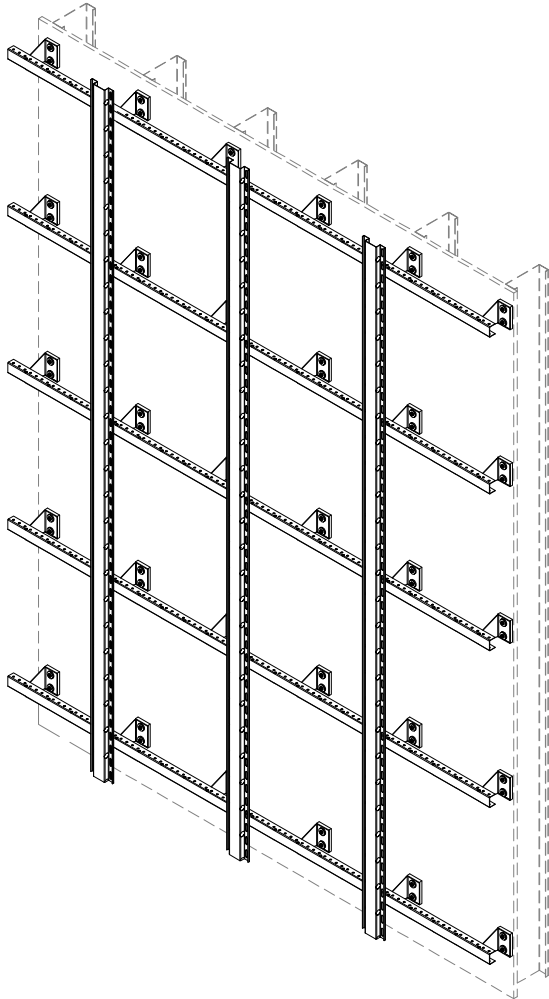


# KNIGHT WALL SYSTEMS GUIDE DETAILS:

## MFI<sup>®</sup> System - S-Series (HORIZONTAL)

### RAINSCREEN ATTACHMENT for CLADDING PANELS



#### HORIZONTAL ORIENTED SYSTEM WITH OPTIONAL

#### VERTICAL PanelRails™

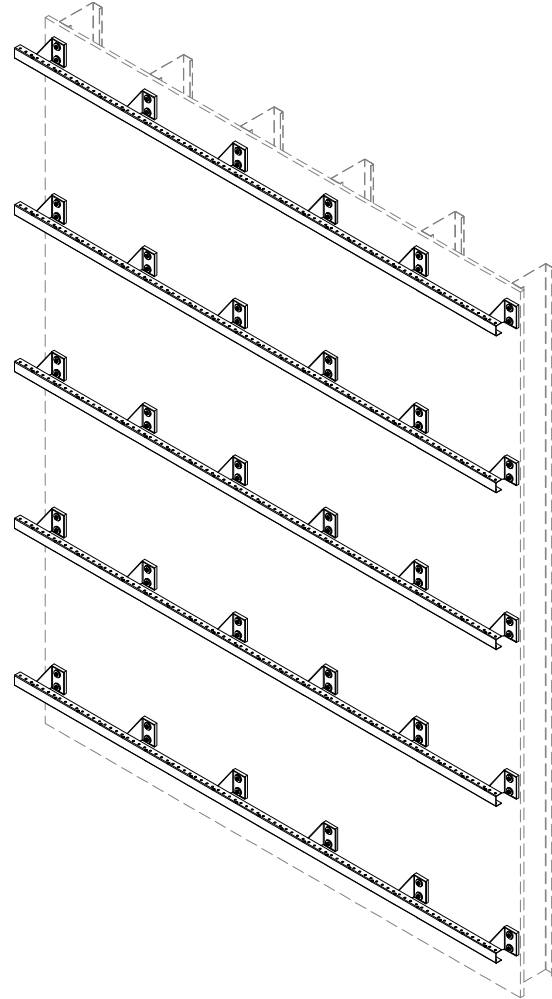
(EXTERIOR INSULATION OMITTED FOR CLARITY)

MINIMUM DEPTH: 3.5 INCHES

MAXIMUM DEPTH: 7.5 INCHES

(FACE OF SHEATHING TO FACE OF RAIL)

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



#### HORIZONTAL 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<sup>®</sup> System S-SERIES  
(HORIZONTAL ORIENTATION)  
RAINSCREEN ATTACHMENT

02/01/2016

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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  
(HORIZONTAL ORIENTATION)  
RAINSCREEN ATTACHMENT

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EASY NAVIGATION!

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

1.855.KWS.WALL

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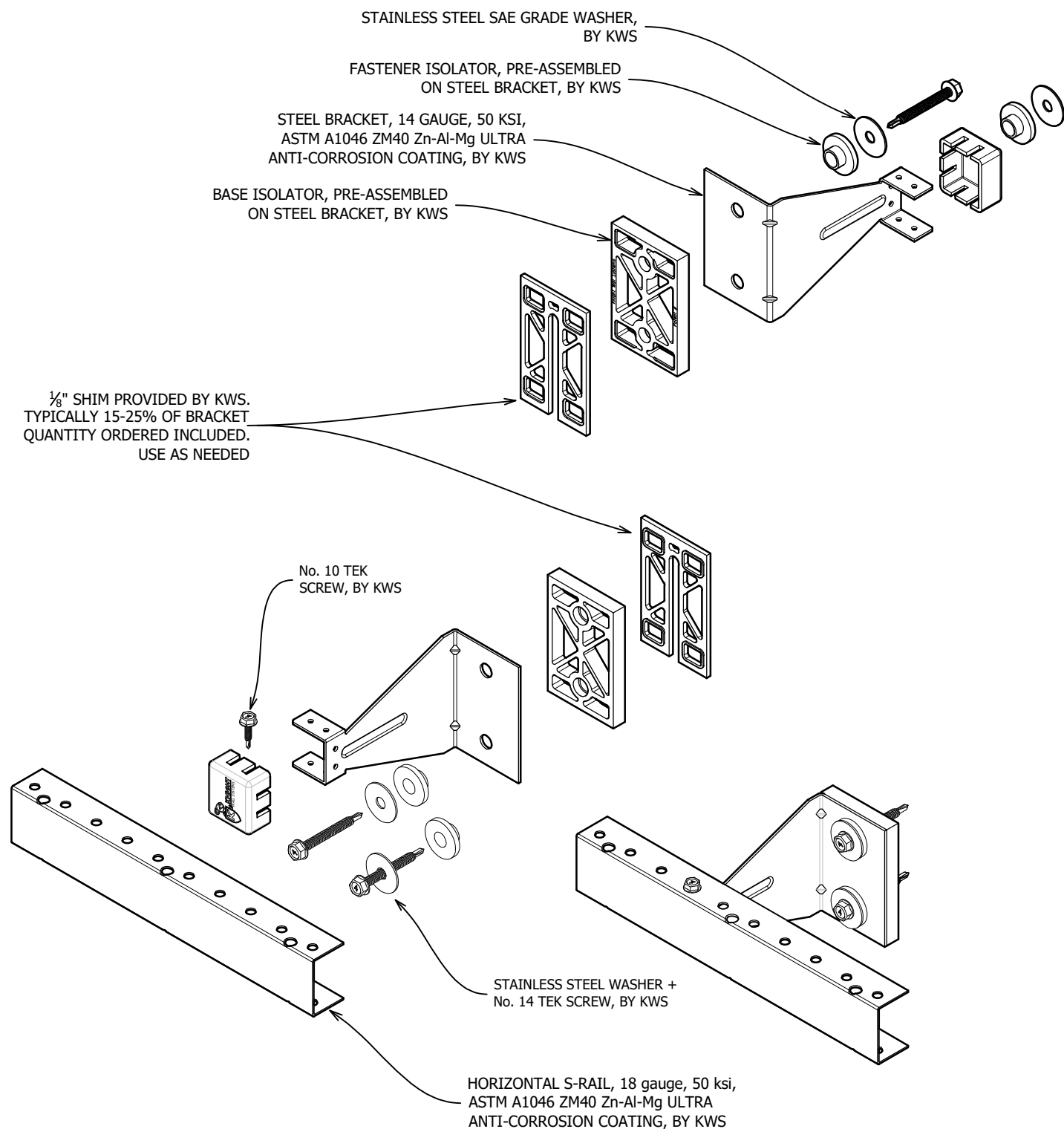
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RAINSCREEN ATTACHMENT

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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: 3" = 1'-0"

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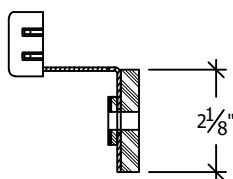
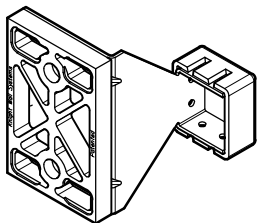
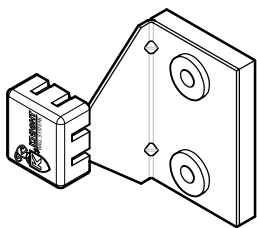
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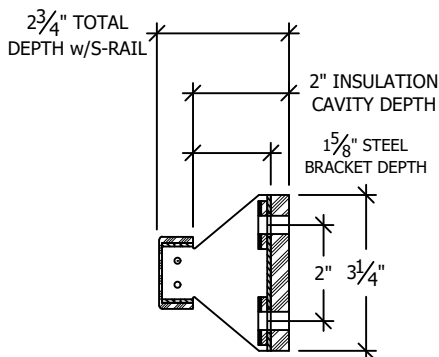


## KNIGHT MFI® System S-SERIES (HORIZONTAL ORIENTATION) RAINSCREEN ATTACHMENT

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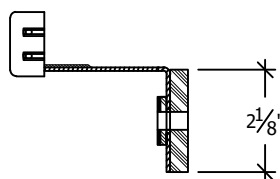
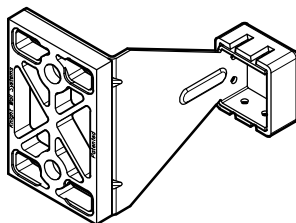
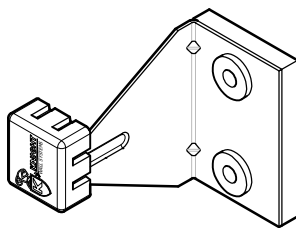
TOP/PLAN VIEW



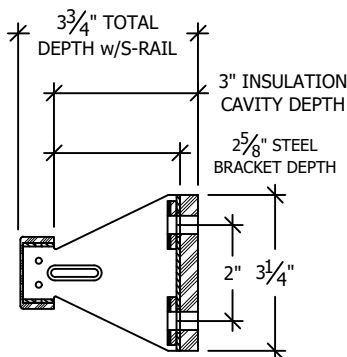
SIDE/SECTION VIEW

### 2" ThermaBracket-S

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



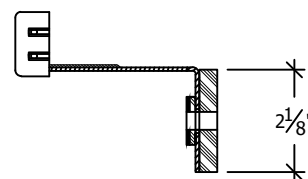
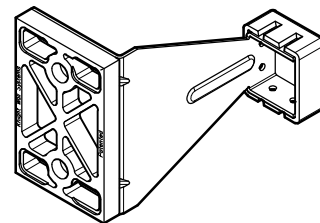
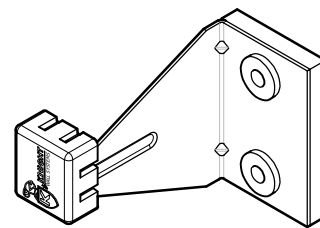
TOP/PLAN VIEW



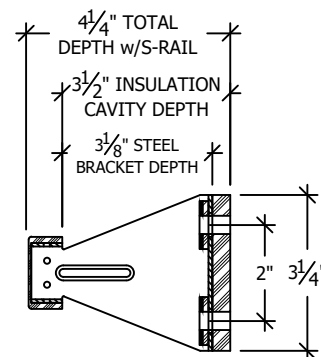
SIDE/SECTION VIEW

### 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.



## ThermaBracket SIZES - 2"-3.5"

SCALE: 3" = 1'-0"

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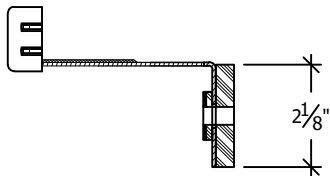
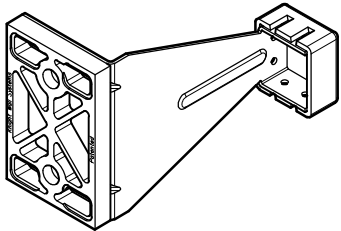
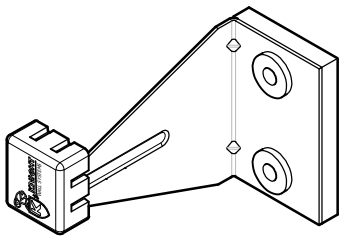
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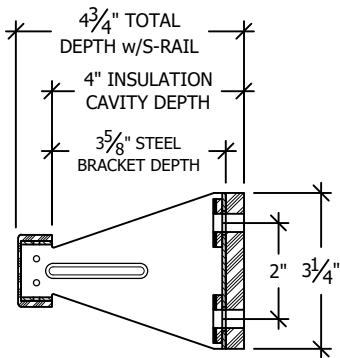


## KNIGHT MFI® System S-SERIES (HORIZONTAL ORIENTATION) RAINSCREEN ATTACHMENT

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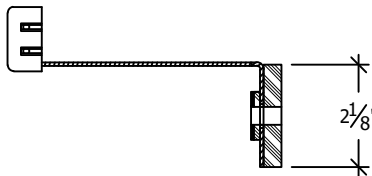
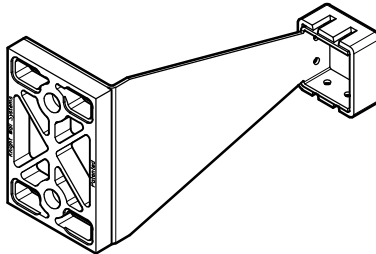
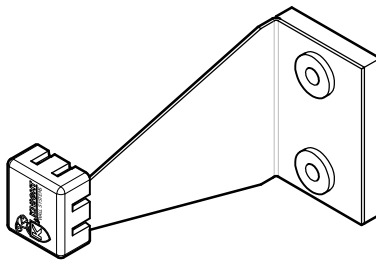
TOP/PLAN VIEW



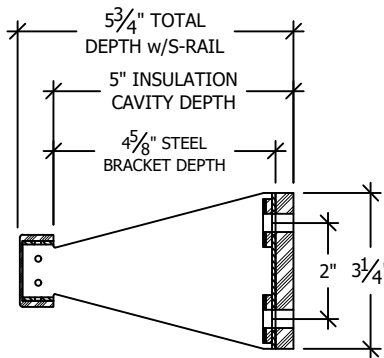
SIDE/SECTION VIEW

#### 4" ThermaBracket-S

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



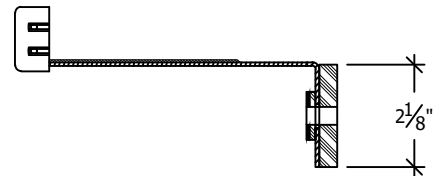
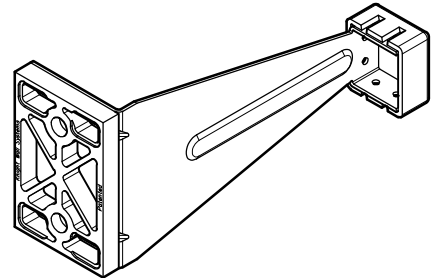
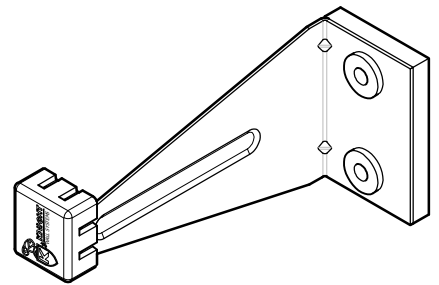
TOP/PLAN VIEW



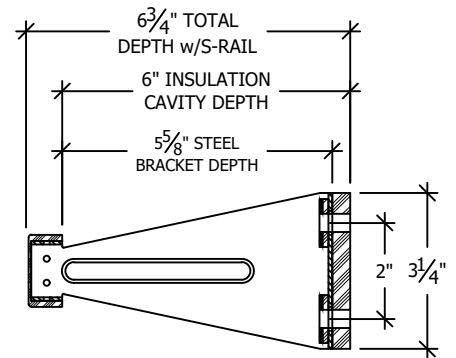
SIDE/SECTION VIEW

#### 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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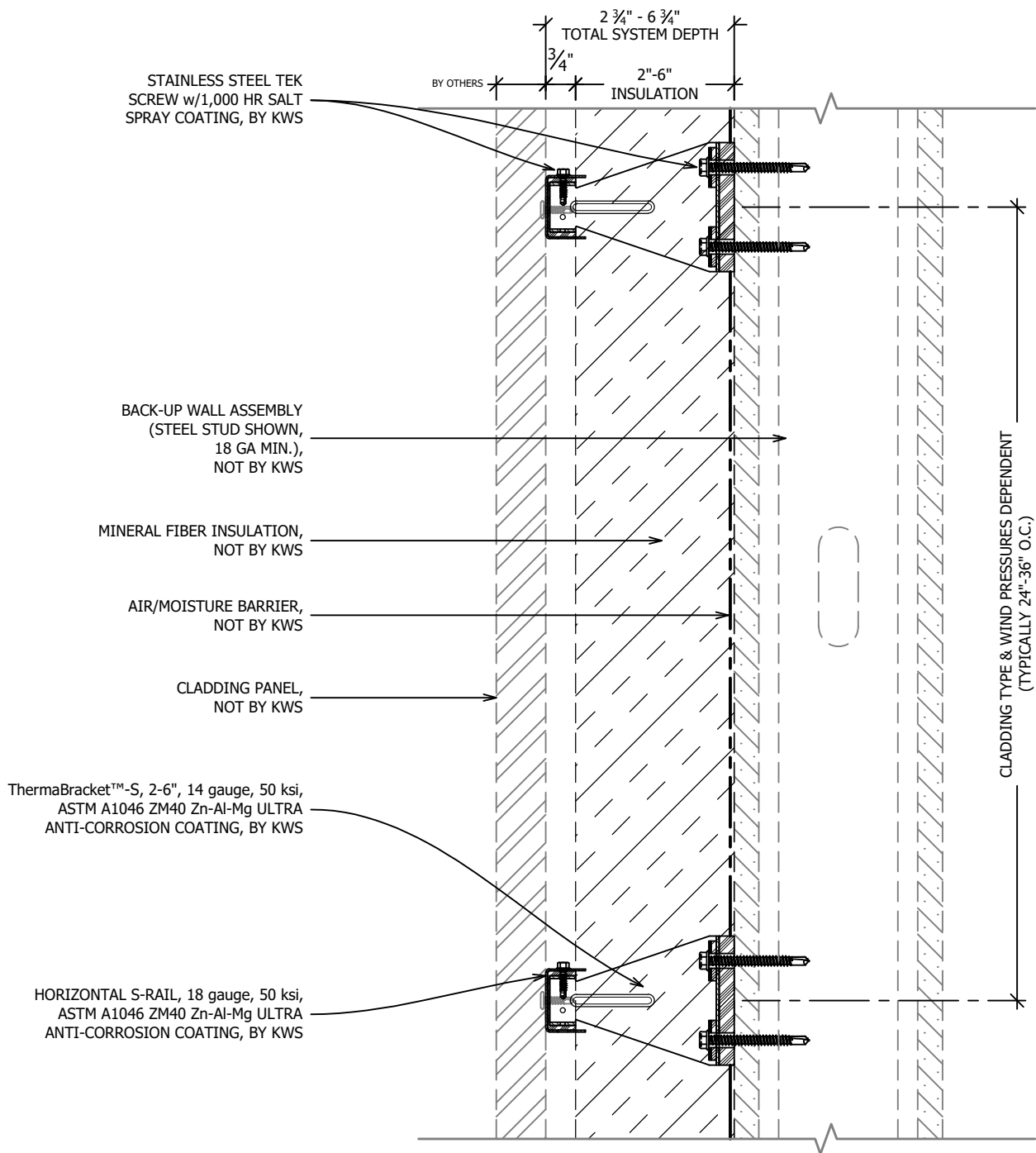
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KNIGHT MFI® System S-SERIES  
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RAINSCREEN ATTACHMENT

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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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CLADDING) IS BASED ON THE TOTAL LOAD (DEAD + LIVE) ACTING ON THE  
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TYPICAL SECTION VIEW - S-Rail ONLY

SCALE: 3" = 1'-0"

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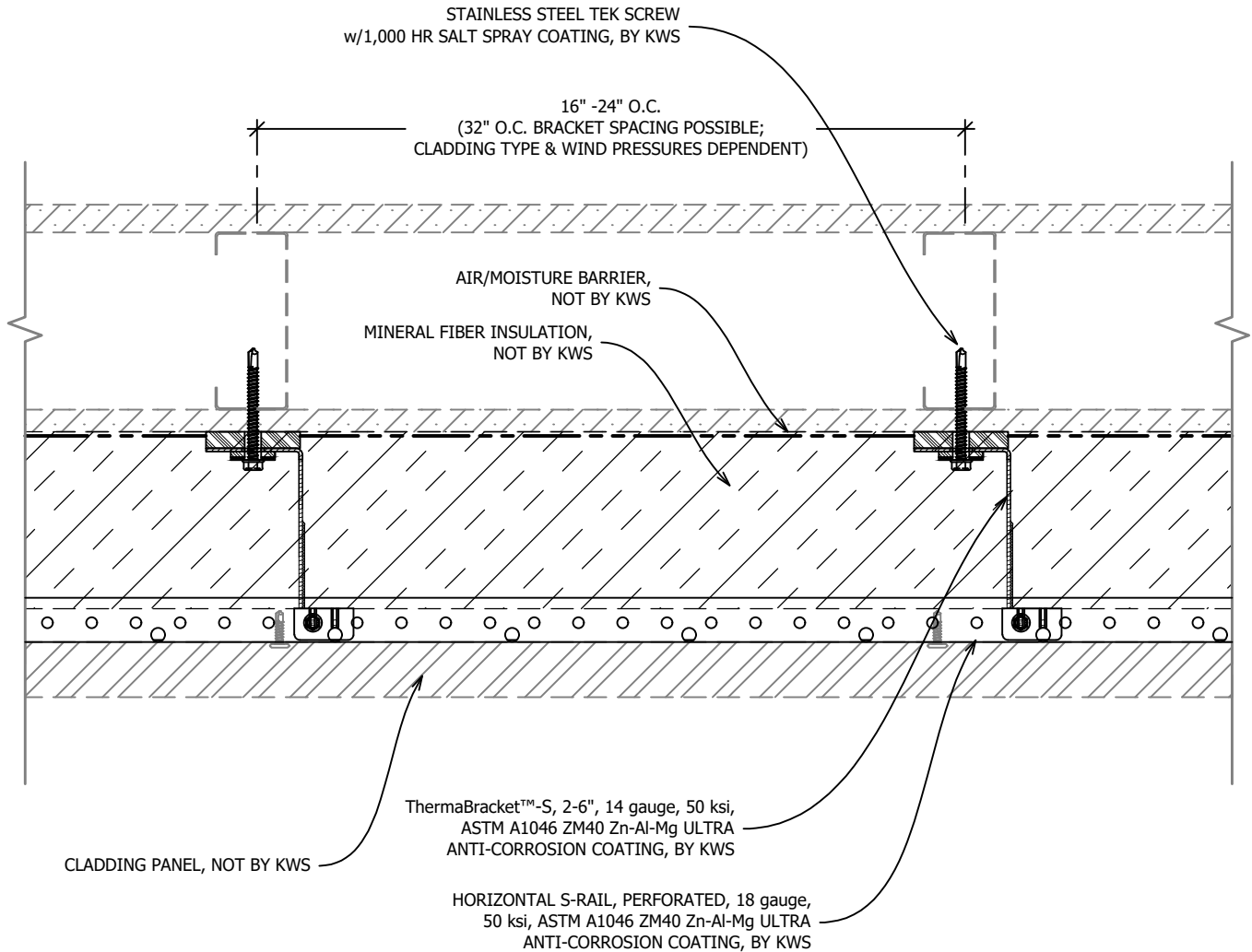
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KNIGHT MFI® System S-SERIES  
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RAINSCREEN ATTACHMENT

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SYSTEM MAY BE INSTALLED OVER STEEL STUDS,  
WOOD STUDS, CMU OR CONCRETE SUBSTRATES  
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## TYPICAL PLAN VIEW - S-Rail ONLY

SCALE: 3" = 1'-0"

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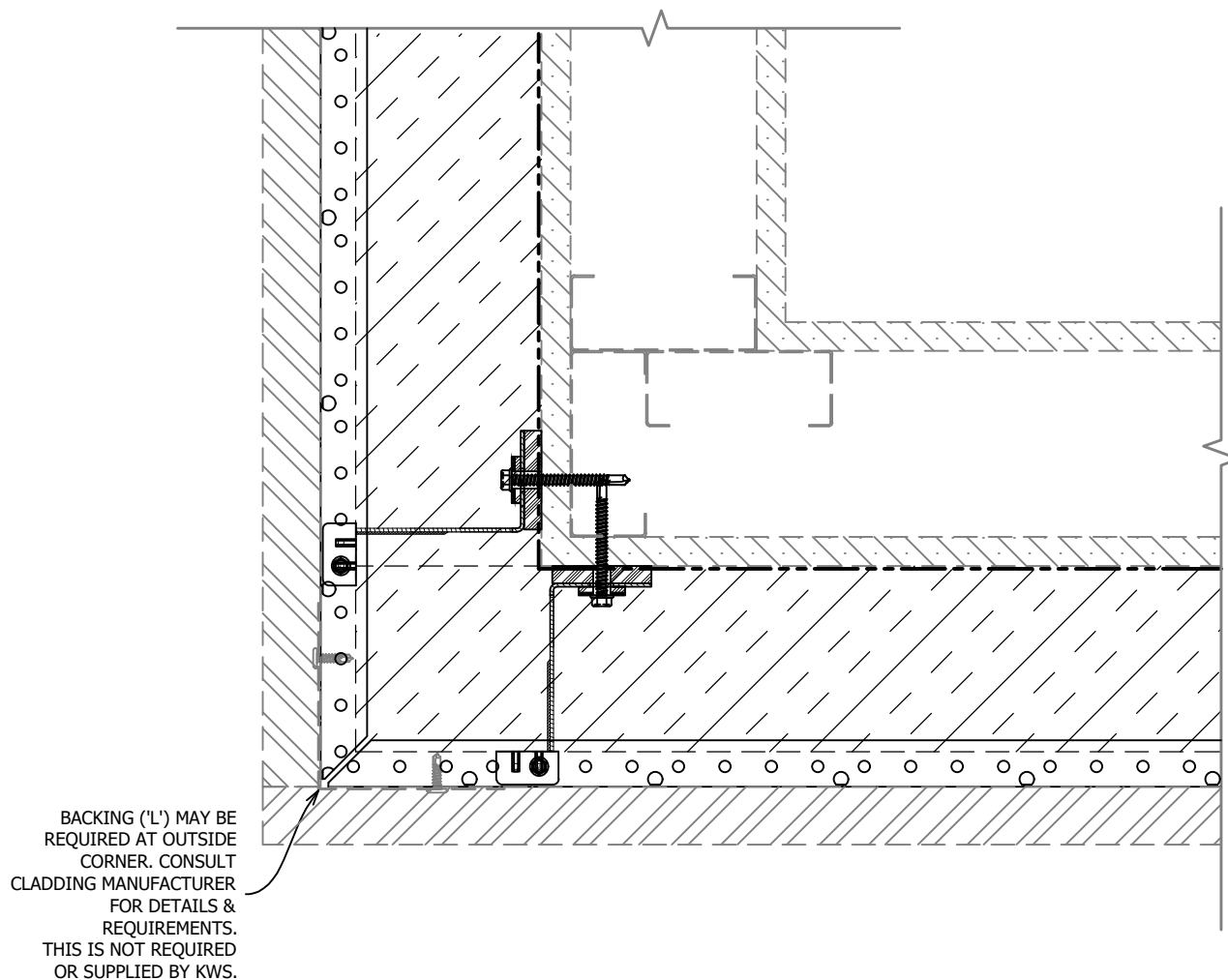
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## KNIGHT MFI™ System S-SERIES (HORIZONTAL ORIENTATION) RAINSCREEN ATTACHMENT

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## TYPICAL OUTSIDE CORNER

SCALE: 3" = 1'-0"

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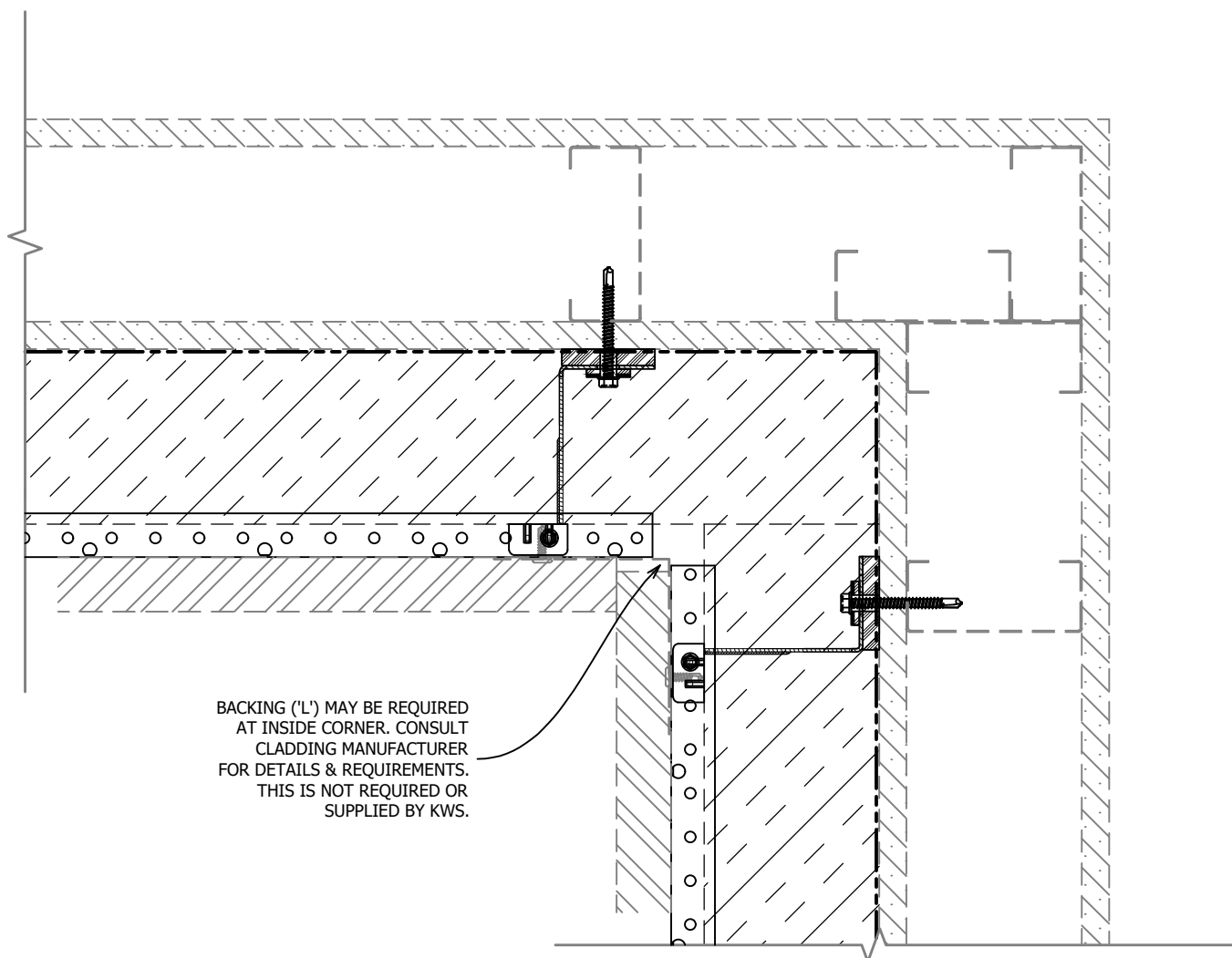
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## KNIGHT MFI™ System S-SERIES (HORIZONTAL ORIENTATION) RAINSCREEN ATTACHMENT

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

\*16 GAUGE RAILS, FACTORY BLACK COATED RAILS & STAINLESS STEEL  
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ASSEMBLY, BRACKETS AND CONNECTIONS.

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## TYPICAL INSIDE CORNER

SCALE: 3" = 1'-0"

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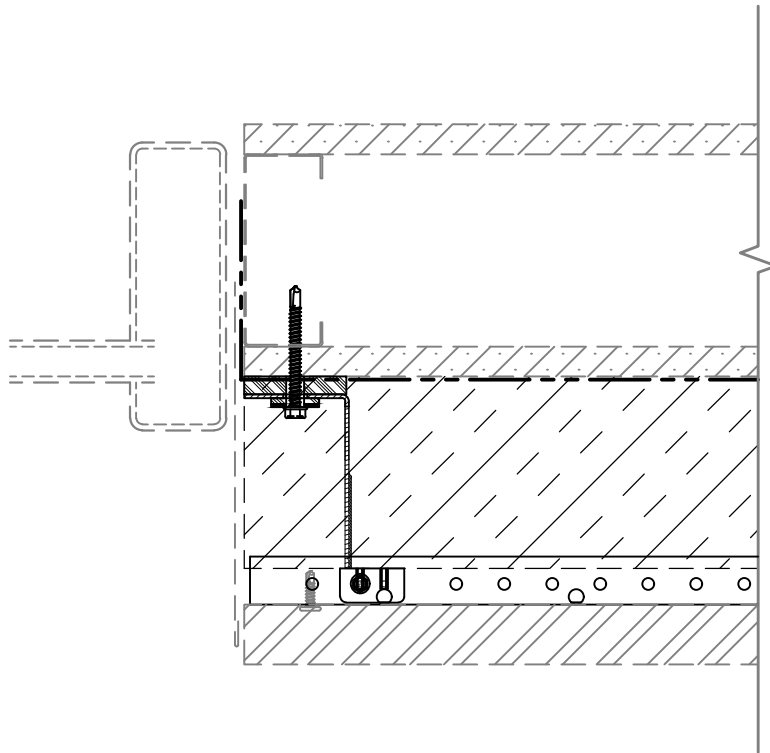
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## KNIGHT MFI™ System S-SERIES (HORIZONTAL ORIENTATION) RAINSCREEN ATTACHMENT

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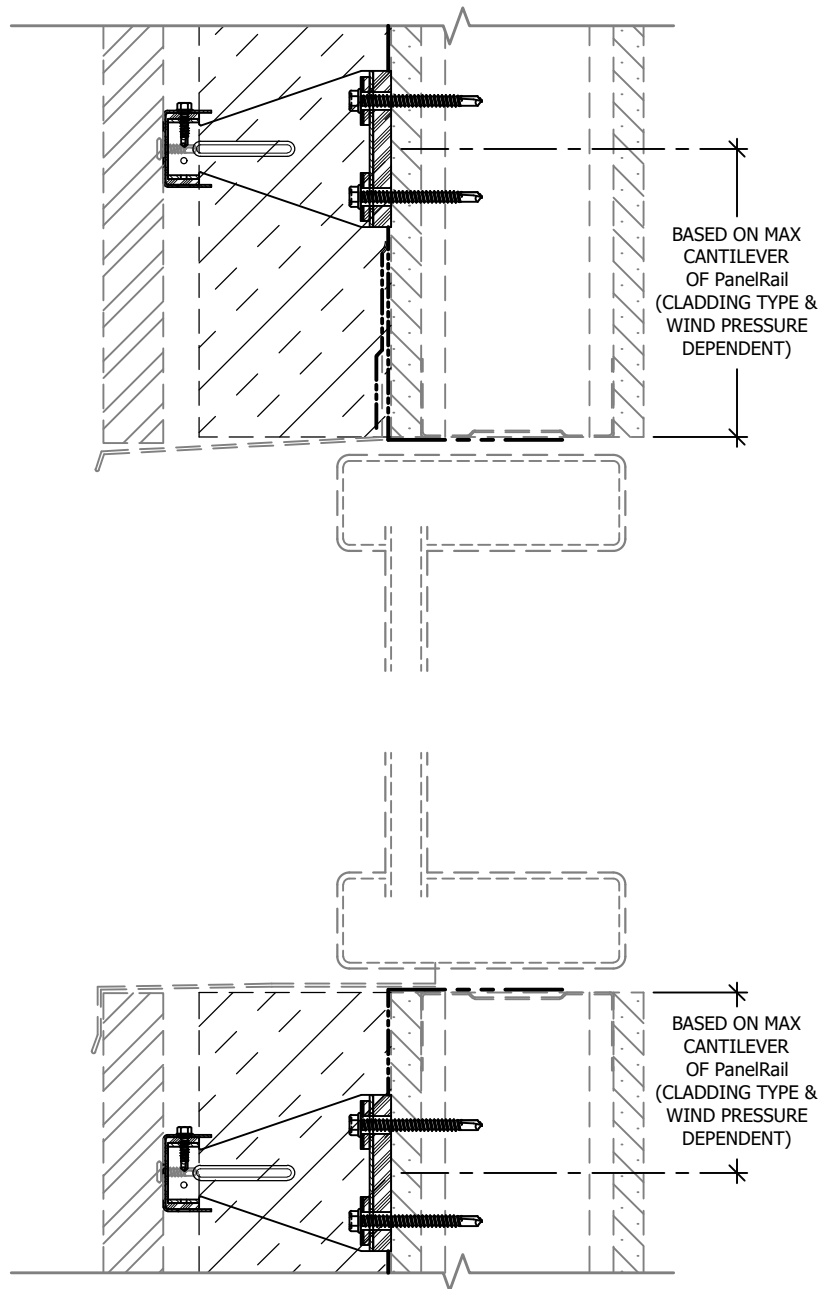
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\* FLASHING DETAILS VARY BASED ON WINDOW TYPE, POSITION (INSET VS FLUSH) AND CLADDING TYPE. FLASHING IS NOT BY KWS.

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## TYPICAL HEAD & SILL CONDITION

SCALE: 3" = 1'-0"

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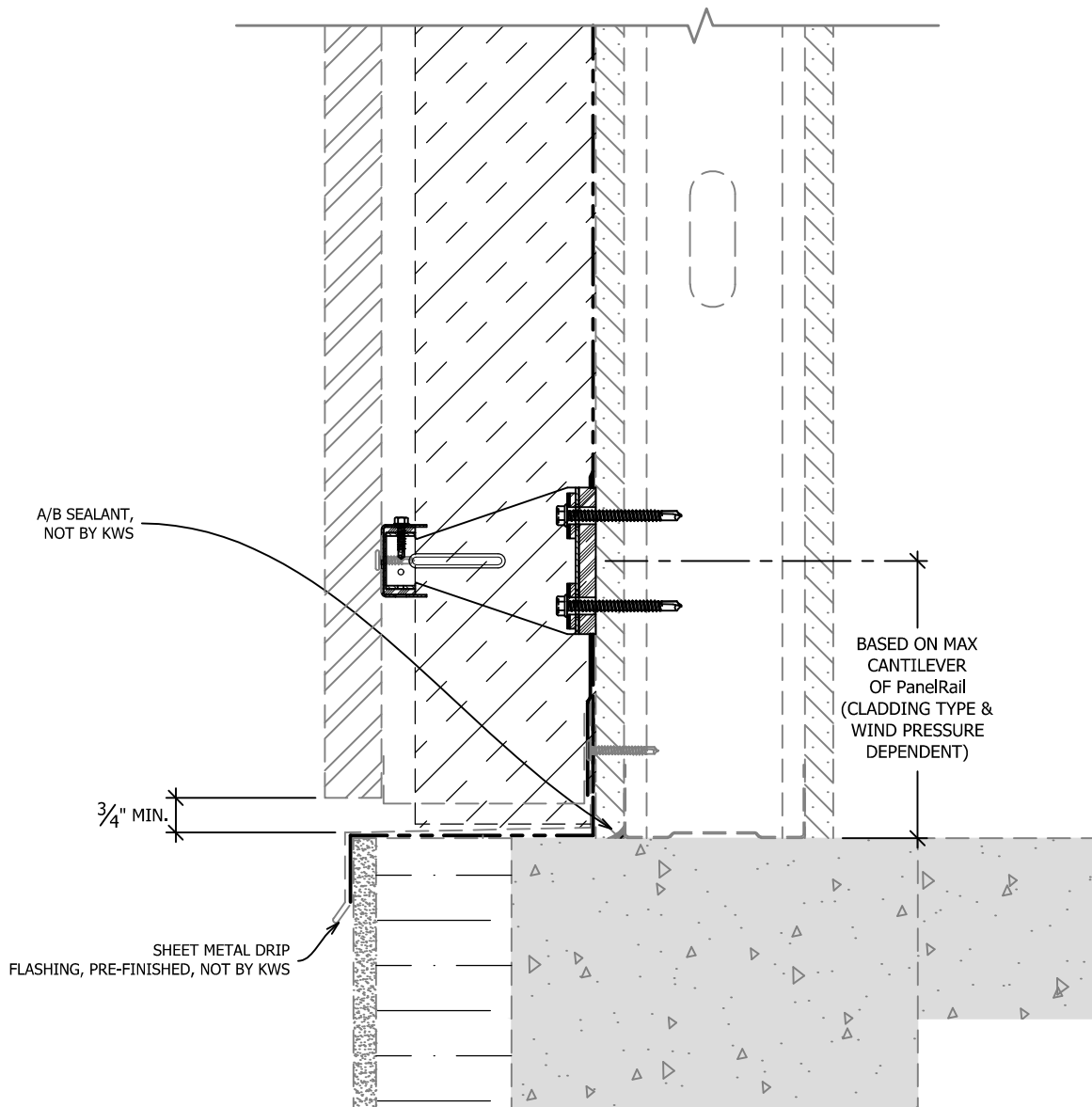
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## KNIGHT MFI™ System S-SERIES (HORIZONTAL ORIENTATION) RAINSCREEN ATTACHMENT

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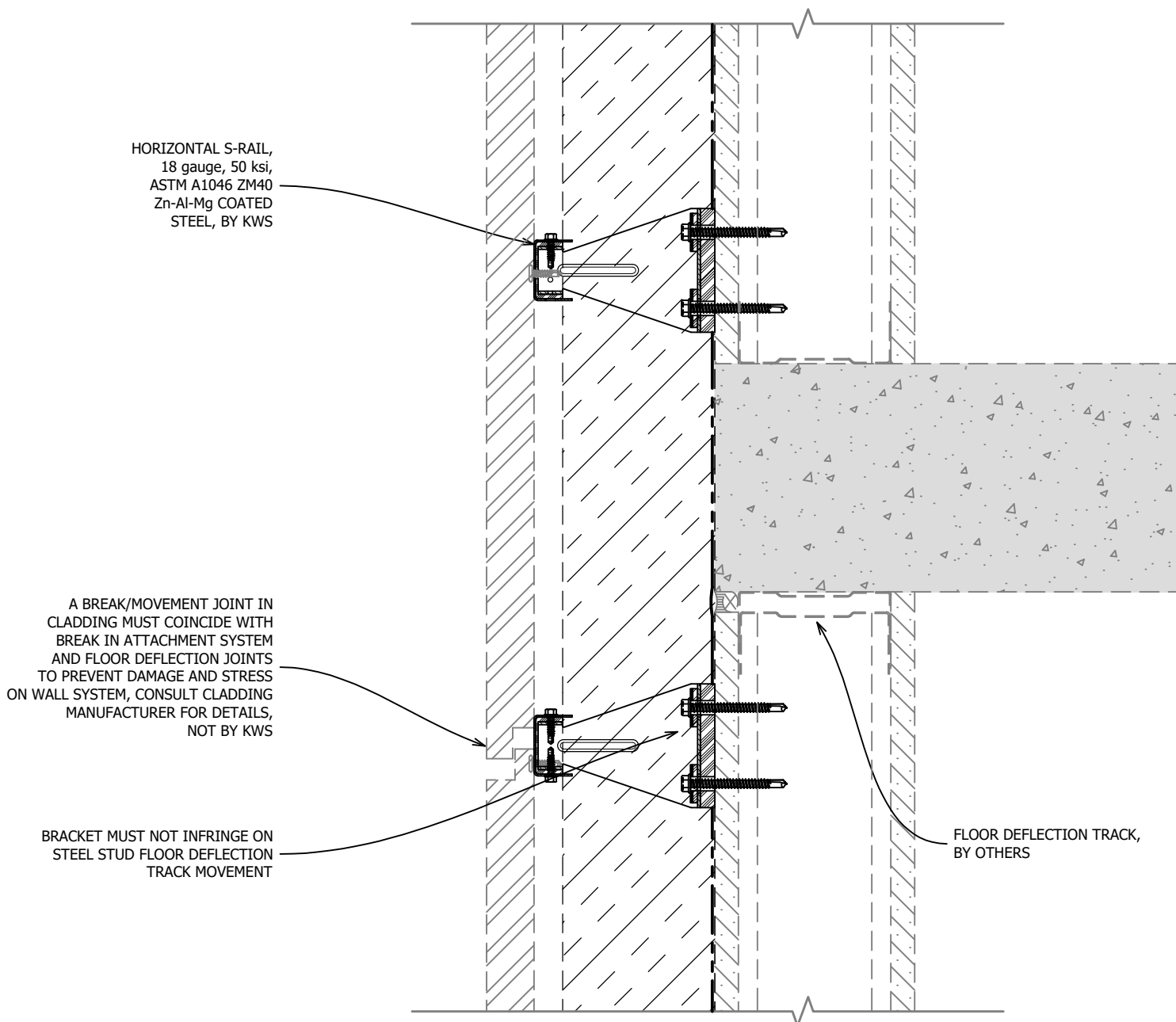
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## KNIGHT MFI™ System S-SERIES (HORIZONTAL ORIENTATION) RAINSCREEN ATTACHMENT

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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 FLOOR DEFLECTION JOINT

SCALE: 3" = 1'-0"

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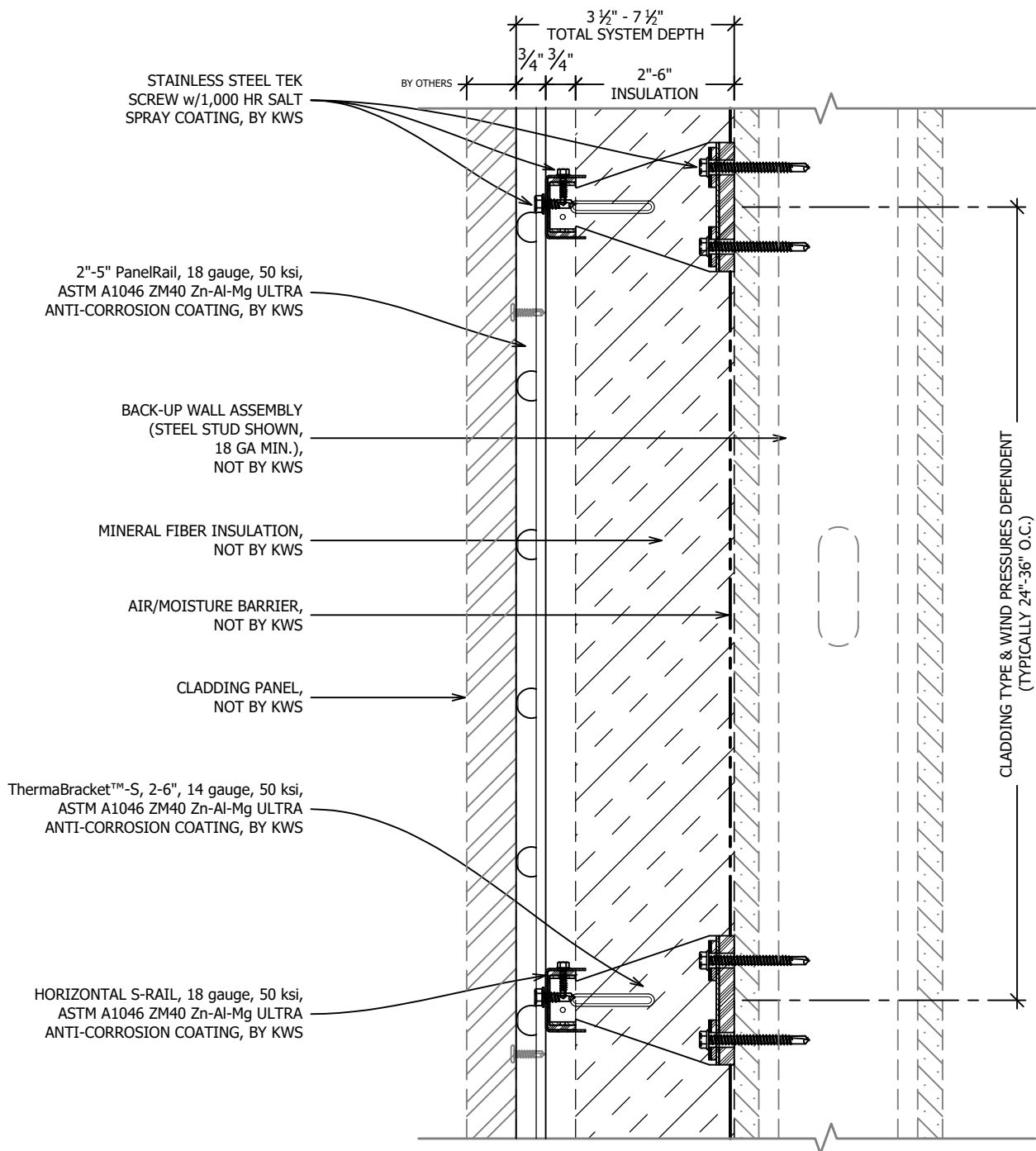
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## KNIGHT MFI™ System S-SERIES (HORIZONTAL ORIENTATION) RAINSCREEN ATTACHMENT

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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 SECTION VIEW - S-Rail + PanelRail

SCALE: 3" = 1'-0"

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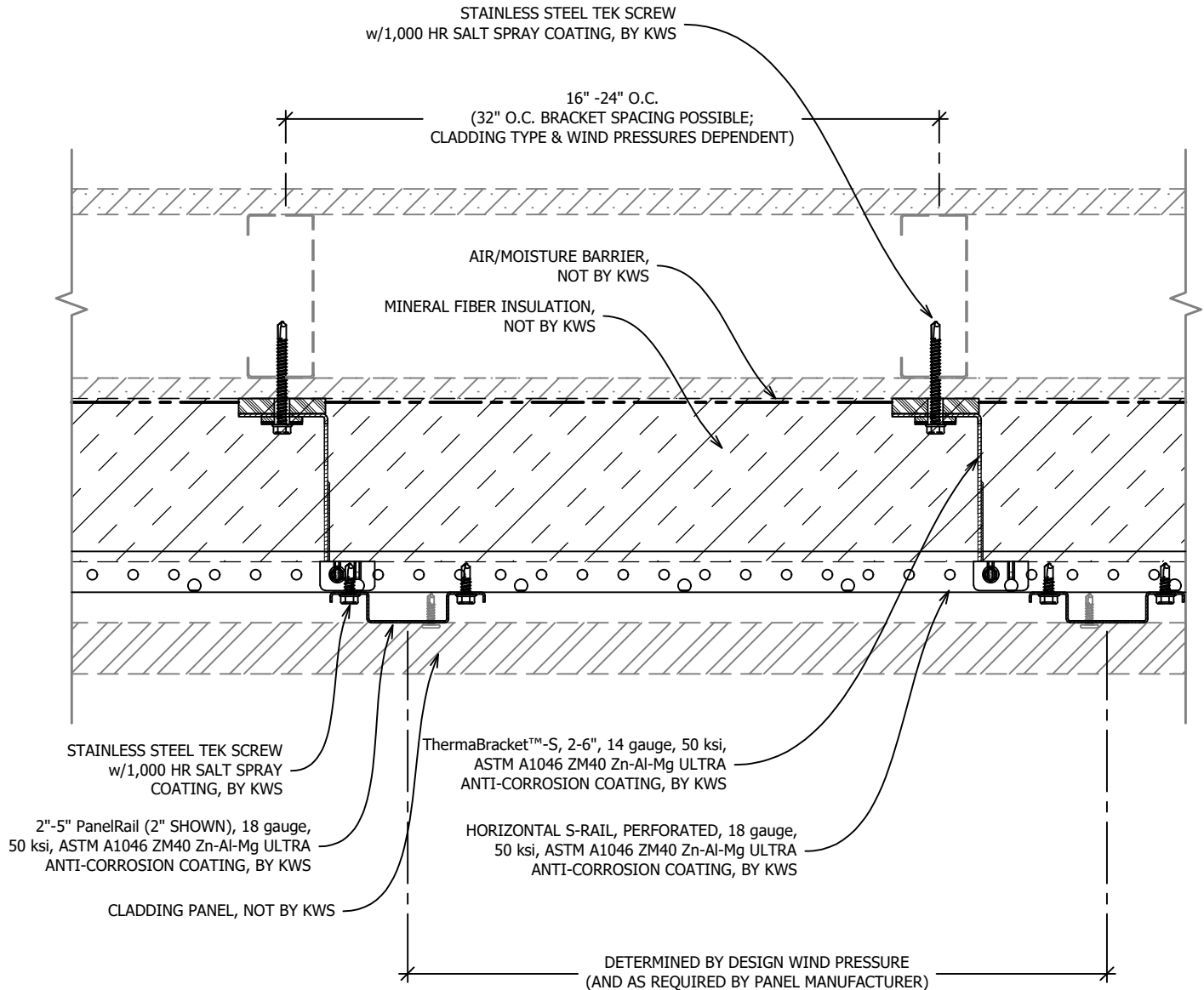


KNIGHT MFI™ System S-SERIES  
(HORIZONTAL ORIENTATION)  
RAINSCREEN ATTACHMENT

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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

\*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 - S-Rail + PanelRail

SCALE: 3" = 1'-0"

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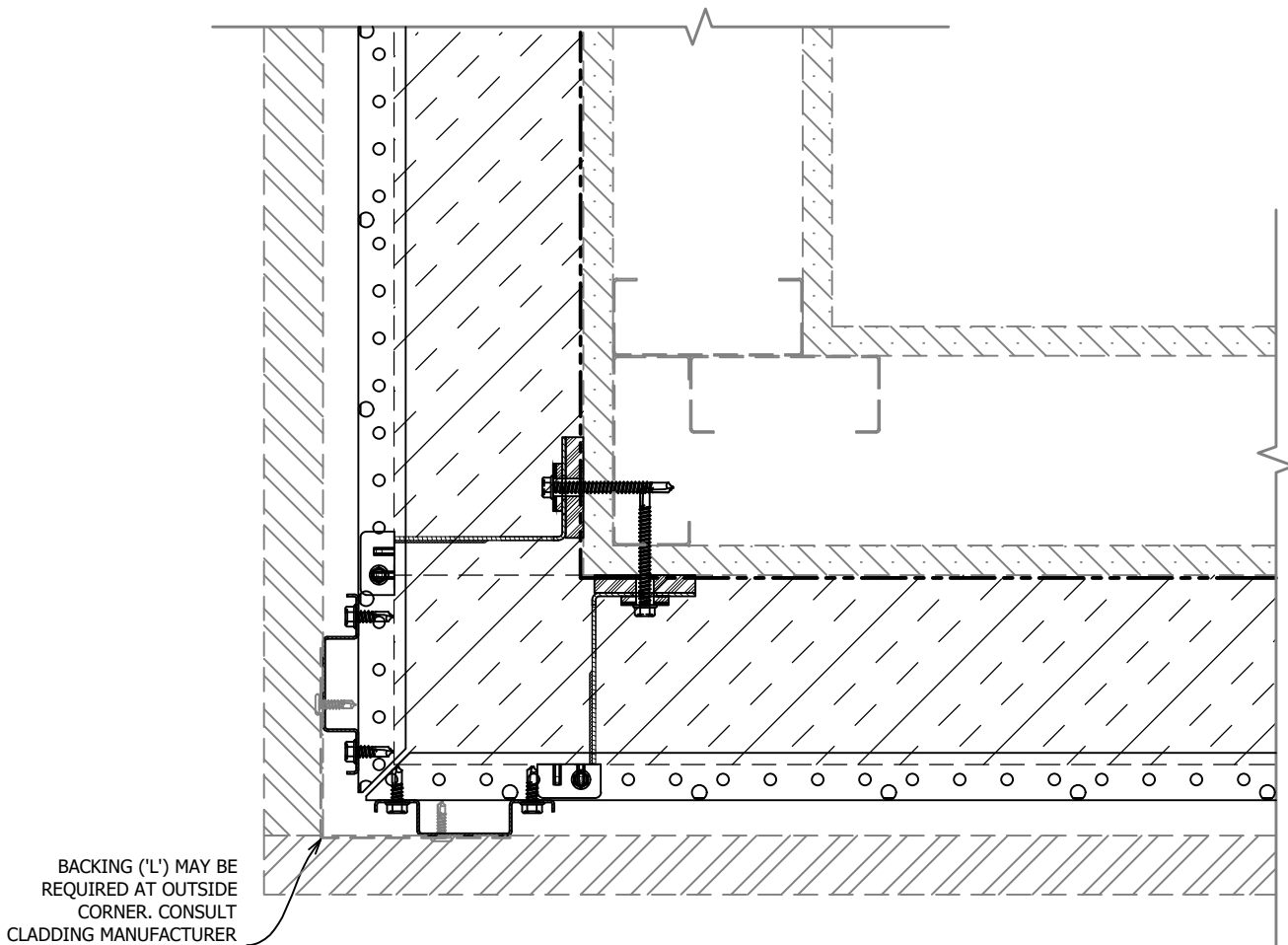
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## KNIGHT MFI™ System S-SERIES (HORIZONTAL ORIENTATION) RAINSCREEN ATTACHMENT

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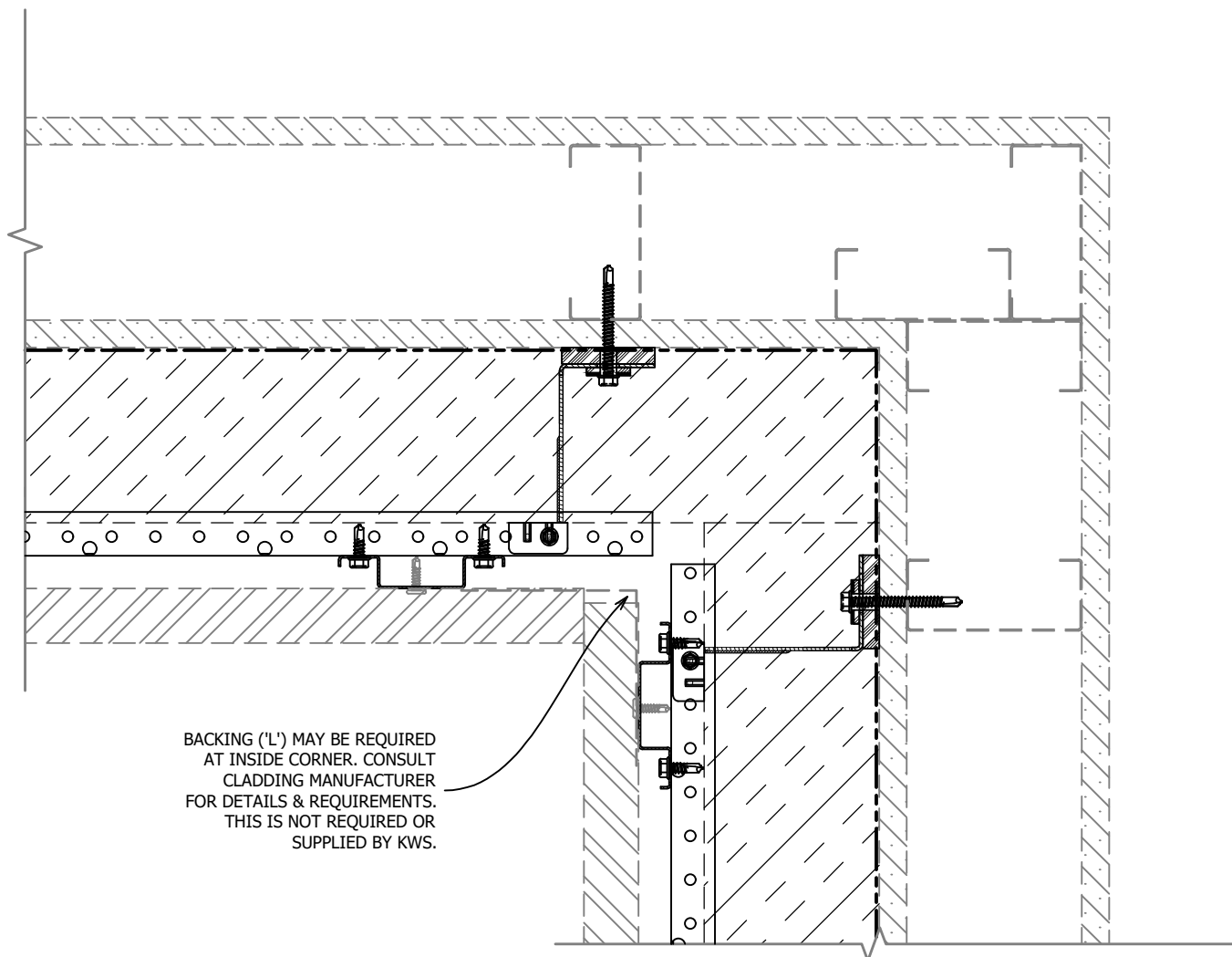
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## KNIGHT MFI™ System S-SERIES (HORIZONTAL ORIENTATION) RAINSCREEN ATTACHMENT

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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 INSIDE CORNER

SCALE: 3" = 1'-0"

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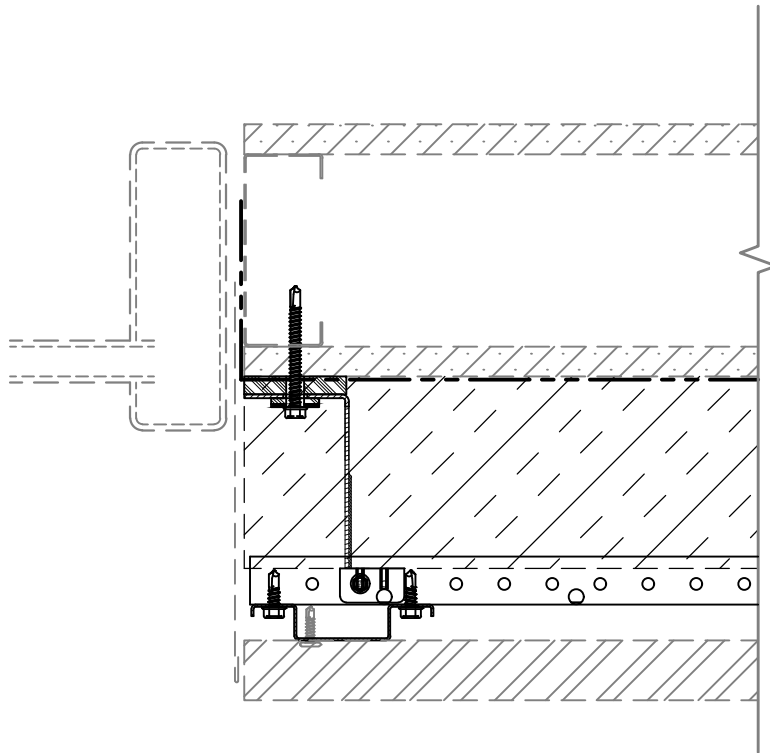
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## KNIGHT MFI™ System S-SERIES (HORIZONTAL ORIENTATION) RAINSCREEN ATTACHMENT

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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 JAMB CONDITION

SCALE: 3" = 1'-0"

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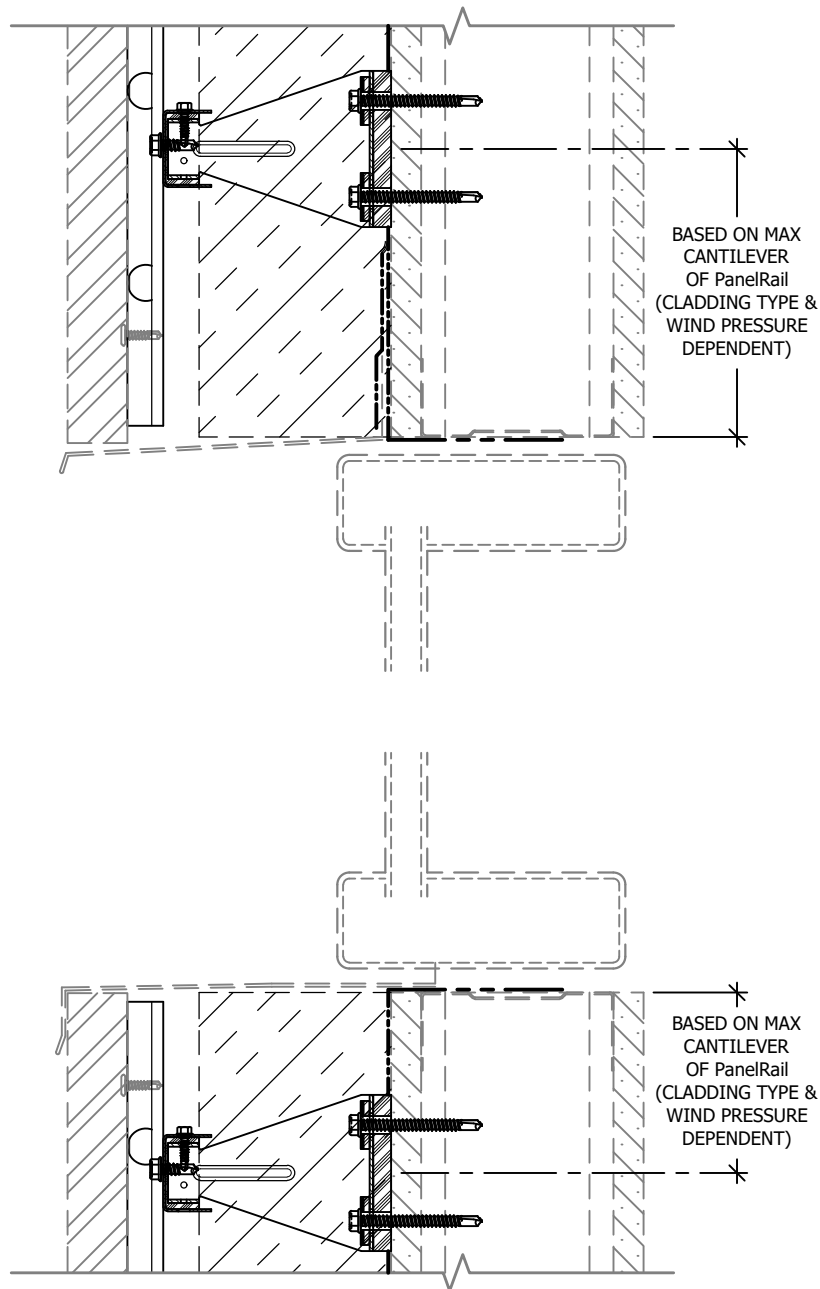
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## KNIGHT MFI™ System S-SERIES (HORIZONTAL ORIENTATION) RAINSCREEN ATTACHMENT

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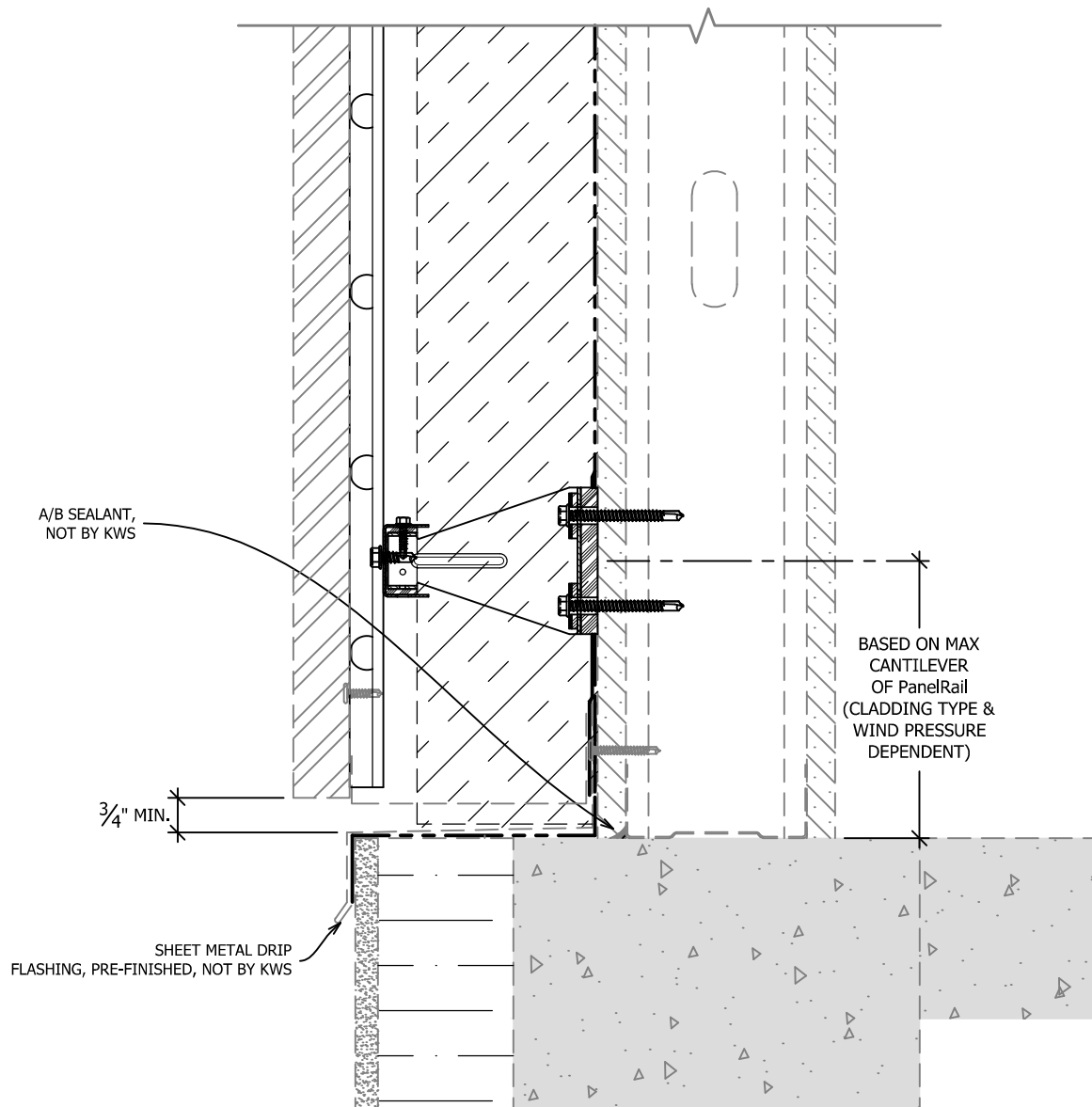
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## KNIGHT MFI™ System S-SERIES (HORIZONTAL ORIENTATION) RAINSCREEN ATTACHMENT

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

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NOTE:  
MAXIMUM PanelRail CANTILEVER  
BEYOND A ThermoBracket-S  
VARIES PER PROJECT. TYPICALLY  
IT WILL RANGE FROM 6"-14".

HORIZONTAL S-RAIL,  
18 gauge, 50 ksi,  
ASTM A1046 ZM40  
Zn-Al-Mg COATED  
STEEL, BY KWS

2"-5" PanelRail,  
18 gauge, 50 ksi,  
ASTM A1046 ZM40  
Zn-Al-Mg ULTRA  
ANTI-CORROSION  
COATING, BY KWS

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"

BRACKET MUST NOT INFRINGE ON  
STEEL STUD FLOOR DEFLECTION  
TRACK MOVEMENT

FLOOR DEFLECTION TRACK,  
BY OTHERS

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## 14 TYPICAL FLOOR DEFLECTION JOINT

SCALE: 3" = 1'-0"

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