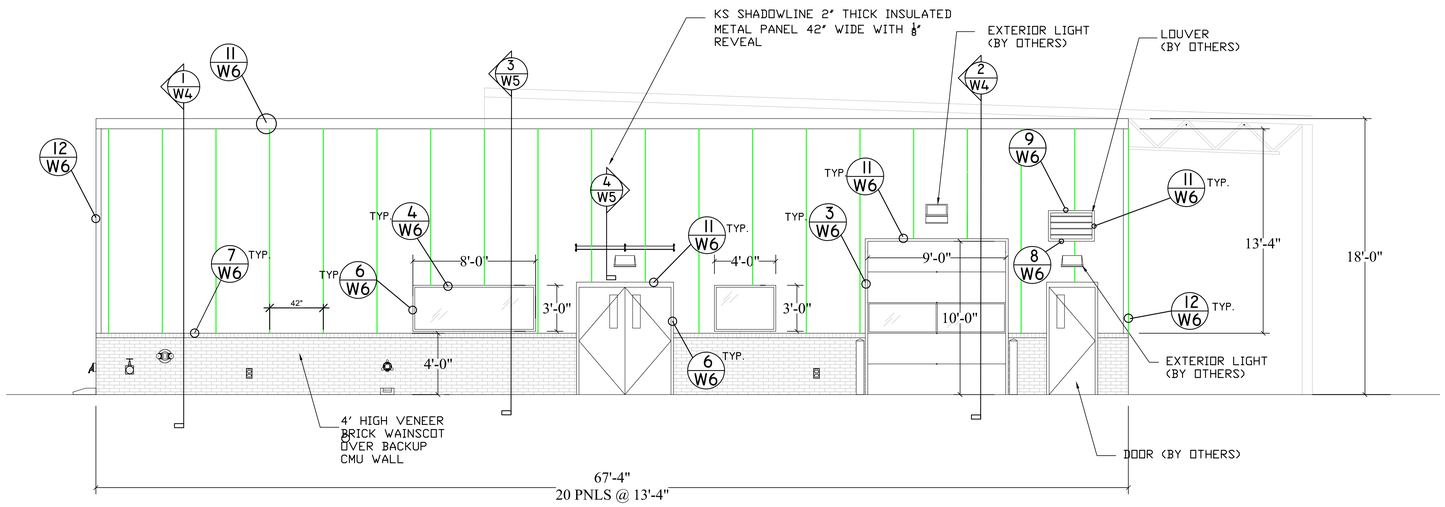
MANSFIELD ANG BUILDING 403
MANSFIELD, OHIO

ALLOYD SHEET METAL
5734 WEBSTER STREET DAYTON, OHIO 45413

Drawing No: 2105
Job Number:
Date:
Drawn By: MEN
Checked By:
Scale:
X-Ref:

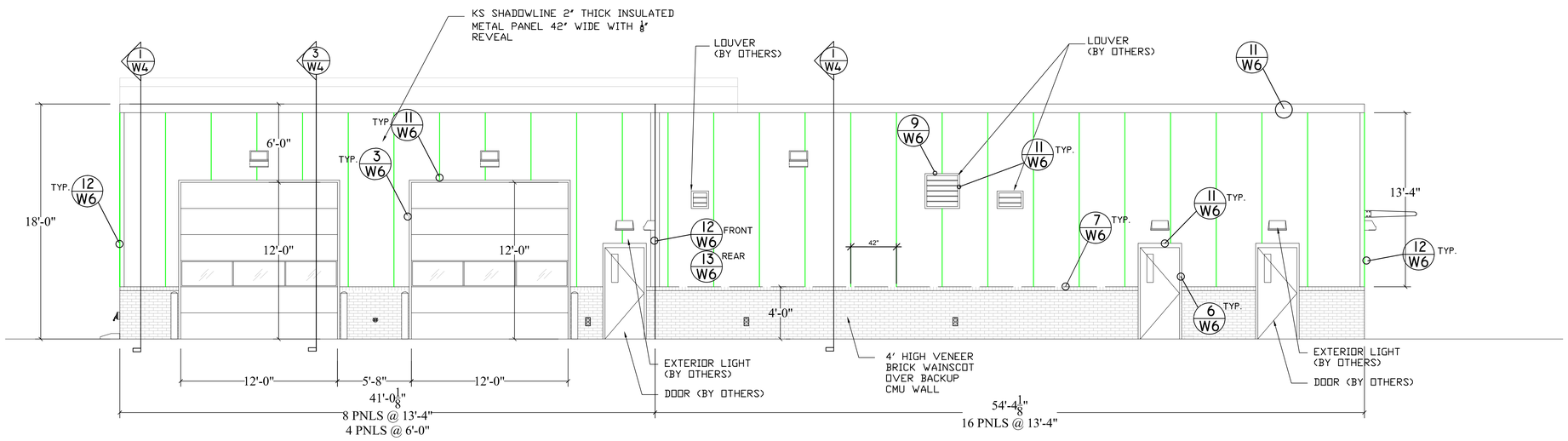
Revision	Date
FOR APPROVAL	4/2/21

Sheet
W-1



1 EAST ELEVATION

SCALE: 1/4"=1'-0"



1 SOUTH ELEVATION

SCALE: 1/4"=1'-0"

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SERVICES LLC.
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(513) 315-0939 (513) 932-0939 Fax
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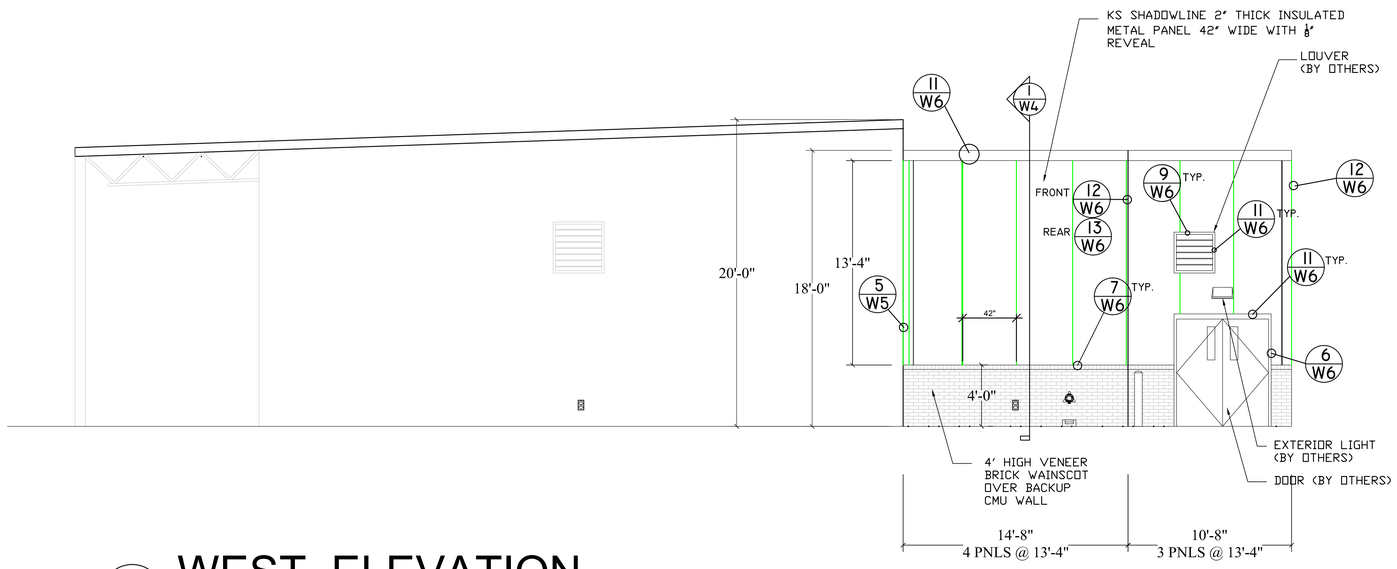
MANSFIELD ANG BUILDING 403
MANSFIELD, OHIO

ALLOYD SHEET METAL
5734 WEBSTER STREET DAYTON, OHIO 45413

Drawing No: 2105
Job Number:
Date:
Drawn By: MEN
Checked By:
Scale:
X-Ref:

Revision	Date
FOR APPROVAL	4/2/21

Sheet
W-2



3 WEST ELEVATION

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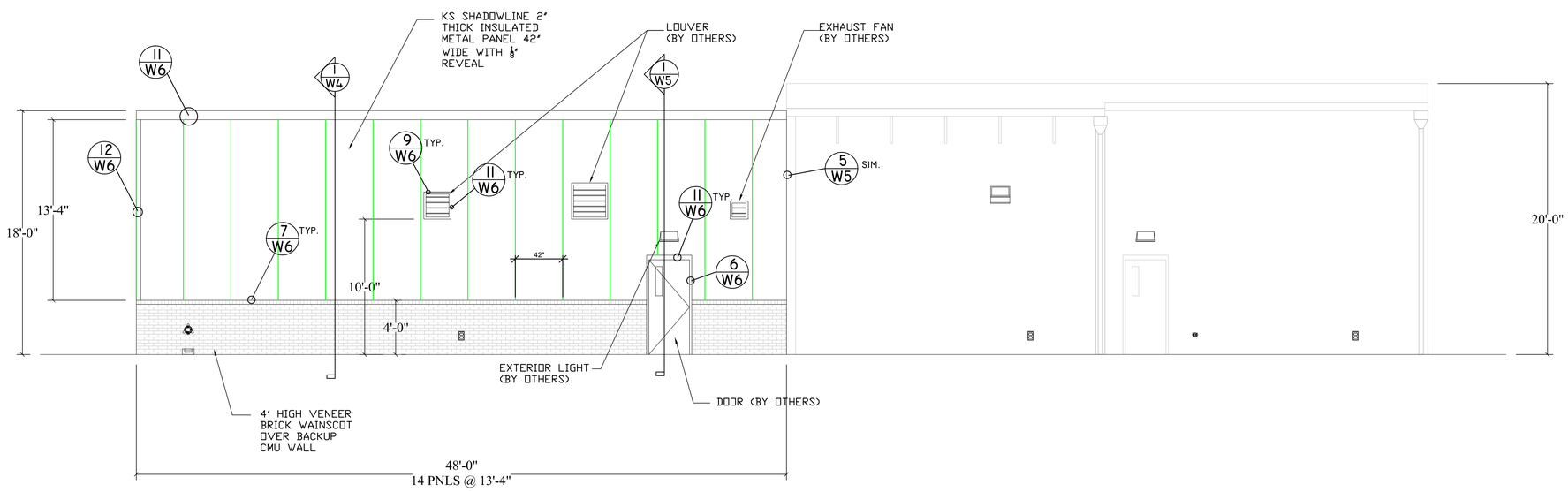

4 NORTH ELEVATION

SCALE: 3/16"=1'-0"

FIRST DRAFT
SERVICES LLC.
249 WOOD FORGE CIRCLE
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(513) 315-0939 (513) 932-0939 Fax
menottingham@firstdraftservices.com

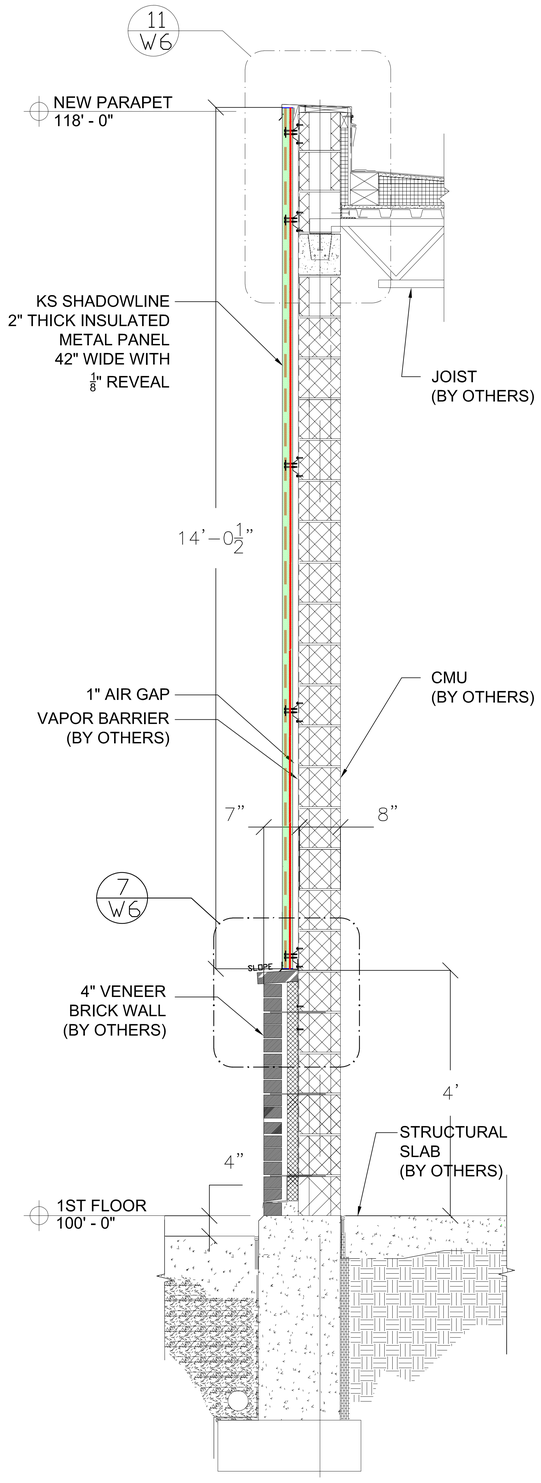
CH2M HIL-HDR JV MANSFIELD LAHM ANG BASE
MANSFIELD, OHIO

ALLOYD SHEET METAL
5734 WEBSTER STREET DAYTON, OHIO 45413

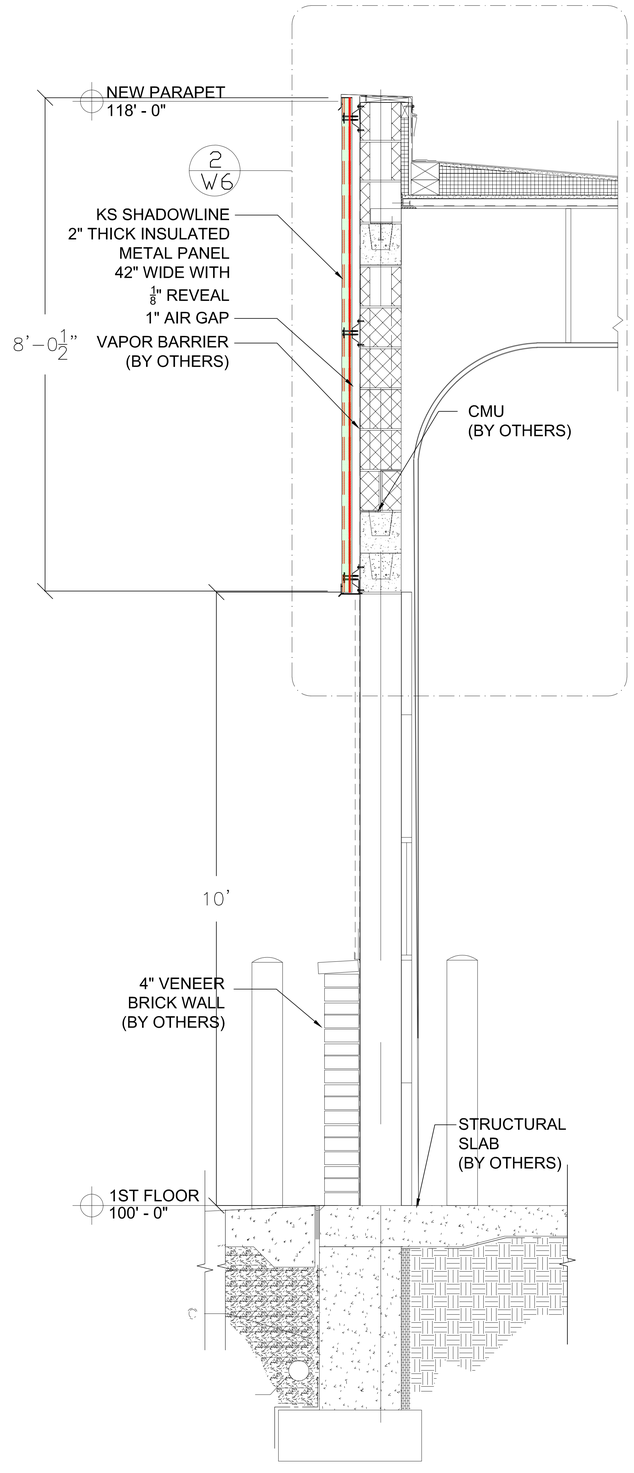
Drawing No: 2105
Job Number:
Date:
Drawn By: MEN
Checked By:
Scale:
X-Ref:

Revision	Date
FOR APPROVAL	4/2/21

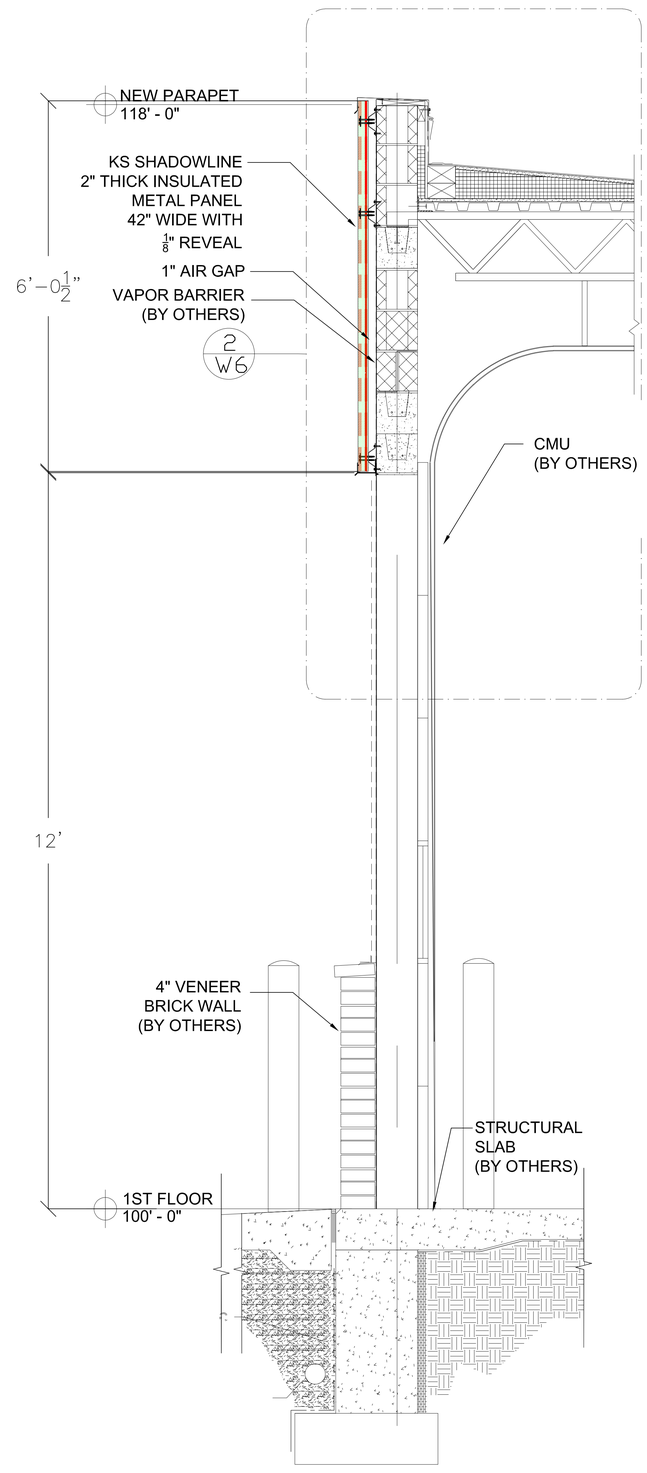
Sheet
W-3



1 WALL SECTION
1" =1'-- 0" 1/302



2 WALL SECTION
1" =1'-- 0" 2/302



3 WALL SECTION
1" =1'-- 0" 3/302

FIRST DRAFT
SERVICES LLC.
249 WOOD FORGE CIRCLE
LEBANON, OHIO 45036
(513) 315-0939 (513) 932-0939 Fax
menottingham@firstdraftservices.com

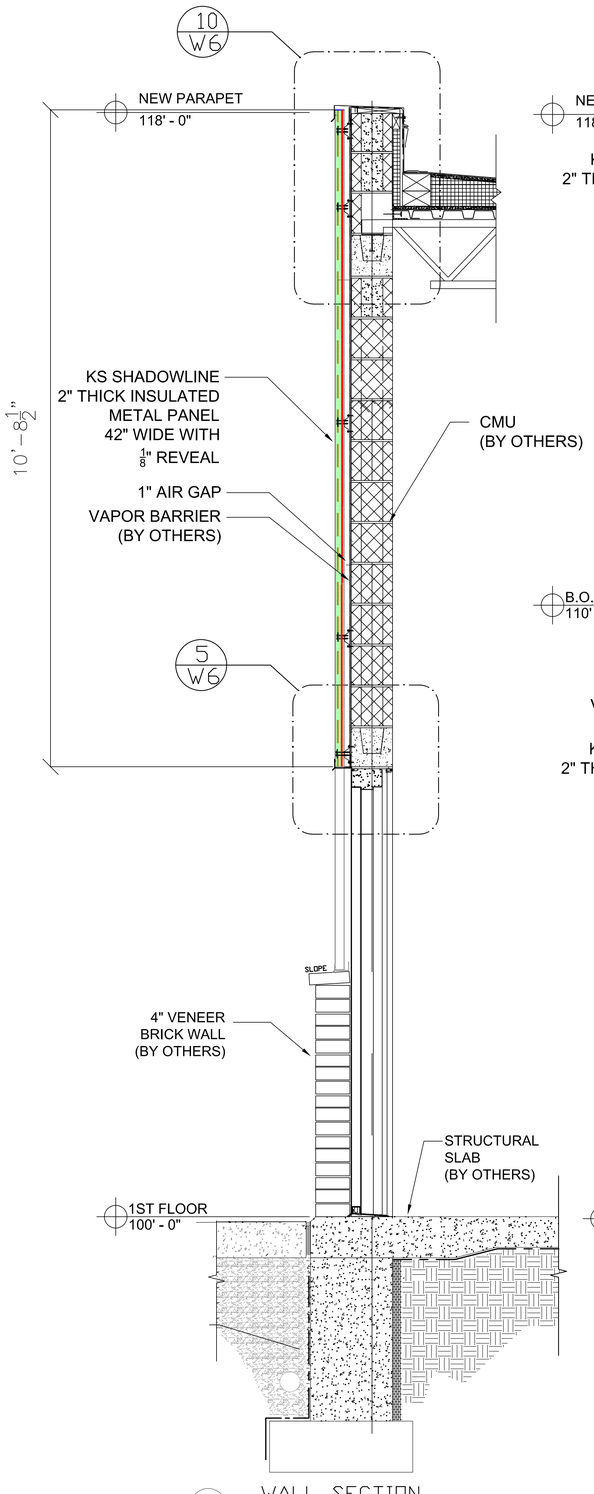
CH2M HIL-HDR JV MANSFIELD LAHM ANG BASE
MANSFIELD, OHIO

ALLOYD SHEET METAL
5734 WEBSTER STREET DAYTON, OHIO 45413

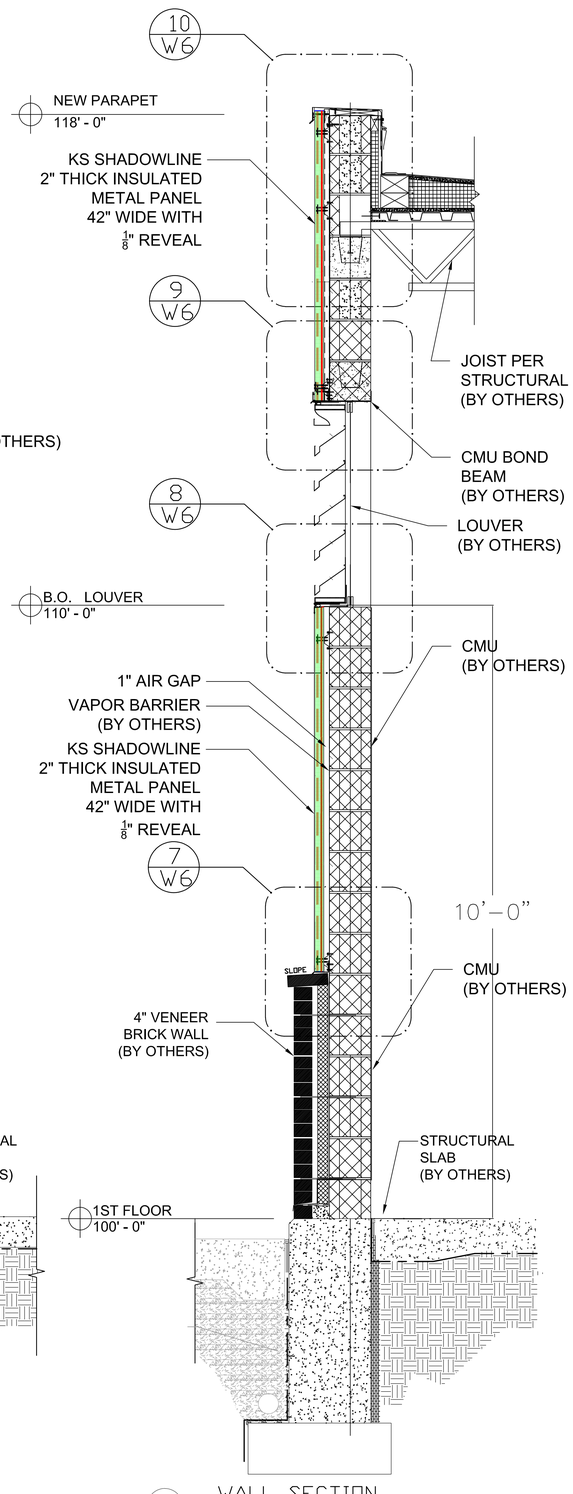
Drawing No: 2105
Job Number:
Date:
Drawn By: MEN
Checked By:
Scale:
X-Ref:

Revision	Date
FOR APPROVAL	4/23/21

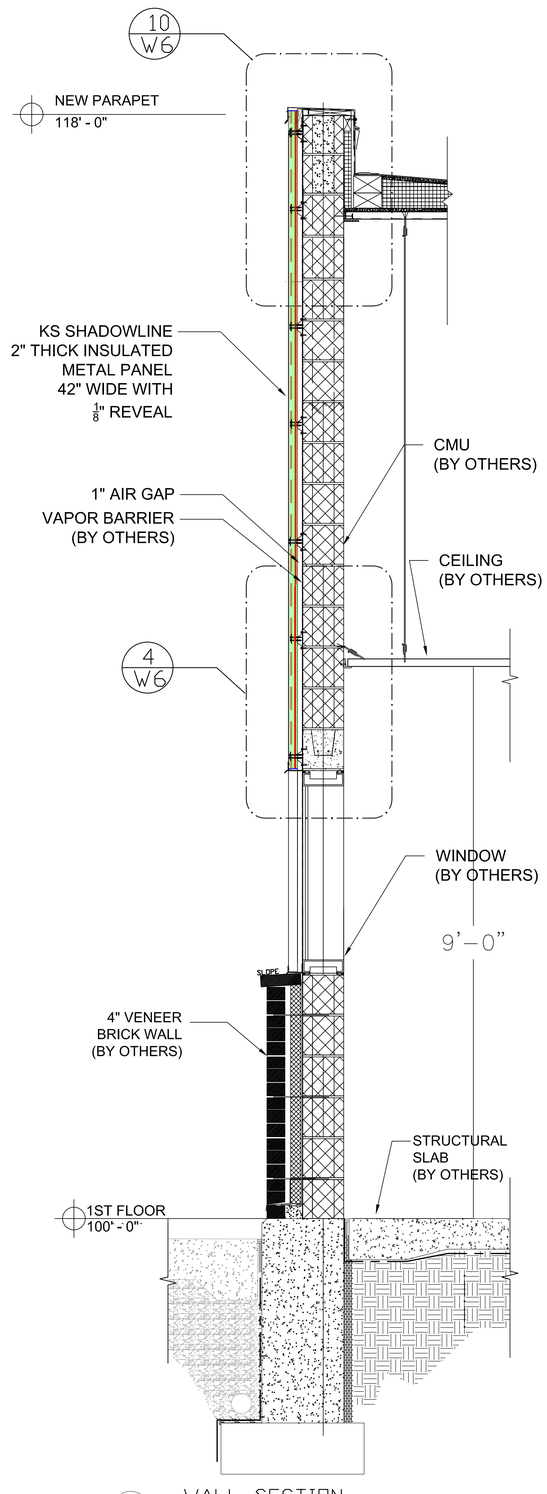
Sheet
W-4



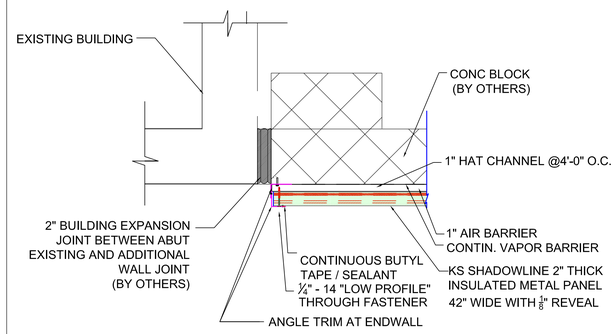
1 WALL SECTION
1" =1'-- 0" 1/302



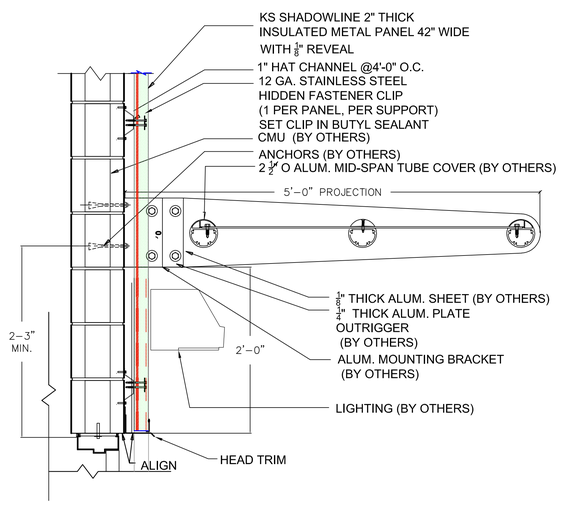
2 WALL SECTION
1" =1'-- 0" 1/302



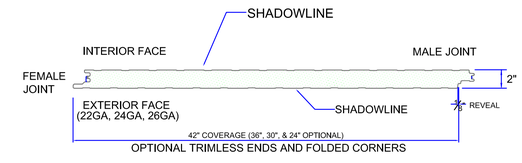
3 WALL SECTION
1" =1'-- 0" 1/302



5 DETAIKL AT EXPANSION JOINT



4 SECTION AT ENTRANCE CANOPY
3/503



KS SHADOWLINE 2" THICK
INSULATED METAL PANEL
42" WIDE
1/8" REVEAL

FIRST DRAFT
SERVICES LLC.
249 WOOD FORGE CIRCLE
LEBANON, OHIO 45036
(513) 315-0939 (513) 932-0939 Fax
menottingham@firstdraftservices.com

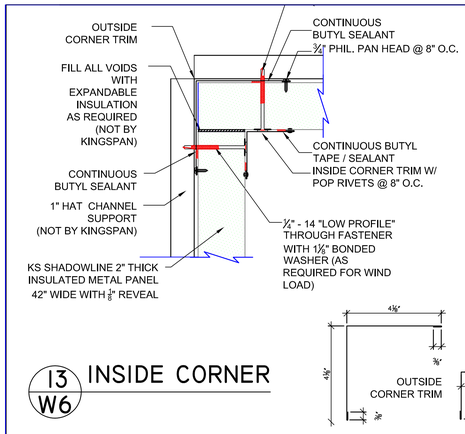
CH2M HIL-HDR JV MANSFIELD LAHM ANG BASE
MANSFIELD, OHIO

ALLOYD SHEET METAL
5734 WEBSTER STREET DAYTON, OHIO 45413

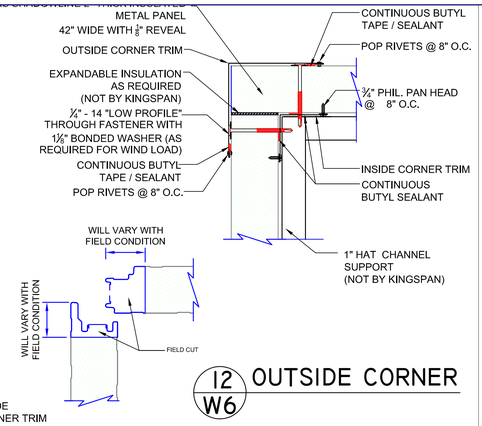
Drawing No: 2106
Job Number:
Date:
Drawn By: MEN
Checked By:
Scale:
X-Ref:

Revision	Date
FOR APPROVAL	4/23/21

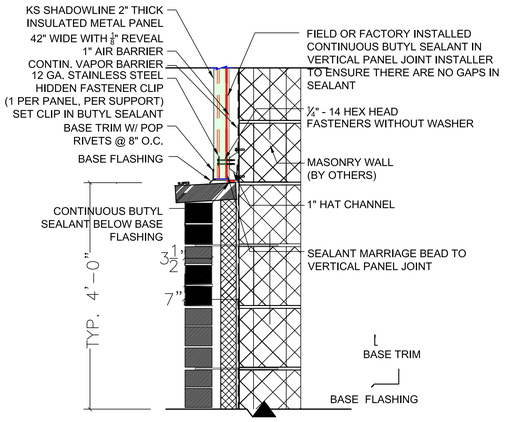
Sheet
W-5



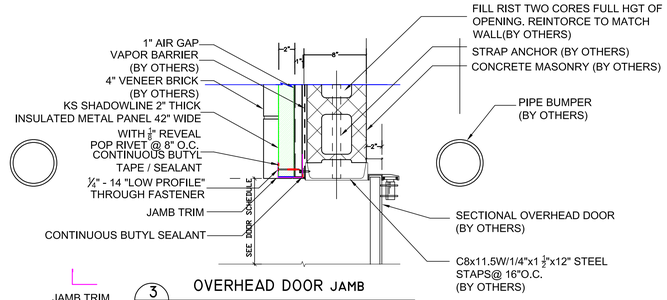
13 W6 INSIDE CORNER



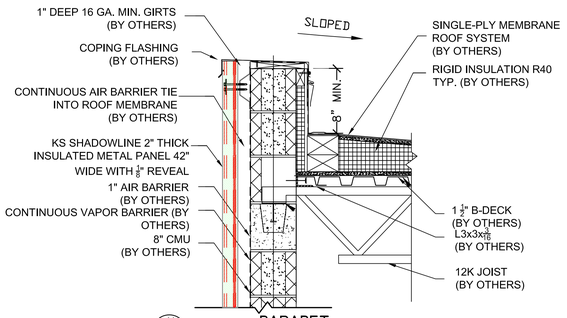
12 W6 OUTSIDE CORNER



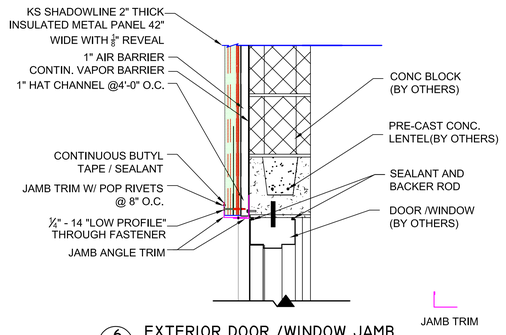
7 W6 VENEER BRICK WAINSCOT
SCALE 1"=1'-0" 8/501



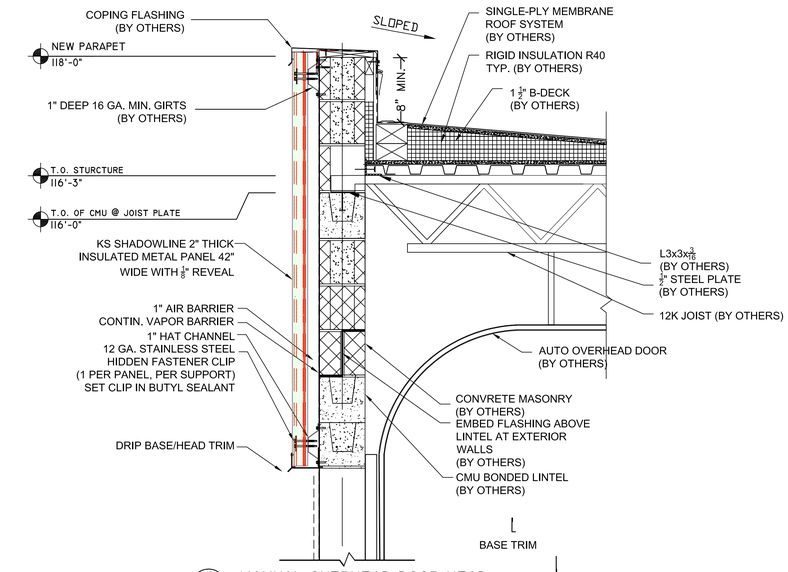
3 W6 OVERHEAD DOOR JAMB
SCALE 1"=1'-0" 8/502



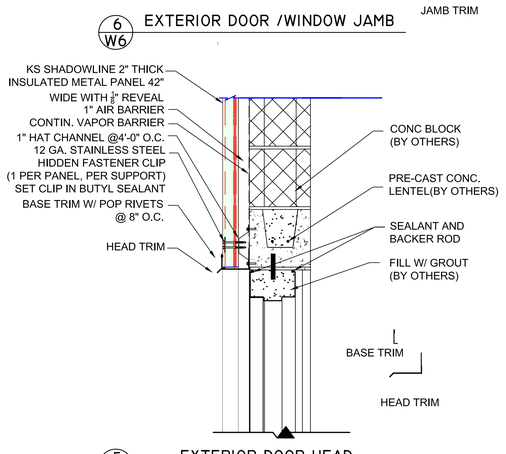
11 W6 PARAPET
SCALE 1"=1'-0" 10/501



6 W6 EXTERIOR DOOR /WINDOW JAMB



2 6 MANUAL OVERHEAD DOOR HEAD
SCALE 1"=1'-0" 9/501
HEAD TRIM



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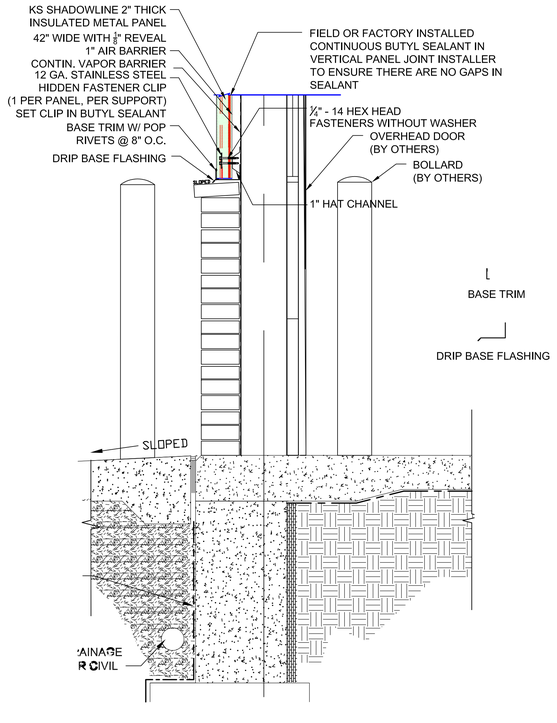
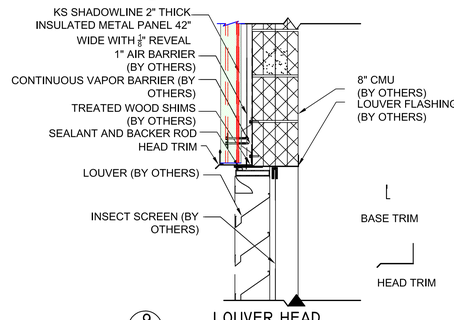
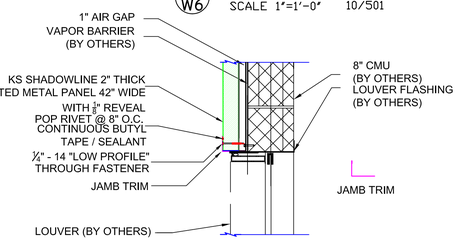
SCALE 1"=1'-0" 12/501



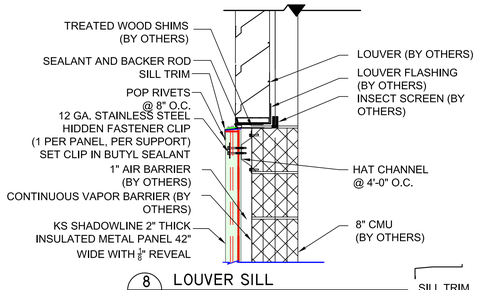
1 W6 MANUAL OH DOOR THRESHEHOLD
SCALE 1"=1'-0" 4/501



9 6 LOUVER HEAD
SCALE 1"=1'-0" 11/501



10 W6 LOUVER JAMB



8 W6 LOUVER SILL
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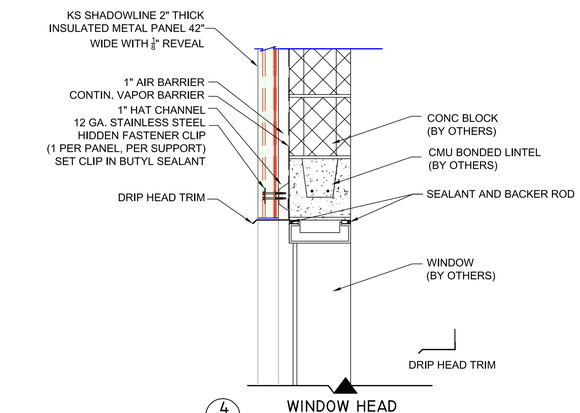

4 6 WINDOW HEAD
SCALE 1"=1'-0" 13/501

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CH2M HILL-HDR JV MANSFIELD LAHM ANG BASE
MANSFIELD, OHIO

ALLOYD SHEET METAL
5734 WEBSTER STREET DAYTON, OHIO 45413

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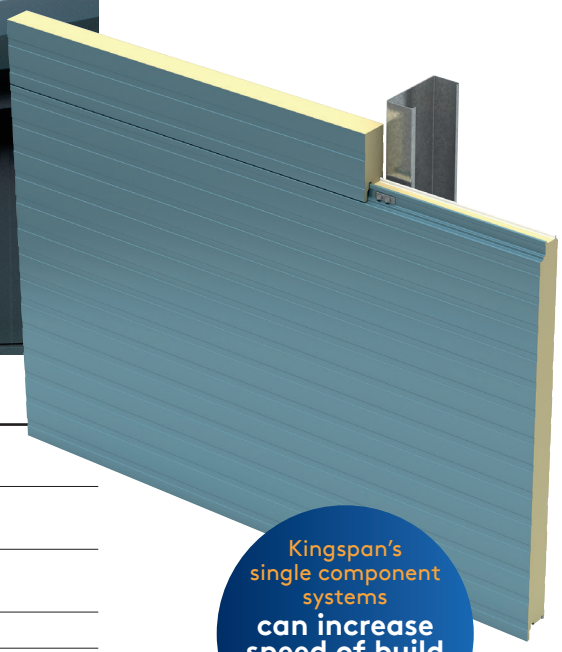
FOR APPROVAL	4/23/21

Sheet
W-6

Line 315
Section 074213
Product Data

KS Shadowline Data Sheet

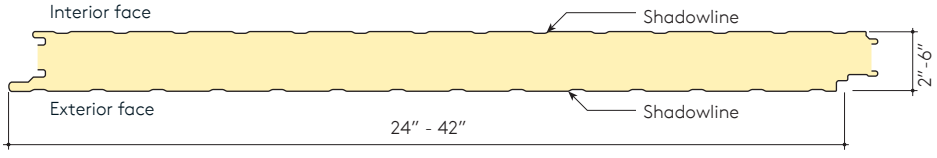
Insulated Wall Panel System



Kingspan's single component systems **can increase speed of build by up to 50%**

Product Specification

Profile:	Exterior: Shadowline Interior: Shadowline
Embossing:	Exterior: Stucco or non-embossed Interior: Stucco or non-embossed
Gauge:	Exterior: 26, 24, 22 ga Interior: 26, 24, 22 ga
Width:	24", 30", 36", 42"
Thickness:	2", 2.5", 3", 4", 5", 6"
Length:	8' - 53'
Reveal option:	Vertical: 1/8" Horizontal: 1/8" or 3/8"
Orientation:	Vertical or horizontal
Post fabrication:	Trimless ends, folded corners (Manufacturing limitations apply. Please contact us for detailed information)
R-value:	≈ 7.2 per inch per ASTM C518 @ 75°F ≈ 8.25 per inch per ASTM C518 @ 35°F



Applications

Shadowline high performance wall systems deliver an attractive and affordable panel choice. Shadowline panels, horizontally or vertically applied, use a patented double seal integrated joint. Standard reveals are 1/8" for vertical applications, and 3/8" for horizontal applications.

Shadowline panels are suitable for new and retrofit applications across the cold storage, commercial and industrial market sectors.

Design Features

The foamed-in-place manufacturing process produces superior panels of consistent high quality that arrive to site ready for quick and easy installation, saving up to 50% in on-site construction time.

Panels are available with optional factory-caulked side joints to save erection labor (not available for cold storage applications).

Customer Options

Kingspan offers a full spectrum of vibrant colors for every color scheme. The high performance coatings provide long-life protection, color and gloss retention. Custom color matching is available to meet individual building designs and creative freedom.

KS Shadowline Data Sheet

Insulated Wall Panel System

Performance Testing and Approvals

Kingspan insulated panels meet specific building envelope performance criteria and requirements stipulated by US and Canadian building codes. Panels are tested in accordance with UL, ULC, FM and ASTM approval standards, testing methods and procedures. Kingspan insulated panels are listed by FM Global and Warnock Hersey.

Test	Procedure	Results
Fire	FM-4880	Passed: Class 1 Fire Rating of Insulated Wall or Wall and Roof / Ceiling Panels, Interior Finish Materials or Coatings, and Exterior Wall Systems
	ASTM E84	Flame Spread: 25 or Less / Smoke Developed: 450 or Less
	CAN/ULC-S101	Fire Endurance Tests: 10 min and 15 min stayed in place
	CAN/ULC-S102	Flame Spread: 5 / Smoke developed: 135 for panel with facings
	CAN/ULC-S127	Flame Spread: <500 for foam core
	CAN/ULC S138	Passed: Fire growth of foamed plastic insulated building panels in a full scale room configuration
	CAN/ULC-S134	Passed: Standard method of test for fire of exterior wall assemblies
	NFPA 259	Tested for potential heat of building materials
	NFPA 268	Passed: Standard test method for determining ignitability of exterior wall assemblies using a radiant heat energy source
	NFPA 285	Passed: Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components
Structural	FM-4881	Passed: Class +110/-154 Zone H Class +100/-140 Zone HM – LM
	ASTM E72	Vacuum chamber tested. Panel load / span and deflection tables are available
Thermal Transmission	ASTM C518	

Thermal Performance at 75°			Thermal Performance at 35°		
Thickness	U-Factor	R-Value	Thickness	U-Factor	R-Value
2	0.07	14.4	2	0.06	16
2.5	0.06	18.0	2.5	0.05	20
3	0.05	21.6	3	0.04	24
4	0.03	28.8	4	0.03	32
5	0.03	36.0	5	0.03	40
6	0.02	43.2	6	0.02	48

Air Infiltration	ASTM E283	0.003 CFM/ft^2 of Panel Area at 6.24 psf
Water	ASTM E331	No uncontrolled water penetration at 20 psf differential pressure
	AAMA 501.1	Dynamic water pressure testing – no sign of water leakage at 15 psf
Fatigue	Cyclic test to positive and negative wind loading to ± L/180 deflection	The panels exceeded 2 million alternate cycles without failure or damage
Bond Strength	ASTM D1623	Panels tested for tensile bond strength of metal to foam
		Sample placed in an autoclave device and pressurized to 2 PSI at 212°F for 2½ hours
Skin Delamination		No skin delamination with direct pull off pressure up to 1188 psf

Kingspan North America
DeLand, FL: 386-626-6789
Modesto, CA: 209-531-9091
www.kingspanpanels.us

Caledon, ON: 905-951-5600
Langley, BC: 604-607-1101
www.kingspanpanels.ca

For the product offering in other markets please contact your local sales representative or visit www.kingspanpanels.com

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Line 316
Section 074213
Facyory Color Finish 2.2.1

Line 332 and 333
Section 074213
Coatings and caulking 2.2.1.2

FLUROPON® 70% PVDF COATINGS FROM SHERWIN-WILLIAMS

Sherwin-Williams® is chosen more often than any other brands of PVDF-based coatings. For PVDF exterior metal coatings systems, none is more trusted than our premium Fluropon coatings, which are fluoropolymer, containing 70% polyvinylidene difluoride (PVDF) resins. Field- and time- proven, they meet or exceed the most rigorous ASTM performance standards.

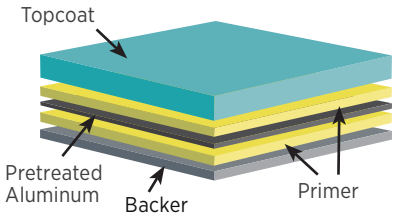
KEEP YOUR PROJECT LOOKING BEAUTIFUL

The long-lasting beauty of your project goes hand in hand with its durability.

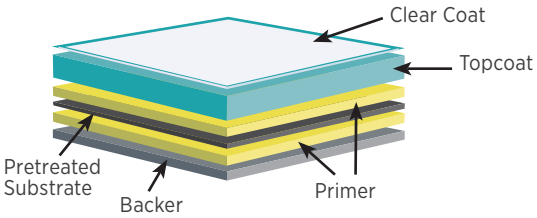
- **Fluropon**
  Our flagship coating. Its excellent performance is a direct result of Sherwin-Williams' innovative technology—a two-coat fluoropolymer formulation that continually exceeds performance needs while maintaining its color and durability long into the future.
- **Fluropon Classic II**
  When a sparkle appearance is desired, this two-coat fluoropolymer system utilizes mica-based pigmentation to deliver a subtle or bold metallic appearance without the need for a clear coat.
- **Fluropon Classic**
  Take vibrancy to a new performance level with a special metallic effect color coat and a clear coat for added shine and protection, making this three-coat system gleam.
- **Fluropon Low-Gloss**
  A low gloss finish is a unique exterior finish that gives your building a distinctively matte appearance.
- **Fluropon Low-Sheen**
  A low sheen coating gives you a flat or "satin" finish. This two-coat system will make your project stand out.
- **Fluropon Premiere**
  Need to make a statement with bold and bright colors? This three-coat system is designed to bring out depth and beauty of bright pigments with a clear coat for added protection.
- **Fluropon Solar-Reflective (SR)**
  Fluropon SR contains solar-reflective pigments, offering durability that resists heat absorption and aids in structure cooling. We have thousands of SR's energy efficiency coatings that meet ENERGY STAR®, LEED® and CRRC performance requirements.
- **Fluropon Effects**
  Fluropon Effects transform the concept of color with innovative new palettes that have never before been achieved in 70% PVDF coating systems. These two- to three-coat systems create unique, mesmerizing effects. Kameleon creates an eye-catching color shift; Nova offers an intense sparkle; and Rustica features a nature-inspired color palette.

SHERWIN-WILLIAMS.
Coil Coatings

FLUROPON®
TWO-COAT SYSTEM
Fluropon, Classic II, Low Gloss, Low Sheen and Solar Reflective (SR)



FLUROPON®
THREE-COAT SYSTEM
Classic and Premiere



COMMITMENT TO QUALITY

Our coatings are trusted and field-proven through rigorous testing, providing key benefits to our customers.

COATING SYSTEM	Key Characteristics	Number of Coats	Dry Film Thickness (DFT)				Total Topside DFT:	Backer	Specular Gloss 60°
			Primer	Top Coat	Clear Coat	Fluropon® Effects Coat			+/-5 units of manufacturer's specification
FLUROPON®	Solid Colors	2-Coat	0.2–0.3 mils	0.7-0.8 mils	—		0.9-1.1 mils	0.3-0.4 mils	20-35
FLUROPON® CLASSIC II	Metallic Utilizing Mica-Based Pigmentation	2-Coat	0.2–0.3 mils	0.7-0.8 mils	—		0.9-1.1 mils	0.3-0.4 mils	15-30
FLUROPON CLASSIC	Metallic Utilizing Aluminum-Based Pigmentation	3-Coat	0.2–0.3 mils	0.7-0.8 mils	0.4-0.5 mils		1.3-1.7 mils	0.3-0.4 mils	25-40
FLUROPON PREMIERE	Bright, Vibrant Colors	3-Coat	0.2–0.3 mils	0.7-0.8 mils	0.4-0.5 mils		1.3-1.6 mils	0.3-0.4 mils	25-40
LOW-GLOSS	Matte Finish	2-Coat	0.2–0.3 mils	0.7-0.8 mils	—		0.9-1.1 mils	0.3-0.4 mils	8-15
LOW-SHEEN	Flat or "Satin" Finish	2-Coat	0.2–0.3 mils	0.7-0.8 mils	—		0.9-1.1 mils	0.3-0.4 mils	10º maximum
SOLAR REFLECTIVE (SR)	Solar-reflective pigments	2-Coat	0.2–0.3 mils	0.7-0.8 mils	—		0.9-1.1 mils	0.3-0.4 mils	20-35
FLUROPON® EFFECTS RUSTICA	Saturated Metallic Color Collection	2-Coat 3-Coat	0.2-0.3 mils			0.7-0.8 mils	0.9-1.1 mils	0.3-0.4 mils	15-30
FLUROPON® EFFECTS NOVA	High-Intensity Sparkle	3-Coat	0.2-0.3 mils	0.7-0.8 mils		0.8-0.9 mils	1.7-2.1 mils	0.3-0.4 mils	40-60
FLUROPON® EFFECTS KAMELEON	Color-Shifting	3-Coat	0.2-0.3 mils	0.5-0.6 mils		0.8-0.9 mils	1.5-1.9 mils	0.3-0.4 mils	30-60

SHERWIN-WILLIAMS. Coil Coatings

Fluropon® is a registered trademark of The Sherwin-Williams Corporation. For details and health, safety and handling information, Material Safety Data Sheets (MSDS) are available at coil.sherwin.com.

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BENEFITS

- Superior resistance to ultraviolet rays
- Outstanding color retention and consistency
- Excellent overall adhesion
- Great flexibility and formability
- High film integrity

COLORS

Our Fluropon systems are available in a wide range of colors, sheens, gloss levels and special effects to achieve nearly any look you can dream up.

SUBSTRATES

Fluropon coatings may be applied to a number of pretreated substrates including: Galvalume®, Hot-Dipped Galvanized (HDG) steel and aluminum.

END USES

All Fluropon coatings are ideal for external use on monumental, commercial, residential structures and pre-engineered buildings, including:

- Architectural and residential metal roofing systems
- Composite and insulated metal wall panel systems

FLUROPON PERFORMANCE TESTING

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Industry Specifications Compliance	**AAMA[1] 2605-17A Requirements**	Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels
Substrates	Pretreated substrates: Galvalume®, Hot-Dipped Galvanized (HDG) steel and Aluminum.	

PHYSICAL TESTING	ASTM[2] TEST METHOD	AAMA 2605-17A REQUIRED TEST RESULT
Falling Sand Abrasion	ASTM D 968	65 ± 10 liters
Film Adhesion	ASTM D 3359	No removal of film under tape in the cross-hatched area (Dry, Wet, Boiling Water)
Surface Burning Characteristics	ASTM E 84	Flame Spread Index: Class A. Smoke Developed Index: Class A
Graffiti Resistance	ASTM D 6578/D 6578M	Meets and exceeds
Humidity Resistance	ASTM D 2247: 100% RH at 100° F for 1,000 hours 100% RH at 100° F for 2,000 hours 100% RH at 100° F for 3,000 hours	**Kamelelon:** Galvalume or HDG: Rating 8, no more than a few field blisters. **Rustica:** No field blisters. Galvalume or HDG: No field blisters Aluminum: No field blisters
Impact Resistance (Direct)	ASTM D 2794	Galvalume or HDG: 3x metal thickness inch-pounds, no loss of adhesion Aluminum: 1.5x metal thickness inch-pounds, no loss of adhesion.
Pencil Hardness	ASTM D 3363	**Fluropon®, Classic II, Low Gloss, Low Sheen, SR, Rustica:** HB to 2H **Premiere, Classic , Nova, Kameleon:** HB to H
Salt Spray	ASTM B 117: 1,000 Hours 3,000 Hours	**Fluropon, Classic II, Premiere, Low Gloss, Low Sheen, SR, Rustica, Nova, Kameleon:** Galvalume or HDG: Creep from scribe ≤ 1/16″ (2mm), no field blisters. **Classic:** Galvalume or HDG: Creep from scribe ≤ 1/32″ (1mm), no blisters. **Fluropon, Classic II, Low Gloss, Low Sheen, SR, Rustica, Nova, Kameleon:** Aluminum: Creep from scribe ≤ 1/16″ (2mm), no field blisters. **Premiere, Classic:** Aluminum: Creep from scribe ≤ 1/32″ (1mm), no blisters.
T-Bends	ASTM D 4145[3]	T-3T, no loss of adhesion

SOUTH FLORIDA EXPOSURE TESTING	ASTM TEST METHOD	AAMA 2605-17A REQUIRED TEST RESULT
Atmosperic Environmental Exposure Testing of Non-Metallic Materials	ASTM G7	45 degree southern exposure for panel racking
Color	ASTM D 2244	No more than 5Δ Hunter units at 20 years.
Chalk	ASTM D 4214	Rating no less than 8 at 20 years. **Kameleon:** Rating no less than 8 at 10 years.
Film Integrity	ASTM G7	25 years
Erosion Resistance	ASTM D 662	10% - 15%.

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[1]American Architectural Manufacturers Association. [2]American Society for Testing and Materials. [3]Fluropon is not designed to bridge cracks in the substrate. Fluropon coatings will generally meet the requirements for most post-painted fabrication processes. However, variations in metal quality, thickness or cleaning/pretreatment applications can lead to diminished flexibility.

coil.sherwin.com or call (866) 351-6900

DO YOU HAVE A UNIQUE APPLICATION?

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WE'RE HERE TO HELP

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SW-CC-2,001-9-2018

Mansfield ANG Building 403 - Mansfield, OH - KS Series

Technical Data

Kingspan®
Insulated Panels

Non-Skinning Butyl Sealant

1. PRODUCT DESCRIPTION

Kingspan NS Butyl Sealant is a high solids, non-drying, self-healing synthetic rubber based sealant for use in reducing sound and vapor transmission, standing roof seams, wall panels, insulated metal panel and metal building construction. Provides excellent adhesion to ZINCALUME®, KYNAR500®, stainless steel, polyvinylidene fluoride, Galvalume®, Galvalume® Plus, aluminum, concrete, gypsum, wood surfaces, foam boards, plastic and fiberglass. Kingspan NS Butyl Sealant is a VOC compliant, non-drying, non-bleeding formula which remains flexible to form a long lasting resilient seal. This non-webbing formulation exhibits excellent tackiness for permanent bonding. NS Butyl Sealant contains an anti-microbial agent which inhibits the growth of mildew and bacteria. FDA regulated for food contact. USDA and CFIA accepted.

Conforms to the following specifications:

- ASTM E2140-01 Standard Test Method for Water Penetration of Metal Roof Panels by Static Water Pressure Head
- ASTM E1646-95 (2003) Standard Test Method for Water Penetration of Exterior Metal Roof Panel Systems by Uniform Static Air Pressure Difference
- ASTM E1680-95 (2003) Standard Test Method for Rate of Air Leakage Through Exterior Metal Roof Panel Systems
- AAMA 800 flexibility cold testing of -100ºF
- AAMA 809 Specifications for Non-Drying Sealants
- Federal Specification TT-C-1796A for Caulking Compounds, Metal Seam, and Wood Seam (Type I)

2. RECCOMENDATIONS FOR USE

Surface Preparation:

For reliable, repeatable and durable results, adhesives and sealants must be applied to clean, dry, sound and frost free surfaces. For high strength bonds, surface contaminants such as paints, oils, oxide films, mold release agents, dirt, and the like, must be completely removed. Remove old sealants or adhesives.

Installation:

Kingspan NS Butyl Sealant can be applied from 10-oz (300ml) cartridges or 20-oz (600ml) sausages using standard caulking guns or pneumatic dispensers (air guns). 5-gallon pails or 50-gallon drums are available for bulk applications. Some applications may not be compatible with this product. Testing suitability for intended application before proceeding with full application is recommended.

Clean-up:
Mineral spirits may be used.

3. TECHNICAL DATA:

Typical Properties	
Color:	White
Extrudability (ASTM D 2452):	40-60 sec. per 20 grams through a 0.104" orifice at 50 psi
Total Solids (ASTM C 681):	93.5 - 96.5%
VOC Content (via EPA Method 24)	3.47%
Volume Shrinkage (ASTM D 2453):	Less than 10%
Weight per U.S. Gallon (ASTM D 1475):	12.90 – 13.14 lbs.
Coverage Range:	1500 lineal feet per gallon at 1/8" bead 695 lineal feet per gallon at 3/16" bead 392 lineal feet per gallon at ¼" bead
Drying Time:	Non-skinning, remains permanently soft and tacky
Engageability:	Sealant will engage easily to make a joint at 10ºF
Vehicle Bleedout (ASTM C772):	No visible exudation of vehicle from sealant after three weeks at 158ºF (70ºC) on painted or unpainted metal surfaces
Flexibility (ASTM C 711):	No loss of adhesion to -100ºF
Service Temperature Range:	-100ºF to 200ºF (-70ºC to 90ºC)
Application Temperature Range:	10ºF to 120ºF (-10ºC to 50ºC)
Sag (ASTM D2202):	Nil
Non-Corrosive:	No darkening, etching or salt deposits on GALVALUME®, GALVALUME PLUS®, ACRYLUME®, ZINCALUME®, KYNAR 500®, aluminum, aluminized steel, or galvanized metal
Staining (ASTM D 925 Method A):	Sealant will not stain a painted surface
Adhesion (ASTM C 794):	Excellent adhesion to oily GALVALUME®, GALVALUME PLUS®, ACRYLUME®, ZINCALUME®, KYNAR 500®, aluminum, aluminized steel, or galvanized metal
Resistance to fungus/mildew growth:	Will resist fungal attack and not support mildew growth
Heat aging:	No loss of surface tack or adhesion
Weatherability (ASTM G 154):	No cracking bleeding or loss of rubbery characteristics
Chemical Resistance:	Excellent to water, ozone, water vapor, alcohols; fair to weak for acids and bases. Poor to organic solvents.
Static Water Pressure Head Test (ASTM E-2140-01):	Sealant passes 6 inches of static water pressure head, no leakage.
Rate of Air Leakage Through Exterior Metal Roof Panel Systems (ASTM E 1680)	Sealant passes. Air infiltration @ 1.57 psf → 0.0016 cfm/ft^2 and 0.0032 cfm/lin.ft. Air infiltration @ 6.24 psf → 0.0037 cfm/ft^2 and 0.0073 cfm/lin.ft
Water Penetration of Exterior Metal Roof Panel Systems by Uniform Static Air Pressure Difference (ASTM E 1646):	Sealant passed. No water leakage.
Wet Flammability (ASTM D 56):	158 ºF flash point
Toxicity:	Contains no carcinogenic ingredients. Dispose in accordance with local regulations. Meets FDA, USDA and CFIA.

4. STORAGE LIFE

For maximum shelf-life, store unopened product between 32ºF and 90ºF. Shelf life is 18 months minimum in unopened containers.

5. PRECAUTIONARY INFORMATION

CAUTION: COMBUSTIBLE LIQUID & VAPOR. Contains mineral spirits. Keep away from heat and flame. Avoid skin contact. Wash thoroughly after handling. Avoid breathing vapor. Use with adequate ventilation. Do not take internally. See MSDS for additional information. Keep out of reach of children.

6. LIMITED WARRANTY

Any goods prove defective will be replaced or the purchase price refunded. The limited warranty described herein is in lieu of any other warranty, expressed or implied, including any implied warranty of merchantability or fitness for a particular use. The user shall determine suitability of the product for its intended use. Liability for any incidental or consequential damage or loss is excluded. The user assumes all risks of the product's use, handling and storage.

Section 319
Section 074213
Sealants and Caulking 2.5.4.1
Used where caulking is exposed

NOVAFLEX SILICONE

Metal Roof Adhesive Sealant

- Neutral cure silicone
- Excellent adhesion
- Permanently flexible
- Extrudes to -20°F
- Adheres to:
  - Metals
  - Wood
  - Masonry
  - PVC/PVDF
  - Common Construction Materials
- Also used as
  - Gutter Sealant
  - Chimney Flashing
  - Snow Guard
  - Pipe Boots

MR150 TRANSLUCENT	MR101 BLUE WHITE	MR100 WHITE	MR105 ANTIQUE WHITE	MR3401 EGGSHELL
MR146 STONE	MR3461 ALMOND	MR191 SANDSTONE	MR3482 SAND	MR3404 WHEAT
MR3333 SIERRA TAN	MR3201 COPPERTONE	MR157 COPPER	MR184 TERRACOTTA	MR182 RED
MR180 BRANDYWINE	MR196 REGAL RED	MR171 REGAL BLUE	MR3801 PACIFIC BLUE	MR3510 WEATHERED ZINC
MR197 PATINA GREEN	MR3702 HEMLOCK GREEN	MR169 GREEN	MR168 HARTFORD GREEN	MR115 LIGHT GRAY
MR3514 GUTTER GRAY	MR4103 SILVER METALLIC	MR156 SILVER	MR118 SLATE GRAY	MR3421 CHAMPAGNE METALLIC
MR155 CHAMPAGNE	MR117 GUNMETAL GRAY	MR134 MEDIUM BRONZE	MR137 BROWN	MR131 CHOCOLATE BROWN
MR120 DARK BRONZE	MR121 LINCOLN BRONZE	MR126 CHARCOAL GRAY	MR194 EXTERIOR BRONZE	MR110 BLACK

Made in USA. Professional Grade.

Visit novagard.com/color-match-product/metal-roof/ for our metal roof manufacturer color cross reference tool.

NOVAFLEX SILICONE
Metal Roof Adhesive Sealant

Product Specifications

Physical Property	Test Method	Performance Range Type I - Class 35	Performance Range Type II - Class 50
Appearance		Paste (Various Colors)	Paste (Various Colors)
Viscosity	Brookfield #7 @ 10 rpm	3,500-7,000 poises	4,500-8,000 poises
Extrusion Rate	1/8" Orifice @ 50 psi	30 - 80 grams/minute	30 - 80 grams/minute
Skin Over Time	3/8" @ 50% RH & 77°F	5 - 10 minutes	5 - 10 minutes
Through Cure	3/8" @ 50% RH & 77°F	48 hours (14 days for OEM window applications)	48 hours (14 days for OEM window applications)

Typical Properties*

Physical Property	Test Method	Typical Value Type I - Class 35	Typical Value Type II - Class 50
Specific Gravity		1.00 - 1.05	1.15 - 1.25
Tensile Strength	ASTM D412	140 - 200 psi	170 - 220 psi
Elongation	ASTM D412	500 - 650%	800 - 1000%
Tear Resistance	ASTM D624	30 - 35 pli	30 - 35 pli
Shore Hardness	ASTM D2240	20 +/- 5	25 +/- 5
Service Temperature		-40°F to 400°F (-40°C to 204°C)	-40°F to 400°F (-40°C to 204°C)
Joint Sealant Designation	ASTM C920	Type S Grade NS Class 35 Use NT, M, G, A, O	Type S Grade NS Class 50 Use NT, M, G, A, O
Adhesion Glass Aluminum Vinyl	ASTM D903	 12 - 15 pli 10 - 14 pli 12 - 15 pli	 12 - 15 pli 10 - 14 pli 12 - 15 pli

*The values outlined reflect testing that was conducted under laboratory conditions, actual results may vary. The information provided in the above table is not intended for use in preparing specifications. Please consult manufacturer for additional information.

Permanently Flexible
- Will not shrink or crack
- Waterproof
- Mold/Mildew resistant
- Superior UV resistance

Interior and Exterior Applications
- Excellent adhesion to most building substrates
- Completely cured within 48 hours
- Will not sag or slump
- Tack-free in 10 minutes

Easily Gunned at all Temperatures
- Weatherproof plastic cartridges with removable tips
- Excellent tooling properties

VOC Compliant in all 50 States (Green Building Compliant)
- Low odor
- Solvent free

AAMA Verified for Window Installs
- Will not freeze
- Available in all major siding, trim coil, window, and metal roof manufacturer colors
- 18 month shelf life

Professional Grade

NOVAGARD
SILICONE | HYBRIDS | FOAM
5109 Hamilton Avenue, Cleveland, OH 44114 USA
(216) 881-8111 | (800) 380-0138 | (216) 881-6977 F
novagard.com

ISO 9001:2015 QMS (with Design) , IATF 16949:2016 QMS (with Design)
Certified Women's Business Enterprise
Certified Woman Owned Small Business

VOC COMPLIANT ENVIRONMENTALLY RESPONSIBLE
CALIFORNIA PROPOSITION 65 COMPLIANT
REACH COMPLIANCE
AAMA VERIFIED

NovaFlex is proudly made in Cleveland, OH

Effective Date: Aug 2020-v2.6