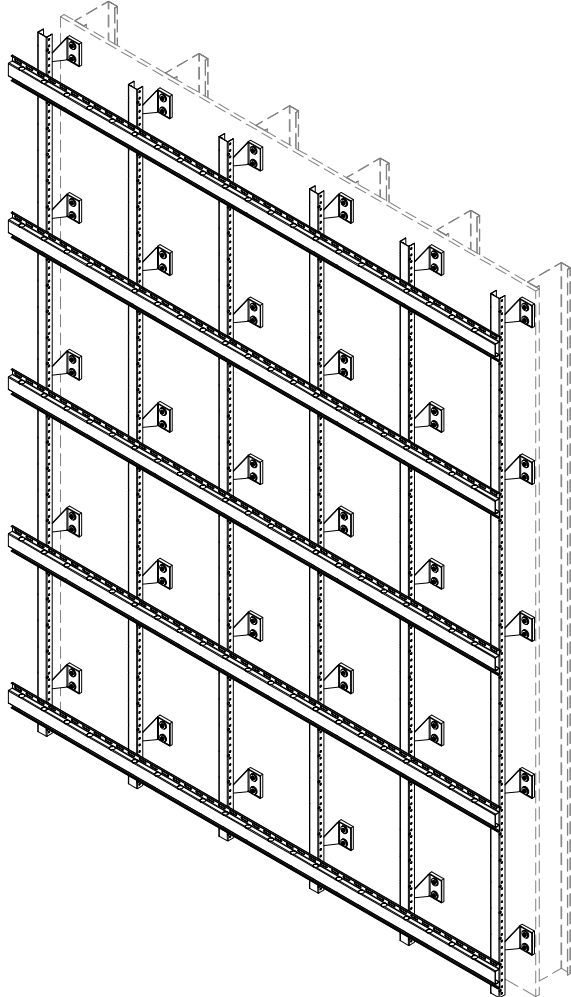


KNIGHT WALL SYSTEMS GUIDE DETAILS:

MFI® System - S-Series (VERTICAL)

RAINSCREEN ATTACHMENT for CLADDING PANELS

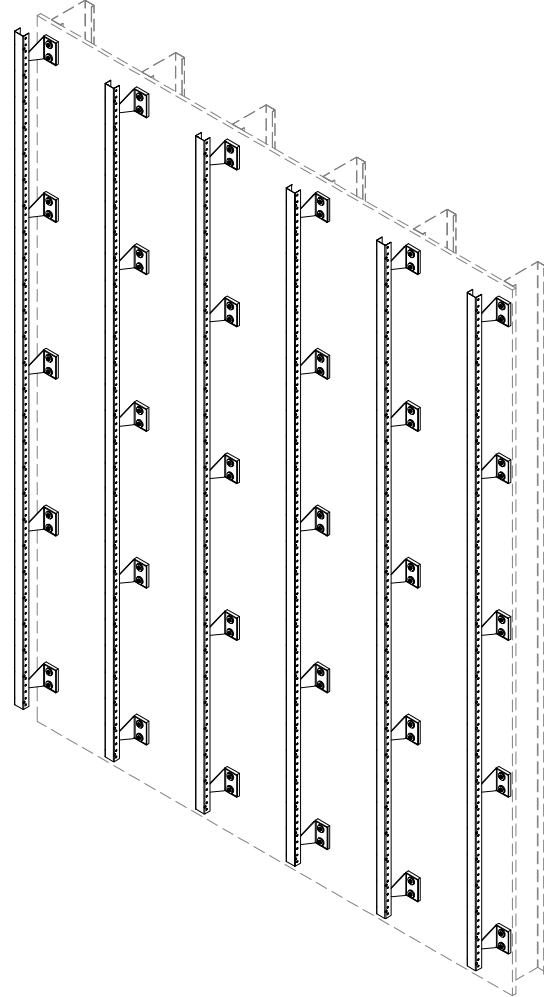


VERTICAL ORIENTED SYSTEM WITH OPTIONAL

HORIZONTAL PanelRails™
(EXTERIOR INSULATION OMITTED FOR CLARITY)

MINIMUM DEPTH: 3.5 INCHES
MAXIMUM DEPTH: 7.5 INCHES
(FACE OF SHEATHING TO FACE OF RAIL)

QUICK LINK: [SECTION VIEW](#) [PLAN VIEW](#)



VERTICAL ORIENTED SYSTEM (EXTERIOR INSULATION OMITTED FOR CLARITY)

MINIMUM DEPTH: 2.75 INCHES
MAXIMUM DEPTH: 6.75 INCHES
(FACE OF SHEATHING TO FACE OF RAIL)

QUICK LINK: [SECTION VIEW](#) [PLAN VIEW](#)

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**KNIGHT MFI® System S-SERIES
(VERTICAL ORIENTATION)
RAINSCREEN ATTACHMENT**

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GENERAL NOTES:

- KNIGHT WALL SYSTEMS (KWS) IS NOT RESPONSIBLE FOR INFORMATION SHOWN ON ALL DETAILS BEYOND KWS SPECIFIC SCOPE OF WORK QUOTED AND AS INDICATED ON CONTRACT DOCUMENTS.
- SYSTEM MAY BE INSTALLED OVER STEEL STUDS, WOOD STUDS, CMU OR CONCRETE SUBSTRATES (WITH USE OF APPROPRIATE WALL ANCHORS).
- PROJECT SPECIFIC ENGINEERING CAN BE PROVIDED BY KWS AND IS REQUIRED FOR A 10 YEAR LIMITED WRITTEN WARRANTY.
- KWS PROJECT SPECIFIC ENGINEERING, IF SUPPLIED, IS LIMITED TO THE LOAD CARRYING COMPONENTS OF THE PRODUCTS AND FASTENERS SUPPLIED BY KWS. THE BACK-UP WALL, WALL CLADDING PANELS AND/OR RAILS SUPPLIED BY OTHERS ARE WITH OTHER PARTIES.
- PLEASE READ OUR INSTALLATION AND DESIGN RECOMMENDATIONS DOCUMENT FOR FURTHER INFORMATION THAT IS IMPORTANT FOR YOUR SPECIFIC PROJECT AND PROPER INSTALLATION.
- DETAILS OF ADJACENT WORK ARE SHOWN FOR COMPLETENESS, CLARITY AND CONVENIENCE AS AN EXAMPLE OF A BUILT ENVIRONMENT ONLY.
- THE STRUCTURAL SUPPORT, BACK-UP WALL AND SUPER STRUCTURE DESIGN IS WITH OTHER PARTIES (SUCH AS, BUT NOT LIMITED TO, STEEL STUD WALL, etc.). THE RESPONSIBILITY FOR THESE OTHER ASSEMBLIES TO ACCOMMODATE ALL LOADS IMPOSED UPON THEM BY KWS PRODUCTS, OR ANY ATTACHMENT OR PANEL SYSTEM, SHOULD BE CONSIDERED.
- SOFT JOINTS, SEALANT AND FLASHING SPECIFICATIONS, DESIGN AND INSTALLATION ARE WITH OTHER PARTIES.
- WEATHER RESISTANT/AIR BARRIER AND INSULATION SPECIFICATIONS, DETAILING AND INSTALLATION, INCLUDING PENETRATIONS, ARE WITH OTHER PARTIES.
- INTERACTION BETWEEN DISSIMILAR MATERIALS, SUCH AS ALUMINUM AND STEEL, MUST BE SEPARATED VIA PLASTIC SHIMS, TAPE OR COATING TO PREVENT GALVANIC REACTION.
- USE SHEARING INSTRUMENTS FOR CUTTING METAL FRAMING COMPONENTS. SAWS ARE NOT RECOMMENDED, AS THE SPARKS PRODUCED DURING CUTTING WILL DAMAGE THE ANTI-CORROSION COATING. IF SPARKS ARE GENERATED DURING CUTTING, BE SURE THE PORTION OF THE COMPONENT TO BE INSTALLED ON THE BUILDING IS PROTECTED FROM SPARKS. THE SYSTEMS COMPONENTS MUST NOT BE CUT WHILE INSTALLED ON THE BUILDING UNLESS USING A SHEARING INSTRUMENT (I.E. SNIPS, etc.).
- USE OF IMPACT DRIVERS IS NOT RECOMMENDED WHEN DRIVING ANY FASTENER FOR THE SYSTEM.
- EXTERIOR INSULATION IS RECOMMENDED TO BE MINERAL FIBER INSULATION (MFI) FOR USE WITH THE MFI SYSTEM. RIGID FOAM INSULATION MAY BE USED, BUT IS NOT RECOMMENDED DUE TO BRACKET BASE DESIGN AND EXCESS LABOR FOR TRIMMING OR CUTTING OF RIGID FOAM. MINERAL FIBER INSULATION DOES NOT TYPICALLY REQUIRE ANY CUTTING AROUND THE BRACKET BASE FOR PROPER INSTALLATION.
- MFI, RevealRail, PanelRail and ThermaStop are trademarks of Knight Wall Systems, inc.
- THE DETAILS WITHIN THIS DRAWING PACKAGE ARE NOT INTENDED TO REPLACE PROJECT SPECIFIC ENGINEERING CALCULATIONS OR THE DESIGN SERVICES OF A REGISTERED PROFESSIONAL DESIGNER AND ARE SUBJECT TO CHANGE AT ANY TIME.

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KNIGHT MFI® System S-SERIES
(VERTICAL ORIENTATION)
RAINSCREEN ATTACHMENT

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PLEASE FEEL FREE TO CONTACT KWS OR A LOCAL KWS REPRESENTATIVE FOR PROJECT SPECIFIC ASSISTANCE WITH DETAILS AND SPECIFYING.

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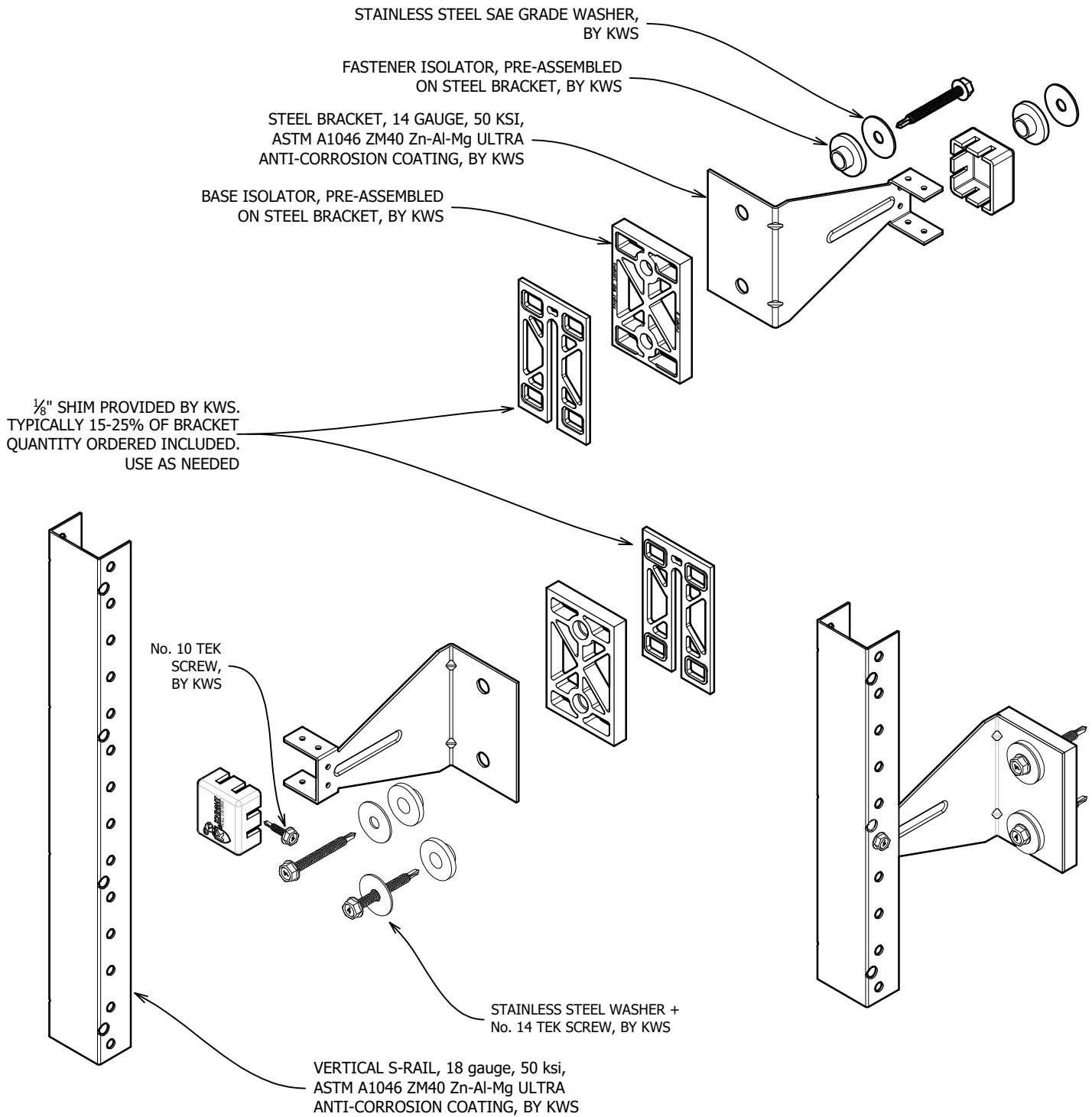
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*16 GAUGE RAILS, FACTORY BLACK COATED RAILS & STAINLESS STEEL (304) AVAILABLE

*MAXIMUM ALLOWABLE SPACING AND DEAD LOAD (WEIGHT OF CLADDING) IS BASED ON THE TOTAL LOAD (DEAD + LIVE) ACTING ON THE ASSEMBLY, BRACKETS AND CONNECTIONS.

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MFI SYSTEM ASSEMBLY - ISO VIEW

SCALE: NTS

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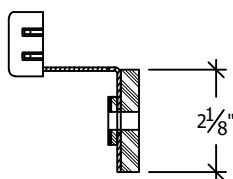
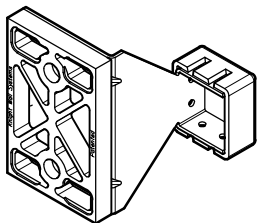
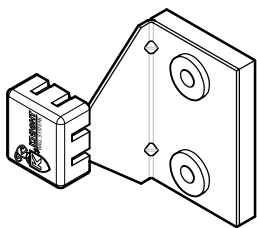
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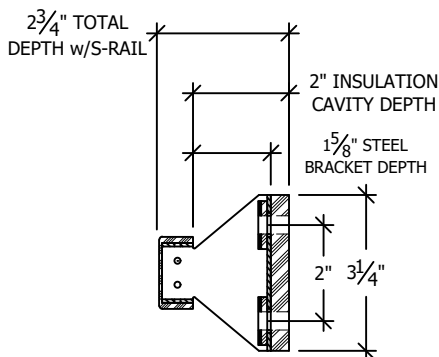


KNIGHT MFI® System S-SERIES (VERTICAL ORIENTATION) RAINSCREEN ATTACHMENT

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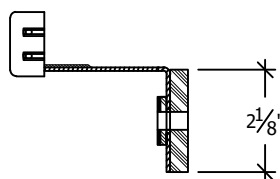
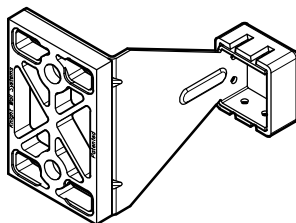
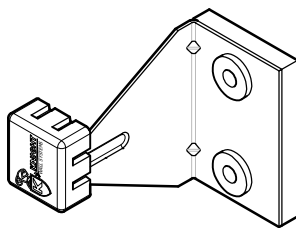
TOP/PLAN VIEW



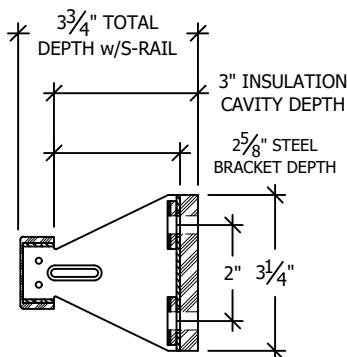
SIDE/SECTION VIEW

2" ThermaBracket-S

OVERALL DEPTH
w/S-Rail ONLY: 2.75"
w/S-Rail + PanelRail: 3.5"



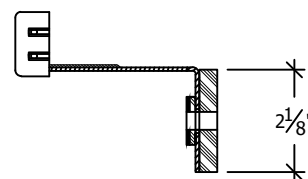
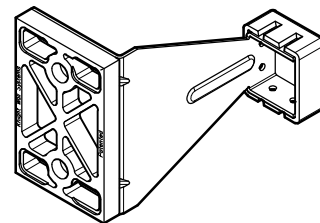
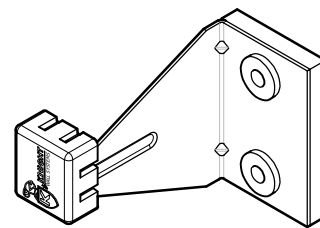
TOP/PLAN VIEW



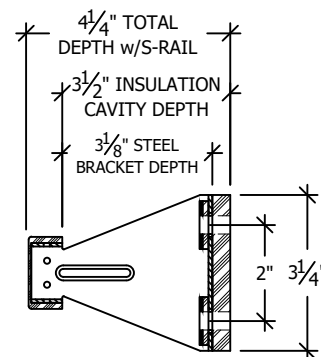
SIDE/SECTION VIEW

3" ThermaBracket-S

OVERALL DEPTH
w/S-Rail ONLY: 3.75"
w/S-Rail + PanelRail: 4.5"



TOP/PLAN VIEW



SIDE/SECTION VIEW

3.5" ThermaBracket-S

OVERALL DEPTH
w/S-Rail ONLY: 4.25"
w/S-Rail + PanelRail: 5"

*16 GAUGE RAILS, FACTORY BLACK COATED RAILS & STAINLESS STEEL (304) AVAILABLE

*MAXIMUM ALLOWABLE SPACING AND DEAD LOAD (WEIGHT OF CLADDING) IS BASED ON THE TOTAL LOAD (DEAD + LIVE) ACTING ON THE ASSEMBLY, BRACKETS AND CONNECTIONS.

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ThermaBracket SIZES - 2"-3.5"

SCALE: 3" = 1'-0"

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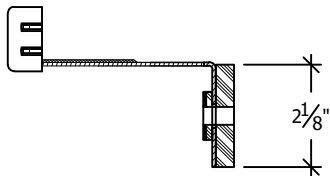
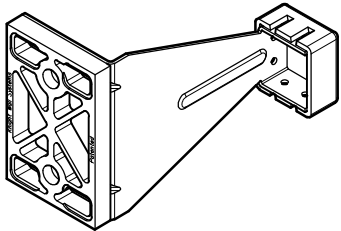
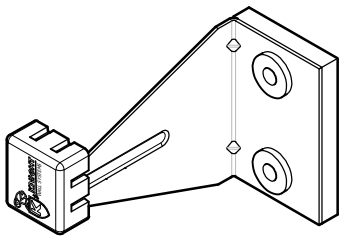
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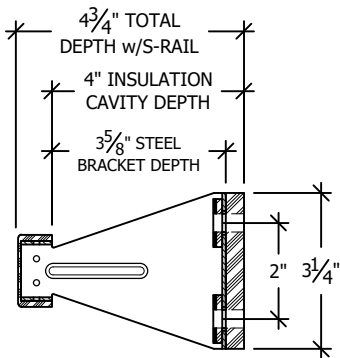


KNIGHT MFI® System S-SERIES
(VERTICAL ORIENTATION)
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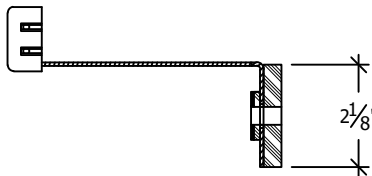
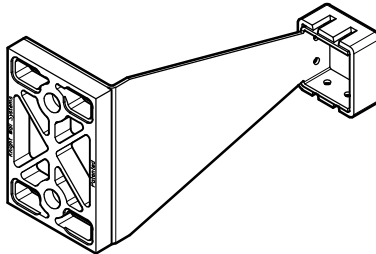
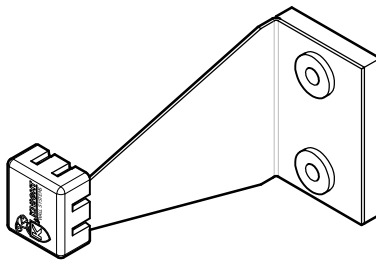
TOP/PLAN VIEW



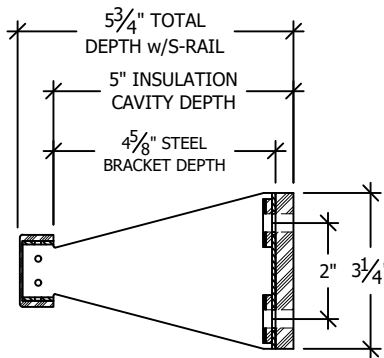
SIDE/SECTION VIEW

4" ThermaBracket-S

OVERALL DEPTH
w/S-Rail ONLY: 4.75"
w/S-Rail + PanelRail: 5.5"



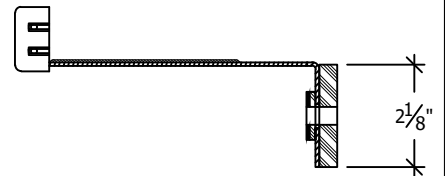
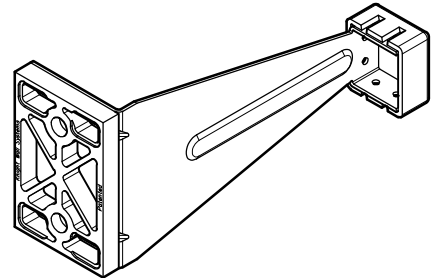
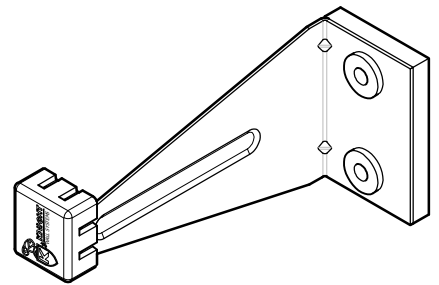
TOP/PLAN VIEW



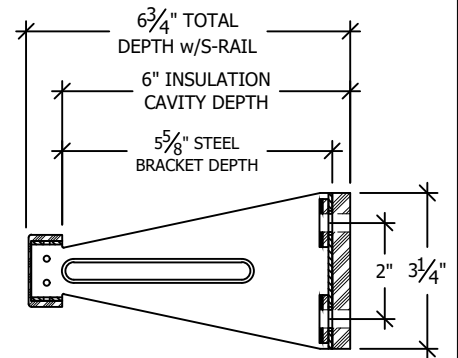
SIDE/SECTION VIEW

5" ThermaBracket-S

OVERALL DEPTH
w/S-Rail ONLY: 5.75"
w/S-Rail + PanelRail: 6.5"



TOP/PLAN VIEW



SIDE/SECTION VIEW

6" ThermaBracket-S

OVERALL DEPTH
w/S-Rail ONLY: 6.75"
w/S-Rail + PanelRail: 7.5"

*16 GAUGE RAILS, FACTORY BLACK COATED RAILS & STAINLESS STEEL (304) AVAILABLE

*MAXIMUM ALLOWABLE SPACING AND DEAD LOAD (WEIGHT OF CLADDING) IS BASED ON THE TOTAL LOAD (DEAD + LIVE) ACTING ON THE ASSEMBLY, BRACKETS AND CONNECTIONS.

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ThermaBracket SIZES - 4"-6"

SCALE: 3" = 1'-0"

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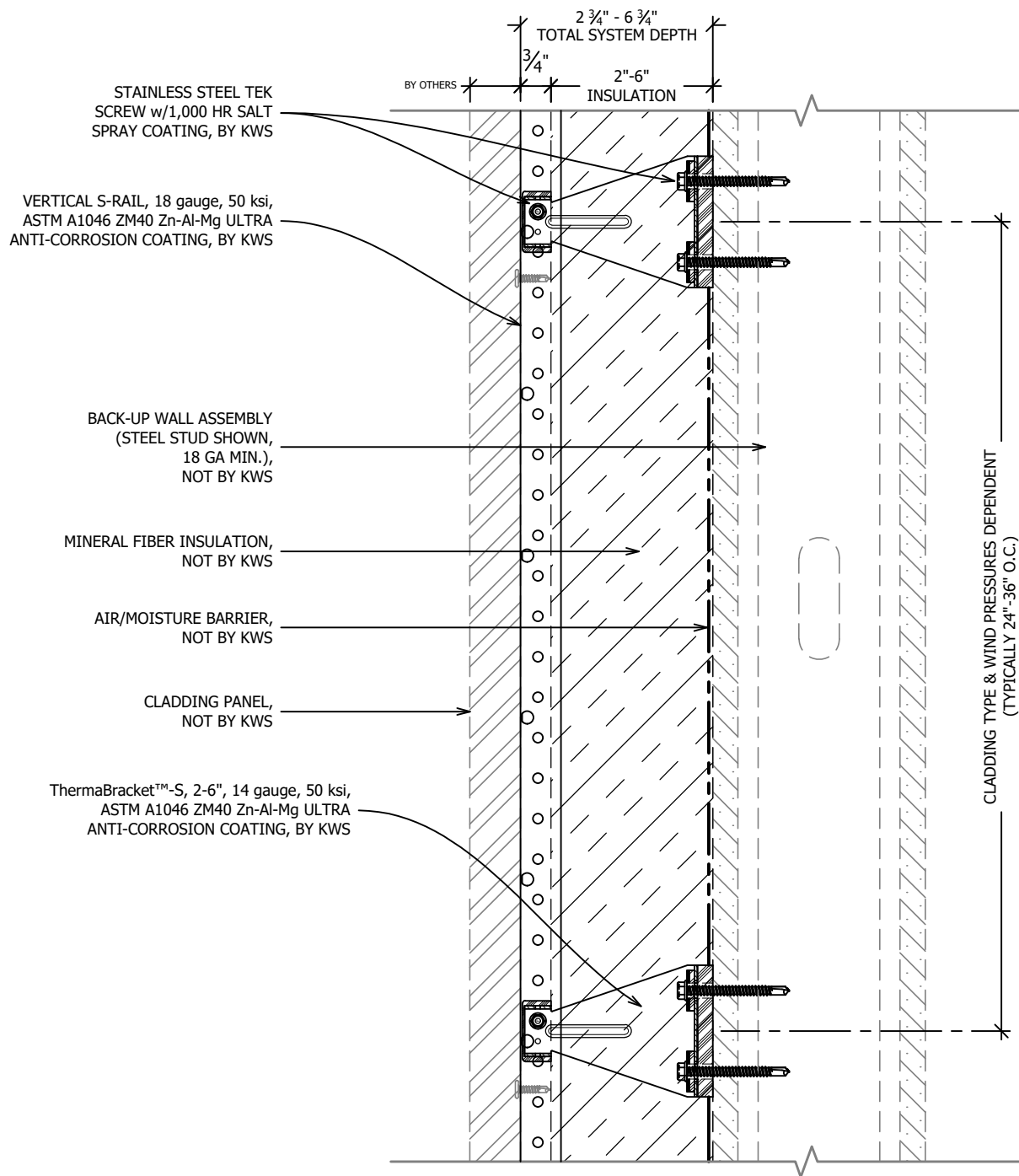
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SYSTEM MAY BE INSTALLED OVER STEEL STUDS,
WOOD STUDS, CMU OR CONCRETE SUBSTRATES
(WITH USE OF APPROPRIATE WALL ANCHORS).

*16 GAUGE RAILS, FACTORY BLACK COATED RAILS & STAINLESS STEEL
(304) AVAILABLE

*MAXIMUM ALLOWABLE SPACING AND DEAD LOAD (WEIGHT OF
CLADDING) IS BASED ON THE TOTAL LOAD (DEAD + LIVE) ACTING ON THE
ASSEMBLY, BRACKETS AND CONNECTIONS.

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TYPICAL SECTION VIEW - S-Rail ONLY

SCALE: 3" = 1'-0"

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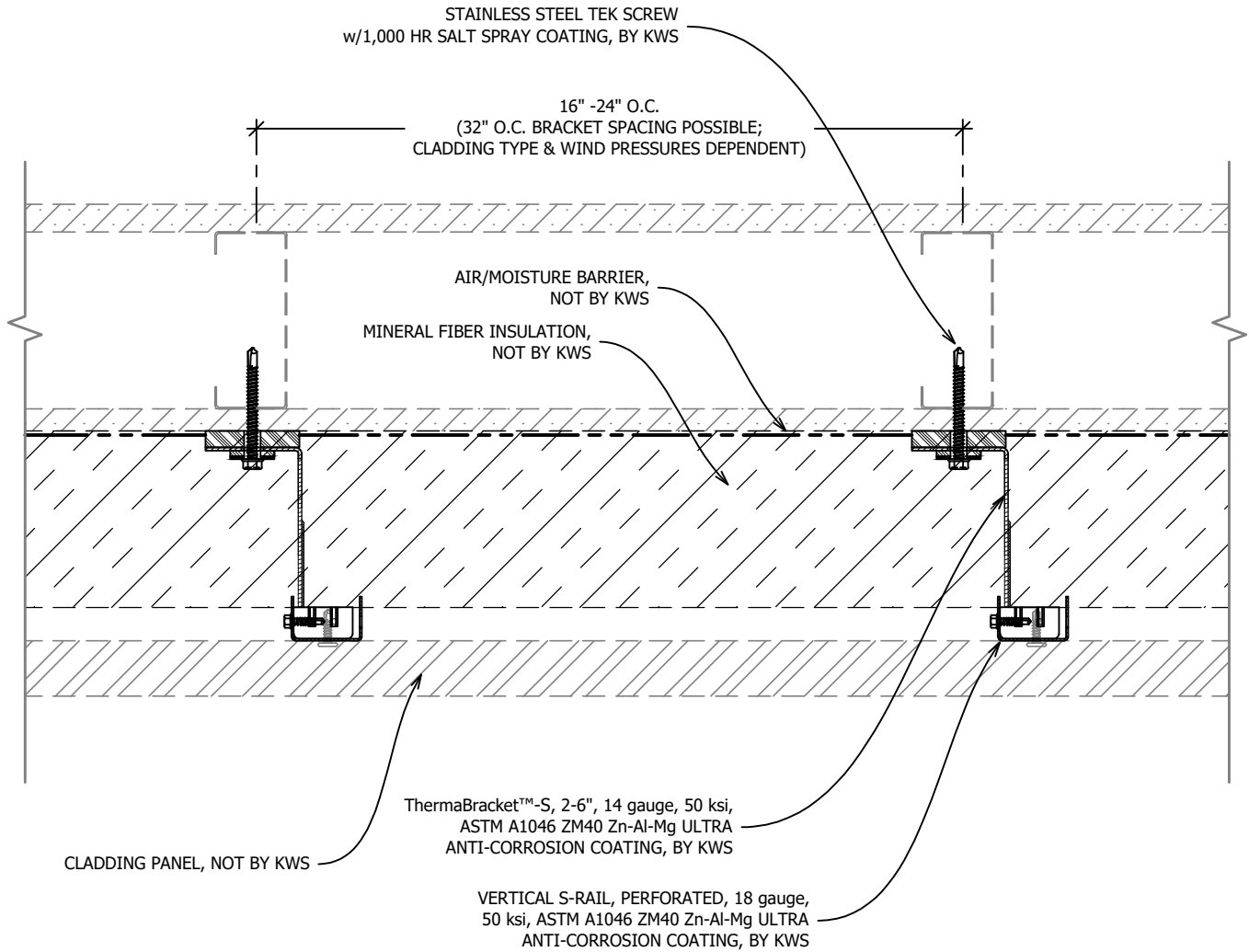
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KNIGHT MFI™ System S-SERIES
(VERTICAL ORIENTATION)
RAINSCREEN ATTACHMENT

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SYSTEM MAY BE INSTALLED OVER STEEL STUDS,
WOOD STUDS, CMU OR CONCRETE SUBSTRATES
(WITH USE OF APPROPRIATE WALL ANCHORS).



*16 GAUGE RAILS, FACTORY BLACK COATED RAILS & STAINLESS STEEL (304) AVAILABLE

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TYPICAL PLAN VIEW - S-Rail ONLY

SCALE: 3" = 1'-0"

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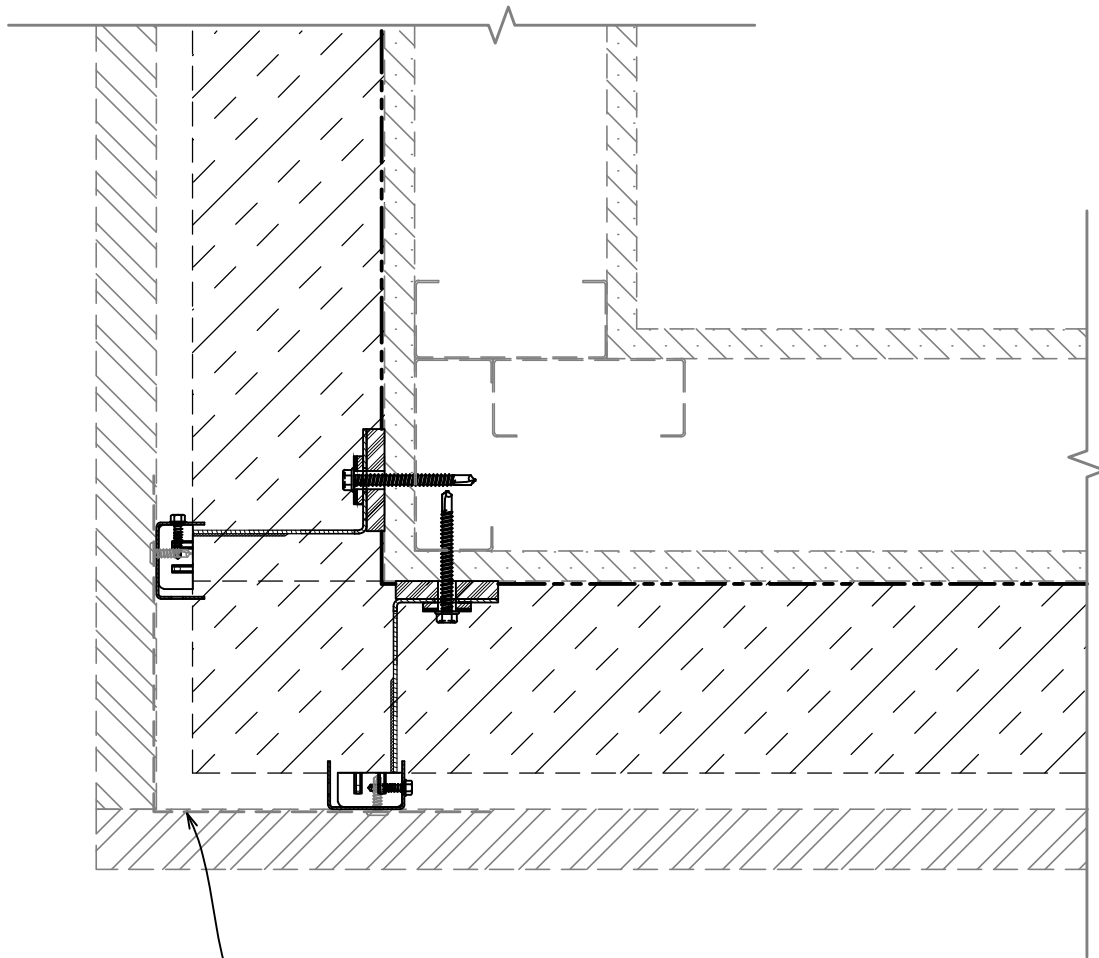
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KNIGHT MFI™ System S-SERIES (VERTICAL ORIENTATION) RAINSCREEN ATTACHMENT

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BACKING ('L') MAY BE REQUIRED
AT OUTSIDE CORNER. CONSULT
CLADDING MANUFACTURER
FOR DETAILS & REQUIREMENTS.
THIS IS NOT REQUIRED OR
SUPPLIED BY KWS.

*16 GAUGE RAILS, FACTORY BLACK COATED RAILS & STAINLESS STEEL
(304) AVAILABLE

*MAXIMUM ALLOWABLE SPACING AND DEAD LOAD (WEIGHT OF
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TYPICAL OUTSIDE CORNER

SCALE: 3" = 1'-0"

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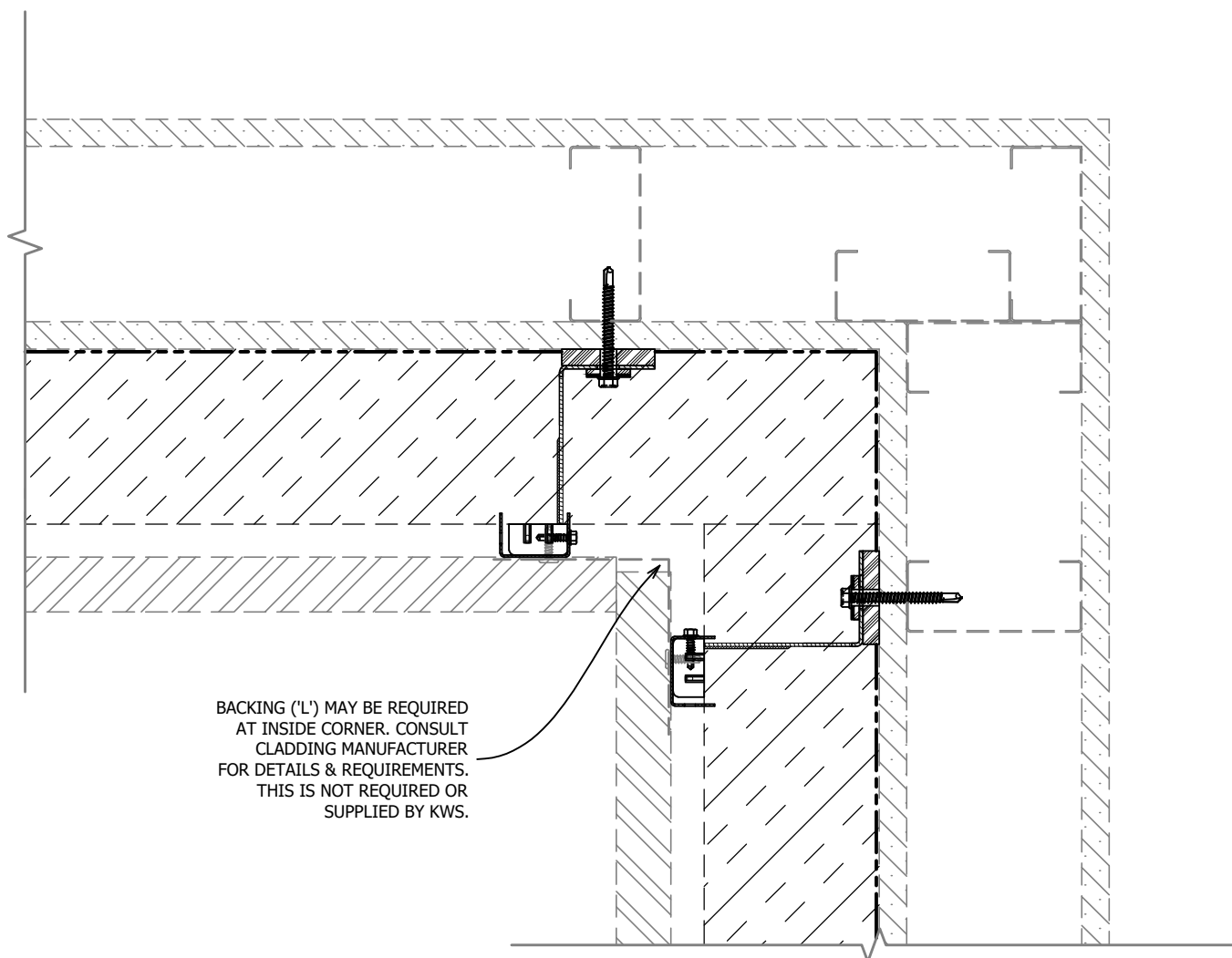
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*MAXIMUM ALLOWABLE SPACING AND DEAD LOAD (WEIGHT OF CLADDING) IS BASED ON THE TOTAL LOAD (DEAD + LIVE) ACTING ON THE ASSEMBLY, BRACKETS AND CONNECTIONS.

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TYPICAL INSIDE CORNER

SCALE: 3" = 1'-0"

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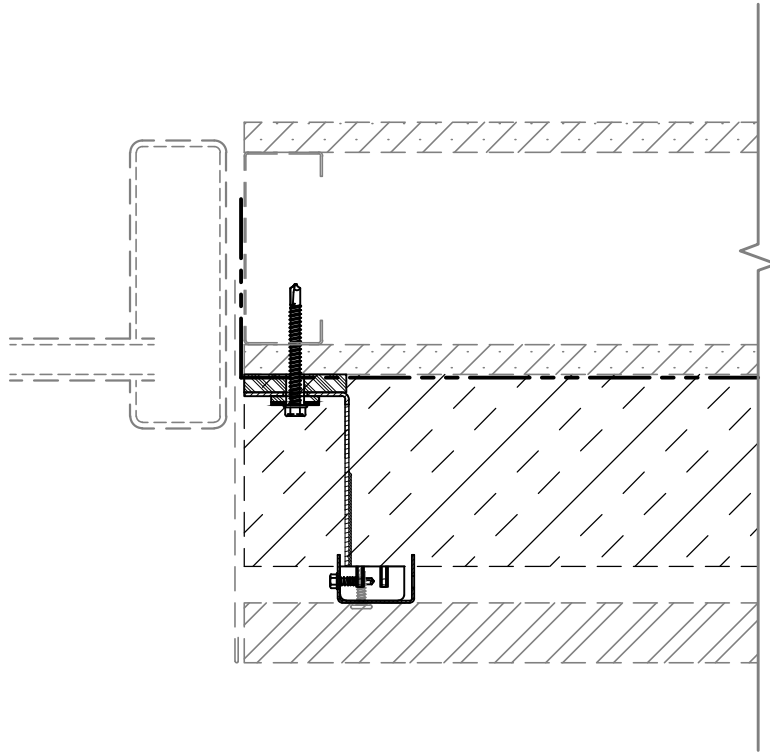
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(VERTICAL ORIENTATION)
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* FLASHING DETAILS VARY BASED ON WINDOW TYPE,
POSITION (INSET VS FLUSH) AND CLADDING TYPE.
FLASHING IS NOT BY KWS.

*16 GAUGE RAILS, FACTORY BLACK COATED RAILS & STAINLESS STEEL
(304) AVAILABLE

*MAXIMUM ALLOWABLE SPACING AND DEAD LOAD (WEIGHT OF
CLADDING) IS BASED ON THE TOTAL LOAD (DEAD + LIVE) ACTING ON THE
ASSEMBLY, BRACKETS AND CONNECTIONS.

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TYPICAL JAMB CONDITION

SCALE: 3" = 1'-0"

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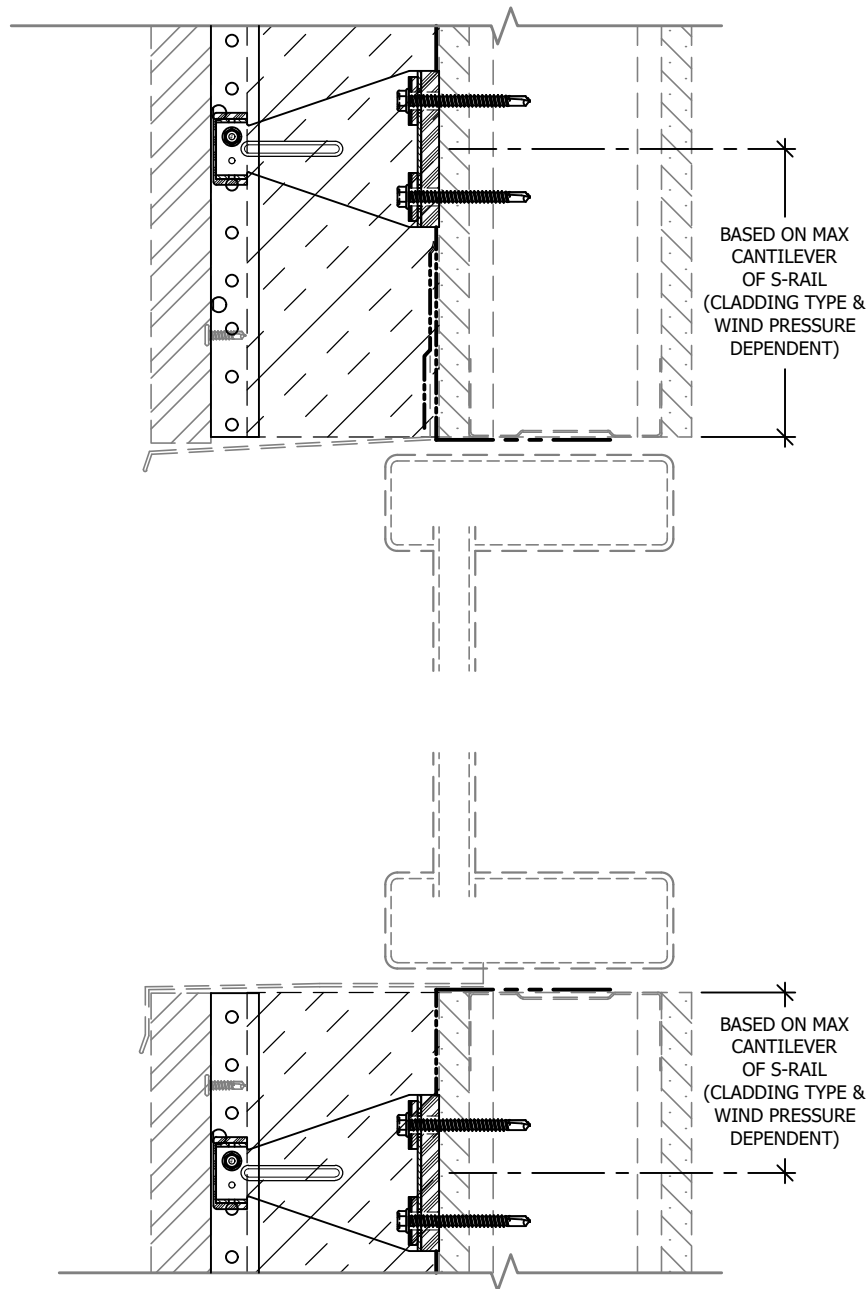
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* FLASHING DETAILS VARY BASED ON WINDOW TYPE, POSITION (INSET VS FLUSH) AND CLADDING TYPE. FLASHING IS NOT BY KWS.

*16 GAUGE RAILS, FACTORY BLACK COATED RAILS & STAINLESS STEEL (304) AVAILABLE

*MAXIMUM ALLOWABLE SPACING AND DEAD LOAD (WEIGHT OF CLADDING) IS BASED ON THE TOTAL LOAD (DEAD + LIVE) ACTING ON THE ASSEMBLY, BRACKETS AND CONNECTIONS.

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TYPICAL HEAD & SILL CONDITION

SCALE: 3" = 1'-0"

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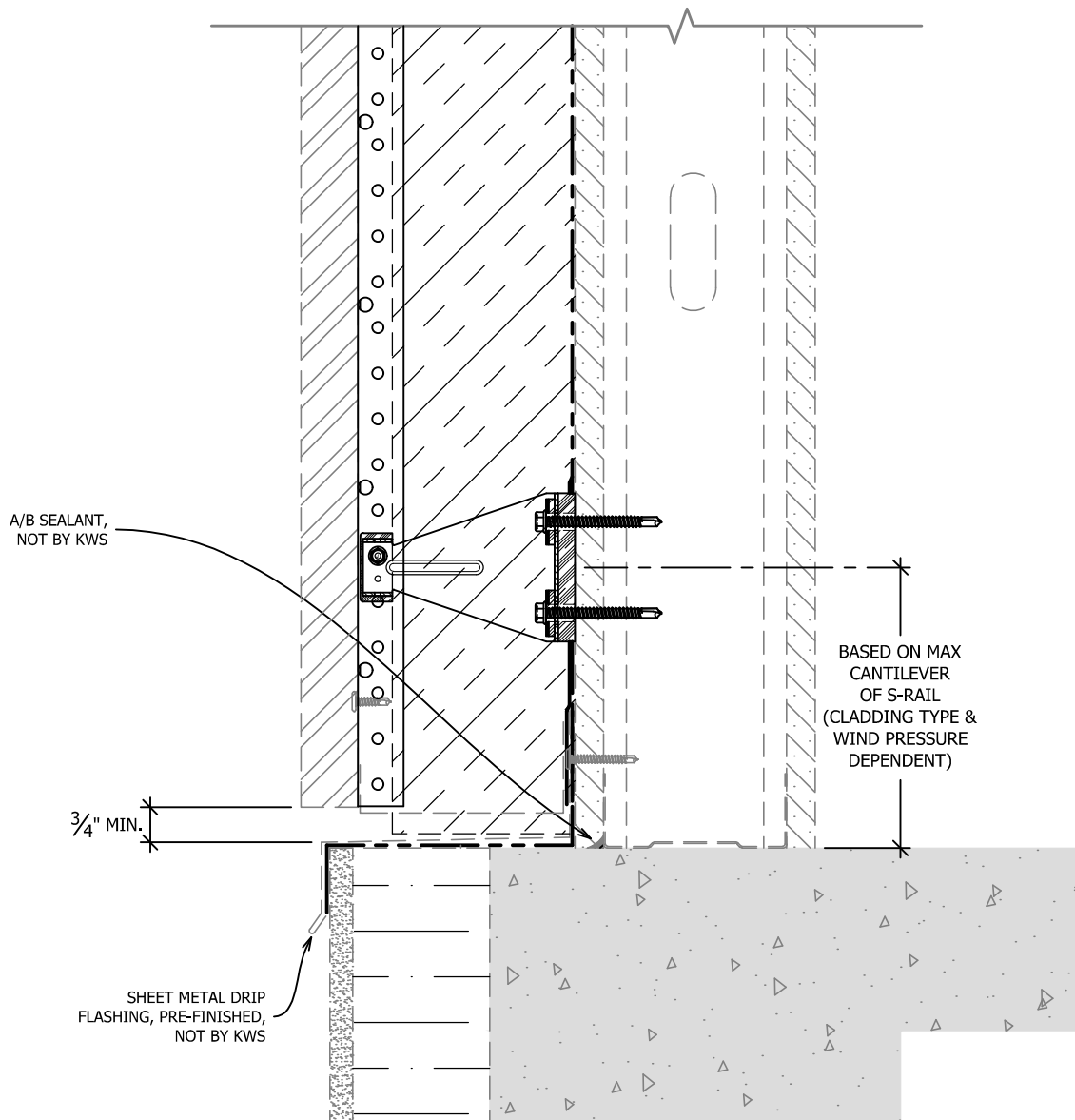
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* CLEAR & UNRESTRICTED VENTILATION & DRAINAGE
REQUIRED AT BASE OF WALL

*16 GAUGE RAILS, FACTORY BLACK COATED RAILS & STAINLESS STEEL
(304) AVAILABLE

*MAXIMUM ALLOWABLE SPACING AND DEAD LOAD (WEIGHT OF
CLADDING) IS BASED ON THE TOTAL LOAD (DEAD + LIVE) ACTING ON THE
ASSEMBLY, BRACKETS AND CONNECTIONS.

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TYPICAL BASE OF WALL CONDITION

SCALE: 3" = 1'-0"

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NOTE:
MAXIMUM S-RAIL CANTILEVER
BEYOND A ThermoBracket-S
(WITHOUT THE USE OF A SPLICE
CLIP) VARIES PER PROJECT.
TYPICALLY IT WILL RANGE FROM
6"-14".

VERTICAL S-RAIL,
PERFORATED,
18 gauge, 50 ksi,
ASTM A1046 ZM40
Zn-Al-Mg ULTRA
ANTI-CORROSION
COATING, BY KWS

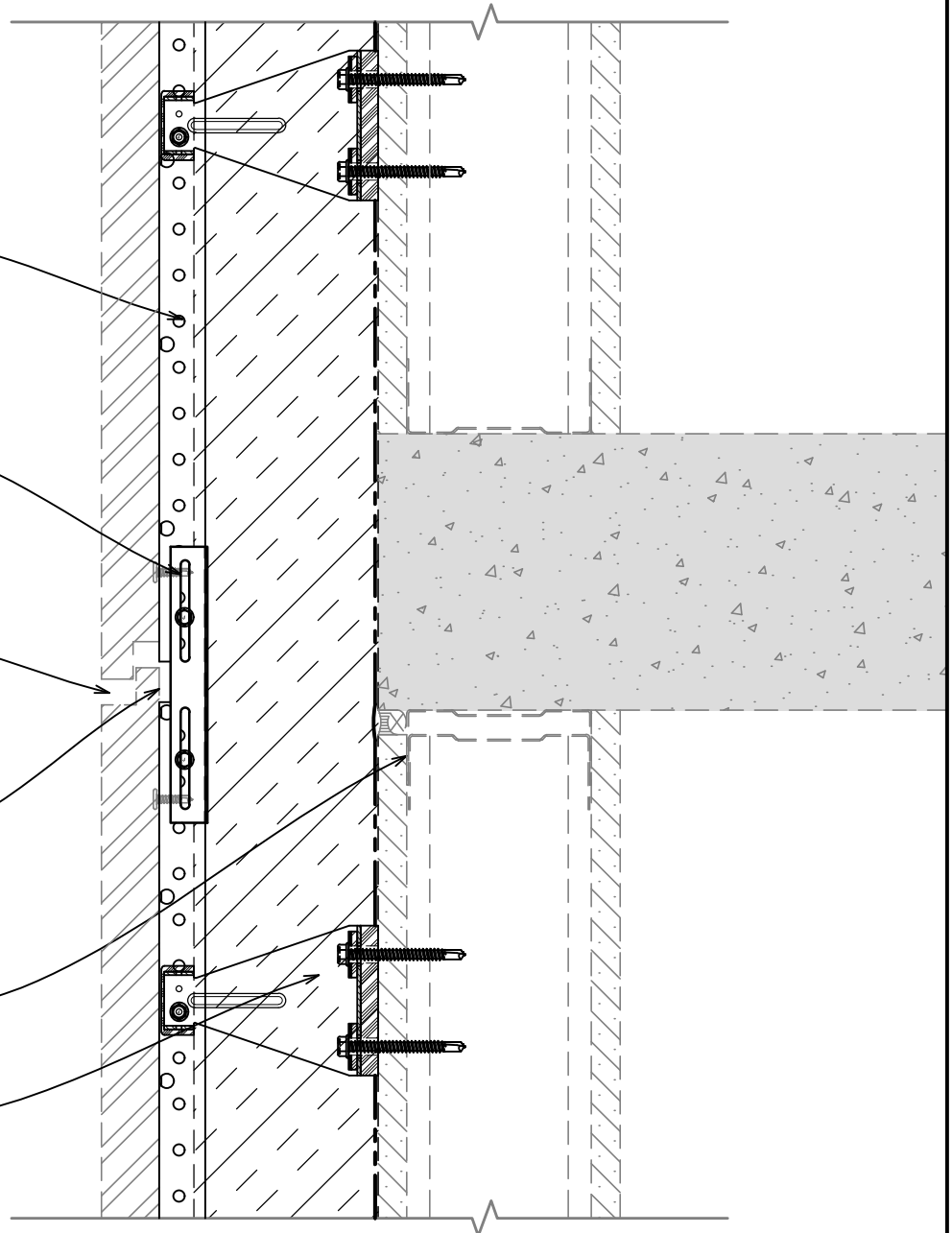
SPLICE CLIP, AS REQUIRED
PER PROJECT, CONNECTED
TO S-RAIL VIA TWO No. 10 TEK
SCREWS. DO NOT OVER TIGHTEN TEK
SCREWS. CLIP MUST BE ALLOWED
TO SLIDE UNDER AXIAL PRESSURE.

A BREAK/MOVEMENT JOINT IN
CLADDING MUST COINCIDE WITH
BREAK IN ATTACHMENT SYSTEM
AND FLOOR DEFLECTION JOINTS
TO PREVENT DAMAGE AND STRESS
ON WALL SYSTEM, CONSULT CLADDING
MANUFACTURER FOR DETAILS,
NOT BY KWS

GAP BETWEEN RAILS TYPICALLY
EQUALS 1.5x THE EXPECTED
FLOOR MOVEMENT, MINIMUM
OF $\frac{3}{8}$ " AND MAXIMUM OF 1.5"

FLOOR DEFLECTION TRACK,
BY OTHERS

BRACKET MUST NOT INFRINGE ON
STEEL STUD FLOOR DEFLECTION
TRACK MOVEMENT



*16 GAUGE RAILS, FACTORY BLACK COATED RAILS & STAINLESS STEEL
(304) AVAILABLE

*MAXIMUM ALLOWABLE SPACING AND DEAD LOAD (WEIGHT OF
CLADDING) IS BASED ON THE TOTAL LOAD (DEAD + LIVE) ACTING ON THE
ASSEMBLY, BRACKETS AND CONNECTIONS.

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TYPICAL FLOOR DEFLECTION JOINT

SCALE: 3" = 1'-0"

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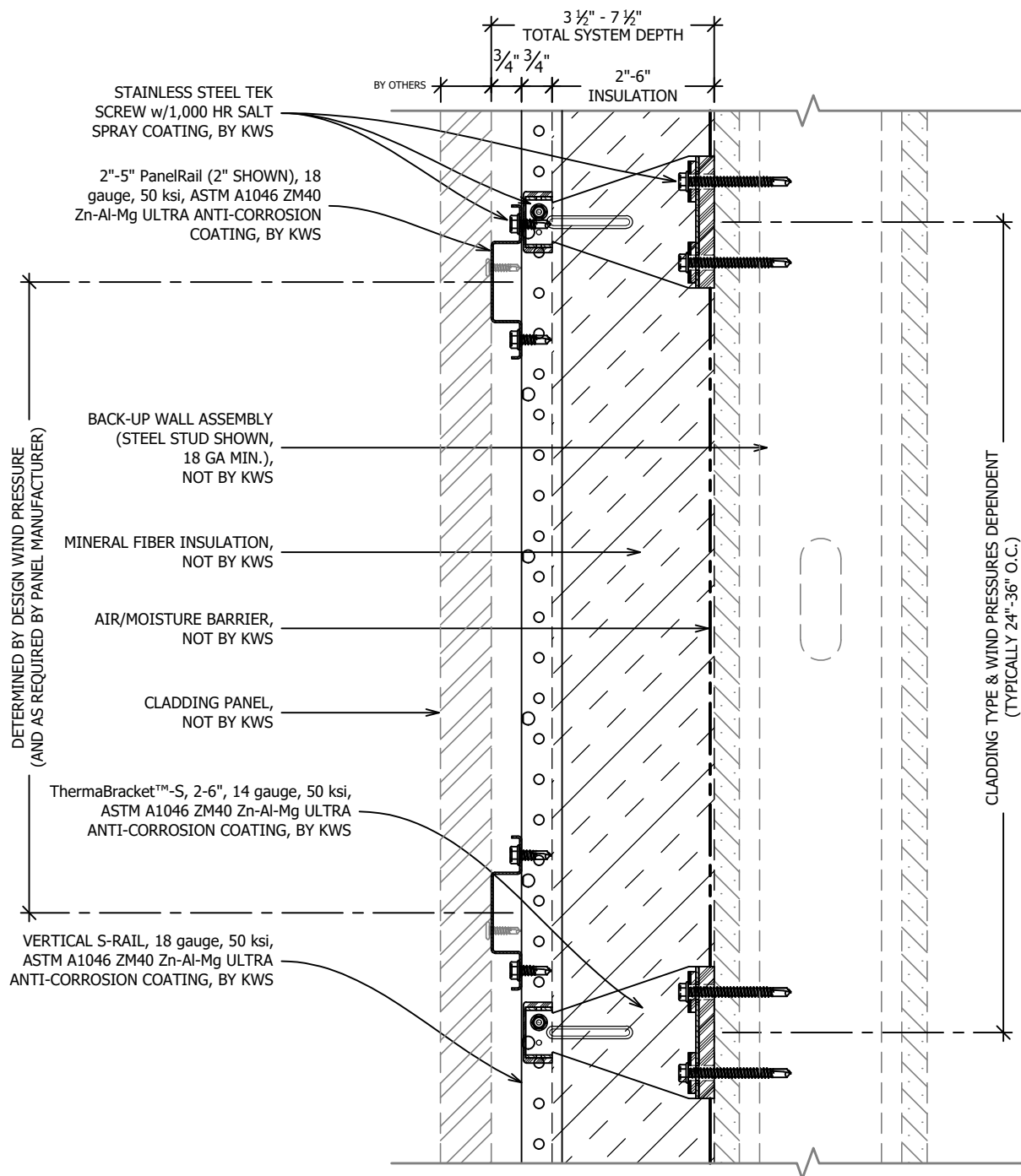
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SYSTEM MAY BE INSTALLED OVER STEEL STUDS,
WOOD STUDS, CMU OR CONCRETE SUBSTRATES
(WITH USE OF APPROPRIATE WALL ANCHORS).

*16 GAUGE RAILS, FACTORY BLACK COATED RAILS & STAINLESS STEEL
(304) AVAILABLE

*MAXIMUM ALLOWABLE SPACING AND DEAD LOAD (WEIGHT OF
CLADDING) IS BASED ON THE TOTAL LOAD (DEAD + LIVE) ACTING ON THE
ASSEMBLY, BRACKETS AND CONNECTIONS.

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TYPICAL SECTION VIEW - D-Rail + PanelRail

SCALE: 3" = 1'-0"

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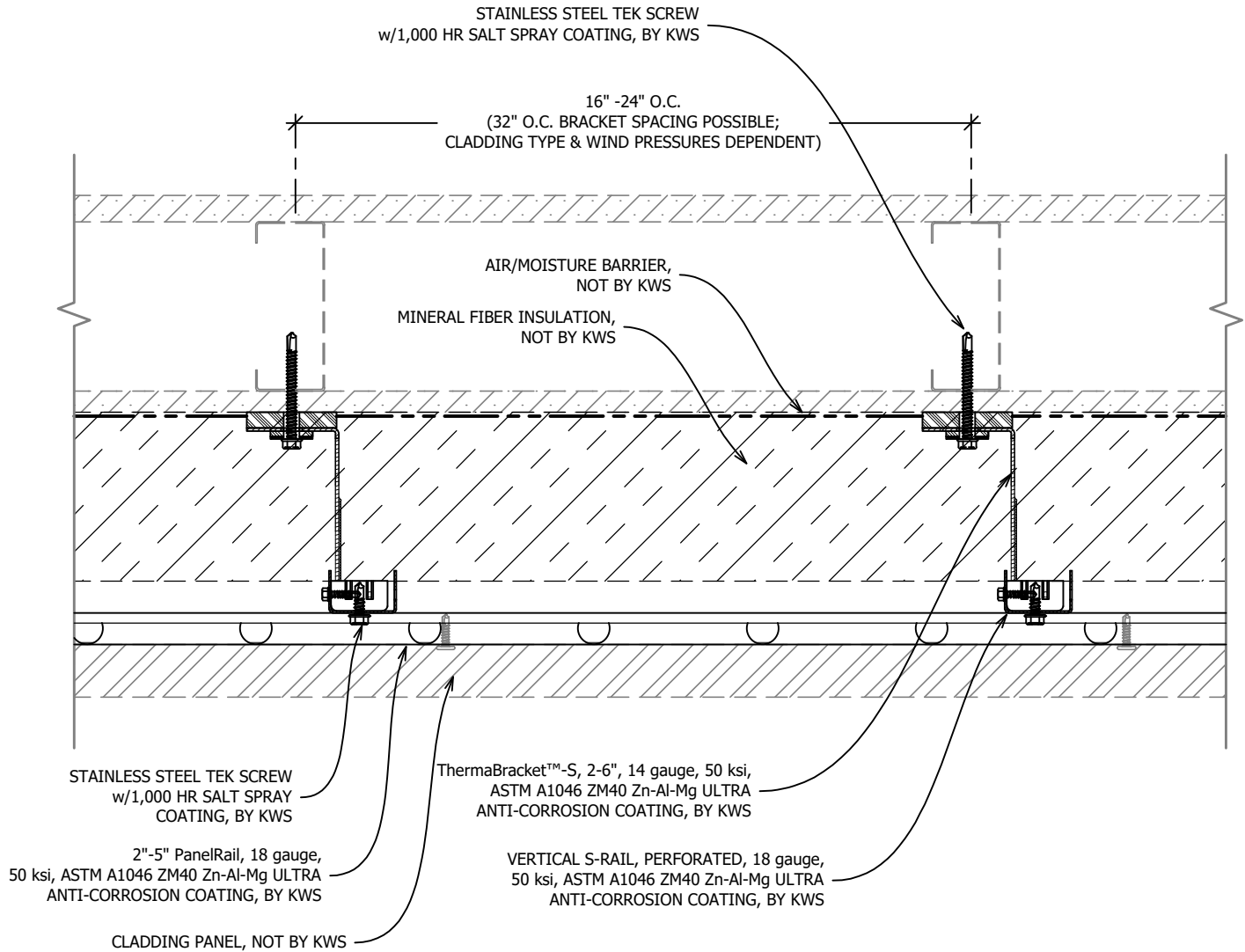
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KNIGHT MFI™ System S-SERIES
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SYSTEM MAY BE INSTALLED OVER STEEL STUDS,
WOOD STUDS, CMU OR CONCRETE SUBSTRATES
(WITH USE OF APPROPRIATE WALL ANCHORS).



*16 GAUGE RAILS, FACTORY BLACK COATED RAILS & STAINLESS STEEL (304) AVAILABLE

*MAXIMUM ALLOWABLE SPACING AND DEAD LOAD (WEIGHT OF CLADDING) IS BASED ON THE TOTAL LOAD (DEAD + LIVE) ACTING ON THE ASSEMBLY, BRACKETS AND CONNECTIONS.

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TYPICAL PLAN VIEW - D-Rail + PanelRail

SCALE: 3" = 1'-0"

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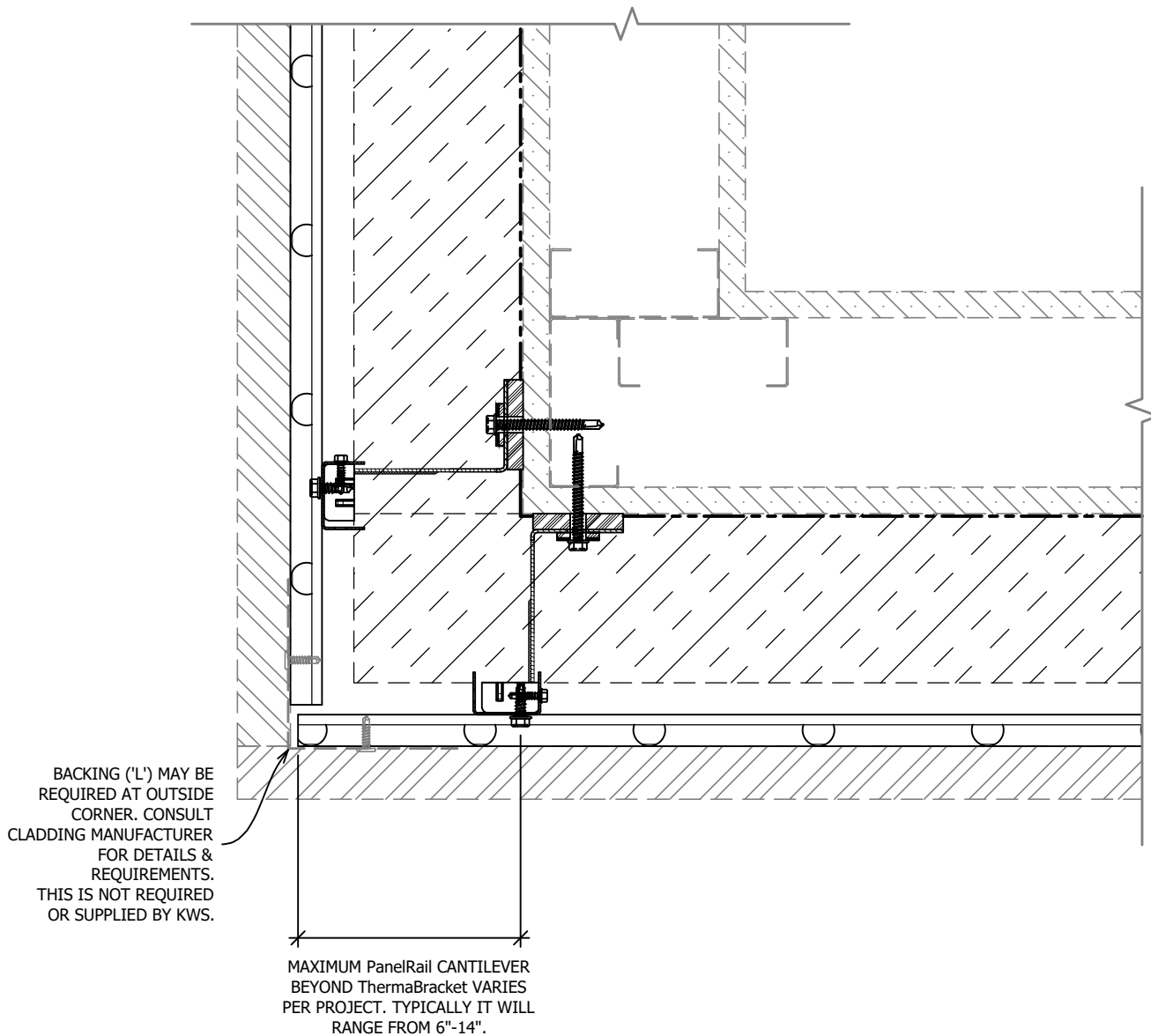
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*16 GAUGE RAILS, FACTORY BLACK COATED RAILS & STAINLESS STEEL (304) AVAILABLE

*MAXIMUM ALLOWABLE SPACING AND DEAD LOAD (WEIGHT OF CLADDING) IS BASED ON THE TOTAL LOAD (DEAD + LIVE) ACTING ON THE ASSEMBLY, BRACKETS AND CONNECTIONS.

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TYPICAL OUTSIDE CORNER

SCALE: 3" = 1'-0"

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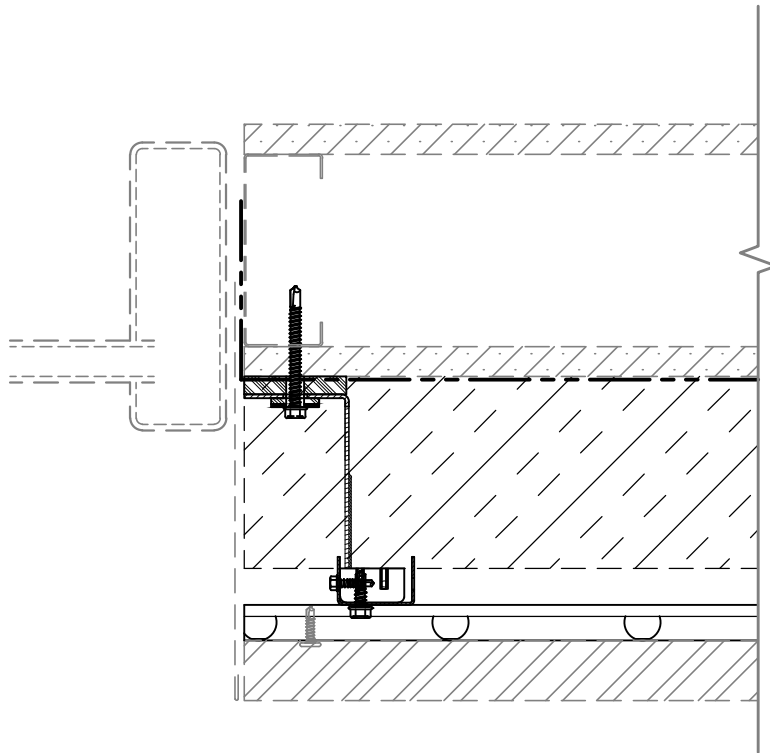
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* FLASHING DETAILS VARY BASED ON WINDOW TYPE,
POSITION (INSET VS FLUSH) AND CLADDING TYPE.
FLASHING IS NOT BY KWS.

*16 GAUGE RAILS, FACTORY BLACK COATED RAILS & STAINLESS STEEL
(304) AVAILABLE

*MAXIMUM ALLOWABLE SPACING AND DEAD LOAD (WEIGHT OF
CLADDING) IS BASED ON THE TOTAL LOAD (DEAD + LIVE) ACTING ON THE
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TYPICAL JAMB CONDITION

SCALE: 3" = 1'-0"

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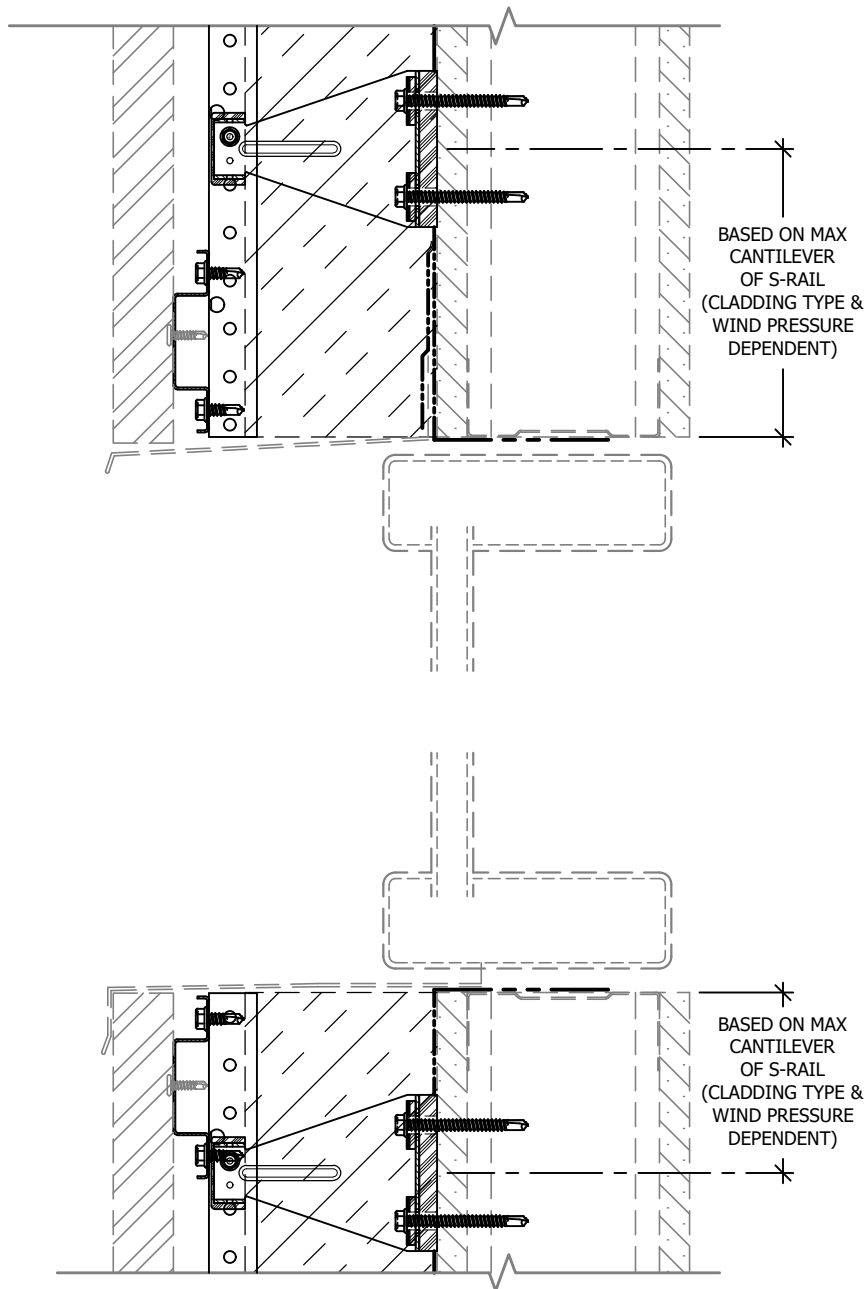
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* FLASHING DETAILS VARY BASED ON WINDOW TYPE, POSITION (INSET VS FLUSH) AND CLADDING TYPE. FLASHING IS NOT BY KWS.

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TYPICAL HEAD & SILL CONDITION

SCALE: 3" = 1'-0"

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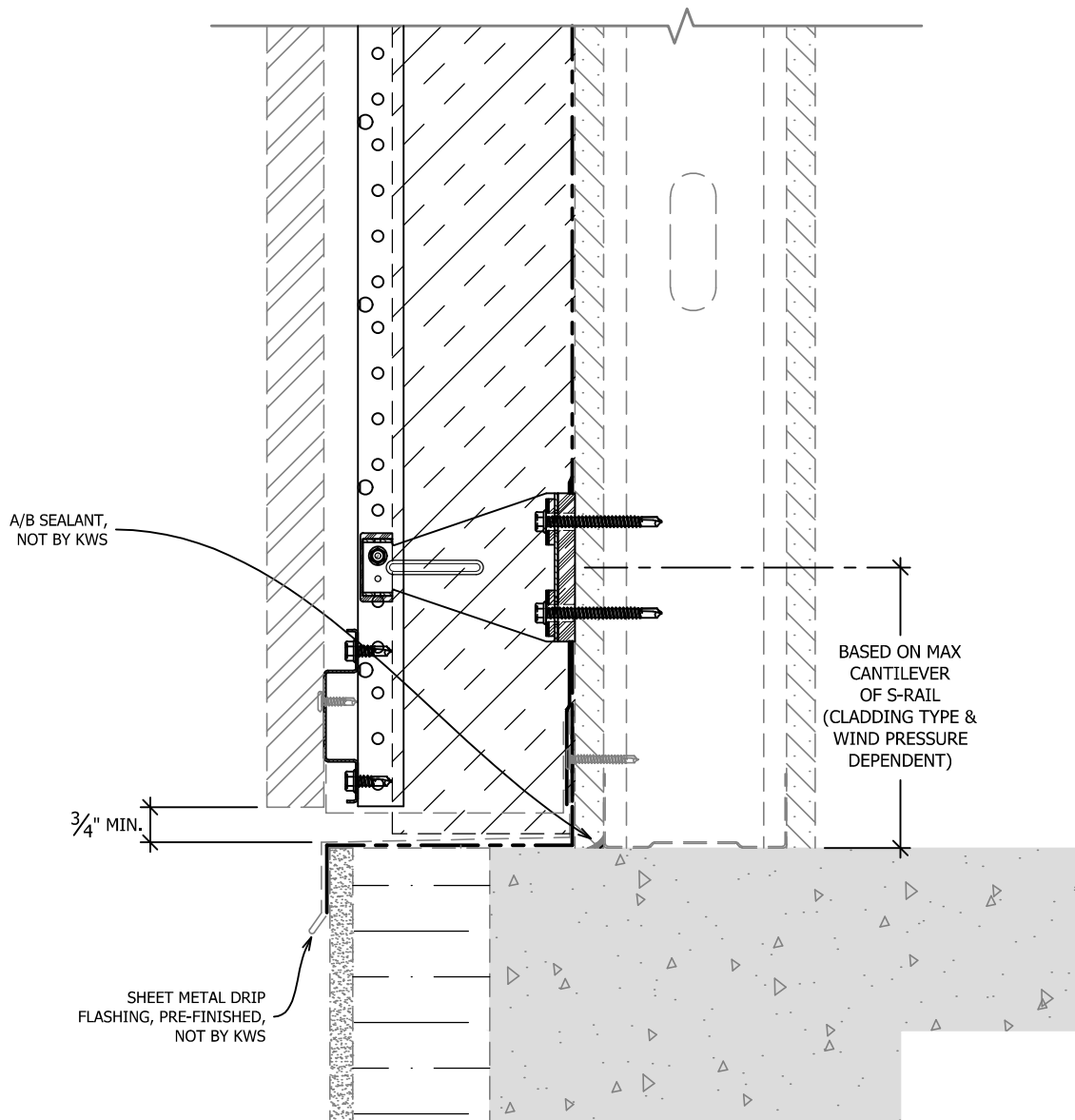
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* CLEAR & UNRESTRICTED VENTILATION & DRAINAGE
REQUIRED AT BASE OF WALL

*16 GAUGE RAILS, FACTORY BLACK COATED RAILS & STAINLESS STEEL
(304) AVAILABLE

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TYPICAL BASE OF WALL CONDITION

SCALE: 3" = 1'-0"

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NOTE:
MAXIMUM S-RAIL CANTILEVER
BEYOND A ThermoBracket-S
(WITHOUT THE USE OF A SPLICE
CLIP) VARIES PER PROJECT.
TYPICALLY IT WILL RANGE FROM
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VERTICAL S-RAIL,
PERFORATED,
18 gauge, 50 ksi,
ASTM A1046 ZM40
Zn-Al-Mg ULTRA
ANTI-CORROSION
COATING, BY KWS

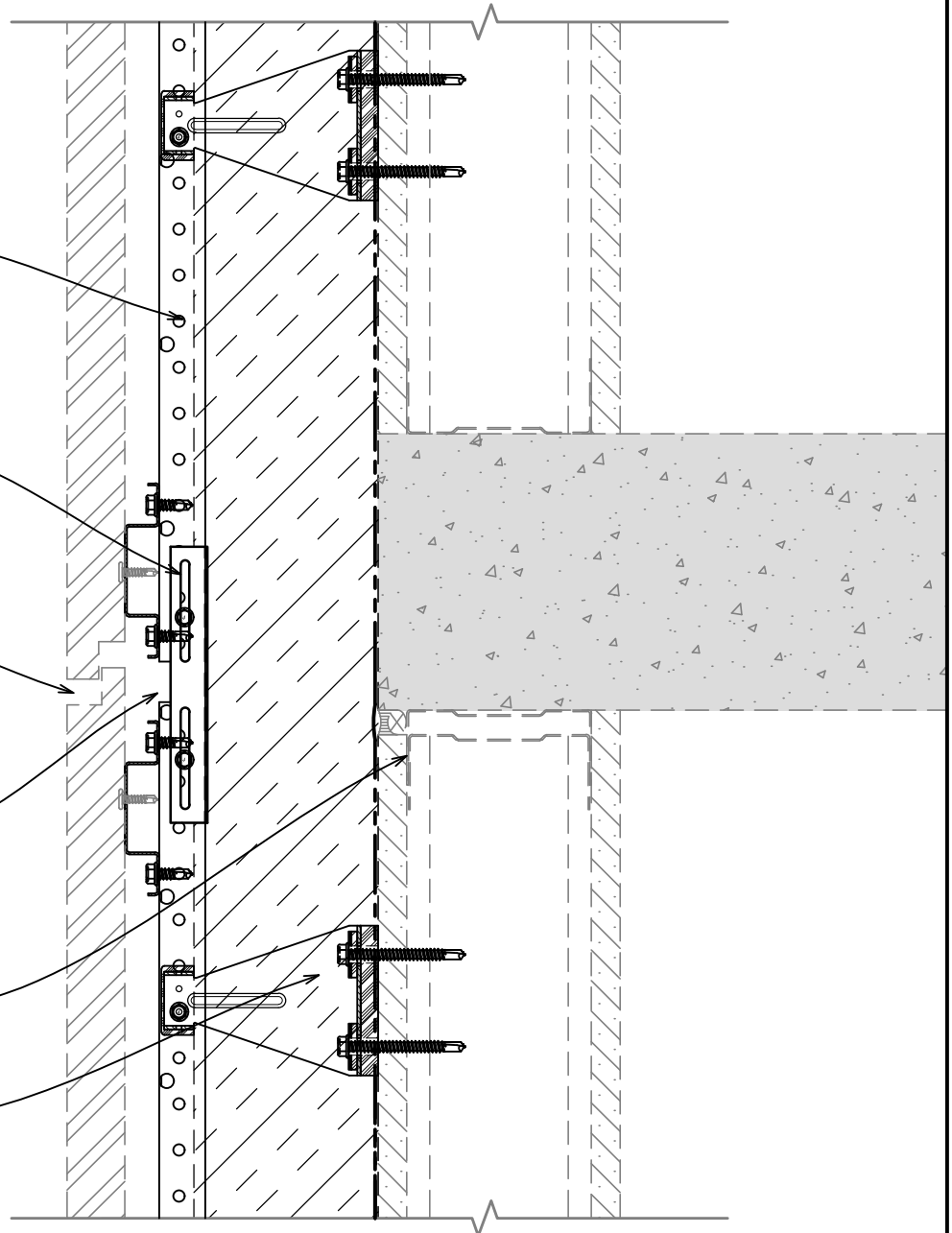
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PER PROJECT, CONNECTED
TO S-RAIL VIA TWO No. 10 TEK
SCREWS. DO NOT OVER TIGHTEN TEK
SCREWS. CLIP MUST BE ALLOWED
TO SLIDE UNDER AXIAL PRESSURE.

A BREAK/MOVEMENT JOINT IN
CLADDING MUST COINCIDE WITH
BREAK IN ATTACHMENT SYSTEM
AND FLOOR DEFLECTION JOINTS
TO PREVENT DAMAGE AND STRESS
ON WALL SYSTEM, CONSULT CLADDING
MANUFACTURER FOR DETAILS,
NOT BY KWS

GAP BETWEEN RAILS TYPICALLY
EQUALS 1.5x THE EXPECTED
FLOOR MOVEMENT, MINIMUM
OF $\frac{3}{8}$ " AND MAXIMUM OF 1.5"

FLOOR DEFLECTION TRACK,
BY OTHERS

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TYPICAL FLOOR DEFLECTION JOINT

SCALE: 3" = 1'-0"

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