DUPONT Thermax™

DuPont™ Thermax™ Wall System Detail Sets

Detailing Recommendations

OVERVIEW & CONTENTS

Overview

The "TWS-General" detail set outlines the general guidelines for design using the DuPont™ Thermax™ Wall System* (TWS), focusing maintaining continuity of the four control layers (thermal, air, vapor, and water). These details can be used as guides for any Thermax™ Wall System project.

Cladding specific supplemental sets, "TWS-Masonry," "TWS-Rainscreen," and "TWS-Applied," address conditions that apply to specific cladding types. These are meant to be used in conjunction with the TWS-General set.

Other system detail sets available at building.dupont.com

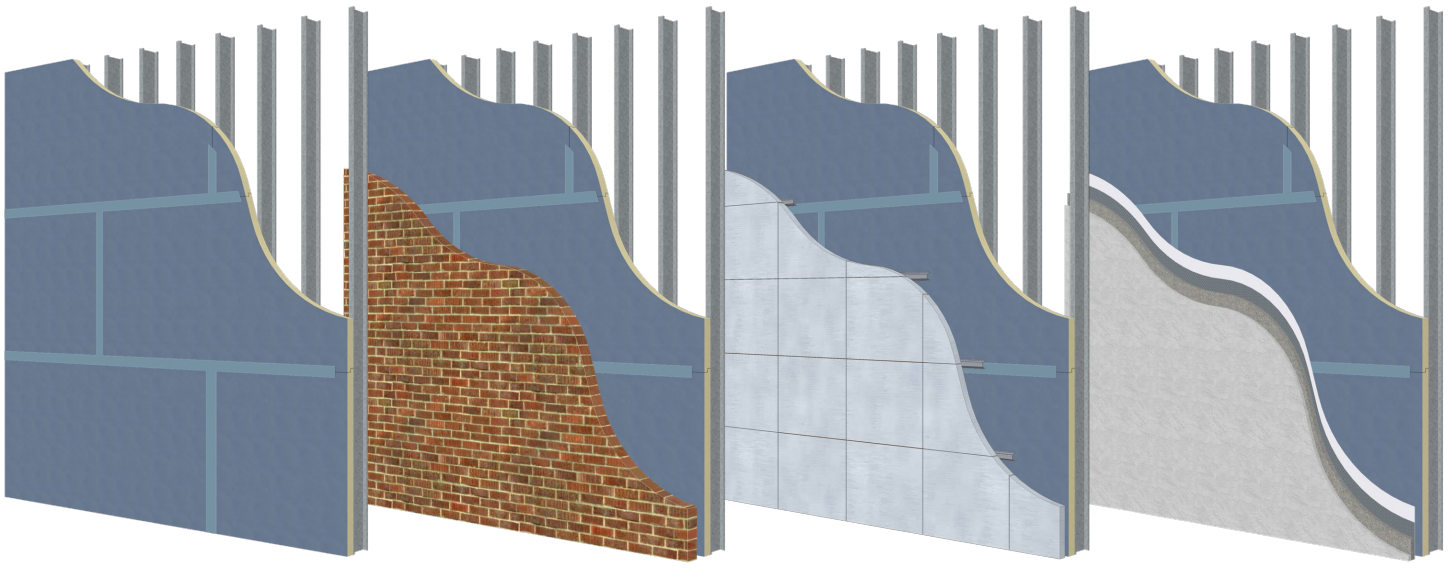
NAVIGATING

Nomenclature *Key*

TWS-G01

System
Detail Set
Detail Number

TWS DuPont™ Thermax™ Wall System*
G General / Cladding Neutral
M Masonry Cladding
R Rainscreen Cladding
A Applied, Adhered Veneer



TWS-General

For any TWS job

TWS-Masonry

For jobs using masonry claddings, including:
- Brick
- Stone
- CMU Veneer

TWS-Rainscreen

For jobs using rainscreen claddings, including:
- MCM, metal panels
- Terra Cotta
- Fiber Cement Panels

TWS-Applied

For jobs using applied or adhered claddings, including:
- Stucco
- Adhered Stone

*A former product of The Dow Chemical Company.

DUPONT Thermax™

DuPont™ Thermax™ Wall System General Considerations

Detailing Recommendations

CONTENTS

NAVIGATING

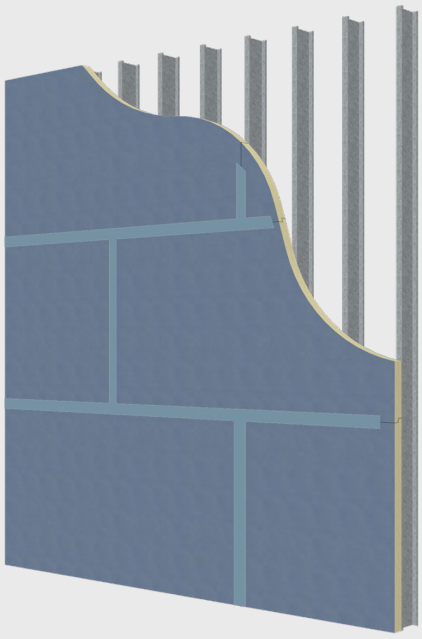
Nomenclature *Key*

TWS-G01

System — **TWS** DuPont™ Thermax™ Wall System*

Detail Set — **G** General / Cladding Neutral
M Masonry Cladding
R Rainscreen Cladding
A Applied, Adhered Veneer

Detail Number



*A former product of The Dow Chemical Company.

DUPONT

Thermax Wall System

CLADDING NEUTRAL

Control Layer Summary

DESIGN INTENT

1. EXTERIOR INSULATION WITH 4 MIL ACRYLIC COATED ALUMINUM FACER ACTS AS 4 PRIMARY CONTROL LAYERS: THERMAL (CI), WATER-RESISTIVE, AIR SEALING, & VAPOR RETARDING, WHILE THE INSULATION JOINT TREATMENT WILL SEAL & COMPLETE CONTINUITY OF THE 4 CONTROL LAYERS.
2. CONTINUOUS INSULATION THICKNESS TO BE DETERMINED TO MINIMIZE CONDENSATION POTENTIAL AND COMPLY WITH ENERGY CODE.

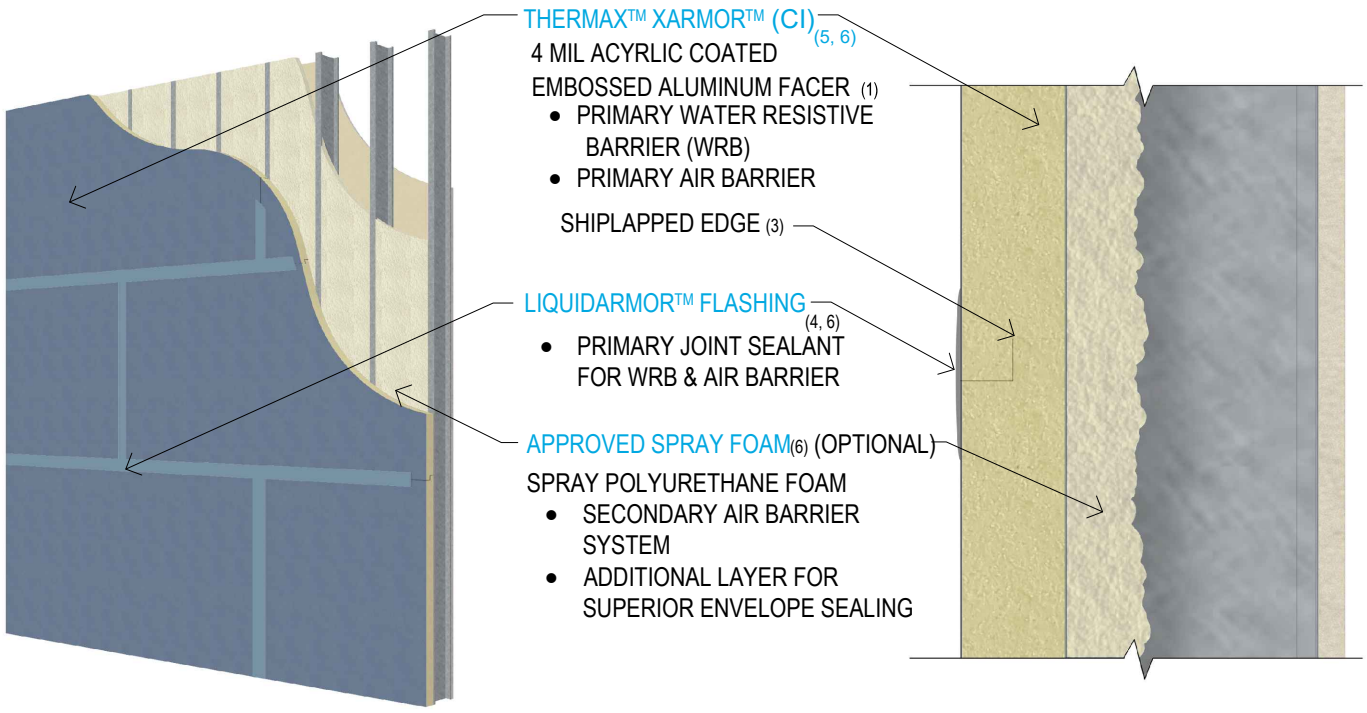
ASTM STANDARDS

DUPONT™ THERMAX™ XARMOR™ (CI)*

- ASTM C518 R-6.5 @ 1"
- ASTM C1289 TYPE I CLASS 2
- ASTM E84 CLASS A

THERMAX™ XARMOR™ (CI) + DUPONT™ LIQUIDARMOR™* FLASHING @ SEAMS

- AIR BARRIER PER ASTM E2357, ASTM E283
- WATER BARRIER PER ASTM E331
- CLASS 1 VAPOR RETARDER PER ASTM E96



CLADDING-NEUTRAL SYSTEM | ISOMETRIC

TWS-G01.1 (EXCLUDES BASE FLASHINGS, FASTENERS, CLADDINGS, ETC.)

CLADDING-NEUTRAL SYSTEM | SECTION

TWS-G01.2

MINIMUM REQUIREMENTS

1. BREACHES TO EXTERIOR INSULATION FACER MUST BE SEALED WITH LIQUIDARMOR™ FLASHING. MIN. WIDTH AND THICKNESS APPLIED ON FACER AROUND BREACH BASED ON DETAIL TWS-G02.
2. GAPS GREATER THAN 1/4" MUST BE FILLED USING GREAT STUFF PRO™ GAPS & CRACKS* OR OTHER APPROVED SEALANT PRIOR TO FLASHING THE INSULATION.
3. SHIPLAP EDGE AVAILABLE FOR INSULATIONS 1.5" THICK & GREATER, MUST BE INSTALLED AS SHOWN ABOVE FOR SUPERIOR WATER SHEDDING.
4. INSULATION JOINTS TO BE SEALED WITH LIQUIDARMOR™ FLASHING BASED ON DETAIL TWS-G02 REQUIREMENTS.
5. THERMAX™ XARMOR™ INSULATION CAN BE LEFT EXPOSED FOR MAX. 180 DAYS PRIOR TO INSTALLATION OF EXTERIOR CLADDING.
6. SEE DETAIL TWS-G02 SYSTEM OPTIONS FOR PRODUCT OPTIONS.

*A former product of The Dow Chemical Company.

System Options

DESIGN INTENT

1. THE BASIS OF DESIGN FOR THE DUPONT™ THERMAX™ WALL SYSTEM* USES DUPONT™ THERMAX XARMOR™ (CI)* AND DUPONT™ LIQUIDARMOR™* CM, LT, OR QS FLASHING. OTHER CONFIGURATIONS ARE ACCEPTABLE.
2. THE THERMAX™ WALL SYSTEM CAN BE COMPOSED OF SEVERAL DIFFERENT OPTIONS, CHOOSING ANY COMBINATION OF ITEMS FROM SECTIONS (A) THRU (E). ALL OPTIONS WILL MEET CODE FOR CONTINUOUS INSULATION (R-VALUE REQUIREMENTS VARY BY CLIMATE ZONE), AIR BARRIER, VAPOR RETARDER, AND WATER BARRIER.
3. VERIFY **NFPA 285 COMPLIANCE** VIA ENGINEERED LETTER.

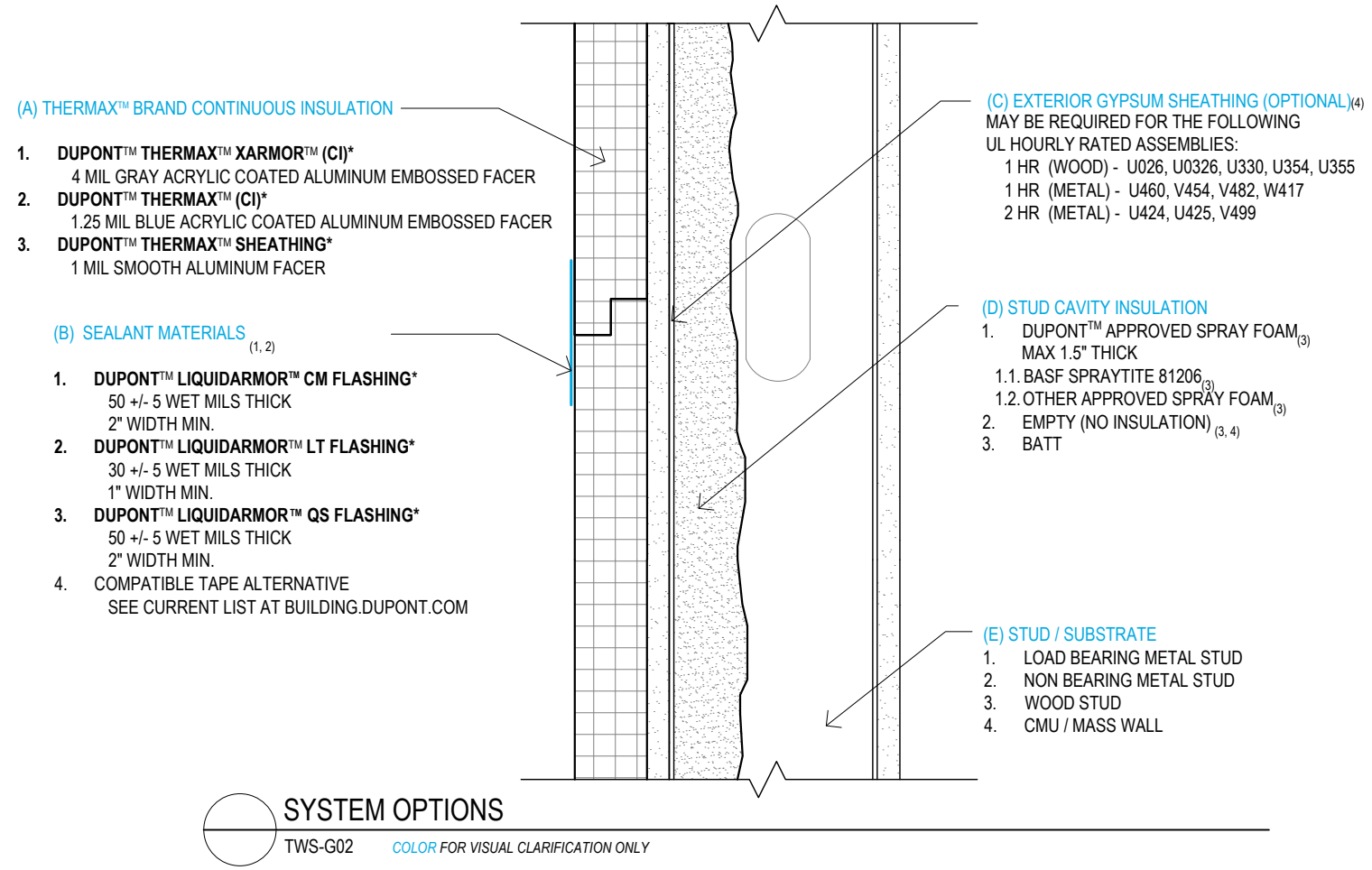
WARRANTIES AVAILABLE WITH REGISTRATION

TWS GOLD WITH THERMAX™ XARMOR™ (CI) AND LIQUIDARMOR™

TWS SILVER WITH THERMAX™ (CI) AND LIQUIDARMOR™

TWS BRONZE WITH THERMAX™ SHEATHING + LIQUIDARMOR™

VISIT BUILDING.DUPONT.COM FOR MORE INFORMATION.



SYSTEM OPTIONS

TWS-G02 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

1. INSULATION JOINTS TO BE SEALED W/ MIN. 2" WIDTH (CENTERED OVER JOINT) LIQUIDARMOR™ CM FLASHING @ 50 +/- 5 WET MILS
OR MIN. 2" WIDTH (CENTERED OVER JOINT) LIQUIDARMOR™ QS FLASHING @ 50 +/- 5 WET MILS
OR MIN. 1" WIDTH (CENTERED OVER JOINT) LIQUIDARMOR™ LT FLASHING @ 30 +/- 5 WET MILS
OR MIN. 4" WIDTH COMPATIBLE TAPE.
2. FASTENERS AND WASHERS ALONG BOARD BOARD JOINTS MUST BE COMPLETELY COVERED WITH LIQUIDARMOR™ FLASHING AND SEALANT.
3. MAX 1.5" THICK. NO OTHER MANUFACTURER'S BRAND OF SPRAY FOAM MAY BE APPLIED DIRECTLY ON THE BACK OF RIGID POLYISOCYANURATE INSULATION BOARD AS THIS WOULD BE PATENT INFRINGEMENT. FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS.
4. EXTERIOR GYPSUM SHEATHING IS NOT REQUIRED TO MEET WEATHER RESISTIVE & AIR BARRIER REQUIREMENTS, BUT MAY BE REQUIRED FOR HOURLY RATED WALL ASSEMBLIES OR OTHER PROJECT SPECIFICS.

Fastening Guidelines

DESIGN INTENT

1. SECURE DUPONT™ THERMAX™* INSULATION TO BUILDING STRUCTURE.
2. USE FASTENERS EVALUATED BY DUPONT'S TEAM OF BUILDING SCIENTISTS TO ASSURE LONG-TERM PERFORMANCE OF SYSTEM CONTROL LAYERS.
3. MINIMIZE NUMBER OF PENETRATIONS THROUGH INSULATION FACER TO MAINTAIN INTEGRITY OF WATER-RESISTIVE AND AIR BARRIERS.

FASTENER RECOMMENDATIONS

Framed Walls	TRUFAST® Walls (formerly Rodenhouse Inc.) Thermal Grip® ci Washer, prong or flat, or equivalent 2" diameter washer with solid cap design (no keyholes)
CMU / Concrete	TRUFAST® Walls Thermal Grip® ci Washer with tap-con or masonry screw
CMU / Concrete (requires flashing)	TRUFAST® Walls Plasti-Grip® PMF, Ramset T3 Insulfast

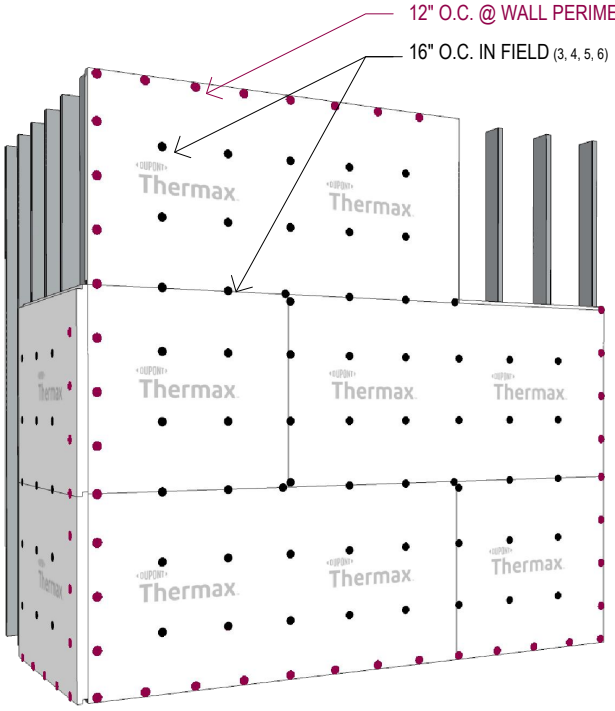


FIG 1: FASTENING PATTERN LAYOUT | ISOMETRIC

TWS-G03.1 *COLOR FOR VISUAL CLARIFICATION ONLY*

RECOMMENDED FASTENERS

2" DIAMETER SOLID CAP WITHOUT KEYHOLES
NO ADDITIONAL SEALING REQUIRED

OTHER FASTENERS

REQUIRE DUPONT™ LIQUIDARMOR™* FLASHING APPLIED OVER TOP OF FASTENER(4)

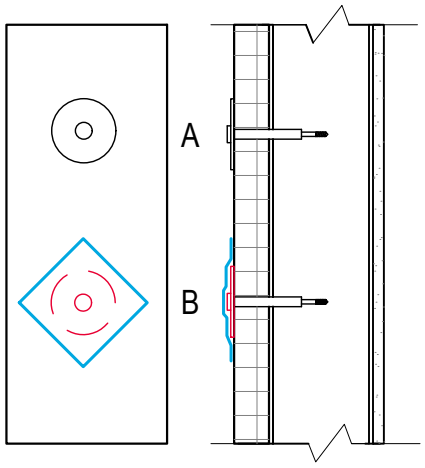


FIG 2: FASTENING FLASHING | ELEV. (L) & SECTION (R)

TWS-G03.2 FIG. 2A (TOP), FIG 2B (MIDDLE), FIG 2C (BOTTOM)

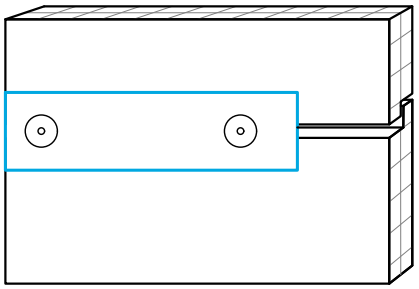


FIG 3: FASTENING @ BOARD JOINT | ISOMETRIC

TWS-G03.3 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

1. MIN. 18 GAUGE METAL STUDS.
2. INSULATION BOARDS SHOULD BE INSTALLED IN RUNNING BOND PATTERN.
3. INSULATION TO BE FASTENED @ MAX. 12" O.C. AT WALL PERIMETERS AND AROUND OPENINGS AND MAX 16" O.C. IN WALL FIELD.
4. "OTHER FASTENERS" AND OVER-DRIVEN FASTENERS THAT BREACH THE FACER OF INSULATION MUST BE SEALED WITH LIQUIDARMOR™ FLASHING APPLIED ON FACER AROUND BREACH AS SHOWN IN FIG.2-B USING FLASHING REQUIREMENTS ON DETAIL TWS-G02.
5. ALL FASTENERS USED TO SECURE THERMAX TO SUBSTRATE TO HAVE A MIN. 2" DIA. WASHER.
6. ONE FASTENER CAN BE USED FOR NO MORE THAN 2 BOARDS. WHERE 3 OR MORE BOARDS MEET, USE AT LEAST 1 FASTENER PER EVERY 2 BOARDS.

DESIGN INTENT

1. MUST MAINTAIN CONTINUITY OF ALL CONTROL LAYERS AT TRANSITIONS FROM DUPONT™ THERMAX™ WALL SYSTEM* TO OTHER SYSTEMS.
2. ENSURE COMPATIBILITY WHERE DUPONT FLASHING MATERIALS JOIN MATERIALS PRODUCED BY OTHER MANUFACTURERS.
3. COUNTERFLASH MATERIALS TO PROMOTE WATER SHEDDING AT TRANSITION LOCATIONS.

COMPATIBILITY RECOMMENDATIONS

1. CONCRETE & CMU APPLICATIONS: ENSURE ADEQUATE DUPONT™ LIQUIDARMOR™* FLASHING THICKNESS IS APPLIED FOR PROPER ADHESION TO AGGREGATE.
2. CHEMICALLY COMPATIBLE ADHESIVE TECHNOLOGIES WITH DUPONT™ THERMAX™ INSULATION AND LIQUIDARMOR™ *(NOTE CHEMICAL COMPATIBILITY IS NOT A QUALIFIER OF LONG-TERM ADHESION)*: ACRYLIC & ACRYLIC LATEX ● BUTYL ● RUBBERIZED ASPHALT ● SILICONE ● HOT RUBBER
3. COMPATIBILITY OF PRODUCTS/CHEMISTRIES NOT LISTED ABOVE MUST BE VERIFIED BY RESPECTIVE MANUFACTURER.

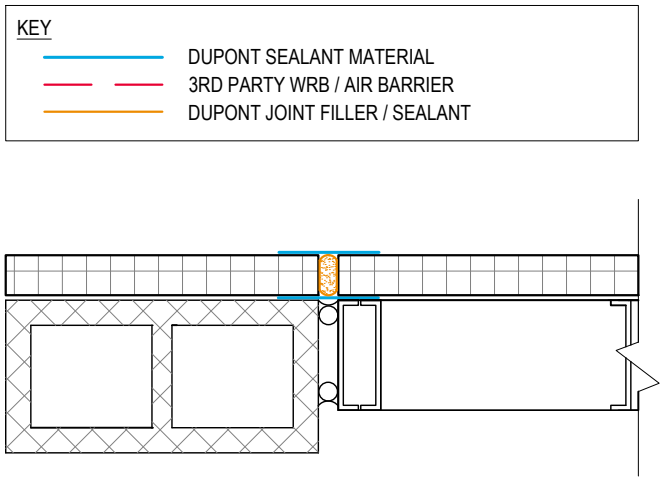


FIG 1: TRANSITION FROM STEEL STUD TO CMU BLOCK | PLAN
TWS-G04.1 (NOTE: NOT AN EXPANSION JOINT DETAIL)

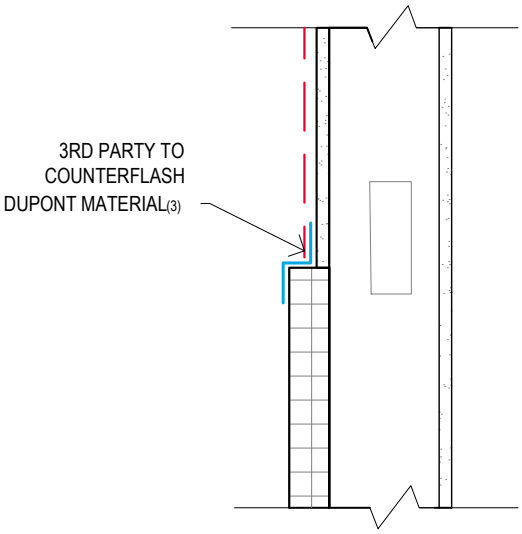


FIG. 2: VERTICAL TRANSITION OF OTHER WRB TO THERMAX™ | SECTION
TWS-G04.2

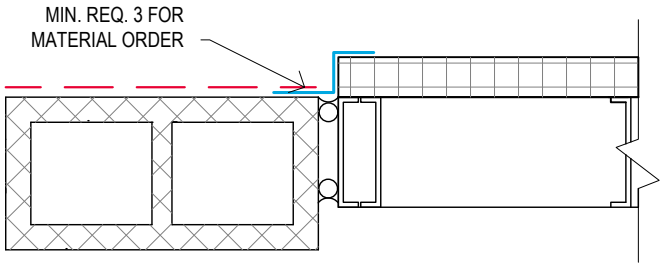


FIG 3: TRANSITION FROM THERMAX™ TO WRB ON CMU | PLAN
TWS-G04.3

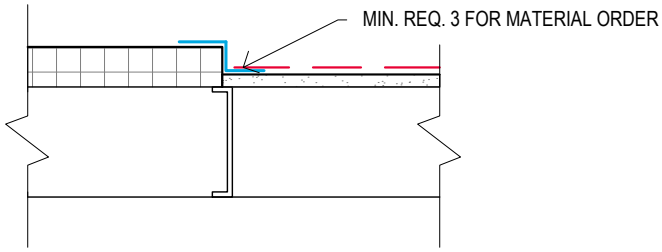


FIG 4: HORIZONTAL TRANSITION OF OTHER WRB TO THERMAX™ | PLAN
TWS-G04.4

MINIMUM REQUIREMENTS

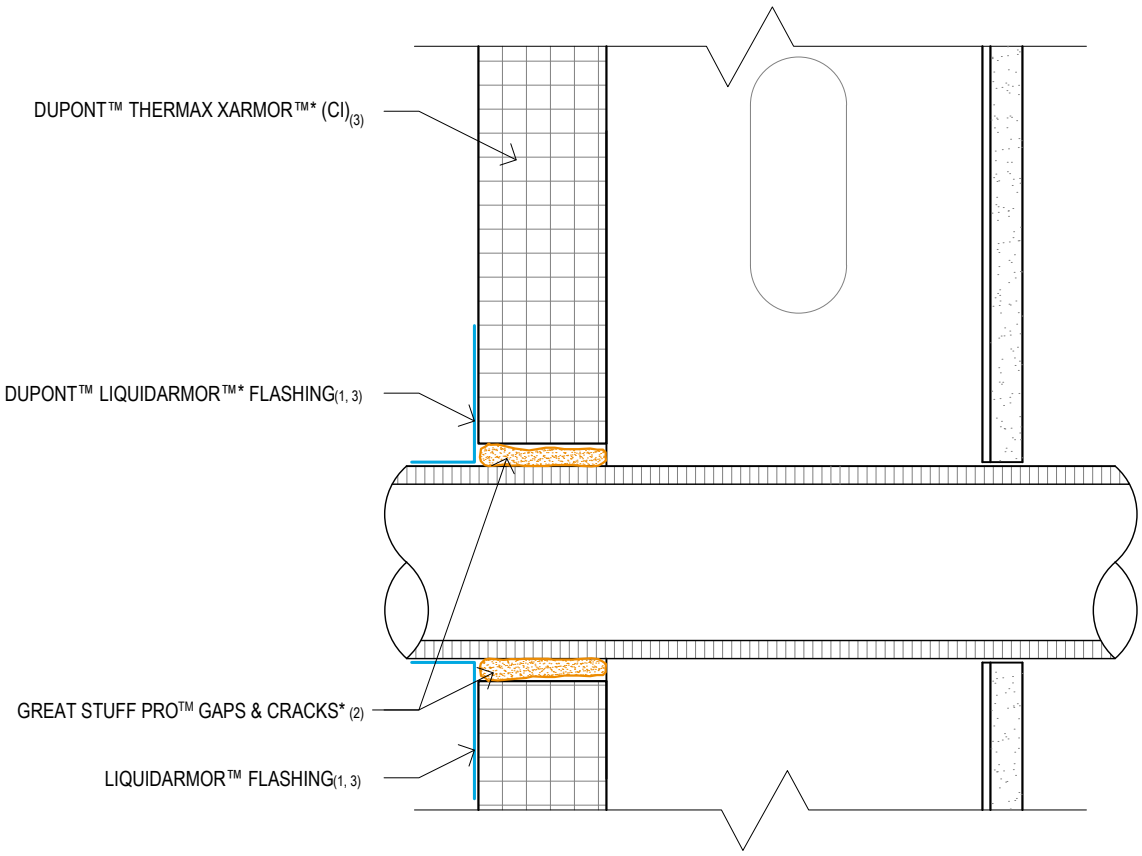
1. OVERLAP OF SEALANT ADHESION ON ANY TRANSITION FROM FACE OF INSULATION ONTO ADJACENT MATERIALS MUST USE LIQDUIDARMOR™ FLASHING BASED ON REQUIREMENTS ON DETAIL TWS-G02.
2. SELF ADHERED MATERIALS SHOULD NOT BE INSTALLED OVER (COUNTERFLASH) FLUID APPLIED MATERIALS; FLUID APPLIED OVER FLUID APPLIED, FLUID APPLIED OVER SELF ADHERED, AND SELF ADHERED OVER SELF ADHERED ARE ACCEPTABLE.
3. FIG.1, GREAT STUFF PRO GAPS & CRACKS OR OTHER APPROVED SEALANT TO FILL JOINTS ≥ 1/4" PRIOR TO FLASHING WITH MIN. OVERLAP TO FACE OF REQUIREMENTS ON DETAIL TWS-G02 TO EACH FACE OF THERMAX.
4. FIG. 2, 3, 4, MIN. WIDTH OF LIQUIDARMOR™ FLASHING REQUIRED BASED ON DETAIL TWS-G02 ONTO FACE OF INSULATION AND FACE OF OTHER SUBSTRATE.
5. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS, AND FOR SPRAY FOAM AND SEALANT OPTIONS & REQUIREMENTS.

Design Intent

1. ALL PENETRATIONS MUST BE SEALED TO MAINTAIN INTEGRITY OF 4 CONTROL LAYERS AND PREVENT MOISTURE INTRUSION.
2. IF USED, SPRAY FOAM SHOULD BE INSTALLED AFTER ALL MAJOR PENETRATIONS (CONDUIT, UTILITIES, PLUMBING, ETC.) TO PROVIDE SECONDARY LAYER OF AIR SEALING.

Recommended Sealants

1. GREAT STUFF PRO™ GAPS & CRACKS INSULATING FOAM SEALANT FOR GAPS LESS THAN 3", WITH DUPONT™ LIQUIDARMOR™ FLASHING APPLIED OVER TOP
2. LIQUIDARMOR™ FLASHING FOR GAPS LESS THAN 1/4"



PENETRATION GUIDELINES

TWS-G05 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

1. PENETRATION TO BE SEALED WITH LIQUIDARMOR™ FLASHING USING REQUIREMENTS IN DETAIL TWS-G02.
2. GAPS IN INSULATION GREATER THAN 1/4" MUST BE FILLED WITH GREAT STUFF PRO™ GAPS & CRACKS OR OTHER APPROVED SEALANT PRIOR TO FLASHING.
3. IF PENETRATION IS THROUGH AN HOURLY RATED ASSEMBLY, SEPARATE FIRE STOP ASSEMBLY WILL BE REQUIRED.
4. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS, AND FOR SPRAY FOAM AND SEALANT OPTIONS & REQUIREMENTS.

CLADDING NEUTRAL

Patching Insulation

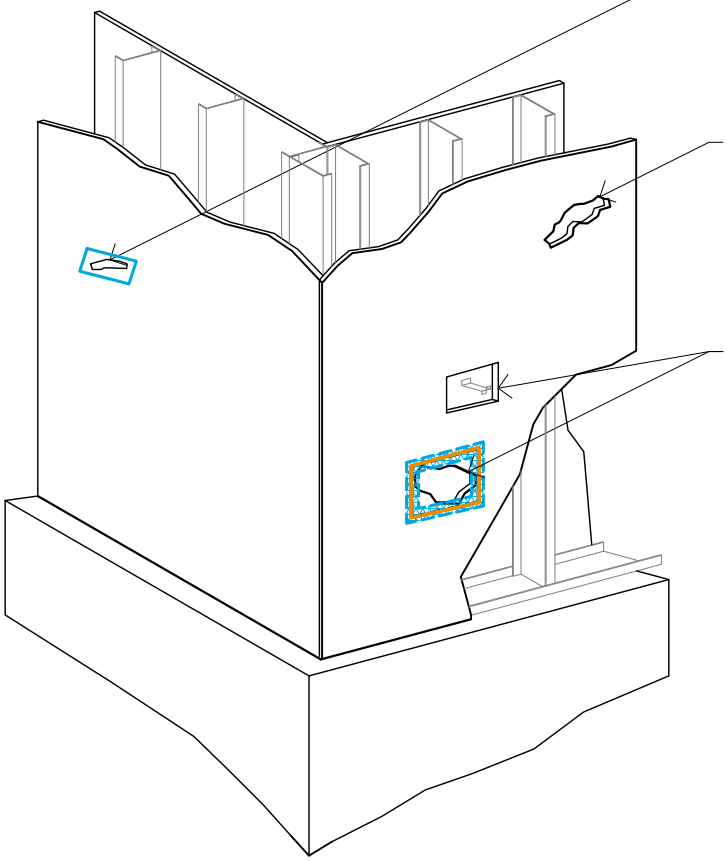
DESIGN INTENT

1. MAINTAIN INTEGRITY OF 4 CONTROL LAYERS BY PATCHING AS APPROPRIATE.
2. USE RESPECTIVE PATCHING TECHNIQUE, DICTATED BY SIZE OF DAMAGED AREA.

SEALANT OPTIONS

ONE COMPONENT FOAM
- GREAT STUFF PRO™ GAPS & CRACKS*
- GREAT STUFF PRO™ WINDOW & DOOR*

FLUID APPLIED
- DUPONT™ LIQUIDARMOR™ LT* FLASHING AND SEALANT
- DUPONT™ LIQUIDARMOR™ CM* FLASHING AND SEALANT



FACER DAMAGE IN SURFACE:
FLATTEN FOIL FACER. SEAL SURFACE OF DAMAGE WITH LIQUIDARMOR™ (1) FLASHING AND SEALANT.

PARTIAL OR FULL DEPTH HOLE **3" OR LESS** ACROSS: INFILL HOLE WITH GREAT STUFF PRO™ GAPS & CRACKS BEFORE SEALING WITH LIQUIDARMOR™ FLASHING AND SEALANT.
IF GREAT STUFF PRO™ FOAM EXPANDS TO A POINT THAT WILL IMPACT AIR GAP, CUT FLUSH TO FACE AFTER CURED AND SEAL WITH LIQUIDARMOR™ (1) FLASHING AND SEALANT.

PARTIAL OR FULL DEPTH HOLE **LARGER THAN 3"** ACROSS: CUT FOAM TO RECTANGULAR SHAPE AND INFILL WITH MATCHING INSULATION PATCH. SEAL EDGES OF PATCH WITH GREAT STUFF PRO™ GAPS & CRACKS BEFORE SEALING WITH LIQUIDARMOR™ FLASHING AND SEALANT.
IF GREAT STUFF PRO™ FOAM EXPANDS TO A POINT THAT WILL IMPACT AIR GAP, CUT FLUSH TO FACE AFTER CURED AND SEAL WITH LIQUIDARMOR™ (1) FLASHING AND SEALANT.

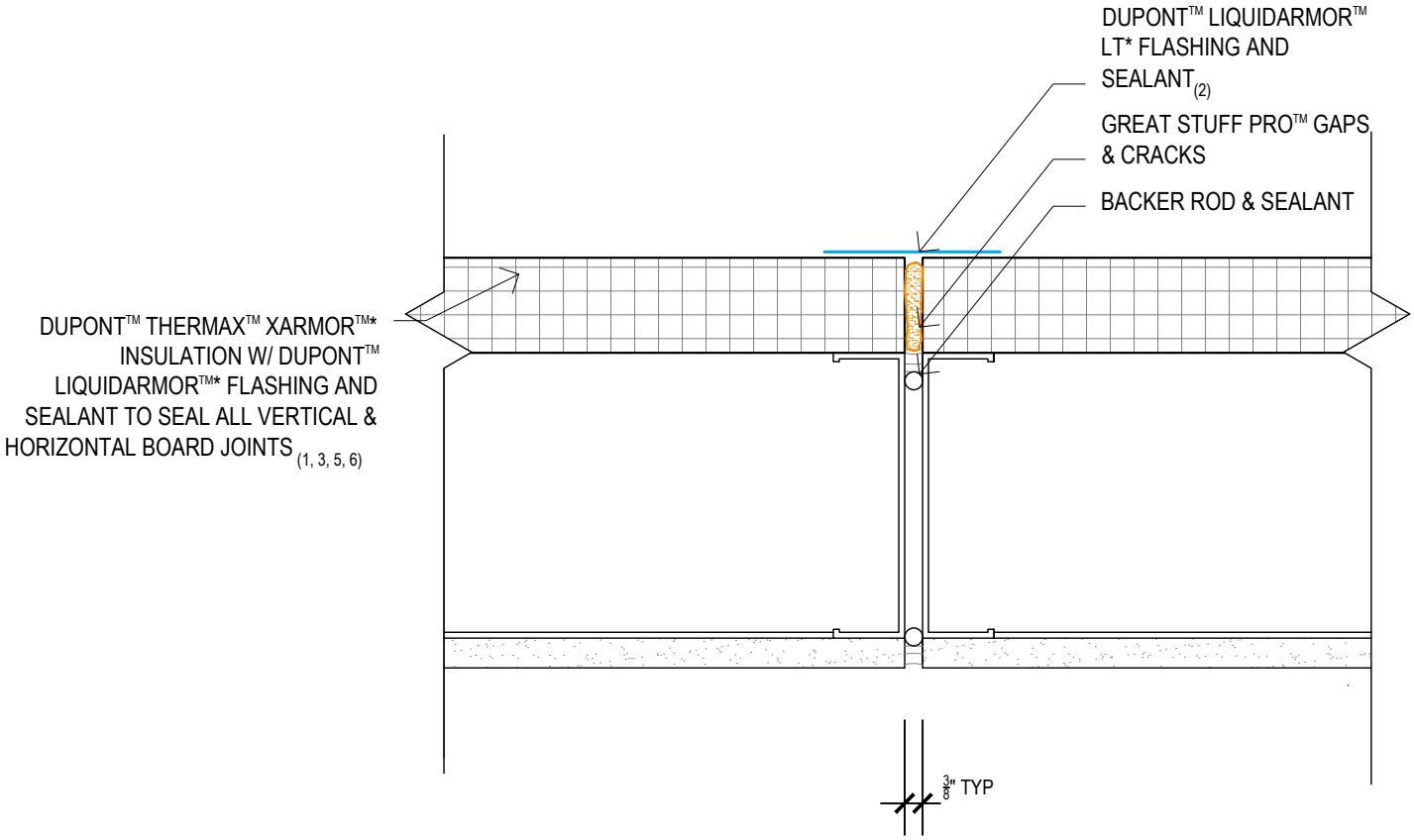
REPAIRING HOLES IN INSULATION

TWS-G06 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

1. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS, AND FOR SPRAY FOAM AND SEALANT OPTIONS & RECOMMENDATIONS.
2. THERMAX™ XARMOR™ INSULATION MUST BE COVERED WITHIN 180 DAYS. CLADDING NOT SHOWN IN DETAIL. SEE ETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER INSULATION EXPOSURE LIMITS.
3. SEE DETAIL TWS-G03 "FASTENING GUIDELINES" FOR RECOMMENDED ATTACHMENT.

Control Joint UP TO 25% MOVEMENT



CONTROL JOINT UP TO 25% MOVEMENT

TWS-G07 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

1. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS, AND SPRAY FOAM AND SEALANT OPTIONS & REQUIREMENTS.
2. DUPONT™ LIQUIDARMOR™ CM* NOT ACCEPTABLE OVER CONTROL JOINT.
3. BREACHES TO INSULATION MUST BE SEALED PER DETAIL TWS-G06 "PATCHING INSULATION".
4. SEE DETAIL TWS-G03 "FASTENING GUIDELINES" FOR RECOMMENDED ATTACHMENT.

CLADDING NEUTRAL

Expansion Joint UP TO 50% MOVEMENT

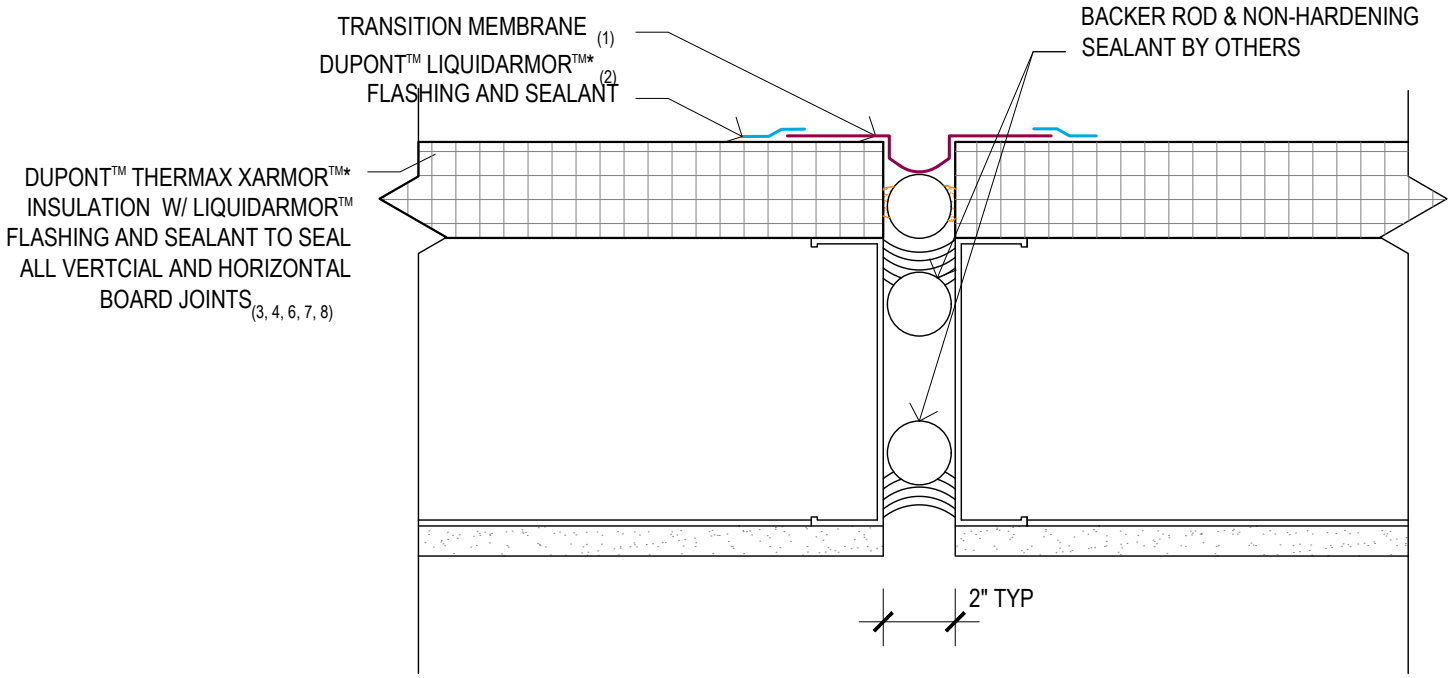
DESIGN INTENT

1. ALLOW UP TO 50% MOVEMENT OF EXPANSION JOINT.
2. MAINTAIN CONTINUITY OF AIR AND WATER BARRIERS ACROSS EXPANSION JOINT USING TRANSITION MEMBRANE.

TRANSITION MEMBRANE RECOMMENDATIONS

- SILICONE TRANSITION STRIP* WITH DUPONT™ LIQUIDARMOR™ LT* FLASHING AND SEALANT TO SEAL EDGES TO FACE OF INSULATION.

**OTHER EXPANSION TRANSITION MEMBRANES MAY BE USED. DESIGNER IS RESPONSIBLE FOR SELECTING EXPANSION TRANSITION MEMBRANE AND VERIFYING MATERIAL & ADHESION COMPATIBILITIES.*



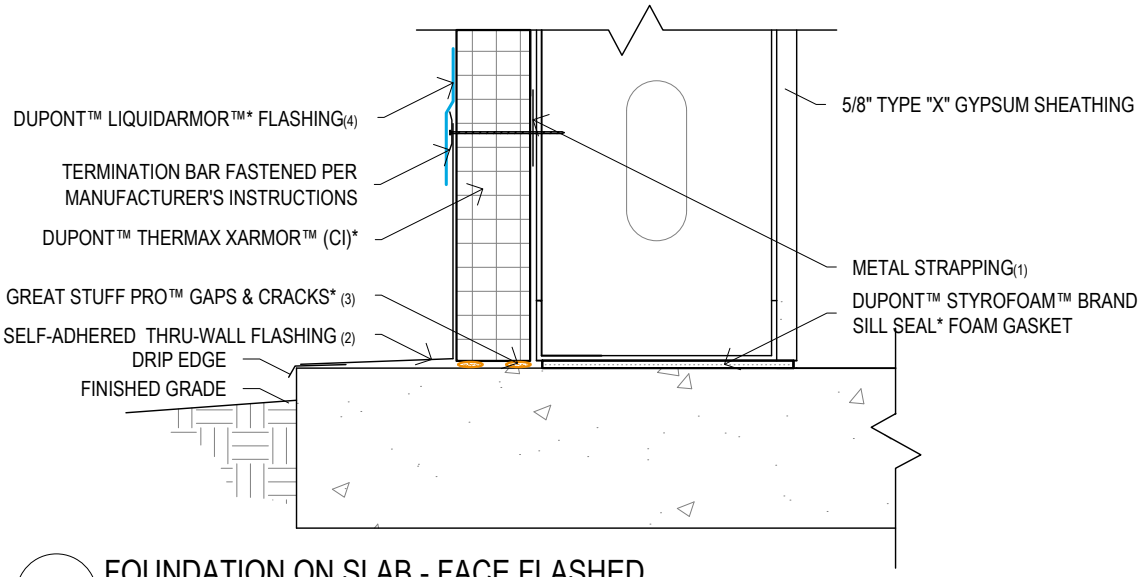
EXPANSION JOINT UP TO 50% MOVEMENT

TWS-G08 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

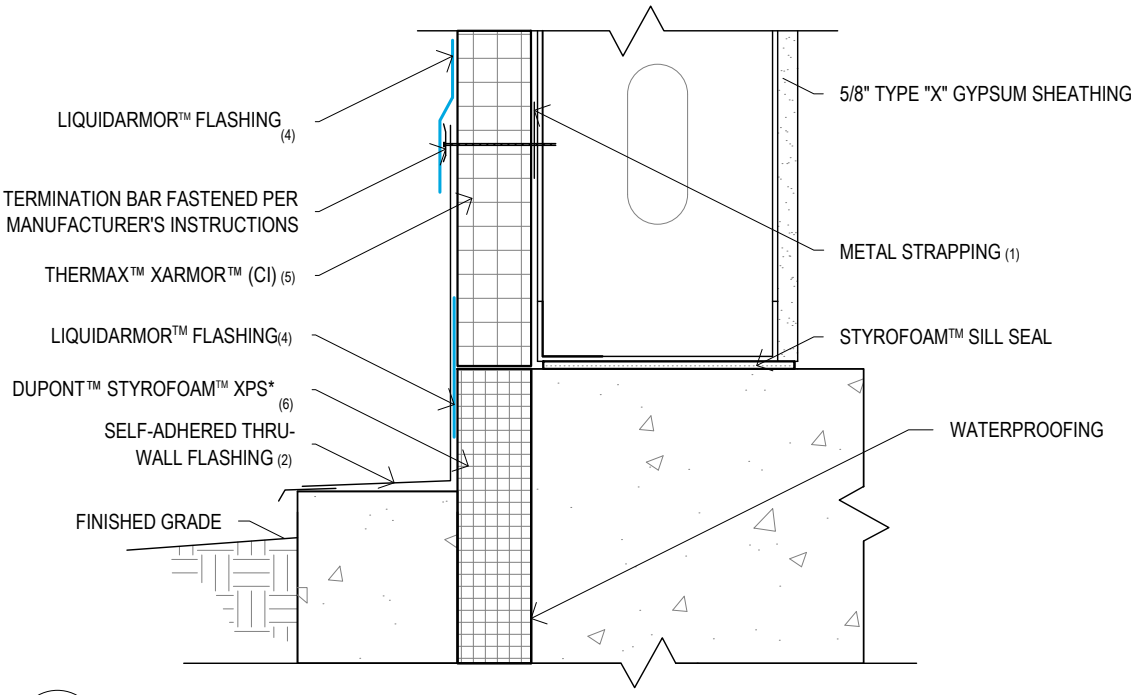
1. TRANSITION MEMBRANE MUST BE CAPABLE OF BRIDGING JOINT WITH UP TO 50% MOVEMENT AND SEALED TO FACE OF INSULATION.
2. CONFIRM WITH MATERIAL MANUFACTURERS ON ADHESION COMPATIBILITY.
3. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS, AND SPRAY FOAM AND SEALANT OPTIONS & REQUIREMENTS.
4. THERMAX XARMOR™ INSULATION MUST BE COVERED WITHIN 180 DAYS. CLADDING NOT SHOWN IN DETAIL. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER INSULATION EXPOSURE LIMITS.
5. BREACHES TO INSULATION MUST BE SEALED PER DETAIL TWS-G06 "PATCHING INSULATION".
6. SEE DETAIL TWS-G03 "FASTENING GUIDELINES" FOR RECOMMENDED ATTACHMENT.

Foundation - Face Flashed



FOUNDATION ON SLAB - FACE FLASHED

TWS-G09.1 *COLOR FOR VISUAL CLARIFICATION ONLY*



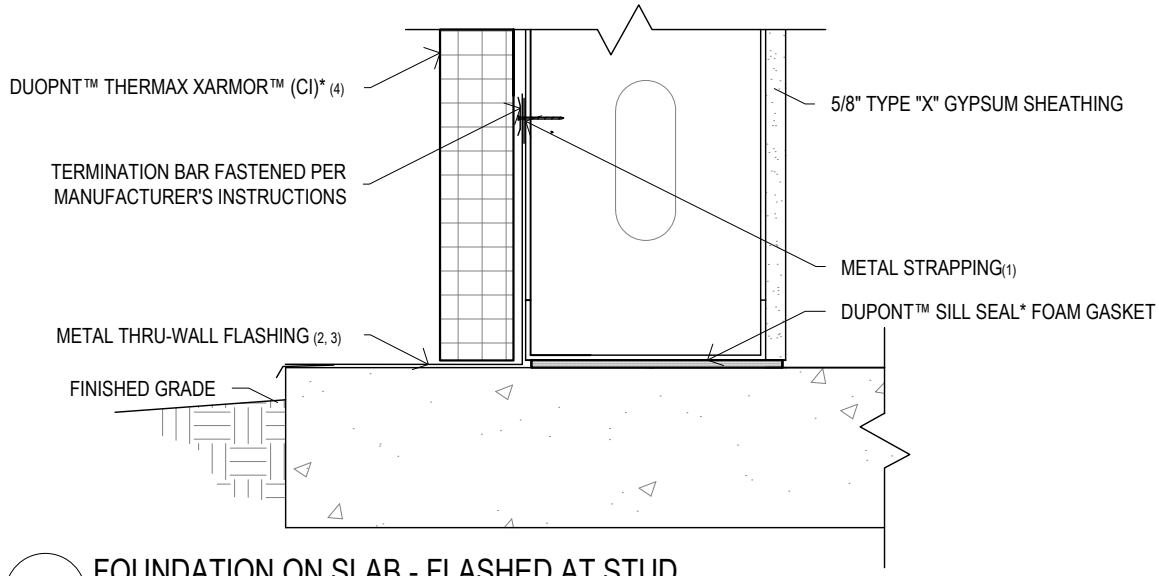
FOUNDATION BELOW GRADE - FACE FLASHED

TWS-G09.2 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

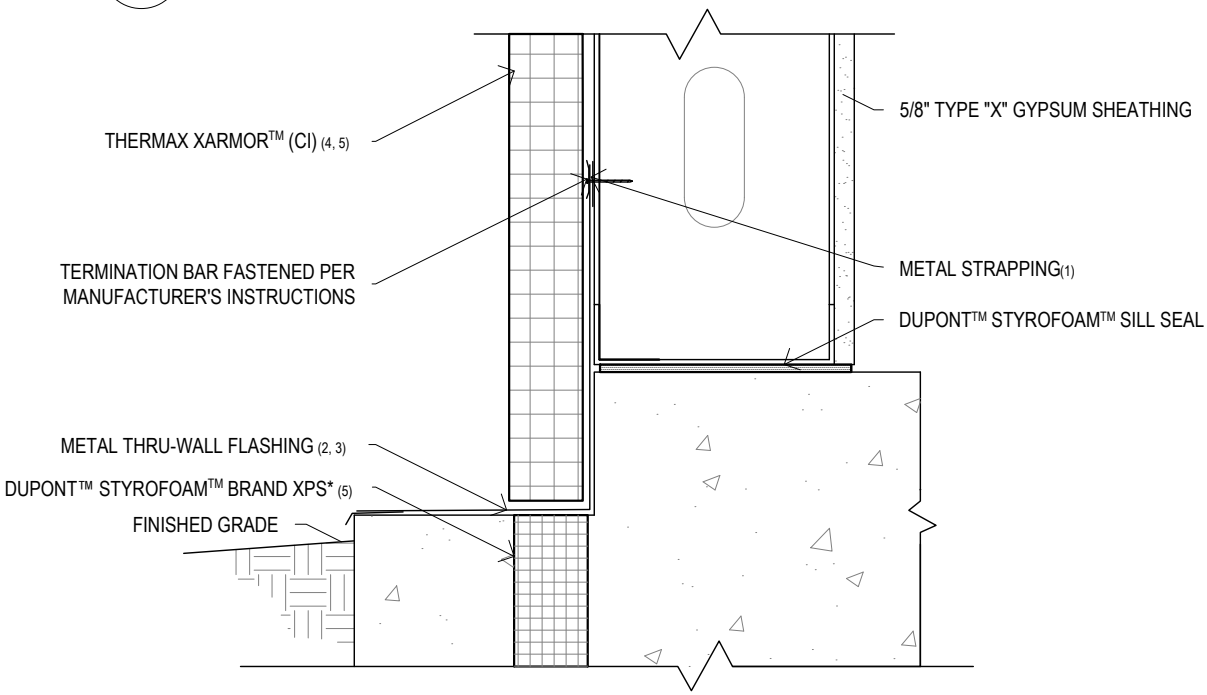
1. OPTIONAL - MIN. 3" WIDTH OF LIGHT GAUGE METAL STRAPPING, MIN 16" ABOVE GRADE, TO ACT AS NAILING BASE FOR TERMINATION BAR.
2. THRU-WALL FLASHING MIN. 40 MIL THICK INSTALLED PER MANUFACTURER'S RECOMMENDATIONS USING EDGING TOOL OR ROLLER (HAND APPLIED PRESSURE NOT ACCEPTABLE). LIQUIDARMOR™ NOT ACCEPTABLE FOR THIS APPLICATION.
3. GREAT STUFF PRO™ GAPS & CRACKS* APPLIED MIN. WIDTH OF INSULATION THICKNESS.
4. FOR MIN. FLASHING WIDTHS FOR LIQUIDARMOR™, SEE DETAIL TWS-G02.
5. DUPONT™ THERMAX™* INSULATION NOT INTENDED FOR USE BELOW GRADE.
6. MIN. 25 PSI STYROFOAM™ TYPE IV (PER ASTM C578) EXTRUDED POLYSTYRENE (XPS) TO BE USED WHEN INSULATING BELOW GRADE.
7. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS, AND FOR SPRAY FOAM AND SEALANT OPTIONS & REQUIREMENTS.

Foundation - Face of Stud



FOUNDATION ON SLAB - FLASHED AT STUD

TWS-G10.1 *COLOR FOR VISUAL CLARIFICATION ONLY*



FOUNDATION BELOW GRADE - FLASHED AT STUD

TWS-G10.2 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

1. OPTIONAL - MIN. 3" LIGHT GAUGE METAL STRAPPING, MIN. 16" ABOVE GRADE TO ACT AS NAILING BASE FOR TERMINATION BAR.
2. METAL FLASHING MUST BE ABLE TO RESIST TEMPERATURES OF MIN. 200°F GENERATED BY 2LB SPRAY POLYURETHANE FOAM.
3. DESIGNS WHERE SPRAY POLYURETHANE FOAM IS APPLIED ON THRU-WALL FLASHING MEMBRANES, POLYETHELENE-FACED AND RUBBERIZED ASPHALTIC SELF ADHERED MEMBRANES ARE NOT ACCEPTABLE.
4. IN THIS DESIGN, THERMAX XARMOR CI ACTS AS COUNTERFLASHING TO METAL THRU-WALL FLASHING.
5. THERMAX™ INSULATION NOT INTENDED FOR USE BELOW GRADE; MIN. 25 PSI STYROFOAM™ TYPE IV (PER ASTM C578) EXTRUDED POLYSTYRENE (XPS) TO BE USED WHEN INSULATING BELOW GRADE.
6. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS, AND FOR SPRAY FOAM AND SEALANT OPTIONS & REQUIREMENTS.

DUPONT

Thermax Wall System

CLADDING NEUTRAL

Punch Window NO SPF

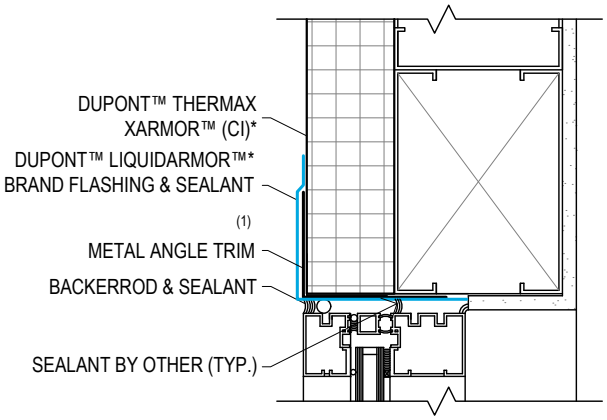
W/ METAL "L" ANGLE TRIM ("SHINY 90")

DESIGN INTENT

1. USE DUPONT™ LIQUIDARMOR™* BRAND FLASHING & SEALANT TO TRANSITION THE AIR & WATER RESISTIVE BARRIER FROM THE FACE OF THE DUPONT™ THERMAX™* INSULATION INTO ALL JAMBS, SILLS, & WINDOW HEADS PRIOR TO INSTALLATION OF PUNCH WINDOWS & WINDOW RECEPTORS.
2. SEALANTS AND CAULKS AS SPECIFIED BY WINDOW MANUFACTURER TO BE USED AS PRIMARY DEFENSE AGAINST MOISTURE INTRUSION & AIR INFILTRATION.
3. WINDOW RECEPTOR TO ATTACH TO WOOD BLOCKING THROUGH DUPONT SEALANT MEMBRANES FOR ENHANCED AIR AND MOISTURE SEALING.

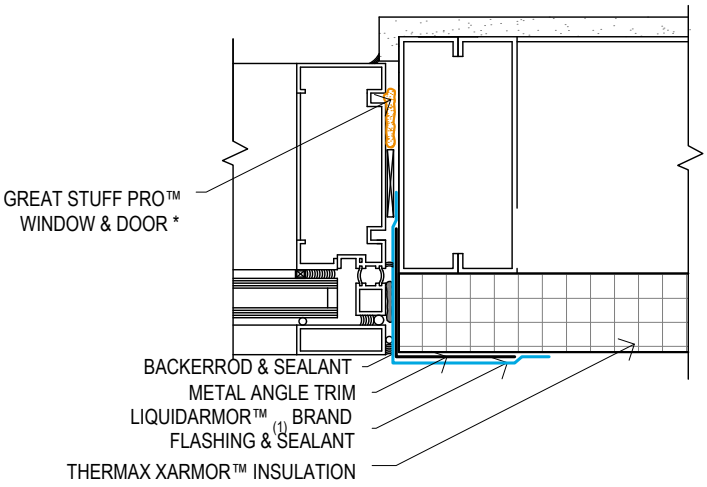
GENERAL RECOMMENDATIONS

1. WINDOW SEALANT COMPATIBILITY SHOULD BE VERIFIED FOR LONG-TERM ADHESION TO DUPONT FLASHING.
2. BLOCKING CAN BE USED TO PROVIDE ADDED RIGIDITY AND A NAILING BASE AT JAMBS, SILLS, & HEADS.
3. A DOUBLE STUD IS RECOMMENDED AT JAMBS TO ALLOW FOR GREATER FLEXIBILITY WITH CLADDING TERMINATIONS AROUND WINDOWS & DOORS.



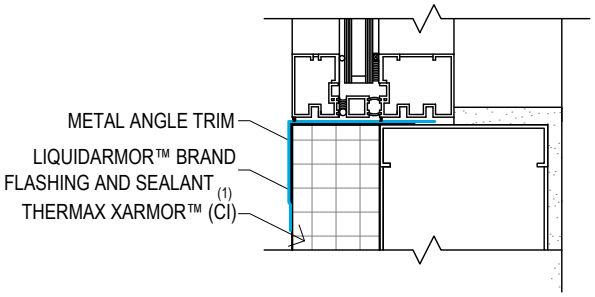
PUNCH WINDOW HEAD | SECTION

TWS-G11.1 *COLOR FOR VISUAL CLARIFICATION ONLY*



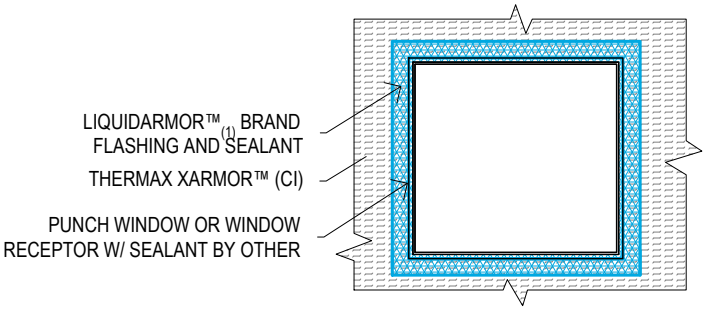
PUNCH WINDOW JAMB | PLAN

TWS-G11.2 *COLOR FOR VISUAL CLARIFICATION ONLY*



PUNCH WINDOW SILL | SECTION

TWS-G11.3 *COLOR FOR VISUAL CLARIFICATION ONLY*



PUNCH WINDOW | ELEVATION

TWS-G11.4 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

1. SEALANT TO BE INSTALLED 3" ONTO FACE OF INSULATION AND MIN. 3" INTO ROUGH OPENING (SILL, JAMB, & HEADER) OR 1" PAST PRIMARY AIR/WATER SEAL OF WINDOW, WHICHEVER IS GREATER.
2. ACCEPTABLE BLOCKING TYPES TO BRIDGE RAW EDGE OF INSULATION AROUND PUNCH OPENING: DIMENSIONAL LUMBER, OSB / PLYWOOD SHEATHING, OR METAL ANGLE TRIM (ALSO KNOWN AS "L" ANGLE OR "SHINY 90") (SHOWN).
3. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS & REQUIREMENTS.

DUPONT

Thermax Wall System

CLADDING NEUTRAL

Punch Window NO SPF

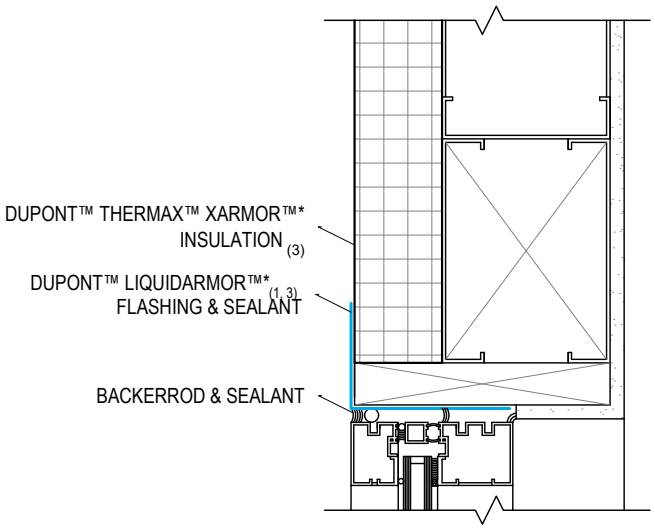
W/ WOOD BLOCKING

DESIGN INTENT

1. USE DUPONT™ LIQUIDARMOR™* BRAND FLASHING & SEALANT TO TRANSITION THE AIR & WATER RESISTIVE BARRIER FROM THE FACE OF THE DUPONT™ THERMAX™* INSULATION INTO ALL JAMBS, SILLS, & WINDOW HEADS PRIOR TO INSTALLATION OF PUNCH WINDOWS & WINDOW RECEPTORS.
2. SEALANTS AND CAULKS AS SPECIFIED BY WINDOW MANUFACTURER TO BE USED AS PRIMARY DEFENSE AGAINST MOISTURE INTRUSION & AIR INFILTRATION.
3. WINDOW RECEPTOR TO ATTACH TO WOOD BLOCKING THROUGH DUPONT™ SEALANT MEMBRANES FOR ENHANCED AIR AND MOISTURE SEALING.

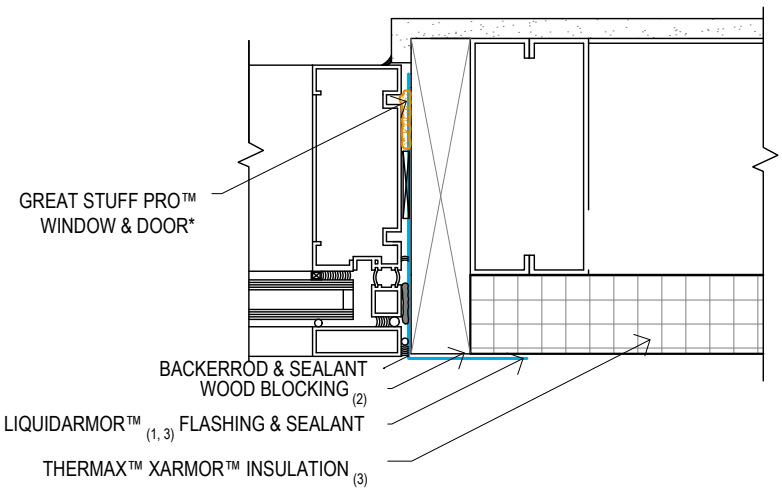
GENERAL RECOMMENDATIONS

1. WINDOW SEALANT COMPATIBILITY SHOULD BE VERIFIED FOR LONG-TERM ADHESION TO DUPONT FLASHING.
2. BLOCKING IS PREFERRED TO PROVIDE ADDED RIGIDITY AND A NAILING BASE AT JAMBS, SILLS, & HEADS.
3. A DOUBLE STUD IS RECOMMENDED AT JAMBS TO ALLOW FOR GREATER FLEXIBILITY WITH CLADDING TERMINATIONS AROUND WINDOWS & DOORS.



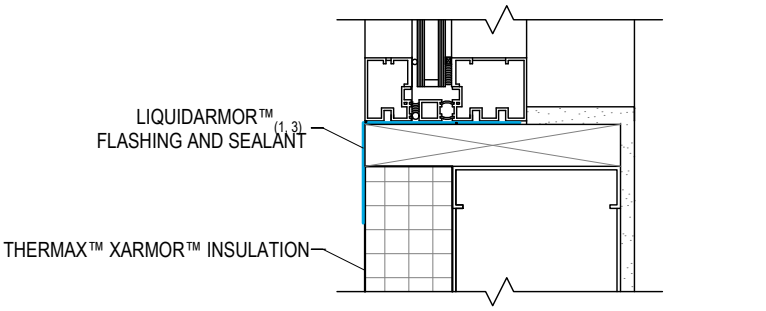
PUNCH WINDOW HEAD | SECTION

TWS-G12.1 *COLOR FOR VISUAL CLARIFICATION ONLY*



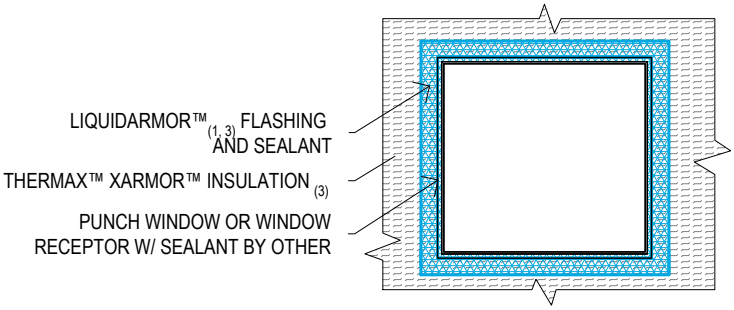
PUNCH WINDOW JAMB | PLAN

TWS-G12.2 *COLOR FOR VISUAL CLARIFICATION ONLY*



PUNCH WINDOW SILL | SECTION

TWS-G12.3 *COLOR FOR VISUAL CLARIFICATION ONLY*



PUNCH WINDOW | ELEVATION

TWS-G12.4 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

1. SEALANT TO BE INSTALLED 3" ONTO FACE OF INSULATION AND MIN. 3" INTO ROUGH OPENING (SILL, JAMB, & HEADER) OR 1" PAST PRIMARY AIR/WATER SEAL OF WINDOW, WHICHEVER IS GREATER.
2. ACCEPTABLE BLOCKING TYPES TO BRIDGE RAW EDGE OF INSULATION AROUND PUNCH OPENING: DIMENSIONAL LUMBER (SHOWN), OSB / PLYWOOD SHEATHING, OR METAL ANGLE TRIM (ALSO KNOWN AS "L" ANGLE OR "SHINY 90").
3. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS & REQUIREMENTS.

DUPONT

Thermax Wall System

CLADDING NEUTRAL

Punch Window with SPF

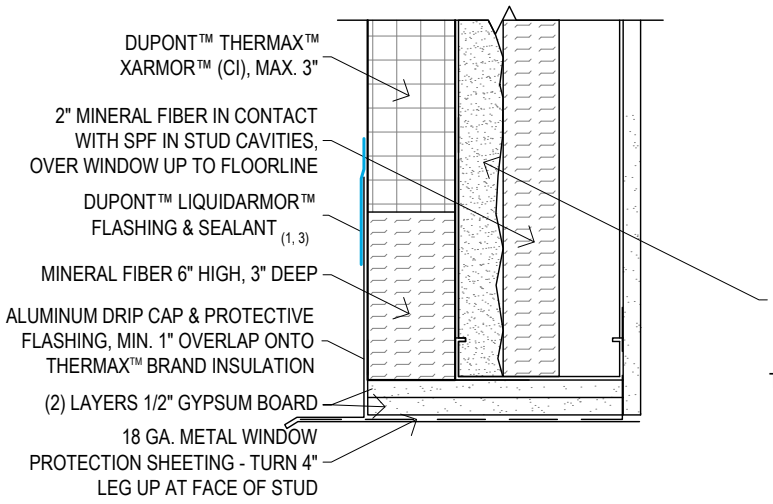
W/ METAL "L" ANGLE TRIM ("SHINY 90")

DESIGN INTENT

1. USE DUPONT™ LIQUIDARMOR™* BRAND FLASHING & SEALANT TO TRANSITION THE AIR & WATER RESISTIVE BARRIER FROM THE FACE OF THE DUPONT™ THERMAX™* INSULATION INTO ALL JAMBS, SILLS, & WINDOW HEADS PRIOR TO INSTALLATION OF PUNCH WINDOWS & WINDOW RECEPTORS.
2. SEALANTS AND CAULKS AS SPECIFIED BY WINDOW MANUFACTURER TO BE USED AS PRIMARY DEFENSE AGAINST MOISTURE INTRUSION & AIR INFILTRATION.
3. WINDOW RECEPTOR TO ATTACH TO WOOD BLOCKING THROUGH DUPONT™ SEALANT MEMBRANES FOR ENHANCED AIR AND MOISTURE SEALING.

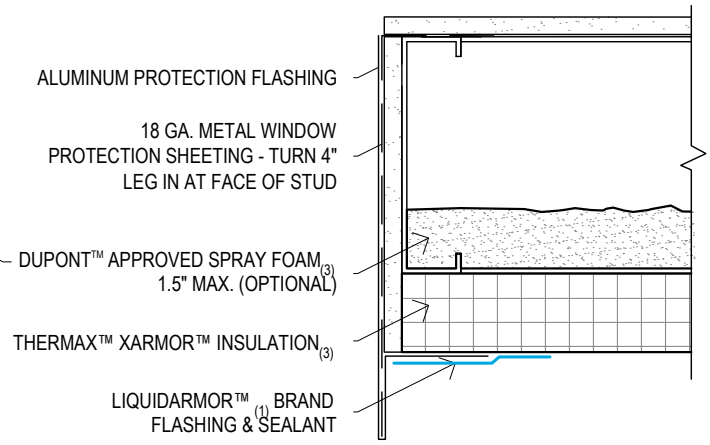
GENERAL RECOMMENDATIONS

1. WINDOW SEALANT COMPATIBILITY SHOULD BE VERIFIED FOR LONG-TERM ADHESION TO DUPONT FLASHING.
2. BLOCKING CAN BE USED TO PROVIDE ADDED RIGIDITY AND A NAILING BASE AT JAMBS, SILLS, & HEADS.
3. A DOUBLE STUD IS RECOMMENDED AT JAMBS TO ALLOW FOR GREATER FLEXIBILITY WITH CLADDING TERMINATIONS AROUND WINDOWS & DOORS.



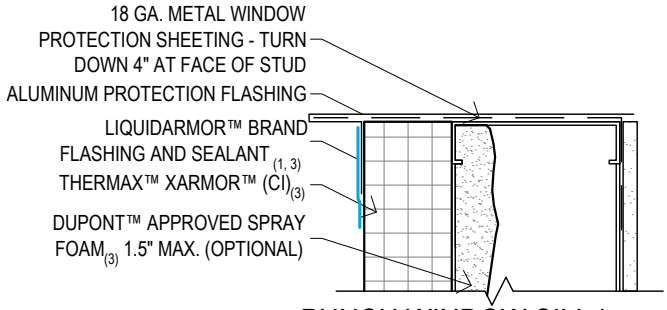
PUNCH WINDOW HEAD | SECTION

TWS-G13.1 *COLOR FOR VISUAL CLARIFICATION ONLY*



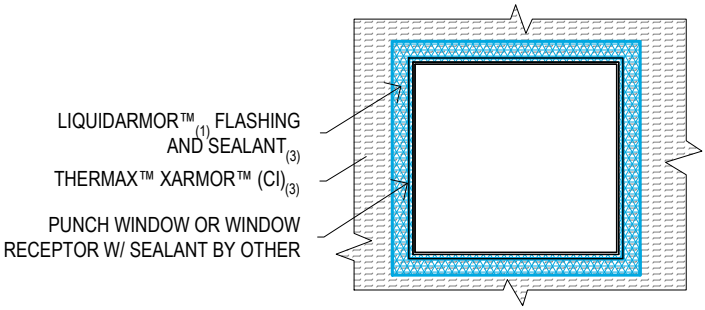
PUNCH WINDOW JAMB | PLAN

TWS-G13.2 *COLOR FOR VISUAL CLARIFICATION ONLY*



PUNCH WINDOW SILL | SECTION

TWS-G13.3 *COLOR FOR VISUAL CLARIFICATION ONLY*



PUNCH WINDOW | ELEVATION

TWS-G13.4 *COLOR FOR VISUAL CLARIFICATION ONLY*

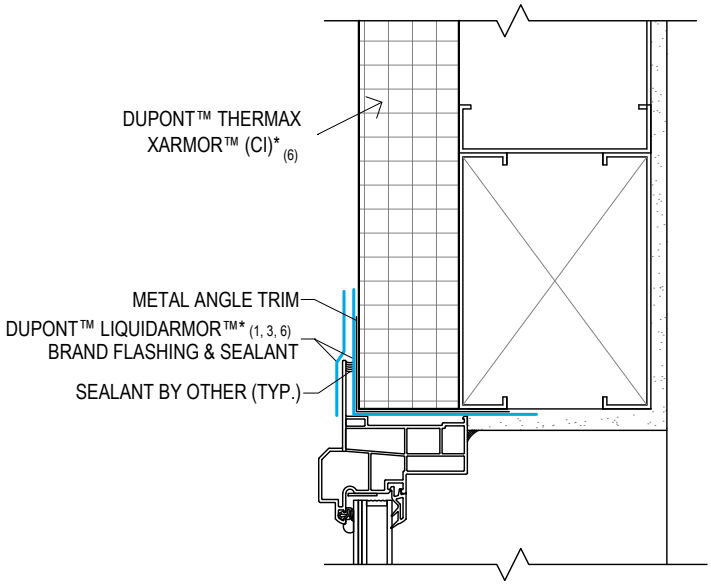
MINIMUM REQUIREMENTS

1. SEALANT TO BE INSTALLED 3" ONTO FACE OF INSULATION AND MIN. 3" INTO ROUGH OPENING (SILL, JAMB, & HEADER) OR 1" PAST PRIMARY AIR/WATER SEAL OF WINDOW, WHICHEVER IS GREATER.
2. ACCEPTABLE BLOCKING TYPES TO BRIDGE RAW EDGE OF INSULATION AROUND PUNCH OPENING: DIMENSIONAL LUMBER, OSB / PLYWOOD SHEATHING, OR METAL ANGLE TRIM (ALSO KNOWN AS "L" ANGLE OR "SHINY 90") (SHOWN).
3. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS, AND FOR SPRAY FOAM AND SEALANT OPTIONS & REQUIREMENTS.

CLADDING NEUTRAL

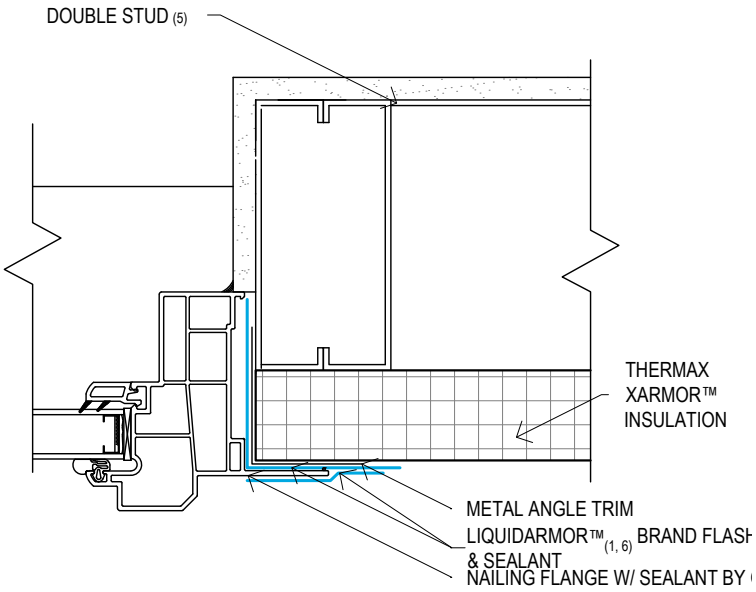
Flange Window NO SPF

W/ METAL "L" ANGLE ("SHINY 90")



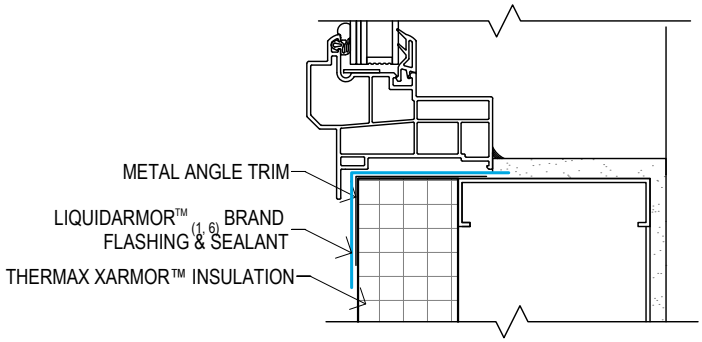
FLANGE WINDOW HEAD | SECTION

TWS-G14.1 *COLOR FOR VISUAL CLARIFICATION ONLY*



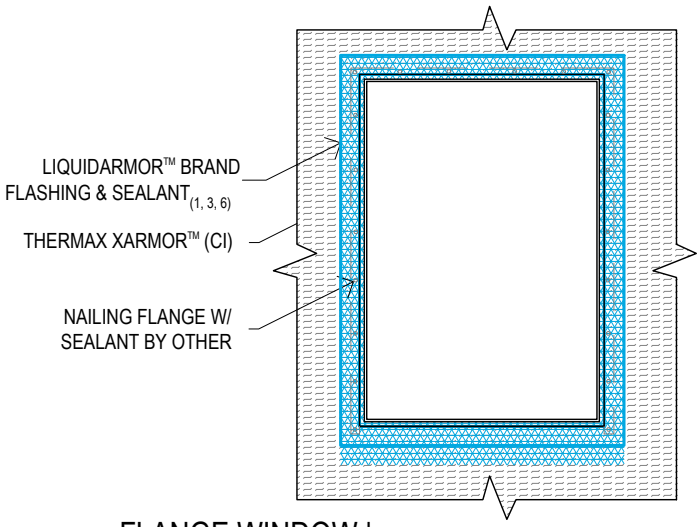
FLANGE WINDOW JAMB | PLAN

TWS-G14.2 *COLOR FOR VISUAL CLARIFICATION ONLY*



FLANGE WINDOW SILL | SECTION

TWS-G14.3 *COLOR FOR VISUAL CLARIFICATION ONLY*



FLANGE WINDOW | ELEVATION

TWS-G14.4 *COLOR FOR VISUAL CLARIFICATION ONLY*

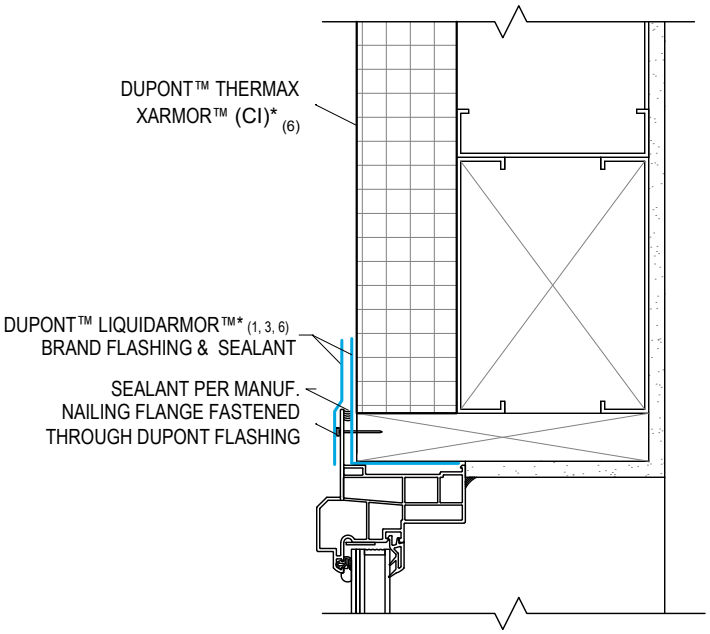
MINIMUM REQUIREMENTS

1. SEALANT TO BE INSTALLED MIN. 3" ONTO FACE OF INSULATION AND MIN. 3" INTO ROUGH OPENING (SILL, JAMB, & HEADER) OR 1" PAST PRIMARY AIR/WATER SEAL OF WINDOW, WHICHEVER IS GREATER.
2. ALL FLANGE PENETRATIONS TO BE THROUGH SELF-SEALING DUPONT™ FLASHING MATERIAL AT WINDOW JAMBS & HEADER.
3. AFTER WINDOW INSTALLATION, FLANGE TO BE SEALED WITH LIQUIDARMOR™. NOTE: IF USING MORE THAN ONE TYPE OF SEALANT, US SEQUENCING GUIDELINES FROM DETAIL TWSG02.
4. CAULK @ WINDOW FLANGE TO BE INSTALLED AS PER WINDOW MANUFACTURER REQUIREMENTS.
5. DOUBLE STUD AT WINDOW JAMB RECOMMENDED TO ALLOW FOR FLEXIBILITY WITH CLADDING ATTACHMENT.
6. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS & REQUIREMENTS.

CLADDING NEUTRAL

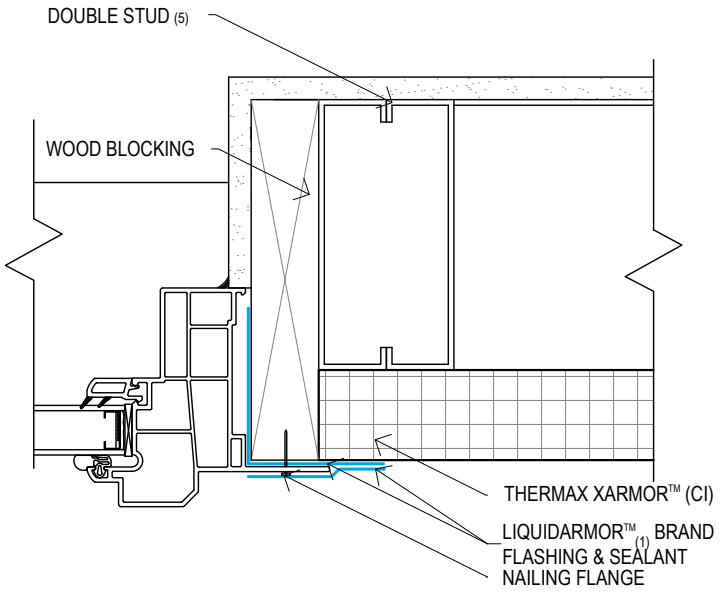
Flange Window NO SPF

W/ WOOD BLOCKING



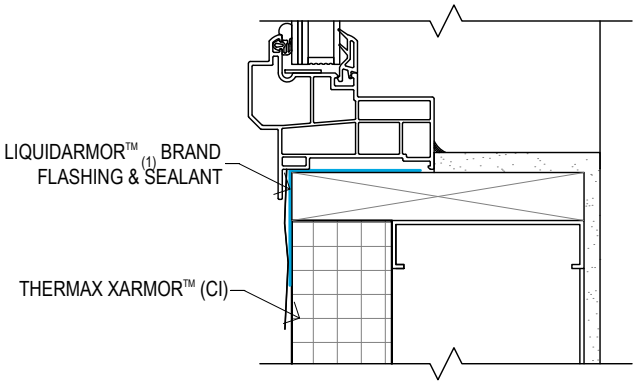
FLANGE WINDOW HEAD | SECTION

TWS-G15.1 *COLOR FOR VISUAL CLARIFICATION ONLY*



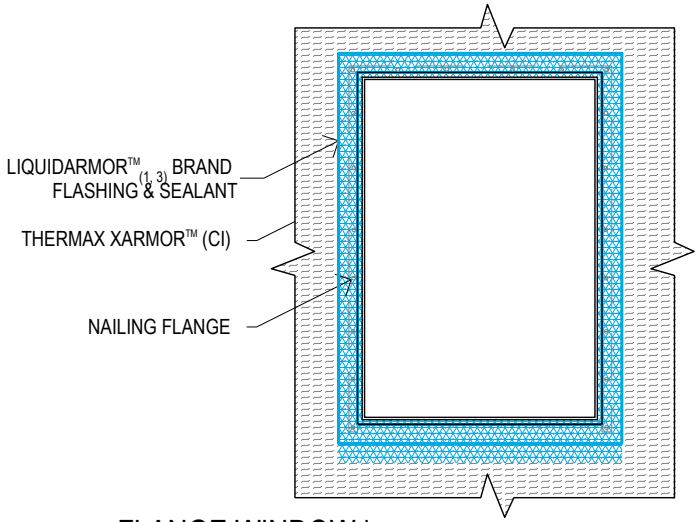
FLANGE WINDOW JAMB | PLAN

TWS-G15.2 *COLOR FOR VISUAL CLARIFICATION ONLY*



FLANGE WINDOW SILL | SECTION

TWS-G15.3 *COLOR FOR VISUAL CLARIFICATION ONLY*



FLANGE WINDOW | ELEVATION

TWS-G15.4 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

1. FLASHING AND SEALANT TO BE INSTALLED MIN. 3" ONTO FACE OF INSULATION AND MIN. 3" INTO ROUGH OPENING (SILL, JAMB, & HEADER) OR 1" PAST PRIMARY AIR/WATER SEAL OF WINDOW, WHICHEVER IS GREATER.
2. ALL FLANGE PENETRATIONS TO BE THROUGH SELF-SEALING DUPONT FLASHING MATERIAL AT WINDOW JAMBS & HEADER.
3. AFTER WINDOW INSTALLATION, FLANGE TO BE SEALED WITH LIQUIDARMOR™. NOTE: IF USING MORE THAN ONE TYPE OF SEALANT, USE SEQUENCING GUIDELINES FROM DETAIL TWSG02.
4. CAULK @ WINDOW FLANGE TO BE INSTALLED AS PER WINDOW MANUFACTURER REQUIREMENTS.
5. DOUBLE STUD AT WINDOW JAMB RECOMMENDED TO ALLOW FOR FLEXIBILITY WITH CLADDING ATTACHMENT.
6. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS, AND FOR SPRAY FOAM AND SEALANT OPTIONS & REQUIREMENTS.

CLADDING NEUTRAL

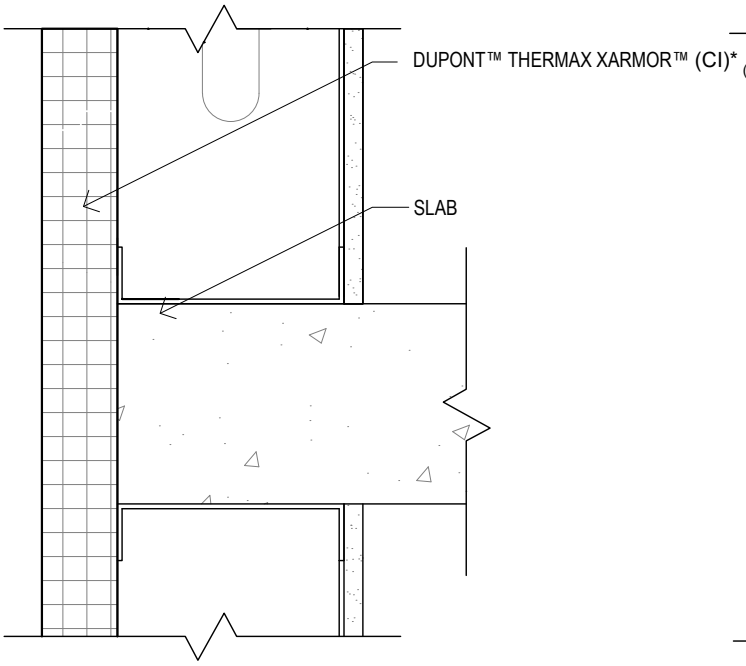
Edge of Slab - Floor to Floor

DESIGN INTENT

1. MINIMIZE THERMAL BRIDGING WITH CONTINUOUS INSULATION INSTALLED OVER EDGE OF SLAB.
2. MAINTAIN INTEGRITY OF FOUR CONTROL LAYERS BY SEALING OVER EDGE OF SLAB TO PREVENT UNWANTED MOISTURE/AIR INFILTRATION.

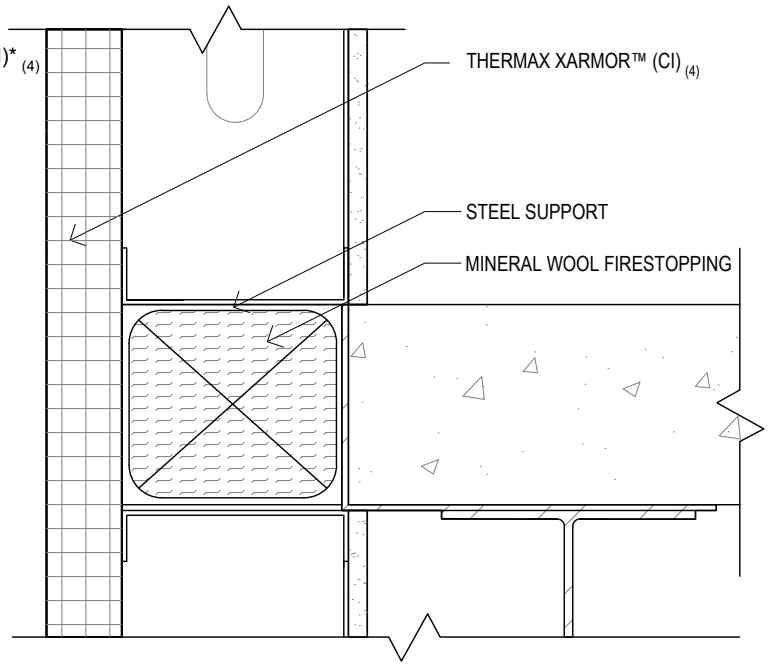
GENERAL RECOMMENDATIONS

1. EDGE OF SLAB TO BE FLUSH WITH FACE OF EXTERIOR METAL STUD TO MAINTAIN CONTINUITY AND THICKNESS OF WALL SYSTEM AT FLOOR TO FLOOR CONDITIONS.
2. THINNER PIECES OF THERMAX MAY BE USED WHERE EDGE OF SLAB IS NOT FLUSH WITH EXTERIOR FACE OF METAL STUD. HOWEVER, THIS CONDITION CAN BE LABOR INTENSIVE.
3. WHERE EDGE OF SLAB IS FLUSH WITH EXTERIOR FACE OF INSULATION, MUST FLASH RAW SLAB EDGE WITH DUPONT™ LIQUIDARMOR™* FLASHING & SEALANT TO MAINTAIN CONTINUITY OF CONTROL LAYERS.



EDGE OF SLAB

TWS-G16.1



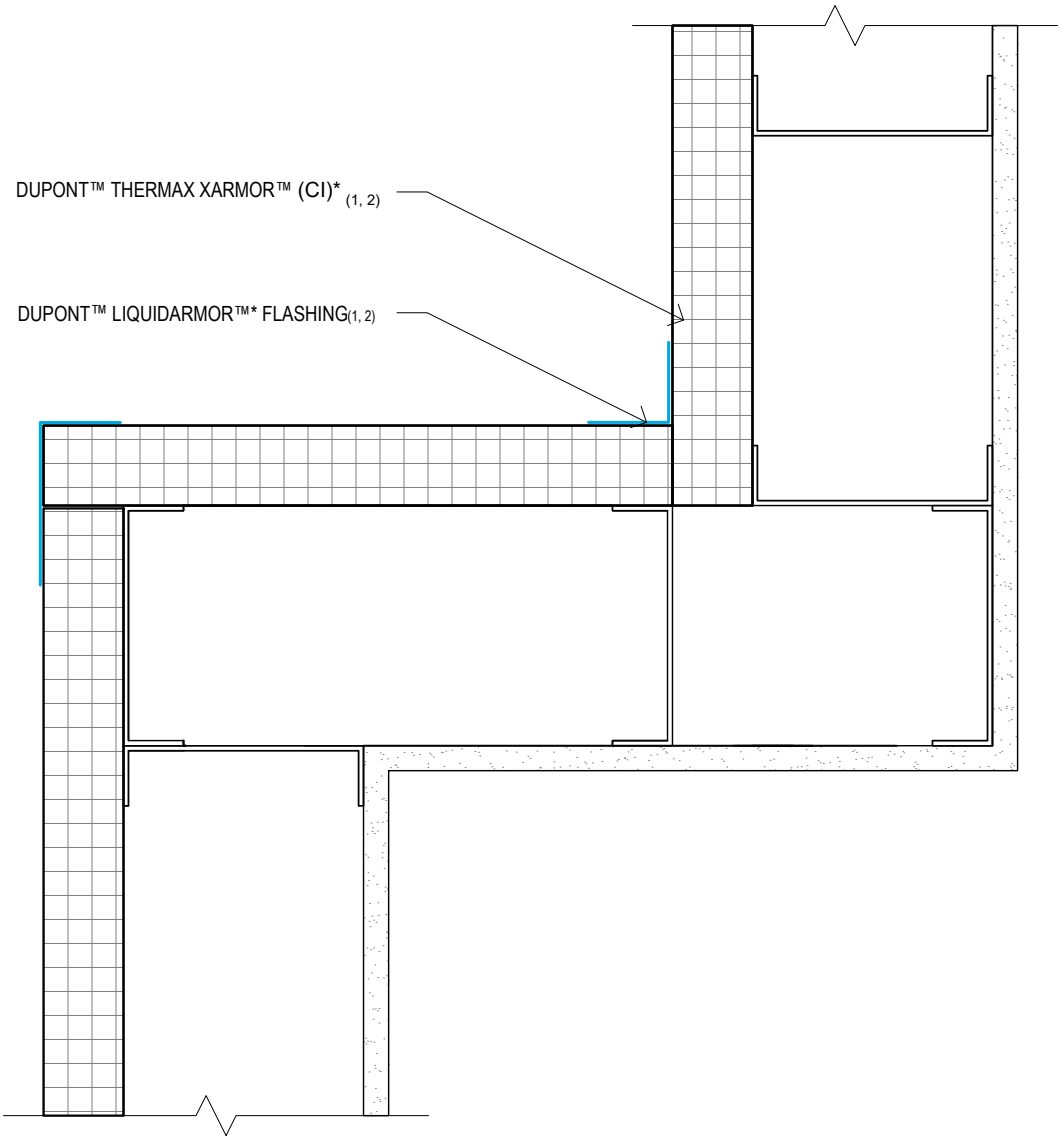
EDGE OF SLAB WITH FIRESTOP

TWS-G16.2

MINIMUM REQUIREMENTS

1. EDGE OF SLAB MUST NOT BE LEFT EXPOSED. A MOISTURE RESISTANT/AIR SEALING MEMBRANE MUST BE USED TO TRANSITION FROM FACE OF INSULATION, OVER RAW SLAB EDGE, ONTO FACE OF INSULATION BELOW IN A SHINGLE-LAP FASHION.
2. FASTENERS USED TO SECURE INSULATION TO EDGE OF SLAB MUST BE SEALED WITH LIQUIDARMOR USING REQUIREMENTS LISTED IN DETAIL TWS-G02.
3. FLOOR TO FLOOR FIRE-STOPPING CONSTRUCTION DETAILS TO BE DESIGNED/VERIFIED BY FIRE PROTECTION ENGINEER / FIRE STOP MANUFACTURER / OR EQUAL.
4. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS, AND FOR SPRAY FOAM AND SEALANT OPTIONS & REQUIREMENTS.

Int. and Ext. Corners



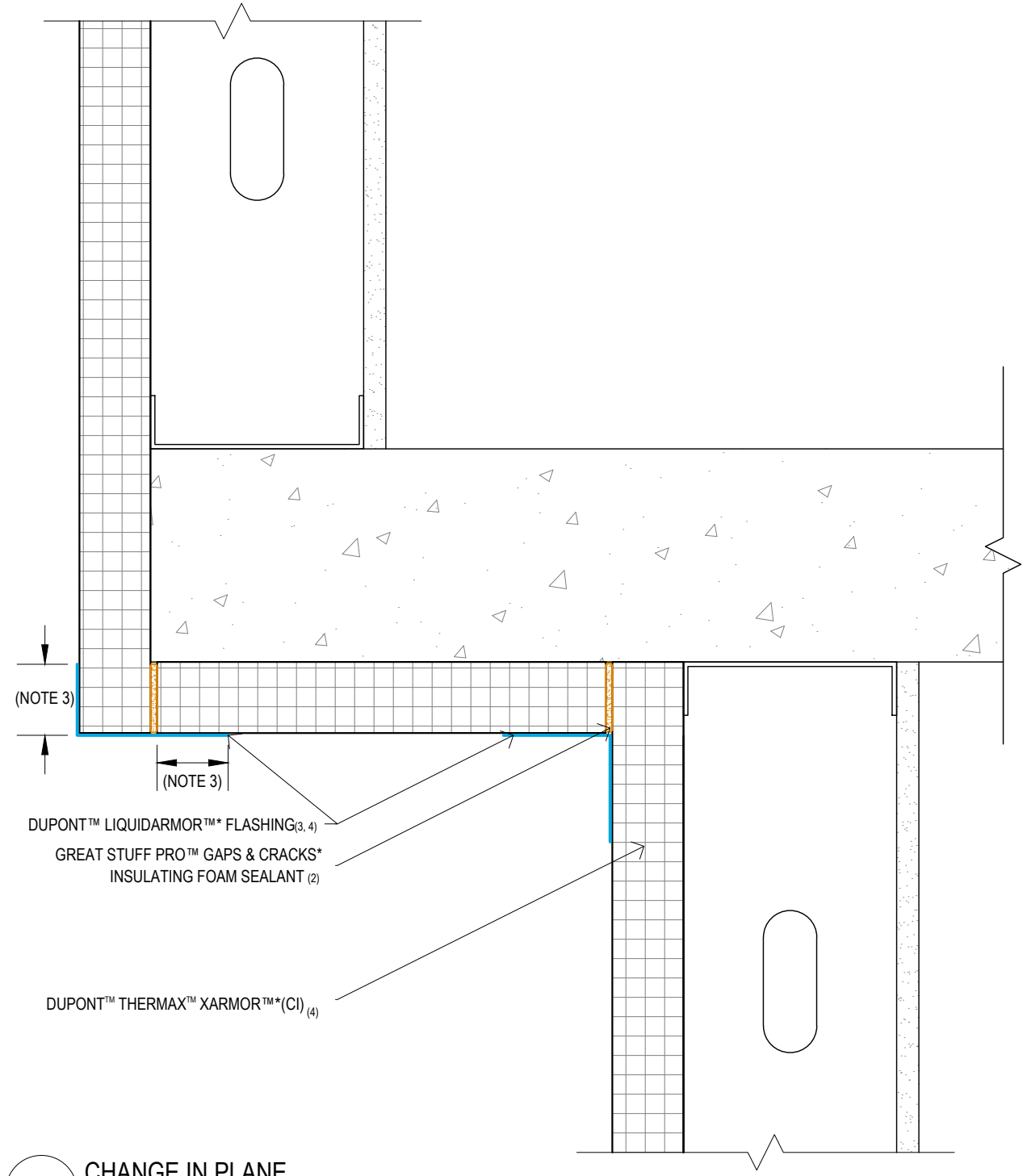
INTERIOR AND EXTERIOR CORNERS | PLAN

TWS-G17 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

1. INSULATION CORE (RAW EDGES) TO BE ENCAPSULATED BY FLASHING WITH MIN. ADHERENCE BASED ON DETAIL TWS-G02 ON FACE OF EACH ADJOINING BOARD.
2. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS, AND FOR SPRAY FOAM AND SEALANT OPTIONS & REQUIREMENTS.

Change in Plane



CHANGE IN PLANE

TWS-G18 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

1. INSULATION SHOULD BE LAYERED IN A SHINGLE-LAP FASHION (AS SHOWN) TO PROMOTE WATER SHEDDING AND PREVENT MOISTURE INTRUSION AT HORIZONTAL INSULATION JUNCTURES.
2. ANY GAPS 1/4" OR GREATER, INCLUDING WHERE TWO BOARDS MEET, MUST BE FILLED WITH GREAT STUFF PRO™ GAPS & CRACKS OR OTHER APPROVED SEALANT PRIOR TO INSTALLATION OF ANY FLASHING MATERIALS.
3. MIN. ADHESION WIDTH OF LIQUIDARMOR™ FLASHING AND SEALANT ONTO EACH FACE OF INSULATION BASED ON DETAIL TWS-G02.
4. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS, AND FOR SPRAY FOAM AND SEALANT OPTIONS & REQUIREMENTS.

CLADDING NEUTRAL

Kerf Cut Along Radius

DESIGN INTENT

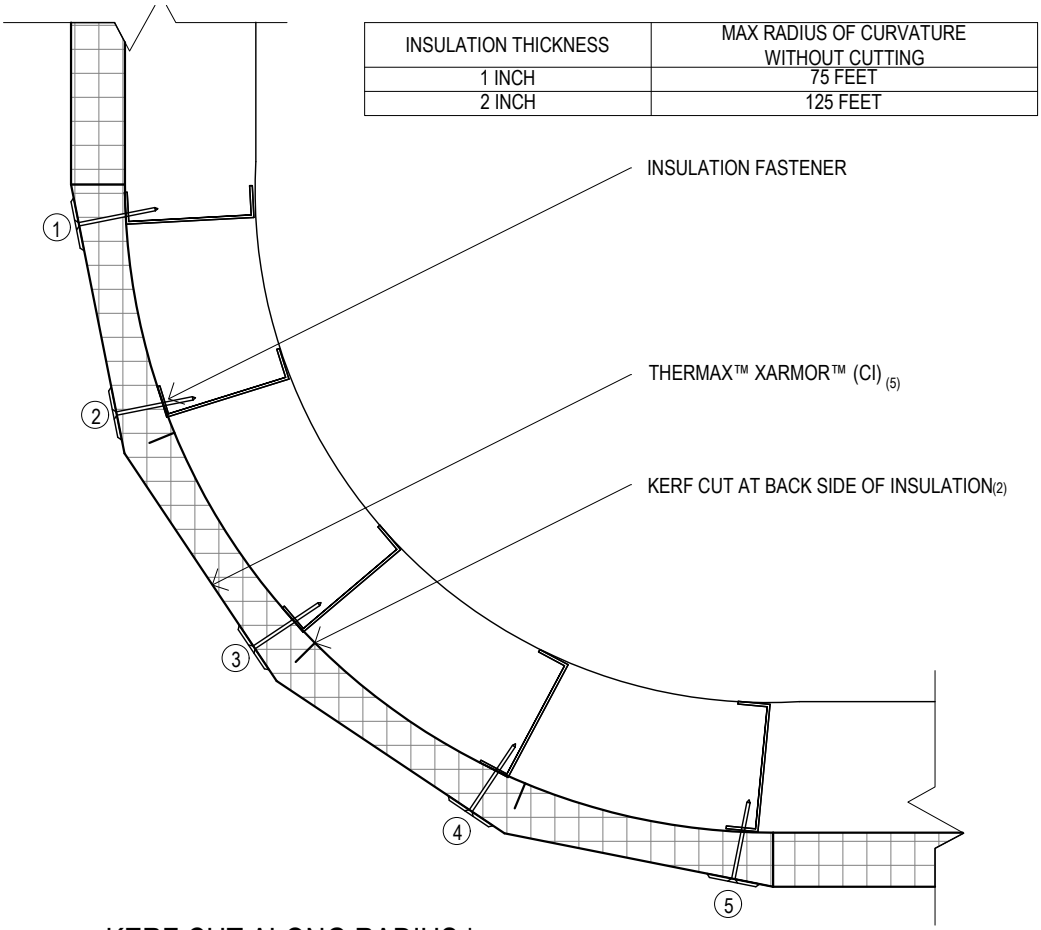
USE DUPONT™ THERMAX™* BRAND INSULATION ALONG CURVED FACADE WHILE MAINTAINING INTEGRITY OF THE 4 CONTROL LAYERS.

1. WITHOUT KERF: USE THERMAX OVER SPECIFIC RADII OF CURVATURE WITHOUT THE NEED TO CUT, SCORE, OR KERF.
2. EXTERIOR FACE KERF: FILL ALL VOIDS WITH GREAT STUFF PRO™ GAPS & CRACKS* AND FLASH USING DUPONT™ LIQUIDARMOR™* TO SEAL FROM MOISTURE & AIR INFILTRATION.
3. INTERIOR FACE KERF: SEAL WITH DUPONT™ APPROVED SPRAY POLYURETHANE FOAM.

GENERAL RECOMMENDATIONS

1. FOR EXTREME RADII OF CURAVTURE WITH THICKNESSESS OF THERMAX™ EXCEEDING 2", USE MULTIPLE LAYERS OF THINNER THERMAX™ INSULATION.
2. FLASHING TECHNIQUES OUTLINED IN OTHER DETAILS WILL STILL BE RELEVANT FOR RADII OF CURVATURE ESPECIALLY AS THEY PERTAIN TO FASTENERS & FENESTRATIONS.

INSULATION THICKNESS	MAX RADIUS OF CURVATURE WITHOUT CUTTING
1 INCH	75 FEET
2 INCH	125 FEET



KERF CUT ALONG RADIUS | PLAN

TWS-G19

MINIMUM REQUIREMENTS

1. IF MAX RADIUS OF CURVATURE OR MAX INSULATION THICKNESS IS EXCEEDED, INSULATION WILL NEED TO BE "KERF CUT" TO PROPERLY ENCLOSE THE EXTERIOR STRUCTURE.
2. EACH CUT TO HAVE A MAX DEPTH NO GREATER THAN $\frac{1}{2}$ OF INSULATION THICKNESS.
3. CUTS TO EXTERIOR INSULATION FACER MUST BE FILLED WITH GREAT STUFF PRO™ GAPS & CRACKS INSULATING FOAM SEALANT, OR OTHER APPROVED SEALANT, SUCH THAT THE FOAM EXPANDS TO THE EXTERIOR FACE OF INSULATION AND FULLY FILLS ALL VOIDS.
4. EXCESS GREAT STUFF PRO™ GAPS & CRACKS, OR OTHER APPROVED SEALANT MUST BE TRIMMED FLUSH TO THE FACE OF THE BOARD AND FLASHED W/ LIQUIDARMOR™ FLASHING BASED ON WIDTH REQUIREMENTS FROM TWS-G02.
5. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR SYSTEM CONFIGURATION, SPRAY FOAM , AND SEALANT OPTIONS & REQUIREMENTS.

CLADDING NEUTRAL

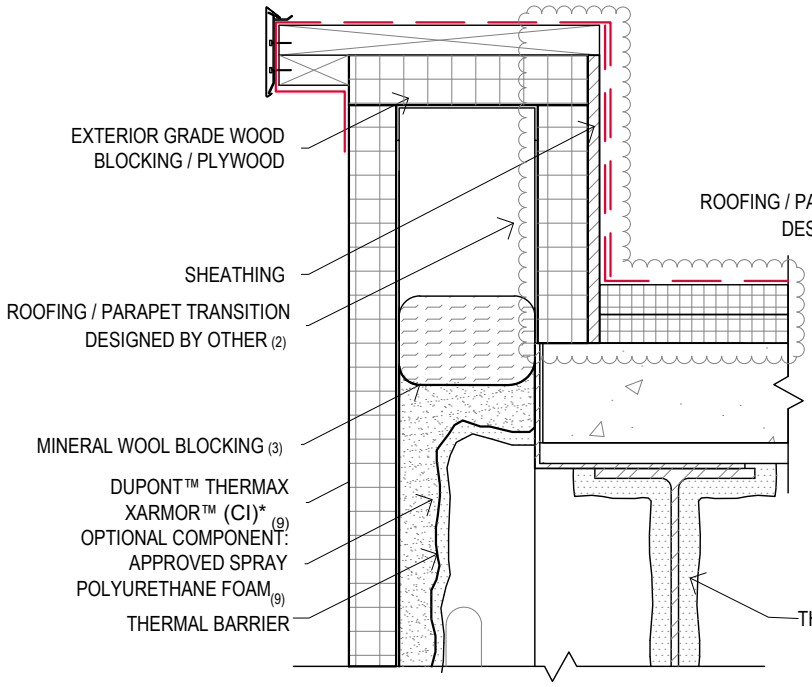
Parapet 1

DESIGN INTENT

1. SUCCESSFULLY TRANSITION 4 CONTROL LAYERS FROM VERTICAL WALL PLANE TO HORIZONTAL ROOFING PLANE WITHOUT INTERRUPTION.
2. INSULATION & AIR BARRIER TO SEAL OFF UNCONDITIONED PARAPET WALL FROM INTERACTING WITH CONDITIONED INTERIOR AIR TO FURTHER PREVENT CONDENSATION POTENTIAL.
3. TRANSITION TO ROOFING MEMBRANE MATERIALS USING COMPATIBLE MATERIALS.

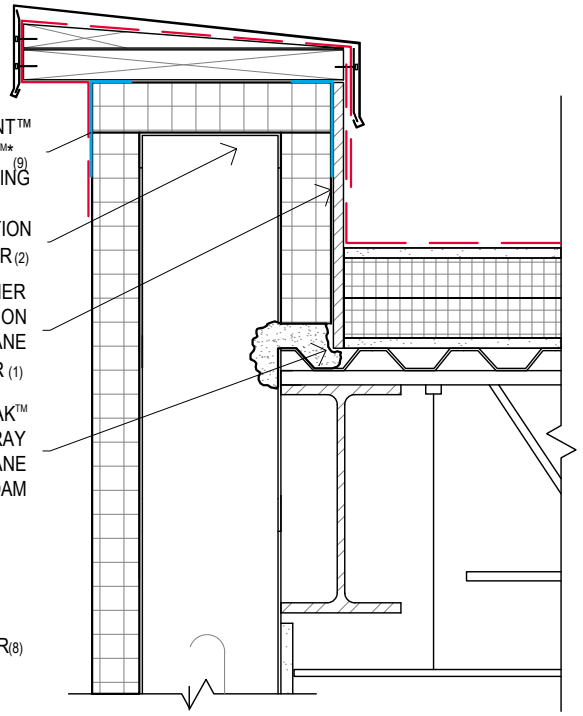
GENERAL RECOMMENDATIONS

1. COMBINATION OF MATERIALS MAY BE USED TO ENCAPSULATE PARAPET WALL - ALL MANUFACTURERS SHOULD BE CONSULTED TO ENSURE CHEMICAL COMPATIBILITY OF MEMBRANE/TRANSITION MATERIALS TO INSULATION.
2. 3RD PARTY MATERIAL TO TRANSITION FROM ROOFING MEMBRANE OVER/UNDER COPING TO TERMINATE ON FACE OF INSULATION.
3. DUPONT™ FROTH-PAK™* CLASS A INSULATION AT ROOF DECK / PARAPET JUNCTURE TO BE INSTALLED PRIOR TO ROOF INSULATION & MEMBRANE.



STUD WALL PARAPET SPF TERMINATION

TWS-G20.1 *COLOR FOR VISUAL CLARIFICATION ONLY*



PARAPET ON METAL DECK

TWS-G20.2 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

1. DUPONT™ LIQUIDARMOR™* FLASHING IS NOT ACCEPTABLE PRODUCTS FOR TRANSITIONING WRB/AIR BARRIER MEMBRANE FROM FACE OF INSULATION, AROUND PARAPET CAP, ONTO ROOFING MEMBRANE. TRANSITION MEMBRANES TO BE PROVIDED BY ROOFING MANUFACTURER.
2. LIQUIDARMOR™ FLASHING NOT SUITABLE FOR ROOFING MEMBRANE MATERIALS AND CANNOT BE LEFT EXPOSED INDEFINITELY.
3. ALL PENETRATIONS AT PARAPET MUST BE MADE THROUGH SELF-SEALING MEMBRANES.
4. FLASHING DETAILS AT FRONT OF PARAPET SHOULD BE INSTALLED IN A SHINGLE-LAP PATTERN SUCH THAT THEY COUNTER FLASH ONTO INSULATION.
5. AT ROOF WALL JUNCTURE, MIN. 1.5"+/- 0.5" APPLICATION SPRAY POLYURETHANE FOAM TO BE INSTALLED TO PREVENT AIR EXFILTRATION AT PARAPET.
6. FOR STUD ASSEMBLIES THAT RUN PAST ROOF DECK TO CREATE PARAPET WALL, MINERAL WOOL BLOCKING OR EQUAL TO ACT AS SUBSTRATE FOR 2LB SPRAY POLYURETHANE FOAM TO PROPERLY SEAL CAVITY.
7. 2LB SPRAY POLYURETHANE FOAM CANNOT BE LEFT EXPOSED AND REQUIRES A THERMAL BARRIER IN PLENUM SPACES.
8. FOR THERMAL BARRIER REQUIREMENTS, SEE DETAIL TWS-G22 CEILING PLENUM.
9. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS, AND FOR SPRAY FOAM AND SEALANT OPTIONS & REQUIREMENTS.

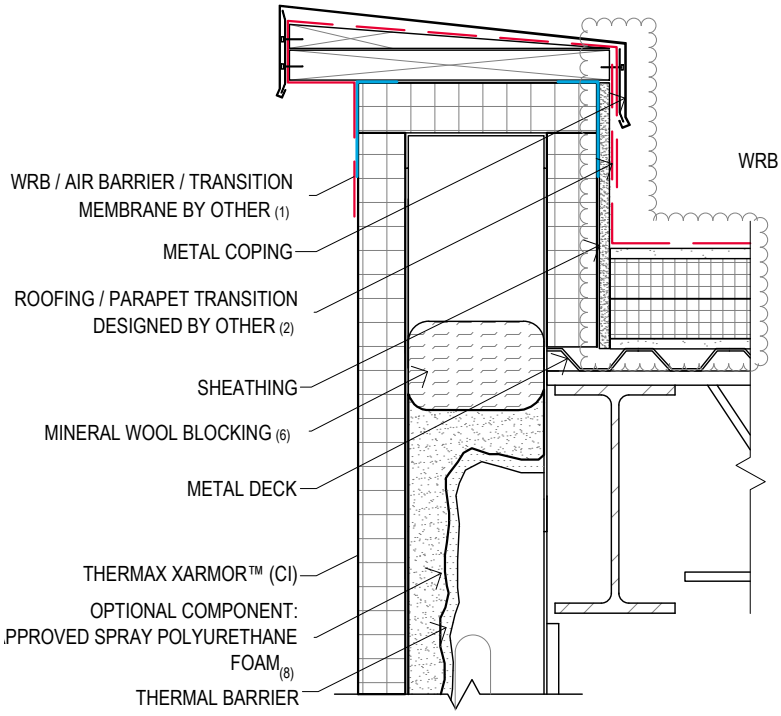
Parapet 2

DESIGN INTENT

1. SUCCESSFULLY TRANSITION 4 CONTROL LAYERS FROM VERTICAL WALL PLANE TO HORIZONTAL ROOFING PLANE WITHOUT INTERRUPTION.
2. INSULATION & AIR BARRIER TO SEAL OFF UNCONDITIONED PARAPET WALL FROM INTERACTING WITH CONDITIONED INTERIOR AIR TO FURTHER PREVENT CONDENSATION POTENTIAL.
3. TRANSITION TO ROOFING MEMBRANE MATERIALS USING COMPATIBLE MATERIALS.

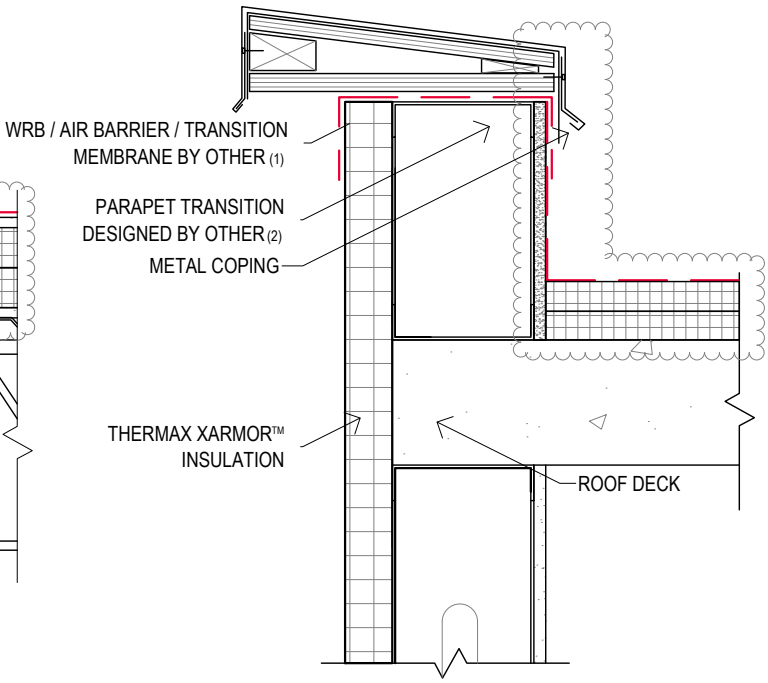
GENERAL RECOMMENDATIONS

1. COMBINATION OF MATERIALS MAY BE USED TO ENCAPSULATE PARAPET WALL - ALL MANUFACTURERS SHOULD BE CONSULTED TO ENSURE CHEMICAL COMPATIBILITY OF MEMBRANE/TRANSITION MATERIALS TO DUPONT™ THERMAX™*.
2. 3RD PARTY MATERIAL TO TRANSITION FROM ROOFING MEMBRANE OVER/UNDER COPING TO TERMINATE ON FACE OF INSULATION.
3. DUPONT™ FROTH-PAK™ CLASS A INSULATION AT ROOF DECK / PARAPET JUNCTURE TO BE INSTALLED PRIOR TO ROOF INSULATION & MEMBRANE.



PARAPET SPF TERMINATION WITH BLOCKING

TWS-G21.1 *COLOR FOR VISUAL CLARIFICATION ONLY*



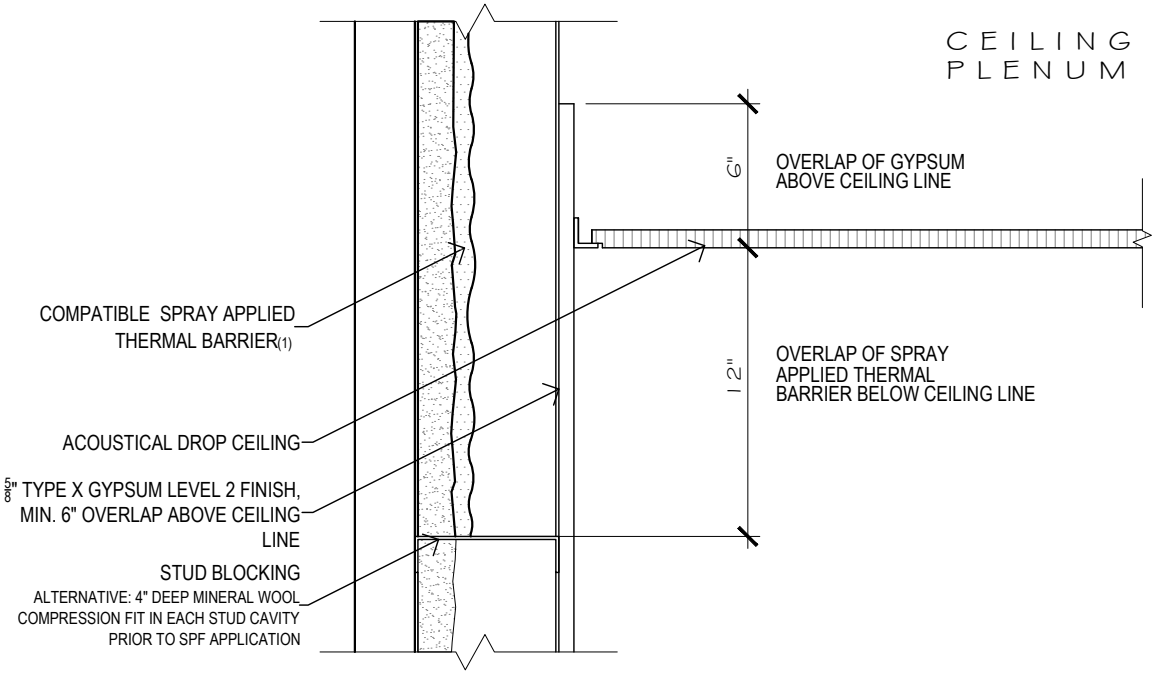
PARAPET AT EDGE OF SLAB

TWS-G21.2 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

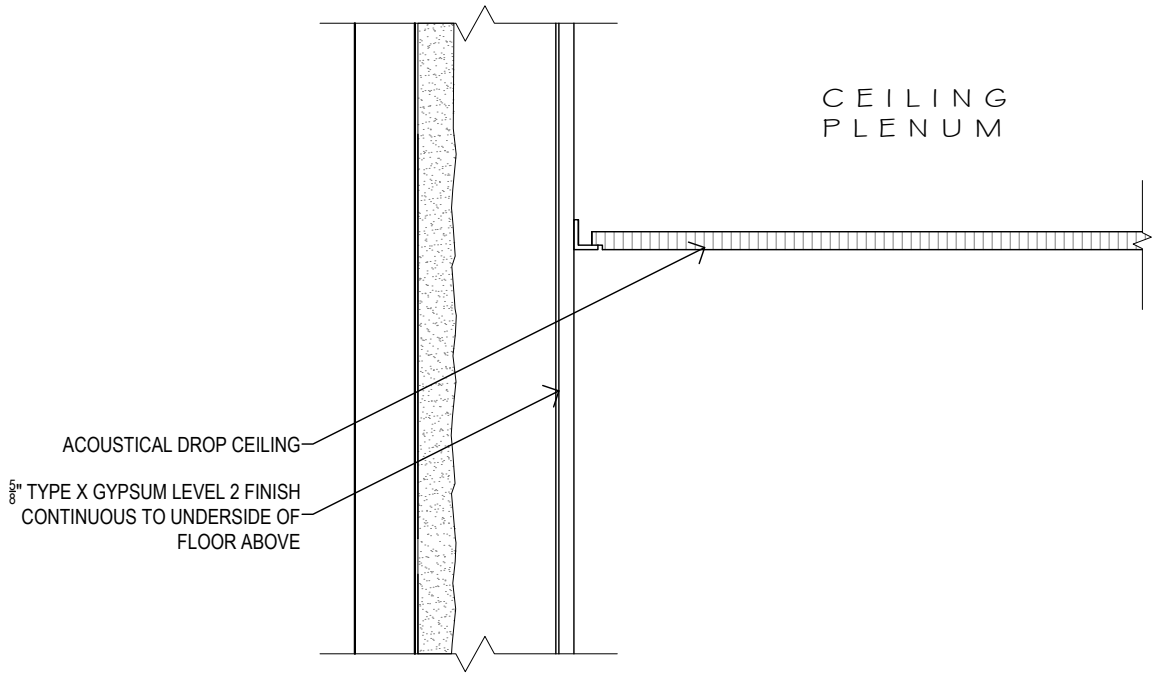
1. DUPONT™ LIQUIDARMOR™* FLASHING IS NOT ACCEPTABLE PRODUCTS FOR TRANSITIONING WRB/AIR BARRIER MEMBRANE FROM FACE OF INSULATION, AROUND PARAPET CAP, ONTO ROOFING MEMBRANE. TRANSITION MEMBRANES TO BE PROVIDED BY ROOFING MANUFACTURER.
2. LIQUIDARMOR™ FLASHING NOT SUITABLE FOR ROOFING MEMBRANE MATERIALS AND CANNOT BE LEFT EXPOSED INDEFINITELY.
3. ALL PENETRATIONS AT PARAPET MUST BE MADE THROUGH SELF-SEALING MEMBRANES AS DEFINED BY ASTM E331.
4. FLASHING DETAILS AT FRONT OF PARAPET SHOULD BE INSTALLED IN A SHINGLE-LAP PATTERN SUCH THAT THEY COUNTER FLASH ONTO INSULATION.
5. AT ROOF WALL JUNCTURE, MIN. 1.5"+/- 0.5" APPLICATION SPRAY POLYURETHANE FOAM TO BE INSTALLED TO PREVENT AIR EXFILTRATION AT PARAPET.
6. FOR STUD ASSEMBLIES THAT RUN PAST ROOF DECK TO CREATE PARAPET WALL, MINERAL WOOL BLOCKING OR EQUAL TO ACT AS SUBSTRATE FOR 2LB SPRAY POLYURETHANE FOAM TO PROPERLY SEAL CAVITY.
7. SEE DETAIL TWS-G22 CEILING PLENUM REQUIREMENTS FOR EXPOSED SPF WHERE INTERIOR GYPSUM IS NOT CONTINUOUS TO BOTTOM OF ROOF DECK.
8. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS, AND FOR SPRAY FOAM AND SEALANT OPTIONS & REQUIREMENTS.

*A former product of The Dow Chemical Company.



CEILING PLENUM

TWS-G22.1 *COLOR FOR VISUAL CLARIFICATION ONLY*



CEILING PLENUM

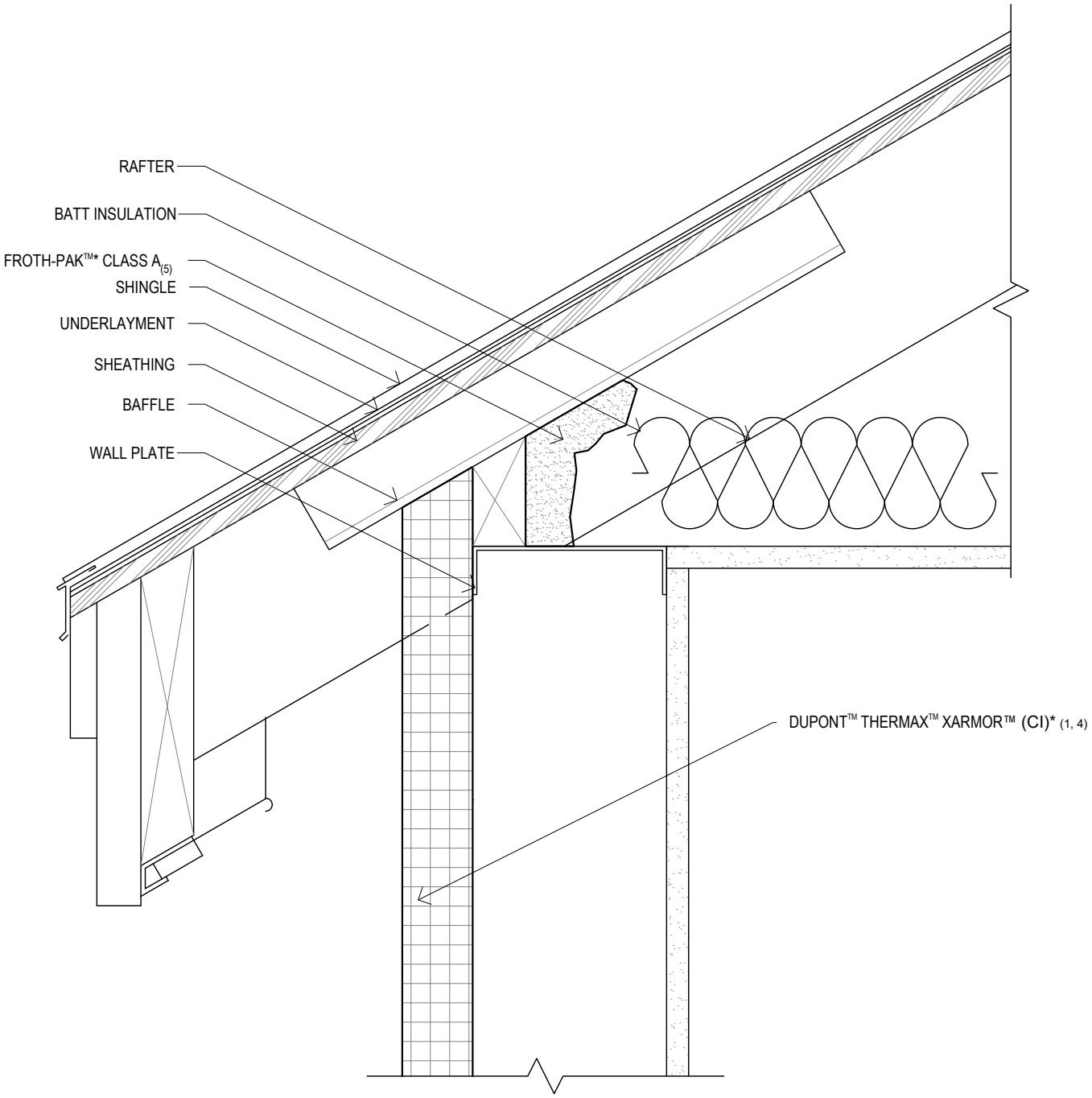
TWS-G22.2 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

1. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS, AND FOR SPRAY FOAM AND SEALANT OPTIONS & REQUIREMENTS.

CLADDING NEUTRAL

Gable Roof - Vented



GABLE ROOF / WALL JUNCTURE | SECTION

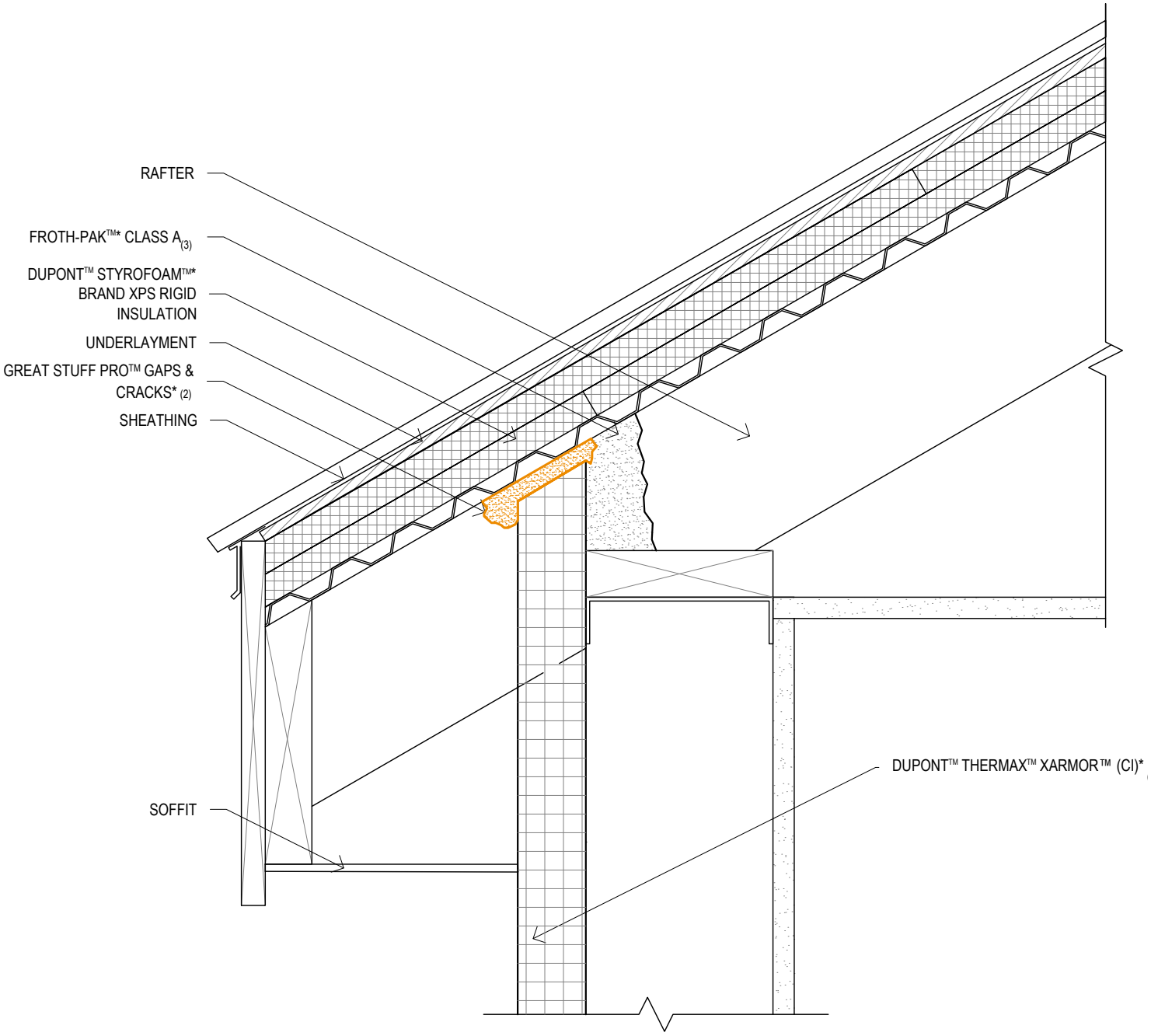
TWS-G23

MINIMUM REQUIREMENTS

1. INSULATION SHOULD BE CUT TO RUN INTO RAFTERS AND RUN TO TOP OF WALL PLATE.
2. SPRAY POLYURETHANE FOAM AT RAFTER TO BE INSTALLED ALONG BAFFLE TO AIR SEAL WHILE ALLOWING FOR PROPER VENTILATION.
3. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS, AND FOR SPRAY FOAM AND SEALANT OPTIONS & REQUIREMENTS.
4. FROTH-PAK™ CLASS A MAX. 6" HEIGHT AND MAX. 2" DEPTH MAY BE LEFT EXPOSED WITHOUT ADDITIONAL THERMAL BARRIER.

CLADDING NEUTRAL

Gable Roof - Unvented



UNVENTED GABLE ROOF / WALL JUNCTURE | SECTION

TWS-G24 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

1. INSULATION SHOULD BE CUT TO RUN INTO RAFTERS AND RUN TO TOP OF WALL PLATE.
2. GREAT STUFF PRO™ GAPS & CRACKS, OR OTHER APPROVED SEALANT, TO BE USED TO SEAL BETWEEN THERMAX™ INSULATION AND ALL RAFTERS TO COMPLETE AIR SEAL.
3. FROTH-PAK™ CLASS A MAX. 6" HEIGHT AND MAX. 2" DEPTH MAY BE LEFT EXPOSED WITHOUT ADDITIONAL THERMAL BARRIER.
4. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS, AND FOR SPRAY FOAM AND SEALANT OPTIONS & REQUIREMENTS.

DuPont™ Thermax™ Wall System Masonry Cladding

Detailing Recommendations for Jobs Using Masonry Cladding

CONTENTS

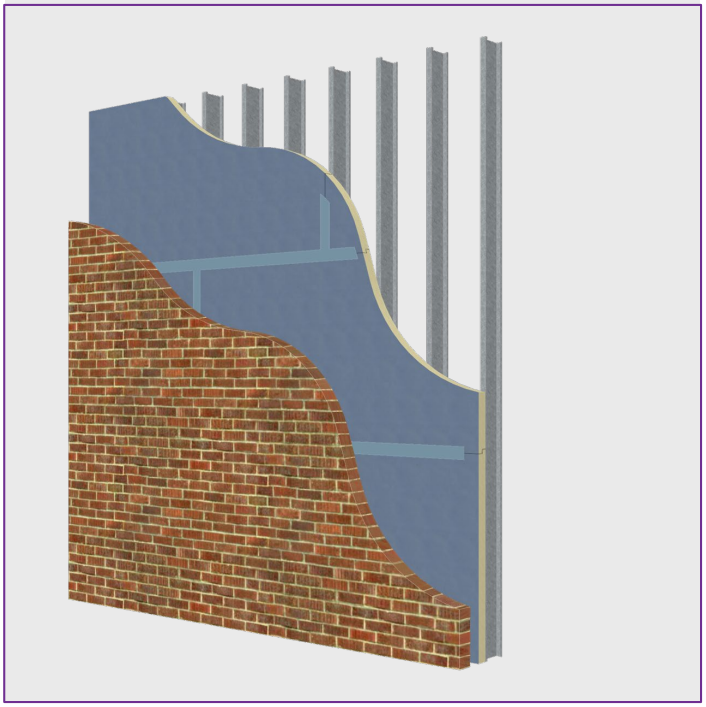
NAVIGATING

Nomenclature *Key*

TWS-G01

System
Detail Set
Detail Number

TWS DuPont™ Thermax™ Wall System*
G General / Cladding Neutral
M Masonry Cladding
R Rainscreen Cladding
A Applied, Adhered Veneer



*A former product of The Dow Chemical Company.

Masonry Details Overview

DETAILS GUIDE

1. WALL SECTION LISTS APPLICABLE DETAILS FOR REFERENCE.
2. DETAIL NAMING SYSTEM:

TWS-X00.0
- .0 - DETAIL NUMBER ON PAGE
- 00 - DETAIL NUMBER IN SET
- G - GENERAL
- M - MASONRY
- TWS - DUPONT™ THERMAX™ WALL SYSTEM*

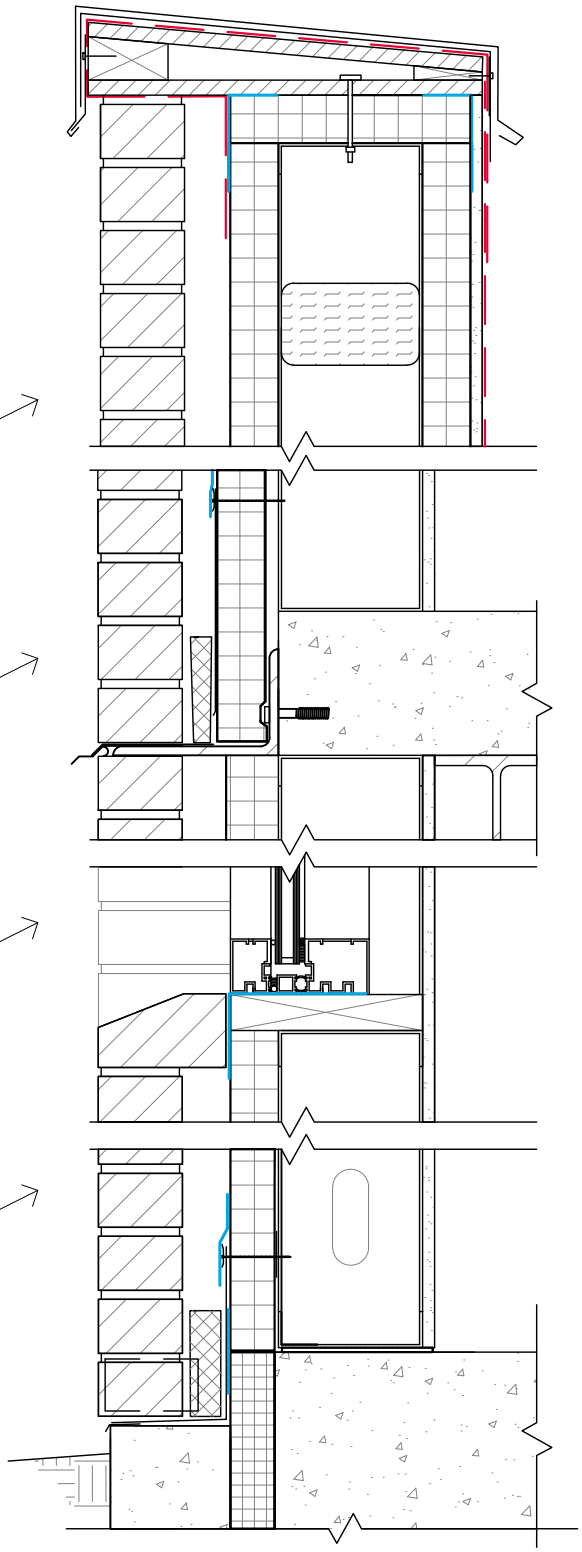
3. DETAILS AND ADDITIONAL INFORMATION AVAILABLE AT BUILDING.DUPONT.COM

PARAPET DETAILS
TWS-G15.1
TWS-G15.2
TWS-G16.1
TWS-G16.2

EDGE OF SLAB DETAILS
TWS-G12.1
TWS-G12.2
TWS-M06.1
TWS-M06.2

WINDOW DETAILS
TWS-G09.1
TWS-G09.2
TWS-009.3
TWS-G09.4
TWS-G10.1
TWS-G10.2
TWS-G10.3
TWS-G10.4
TWS-M05.1
TWS-M05.2
TWS-M05.3

FOUNDATION DETAILS
TWS-G07.1
TWS-G07.2
TWS-G07.3
TWS-G07.4
TWS-M04.1
TWS-M04.2



MASONRY OVERVIEW SECTION
TWS-M01 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

1. ACCEPTABLE DETAILS INCLUDE, BUT ARE NOT LIMITED TO, THOSE LISTED ABOVE. MUST REFERENCE THERMAX WALL SYSTEM GENERAL DETAILS (CLADDING NEUTRAL) FOR OTHER MIN. REQUIREMENTS.

*A former product of The Dow Chemical Company.

MASONRY

Anchor Guidelines for Studs

DESIGN INTENT

1. USE SELF-SEALING MASONRY ANCHORS TO MAINTAIN INTEGRITY OF 4 CONTROL LAYERS.
2. SELECT FASTENERS WITH THERMAL BREAKS TO IMPROVE EFFECTIVE R-VALUE OF THE ENVELOPE.
3. USE BARREL-LIKE MASONRY FASTENERS TO REDUCE NUMBER OF PENETRATIONS TO ENVELOPE.
4. SEAL UNEVALUATED FASTENERS WITH SELF-SEALING DUPONT MEMBRANES.

MASONRY ANCHOR RECOMMENDATIONS

EVALUATED SELF-SEALING BARREL STYLE ANCHORS

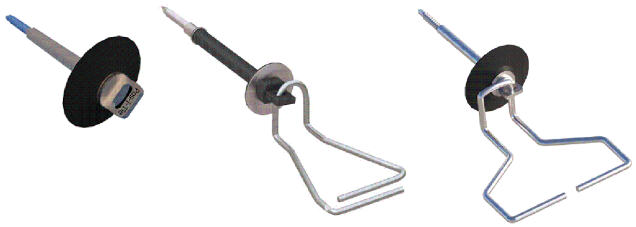
- HECKMANN POS-I-TIE® WITH TRUFAST® WALLS (FORMERLY RODENHOUSE INC.) THERMAL-GRIP® CI WASHER
- HOHMANN & BARNARD 2-SEAL™ TIE, 2-SEAL THERMAL WINGNUT ANCHOR, & THERMAL 2-SEAL TIE
- WIRE-BOND SURE TIE WITH THERMAL WASHER

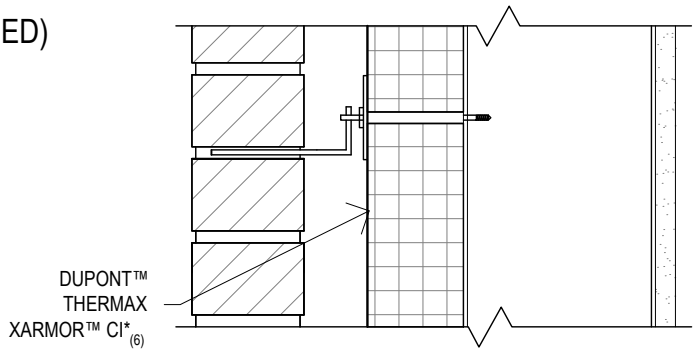
ANCHORS REQUIRING ADDITIONAL FLASHING

- HOHMANN & BARNARD: DW-10X SERIES, HB200/213 SERIES
- WIRE-BOND: HCL SERIES, TYPE III X SERIES

LIST NOT EXHAUSTIVE.

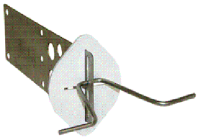
SELF -SEALING BARREL FASTENERS (RECOMMENDED)

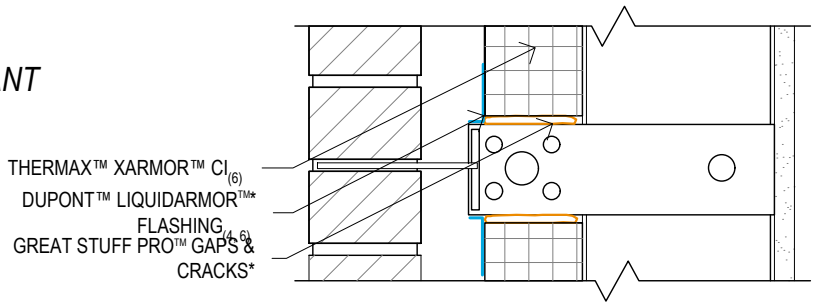




ENGINEERED TIE (HIGH RISE)(5)

REQUIRES ADDITIONAL FLASHING / SEALANT





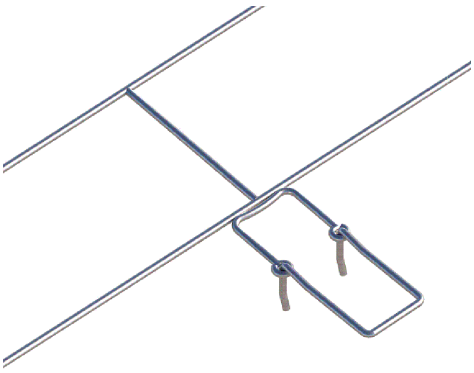
ANCHOR GUIDELINES ON STUD

TWS-M02 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

1. GENERAL FASTENING PATTERN IS 16" O.C. VERTICALLY & HORIZONTALLY UNLESS SPECIFIED DIFFERENTLY BY LICENSED ENGINEER.
2. APPROVED ANCHORS MUST INCLUDE WASHER.
3. WHERE ANCHOR USES MIN. 2" DIA. WASHER, MASONRY ANCHOR MAY BE USED TO REPLACE 1 INSULATION FASTENER AT THAT LOCATION.
4. MUST SEAL GAPS AROUND ALL SHEAR / PLATE ANCHORS W/ GREAT STUFF PRO™ INSULATING FOAM SEALANT OR OTHER APPROVED SEALANT AND FLASH USING LIQUIDARMOR™ FLASHING.
5. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS, AND FOR SPRAY FOAM AND SEALANT OPTIONS & REQUIREMENTS.

Anchor Guidelines on CMU



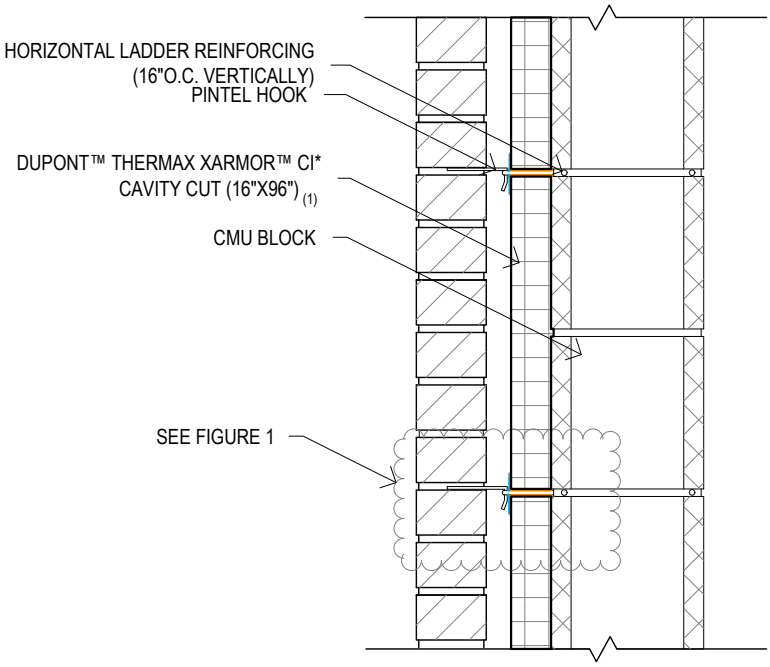
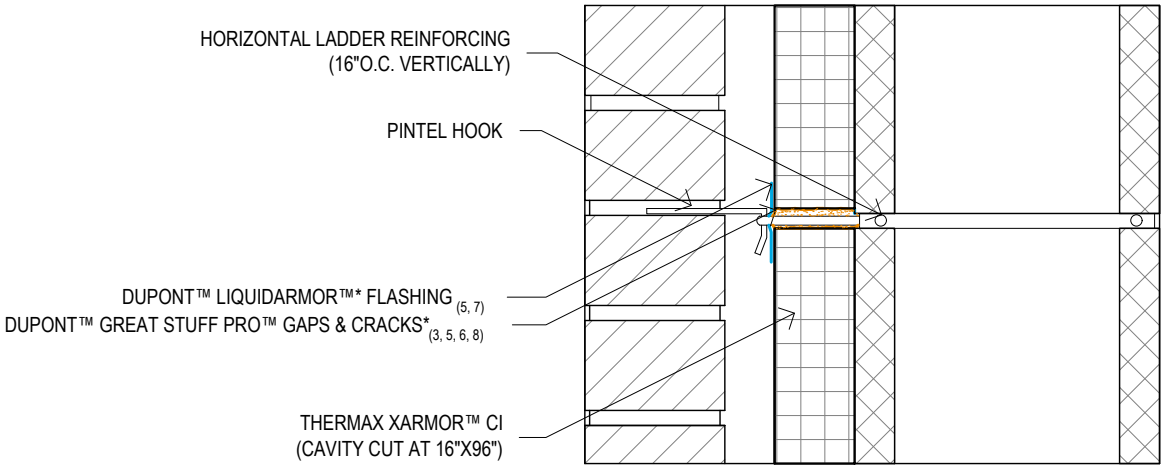


FIGURE 1

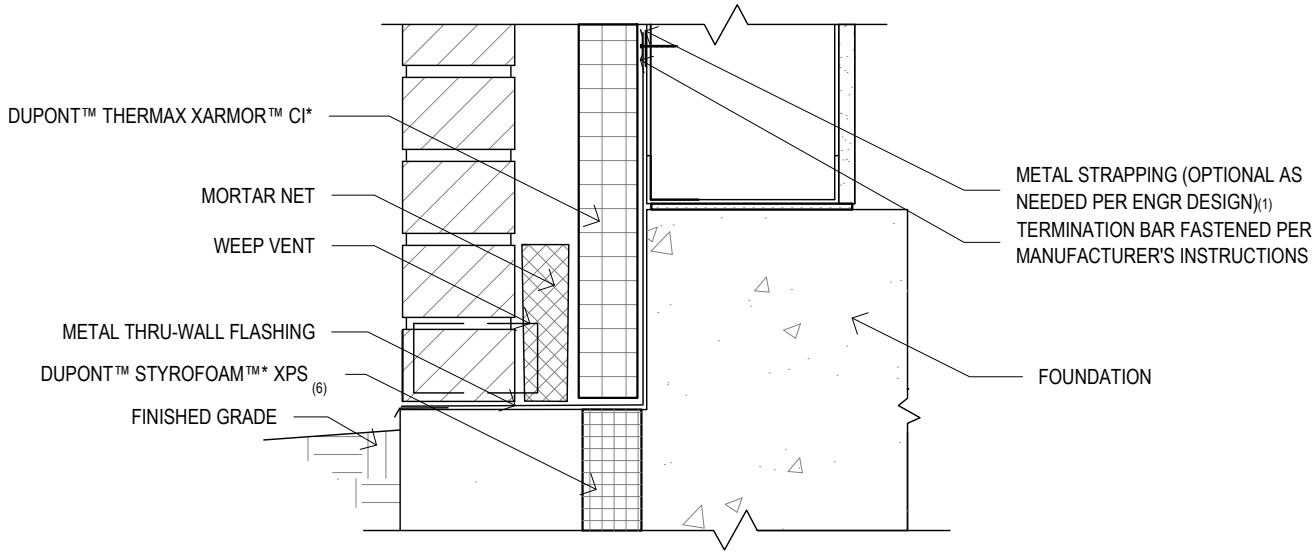


ANCHOR GUIDELINES ON CMU

TWS-M03 *COLOR FOR VISUAL CLARIFICATION ONLY*

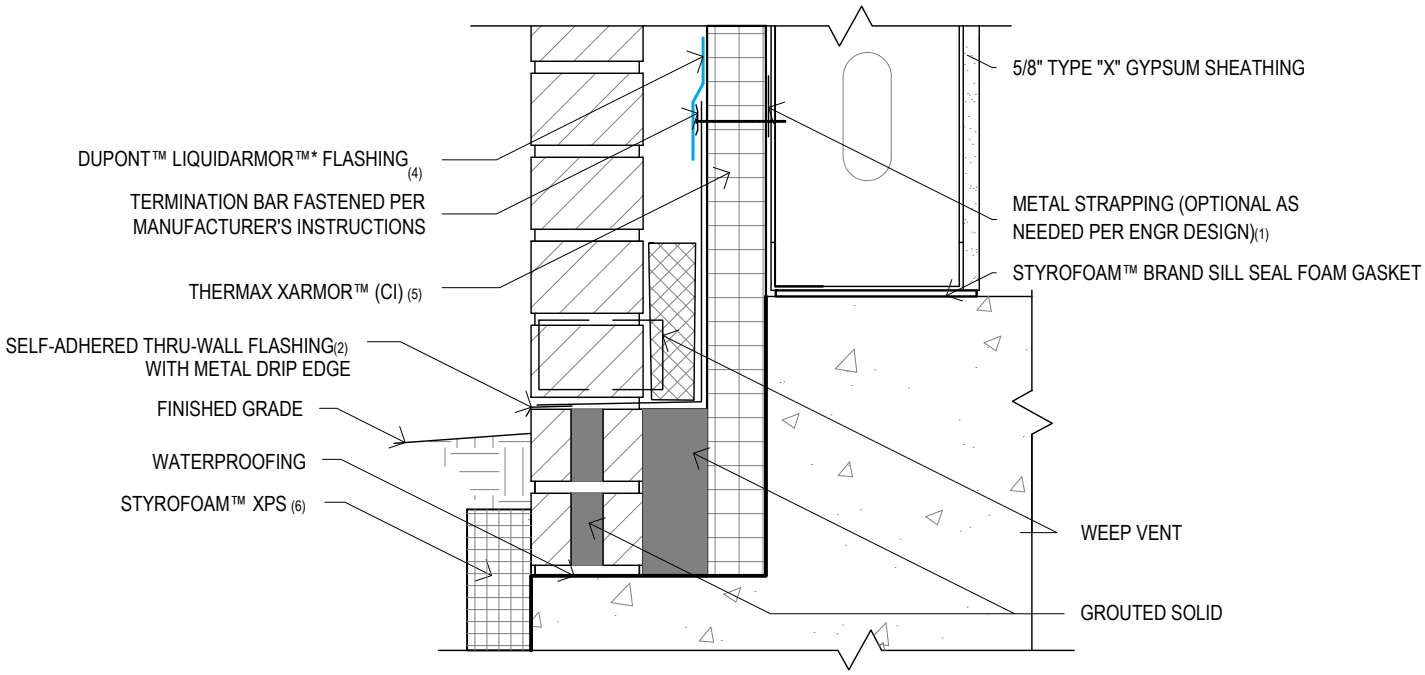
MINIMUM REQUIREMENTS

1. INSULATION BOARDS TO BE CUT AT 16" O.C. WITH A SQUARE EDGE (NOT SHIP-LAPPED).
2. JOINTS AT BOARD PERIMETER TO BE FILLED WITH GREAT STUFF PRO™ GAPS & CRACKS INSULATING FOAM SEALANT OR OTHER APPROVED SEALANT PRIOR TO INSTALLATION OF LIQUIDARMOR™ FLASHING.
3. GREAT STUFF PRO™ GAPS & CRACKS MUST TACK OVER (10-15 MIN.) PRIOR TO INSTALLATION OF LIQUIDARMOR™ FLASHING.
4. SELF ADHERED FLASHING MATERIALS ARE NOT ACCEPTABLE FOR THIS APPLICATION DUE TO THE DIFFICULTY IN CREATING A PROPER SEAL AROUND MASONRY WIRE TIES.
5. LIQUIDARMOR™ FLASHING CAN SPAN A MAX. 1/4" GAPS - ALL AREAS WHERE JOINTS BETWEEN INSULATION BOARDS EXCEED 1/4" REQUIRE GREAT STUFF PRO™ GAPS & CRACKS OR OTHER APPROVED SEALANT TO BE INSTALLED.
6. GREAT STUFF PRO GAPS & CRACKS MAY BE LEFT EXPOSED FOR 60 DAYS MAX.
7. SEE DETAIL TWS-G02 FOR LIQUIDARMOR™ FLASHING MIN. APPLICATION REQUIREMENTS AND EXPOSURE LIMITS.
8. GREAT STUFF PRO™ GAPS & CRACKS MAY BE USED TO ADHERE INSULATION BOARDS TO CMU SUBSTRATE.
9. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS, AND FOR SPRAY FOAM AND SEALANT OPTIONS & REQUIREMENTS.



FOUNDATION BRICK AT GRADE

TWS-M04.1 *COLOR FOR VISUAL CLARIFICATION ONLY*



FOUNDATION PARTIAL BELOW GRADE - GROUTED SOLID

TWS-M04.2 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

1. OPTIONAL - MIN. 3" WIDTH OF LIGHT GAUGE METAL STRAPPING, MIN. 16" ABOVE GRADE, TO ACT AS NAILING BASE FOR TERMINATION BAR.
2. THRU-WALL FLASHING MIN. 40 MIL THICK INSTALLED PER MANUFACTURER'S RECOMMENDATIONS USING EDGING TOOL OR ROLLER (HAND APPLIED PRESSURE NOT ACCEPTABLE). LIQUIDARMOR™ FLASHING NOT ACCEPTABLE FOR THIS APPLICATION.
3. FOR MIN. WIDTHS OF LIQUIDARMOR APPLICATION, SEE DETAIL TWS-G02.
4. THERMAX™ BRAND INSULATION NOT INTENDED FOR USE BELOW GRADE.
5. MIN. 25 PSI STYROFOAM™ TYPE IV (PER ASTM C578) EXTRUDED POLYSTYRENE (XPS) TO BE USED WHEN INSULATING BELOW GRADE.
6. SEE THERMAX™ WALL SYSTEM GENERAL DETAIL SET ("TWS-G") FOR OTHER FOUNDATION OPTIONS AND REQUIREMENTS.
7. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS, AND FOR SPRAY FOAM AND SEALANT OPTIONS & REQUIREMENTS.

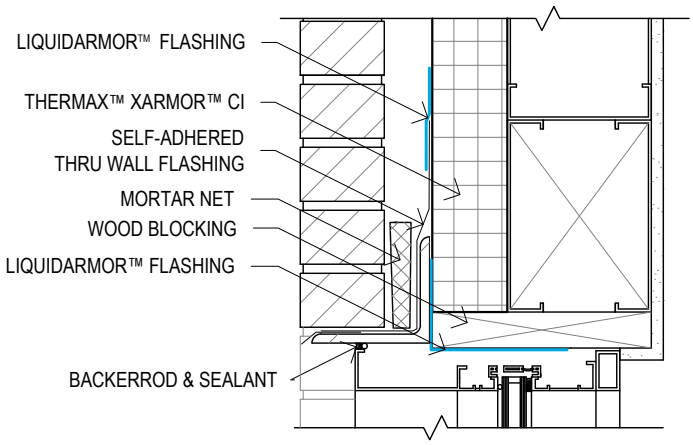
Windows - Brick Return NO SPF

DESIGN INTENT

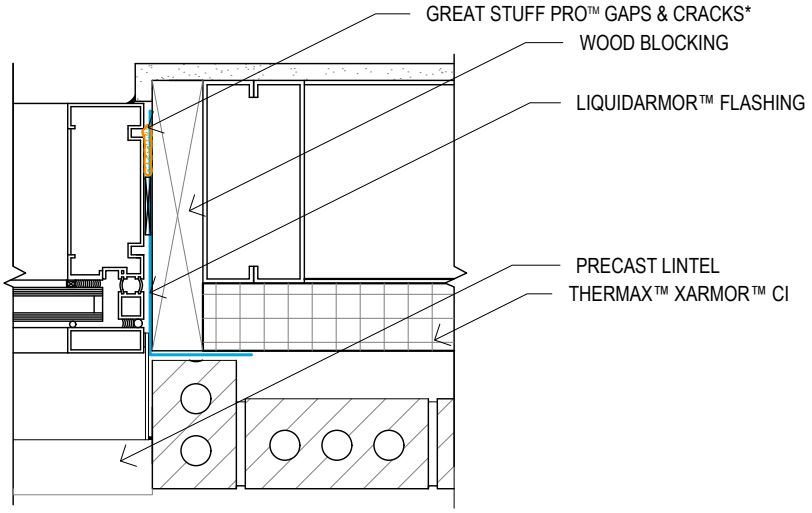
1. USE DUPONT™ LIQUIDARMOR™* FLASHING TO TRANSITION THE AIR & WATER RESISTIVE BARRIER FROM THE FACE OF THE DUPONT™ THERMAX™* INSULATION INTO ALL JAMBS, SILLS, & WINDOW HEADS PRIOR TO INSTALLATION OF PUNCH WINDOWS & WINDOW RECEPTORS.
2. SEALANTS AND CAULKS AS SPECIFIED BY WINDOW MANUFACTURER TO BE USED AS PRIMARY DEFENSE AGAINST MOISTURE INTRUSION & AIR INFILTRATION.
3. WINDOW RECEPTOR TO ATTACH TO WOOD BLOCKING THROUGH SEALANT MEMBRANES FOR ENHANCED AIR AND MOISTURE SEALING.

GENERAL RECOMMENDATIONS

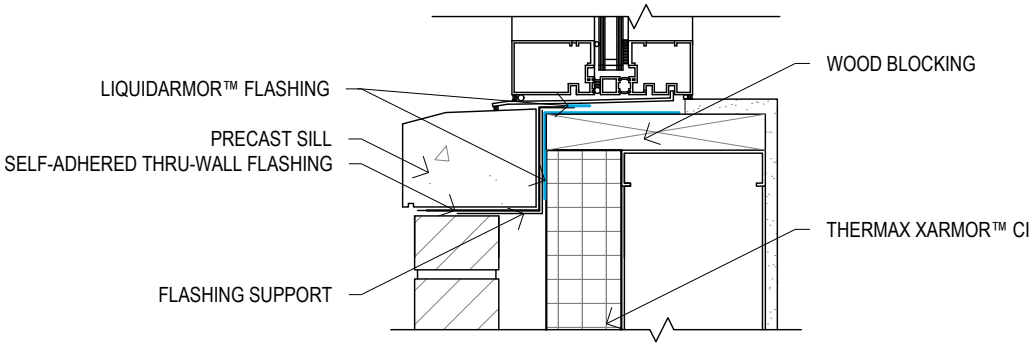
1. WINDOW SEALANT COMPATIBILITY SHOULD BE VERIFIED FOR LONG-TERM ADHESION TO DUPONT FLASHING.
2. BLOCKING CAN BE USED TO PROVIDE ADDED RIGIDITY AND A NAILING BASE AT JAMBS, SILLS, & HEADS.
3. A DOUBLE STUD IS RECOMMENDED AT JAMBS TO ALLOW FOR GREATER FLEXIBILITY WITH CLADDING TERMINATIONS AROUND WINDOWS & DOORS.



WINDOW HEAD | SECTION
TWS-M05.1 *COLOR FOR VISUAL CLARIFICATION ONLY*



BRICK FACE RETURN AT WINDOW JAMB | PLAN
TWS-M05.2 *COLOR FOR VISUAL CLARIFICATION ONLY*



PRECAST WINDOW SILL | SECTION
TWS-M05.3 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

1. SEALANT TO BE INSTALLED ONTO FACE OF THERMAX™ INSULATION MIN. 3" AND MIN. 3" INTO ROUGH OPENING (SILL, JAMB, & HEADER) OR 1" PAST INTERIOR CAULK JOINT, WHICHEVER IS GREATER.
2. IF NOT USING WOOD BLOCKING AT WINDOW JAMB, HEAD, SILL, MUST USE METAL ANGLE TRIM ("SHINY 90") TO BRIDGE INSULATION CORE (RAW EDGE).
3. SEE THERMAX™ WALL SYSTEM GENERAL DETAIL SET ("TWS-G") FOR OTHER WINDOW OPTIONS & REQUIREMENTS.
4. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS & REQUIREMENTS.

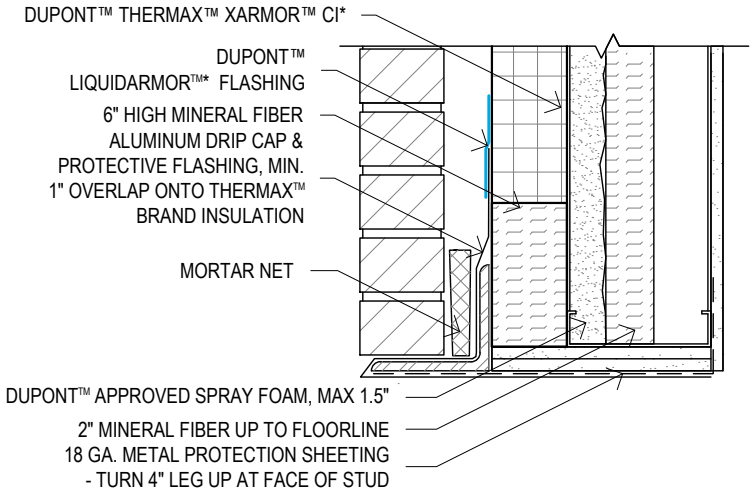
Windows - Brick Return w SPF

DESIGN INTENT

1. USE DUPONT™ LIQUIDARMOR™* FLASHING TO TRANSITION THE AIR & WATER RESISTIVE BARRIER FROM THE FACE OF THE INSULATION INTO ALL JAMBS, SILLS, & WINDOW HEADS PRIOR TO INSTALLATION OF PUNCH WINDOWS & WINDOW RECEPTORS.
2. SEALANTS AND CAULKS AS SPECIFIED BY WINDOW MANUFACTURER TO BE USED AS PRIMARY DEFENSE AGAINST MOISTURE INTRUSION & AIR INFILTRATION.

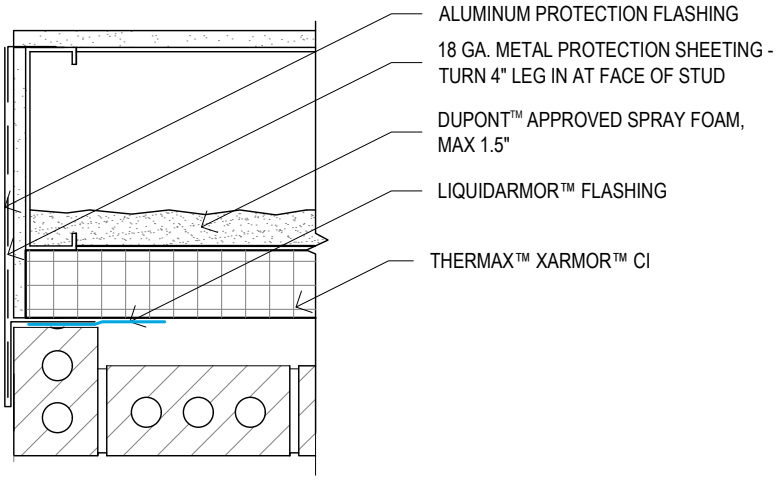
GENERAL RECOMMENDATIONS

1. WINDOW SEALANT COMPATIBILITY SHOULD BE VERIFIED FOR LONG-TERM ADHESION TO DUPONT FLASHING.
2. BLOCKING CAN BE USED TO PROVIDE ADDED RIGIDITY AND A NAILING BASE AT JAMBS, SILLS, & HEADS.



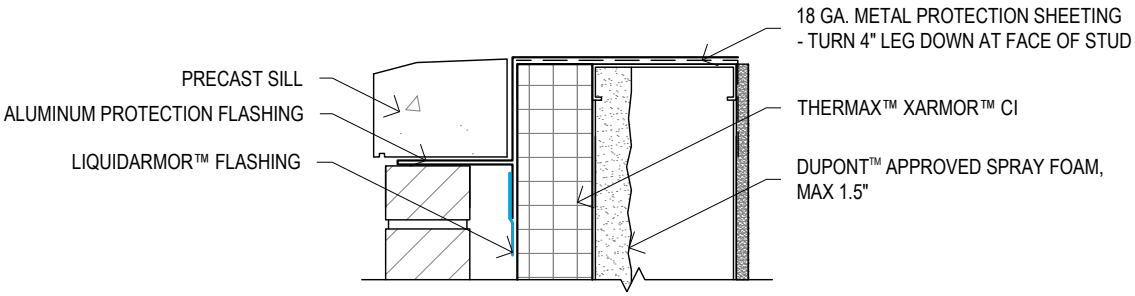
WINDOW HEAD | SECTION

TWS-M06.1 *COLOR FOR VISUAL CLARIFICATION ONLY*



BRICK FACE RETURN AT WINDOW JAMB | PLAN

TWS-M06.2 *COLOR FOR VISUAL CLARIFICATION ONLY*

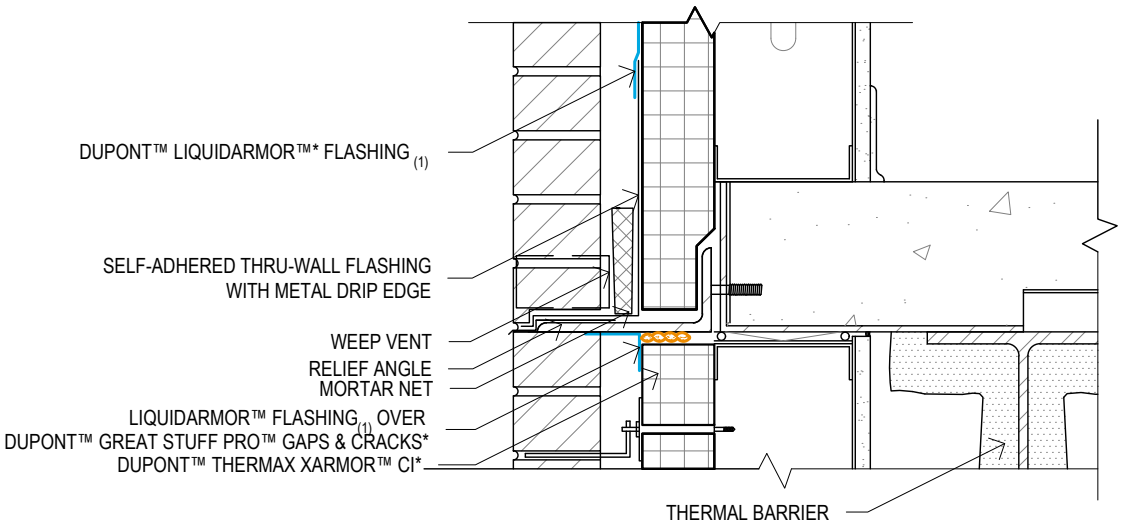


PRECAST WINDOW SILL | SECTION

TWS-M06.3 *COLOR FOR VISUAL CLARIFICATION ONLY*

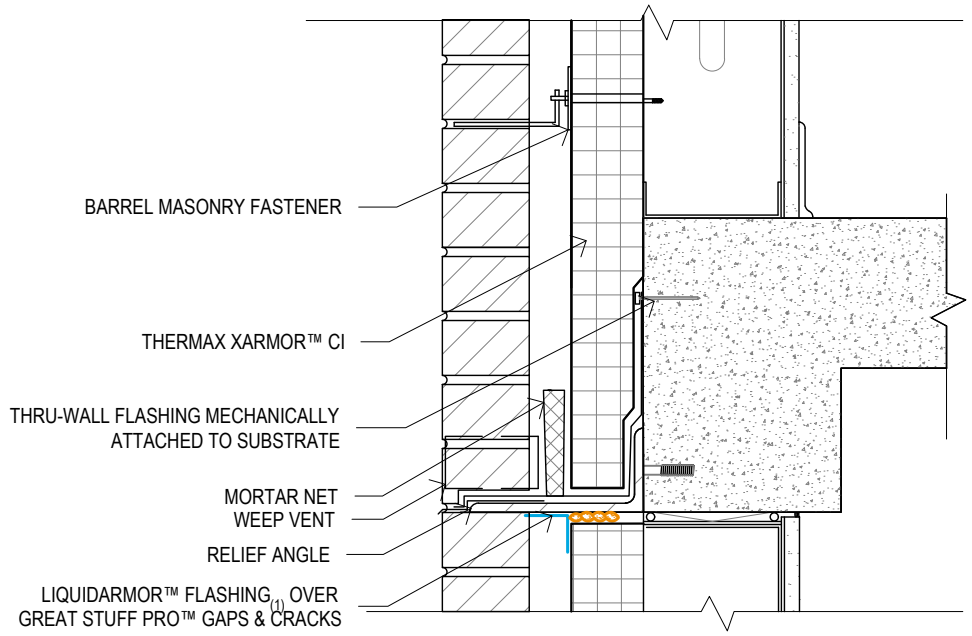
MINIMUM REQUIREMENTS

1. SEALANT TO BE INSTALLED ONTO FACE OF INSULATION MIN. 3" AND MIN. 3" INTO ROUGH OPENING (SILL, JAMB, & HEADER) OR 1" PAST INTERIOR CAULK JOINT, WHICHEVER IS GREATER.
2. SEE THERMAX™ WALL SYSTEM GENERAL DETAIL SET ("TWS-G") FOR OTHER WINDOW OPTIONS & REQUIREMENTS.
3. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS & REQUIREMENTS.



EDGE OF SLAB - FACE FLASHED

TWS-M07.1 *COLOR FOR VISUAL CLARIFICATION ONLY*



EDGE OF SLAB - FLASHED AT SLAB

TWS-M07.2 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

1. FOR MIN. APPLICATION THICKNESS AND WIDTH OF LIQUIDARMOR, SEE DETAIL TWS-G005.
2. WHERE INSULATION COUNTERFLASHES THRU-WALL FLASHING, SELF ADHERED MEMBRANES ARE ONLY ACCEPTABLE IF SLAB PROVIDES SUFFICIENT SUBSTRATE TO BE INSTALLED ON - ALL OTHER APPLICATIONS WILL REQUIRE METAL THRU-WALL FLASHINGS.
3. INSULATION SHOULD BE FLASHED TO BOTTOM EDGE OF RELIEF ANGLES TO PREVENT MOISTURE INTRUSION.
4. IF THRU-WALL FLASHING INSTALLED ON FACE OF INSULATION, LIQUIDARMOR™ FLASHING MUST COUNTER FLASH LEADING EDGE OF THRU-WALL FLASHING.
5. SEE THERMAX™ WALL SYSTEM GENERAL DETAIL SET ("TWS-G") FOR OTHER EDGE OF SLAB OPTIONS & REQUIREMENTS.

DUPONT Thermax™

DuPont™ Thermax™ Wall System Rainscreen Cladding

Detailing Recommendations for Jobs Using Rainscreen Cladding

CONTENTS

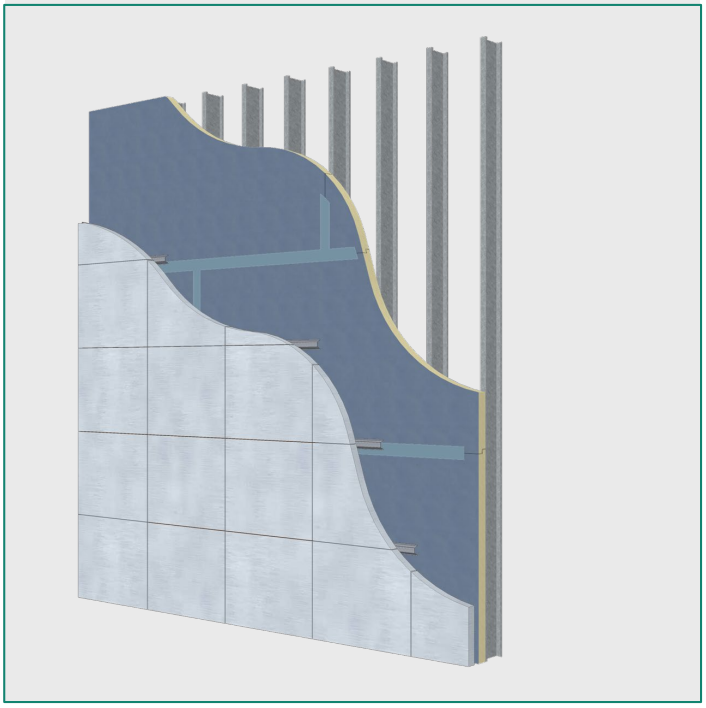
NAVIGATING

Nomenclature *Key*

TWS-G01

System
Detail Set
Detail Number

TWS DuPont™ Thermax™ Wall System*
G General / Cladding Neutral
M Masonry Cladding
R Rainscreen Cladding
A Applied, Adhered Veneer



*A former product of The Dow Chemical Company.

Rainscreen Overview

DETAILS GUIDE

1. WALL SECTION LISTS APPLICABLE DETAILS FOR REFERENCE.
2. DETAIL NAMING SYSTEM:

TWS-X00.0
- .0 - DETAIL NUMBER ON PAGE
- 00 - DETAIL NUMBER IN SET
- G - GENERAL
  R - RAINSCREEN
- TWS - DUPONT™ THERMAX™ WALL SYSTEM*

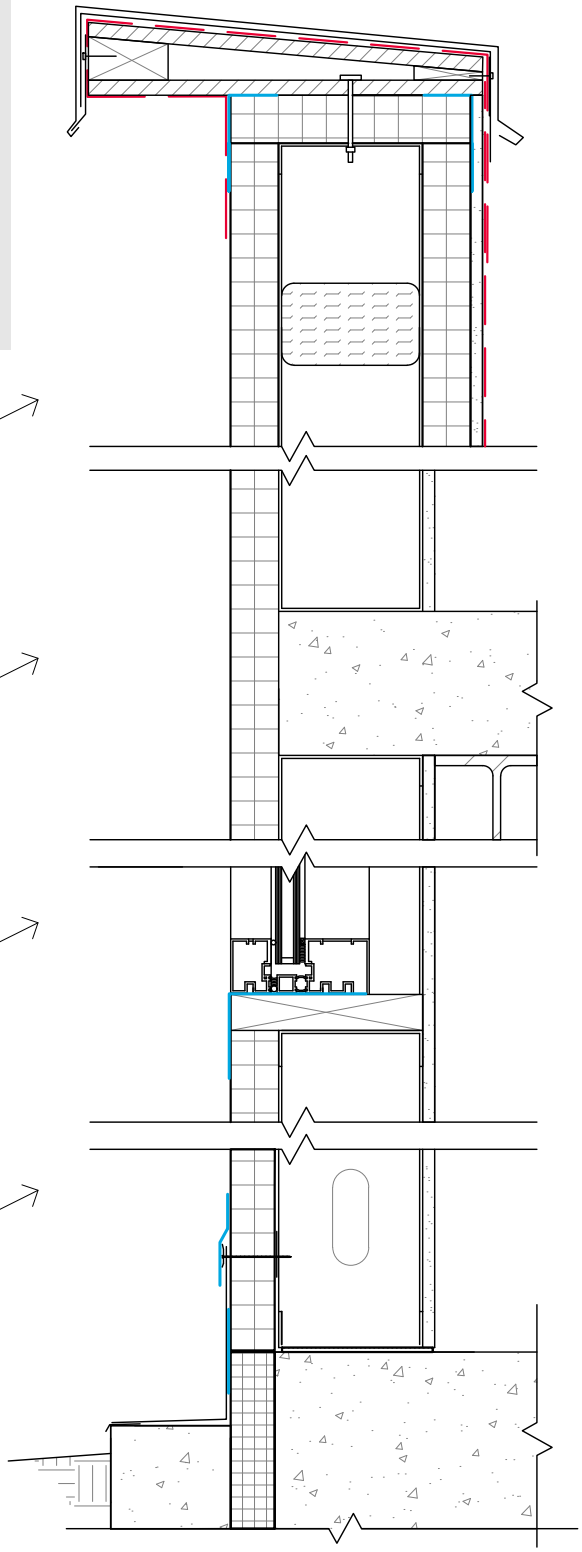
3. DETAILS AND ADDITIONAL INFORMATION AVAILABLE AT BUILDING.DUPONT.COM
4. SEE TWS-G DETAIL SET FOR MINIMUM REQUIREMENTS.

PARAPET DETAILS
TWS-G15.1
TWS-G15.2
TWS-G16.1
TWS-G16.2

EDGE OF SLAB DETAILS
TWS-G12.1
TWS-G12.2

WINDOW DETAILS
TWS-G09.1
TWS-G09.2
TWS-G09.3
TWS-G09.4
TWS-G10.1
TWS-G10.2
TWS-G10.3
TWS-G10.4

FOUNDATION DETAILS
TWS-G07.1
TWS-G07.2
TWS-G07.3
TWS-G07.4



RAINSCREEN OVERVIEW SECTION
TWS-R01 *COLOR FOR VISUAL CLARIFICATION ONLY*

Furring Fastening

Design Intent

1. Use furring system surface mounted over the rigid insulation and fastened to the structure.
2. See table below to find maximum thickness of insulation allowed based on cladding weight and fastening options.
3. Seal penetrations of furring strips using LIQUIDARMOR™ Flashing to maintain continuous air and water barrier at the face of the rigid insulation.
4. Rainscreen panels are attached to the furring strips rather than directly to the studs, minimizing penetrations through the air/water barrier plane.

Furring Options

1. Hat Channels
2. Z-Furring (Surface Mounted)
3. Z-Furring (to Stud)
4. Flat Strap
5. Wood Furring
6. Knight Wall CI-Girt

List Not Exhaustive.
Furring type dictated by cladding weight & design.

IBC 2018: TABLE 2603.12.2
FURRING MINIMUM FASTENING REQUIREMENTS FOR APPLICATION OVER FOAM PLASTIC SHEATHING TO SUPPORT CLADDING WEIGHT[a]

FURRING MATERIAL	FRAMING MEMBER	FASTENER TYPE AND MINUMUM SIZE[b]	MINIMUM PENETRATION INTO WALL FRAMING (Inches)	FASTENER SPACING IN FURRING (Inches)	MAXIMUM THICKNESS OF FOAM SHEATHING[4] (Inches)							
					16" o.c. furring[e]				24" o.c. furring[e]			
					Cladding Weight				Cladding Weight			
					3 psf	11 psf	18 psf	25 psf	3 psf	11 psf	18 psf	25 psf
Minimum 33 mil steel furring or minimum 1x wood furring[c]	33 mil cold-formed steel stud	#8 screw	Steel thickness plus 3 threads	12	3.00	1.80	DR	DR	3.00	0.65	DR	DR
				16	3.00	1.00	DR	DR	2.85	DR	DR	DR
				24	2.85	DR	DR	DR	2.20	DR	DR	DR
		#10 screw	Steel thickness plus 3 threads	12	4.00	2.25	0.70	DR	3.70	1.05	DR	DR
				16	3.85	1.45	DR	DR	3.40	DR	DR	DR
				24	3.40	DR	DR	DR	2.70	DR	DR	DR
	43 mil or thicker cold-formed steel stud	#8 screw	Steel thickness plus 3 threads	12	3.00	1.80	DR	DR	3.00	0.65	DR	DR
				16	3.00	1.00	DR	DR	2.85	DR	DR	DR
				24	2.85	DR	DR	DR	2.20	DR	DR	DR
		#10 screw	Steel thickness plus 3 threads	12	4.00	3.85	2.80	1.80	4.00	3.05	1.50	DR
				16	4.00	3.30	1.95	0.60	4.00	2.25	DR	DR
				24	4.00	2.25	DR	DR	4.00	0.65	DR	DR

For SI: 1 inch = 25.4 mm; 1 pound per square food (psf) = 0.0479 kPa, 1 pound per square inch = 0.00689 MPa.
DR = design required: o.c. = on center.
a. Wood furring shall be Spruce-Pine fir or any softwood species with a specific gravity of 0.42 or greater. Steel furring shall be minimum 33 ksi steel. Steel studs shall be minimum 33 ksi steel for 33 mil and 43 mil thickness and 50 ksi steel for 54 mil steel or thicker.
b. Screws shall comply with the requirements of AISI S200.
c. Where the required cladding fastener penetration into wood material exceeds $\frac{3}{4}$ inch and is not more than 1 $\frac{1}{2}$ inches, a minimum 2-inch nominal wood furring shall be used or an approved design.
d. Foam sheathing shall have a minimum compressive strength of 15 pounds per square inch in accordance with ASTM C578 or ASTM C1289.
e. Furring shall be spaced not more than 24 inches on center, in a vertical or horizontal direction. In a vertical orientation, furring shall be located over wall studs and attached with the required fastener spacing. In a horizontal orientation, the indicated 8-inch and 12-inch fastener spacing in furring shall be achieved by use of two fasteners into studs at 16 inches and 24 inches on center, respectively.

MINIMUM REQUIREMENTS

1. TABLE 2603.12.2 REFERENCED FROM INTERNATIONAL BUILDING CODE (IBC) 2018. SEE CODE FOR OTHER REQUIREMENTS.
2. SEE DETAIL TWS-G02 FOR MIN. DUPONT™ LIQUIDARMOR™* FLASHING APPLICATION THICKNESS & WIDTH.
3. VERIFY WITH ENGINEER THAT ATTACHMENT METHOD ADEQUATE FOR WEIGHT OF CLADDING.

Hat Channel Furring

KEY

- DUPONT™ LIQUIDARMOR™* VISIBLE (L), BEHIND (R)(1)
- COMPATIBLE TAPE VISIBLE (L), BEHIND (R)(2)
- DUPONT™ THERMAX™ XARMOR™ (CI)* (section)
- THERMAX™ XARMOR™ (CI) (elevation)

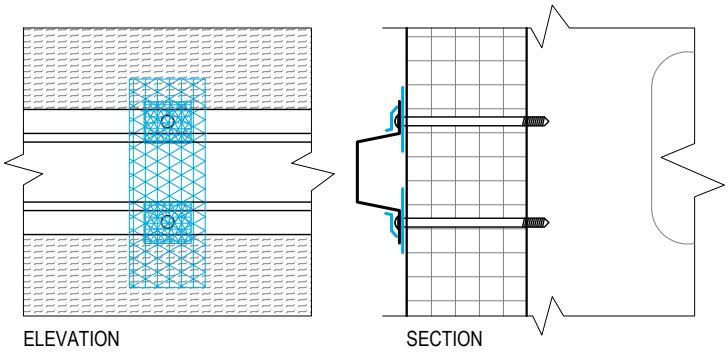
TYPICAL CLADDING TYPES USING HAT CHANNEL

HORIZONTAL ATTACHMENT
- FIBER CEMENT PANELS
- BACKER BOARD FOR APPLIED FINISHES

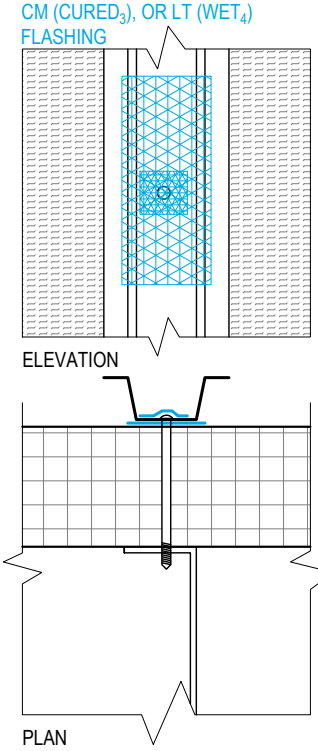
VERTICAL ATTACHMENT
- FIBER CEMENT PANELS
- ACM
- MCM

NOTE: LIST NOT EXHAUSTIVE

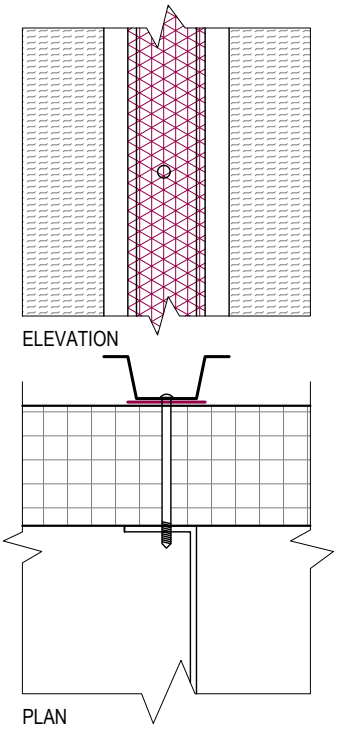
HAT CHANNEL - HORIZONTAL USING LIQUIDARMOR™ QS ($CURED_3$), CM ($CURED_3$), OR LT (WET_4) FLASHING



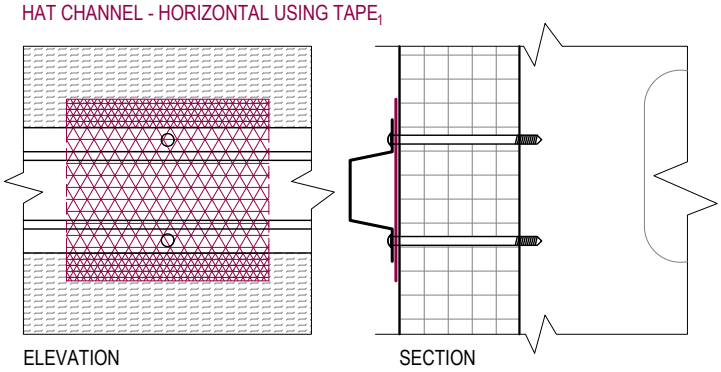
HAT CHANNEL - VERTICAL USING LIQUIDARMOR™ QS ($CURED_3$), CM ($CURED_3$), OR LT (WET_4) FLASHING

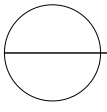


HAT CHANNEL - VERTICAL USING $TAPE_1$



HAT CHANNEL - HORIZONTAL USING $TAPE_1$





HAT CHANNEL FURRING

TWS-R03 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

1. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS, SPRAY FOAM AND SEALANT OPTIONS & REQUIREMENTS, AND FOR COMPATIBLE TAPE OPTIONS AND NOTED WARRANTY DIFFERENCES.
2. SEE DETAIL TWS-R02 FOR MIN FURRING REQUIREMENTS AND VERIFY ATTACHMENT WITH ENGINEER TO ENSURE ADEQUACY FOR CLADDING WEIGHT REQUIREMENTS.
3. "CURED" - FLASHING IS APPLIED ALONG THE STUD LINES AND CURED MIN. 24 HOURS PRIOR TO FASTENING CLADDING ATTACHMENT.
4. "WET" - FLASHING IS WET APPLIED UNDER THE ATTACHMENT SYSTEM, AND CAN BE APPLIED DIRECTLY TO THE ATTACHMENT SYSTEM BEFORE SETTING IT AND FASTENING IT TO THE WALL.
5. FLUID APPLIED FLASHING SHOWN ON FASTENERS IS APPLIED AFTER CLADDING ATTACHMENT IS FASTENED TO THE WALL.

Z-Furring (Surface Mounted)

KEY

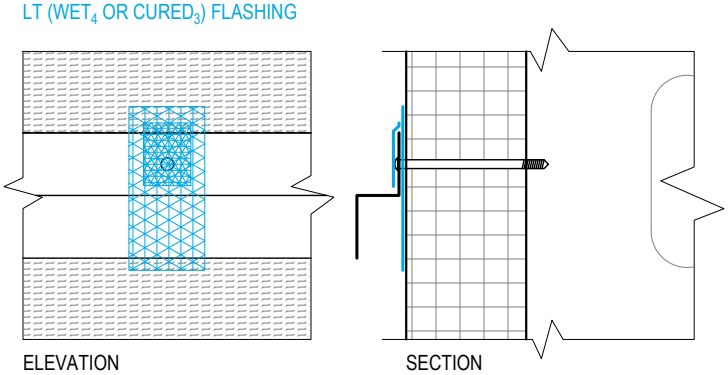
- DUPONT™ LIQUIDARMOR™* VISIBLE (L), BEHIND (R)(1)
- COMPATIBLE TAPE VISIBLE (L), BEHIND (R)(2)
- DUPONT™ THERMAX™ XARMOR™ (CI)* (section)
- THERMAX™ XARMOR™ (CI) (elevation)

TYPICAL CLADDING TYPES USING Z-FURRING

1. MCM
2. ACM
3. TERRA COTTA
4. FIBER CEMENT PANEL
5. BACKER BOARD FOR APPLIED FINISHES

NOTE: LIST NOT EXHAUSTIVE.

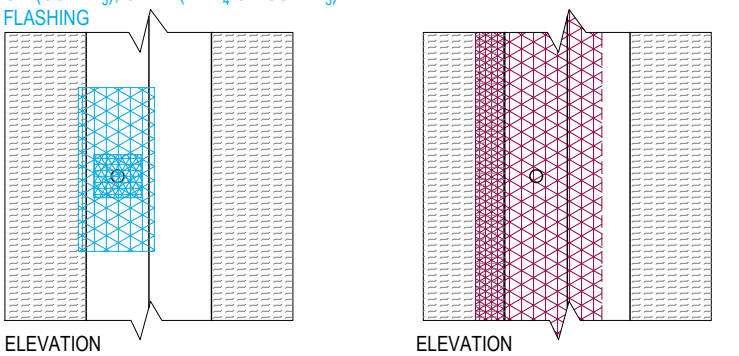
Z-FURRING - HORIZONTAL USING LIQUIDARMOR™ QS ($CURED_3$), CM ($CURED_3$), OR LT (WET_4 OR $CURED_3$) FLASHING



ELEVATION SECTION

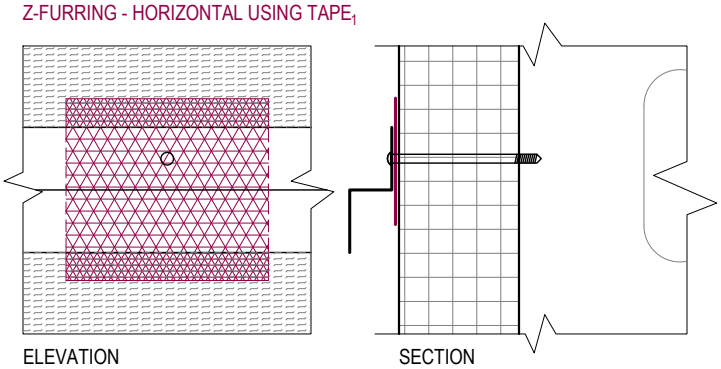
Z-FURRING - VERTICAL USING LIQUIDARMOR™ QS ($CURED_3$), CM ($CURED_3$), OR LT (WET_4 OR $CURED_3$) FLASHING

Z-FURRING - VERTICAL USING $TAPE_1$

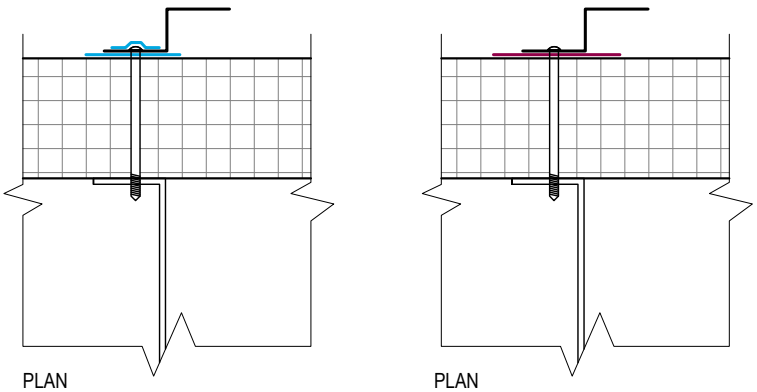


ELEVATION ELEVATION

Z-FURRING - HORIZONTAL USING $TAPE_1$



ELEVATION SECTION



PLAN PLAN

Z-FURRING (SURFACE MOUNTED)

TWS-R04 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

1. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS, SPRAY FOAM AND SEALANT OPTIONS & REQUIREMENTS, AND FOR WARRANTY DIFFERENCES.
2. SEE DETAIL TWS-R02 FOR MIN FURRING REQUIREMENTS AND VERIFY ATTACHMENT WITH ENGINEER TO ENSURE ADEQUACY FOR CLADDING WEIGHT REQUIREMENTS.
3. "CURED" - FLASHING IS APPLIED ALONG THE STUD LINES AND CURED MIN. 24 HOURS PRIOR TO FASTENING CLADDING ATTACHMENT.
4. "WET" - FLASHING IS WET APPLIED UNDER THE ATTACHMENT SYSTEM, AND CAN BE APPLIED DIRECTLY TO THE ATTACHMENT SYSTEM BEFORE SETTING IT AND FASTENING IT TO THE WALL.
5. FLUID APPLIED FLASHING SHOWN ON FASTENERS IS APPLIED AFTER CLADDING ATTACHMENT IS FASTENED TO THE WALL.

RAINSCREEN

Z-Furring (to Stud)

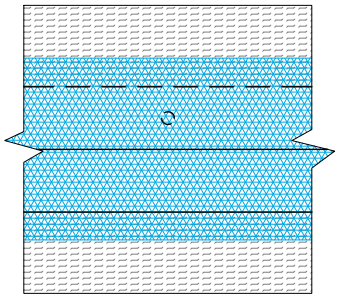
Design Intent

Attaching metal Z-furring directly to stud significantly reduces the continuous insulation's effectiveness due to thermal bridging. If this method is to be used, take into consideration the "ci" reduction values that correspond with horizontal and vertical Z-furring.
Source for values used for thermal effectiveness and reduction in effective R-value is RDH Technical Bulletin No. 11: Cladding Attachment Solutions for Exterior Insulated Commercial Walls, 2015.

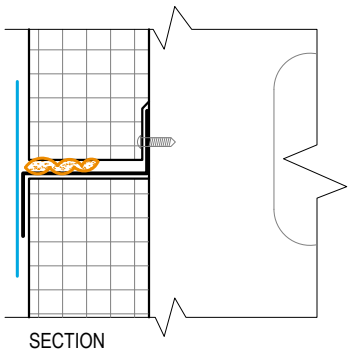
KEY

- DUPONT™ LIQUIDARMOR™* FLASHING (over)
- GREAT STUFF PRO™ GAPS & CRACKS*
- DUPONT™ THERMAX™ XARMOR™ (CI)* (section)
- THERMAX™ XARMOR™ (CI) (elevation)

Z-FURRING TO STUD - HORIZONTAL



ELEVATION

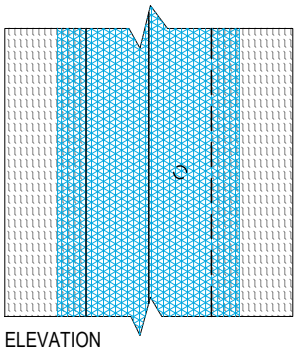


SECTION

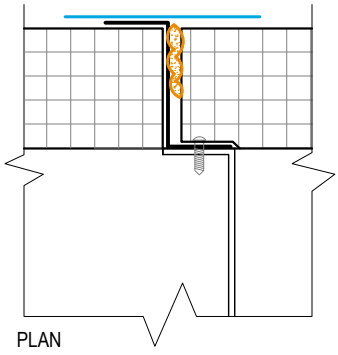
THERMAL EFFECTIVENESS: 30-50%

REDUCTION IN "CI" R-VALUE: ~60%
(EX. R-13CI * 0.4 => ~R-5.2 WHEN FASTENED USING Z-GIRTS HORIZONTALLY ATTACHED TO STUDS)

Z-FURRING TO STUD - VERTICAL



ELEVATION



PLAN

THERMAL EFFECTIVENESS: 20-40%

REDUCTION IN "CI" R-VALUE: ~70%
(EX. R-13CI * 0.3 => ~R-3.9 WHEN FASTENED USING Z-GIRTS VERTICALLY ATTACHED TO STUDS)

Z-FURRING (TO STUD)

TWS-R05 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

1. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS, AND FOR SPRAY FOAM AND SEALANT OPTIONS & REQUIREMENTS.
2. SEE DETAIL TWS-R02 FOR MIN. FURRING REQUIREMENTS AND VERIFY ATTACHMENT WITH ENGINEER TO ENSURE ADEQUACY FOR CLADDING WEIGHT REQUIREMENTS.

Flat Strap Furring

KEY

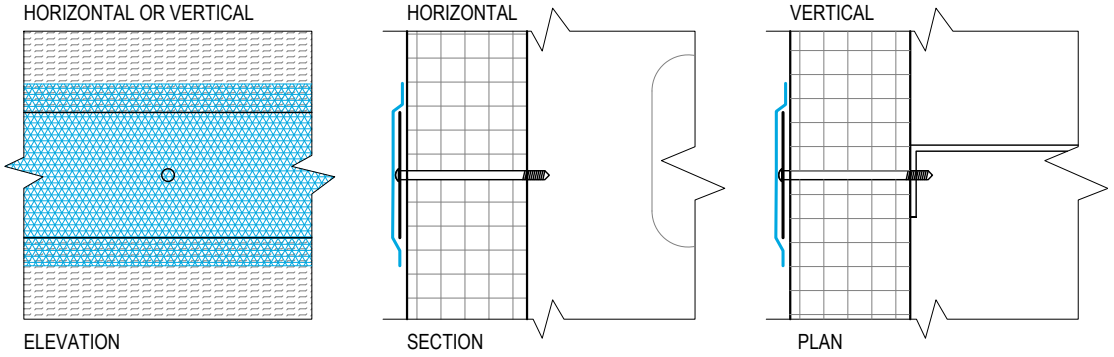
- DUPONT™ LIQUIDARMOR™* VISIBLE (L), BEHIND (R)(1)
- COMPATIBLE TAPE VISIBLE (L), BEHIND (R)(2)
- DUPONT™ THERMAX™ XARMOR™ (CI)* (section)
- THERMAX™ XARMOR™ (CI) (elevation)

TYPICAL CLADDING TYPES USING FLAT STRAP FURRING

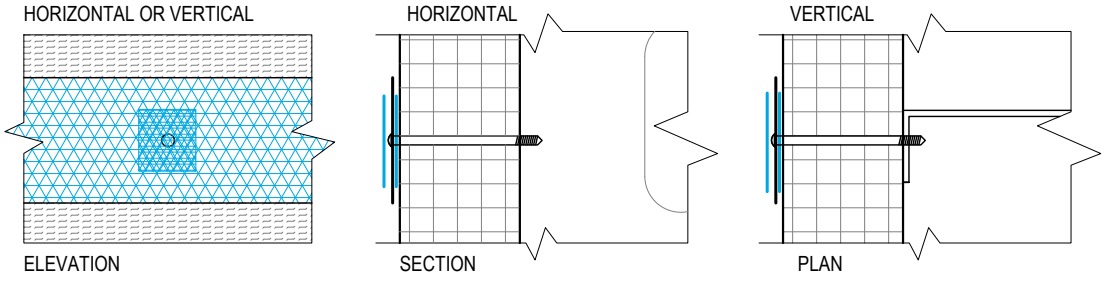
1. MCM
2. ACM
3. TERRA COTTA
4. FIBER CEMENT PANEL
5. BACKER BOARD FOR APPLIED FINISHES

NOTE: LIST NOT EXHAUSTIVE.

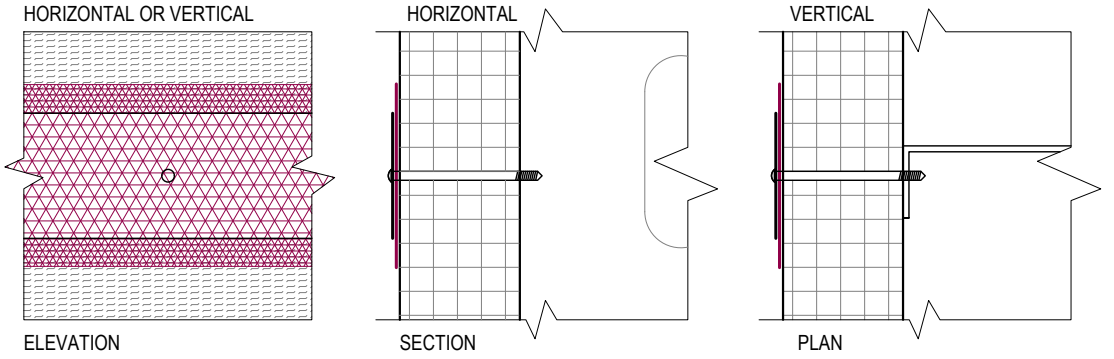
OVER FLAT STRAP - LIQUIDARMOR™ QS OR CM OR LT

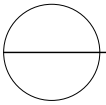


UNDER FLAT STRAP - LIQUIDARMOR™ QS ($CURED_3$) OR LIQUIDARMOR™ LT (WET_4)



UNDER FLAT STRAP - TAPE





FLAT STRAP FURRING

TWS-R06 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

1. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS, SPRAY FOAM AND SEALANT OPTIONS & REQUIREMENTS, AND NOTED WARRANTY DIFFERENCES.
2. SEE DETAIL TWS-R02 FOR MIN. FURRING REQUIREMENTS AND VERIFY ATTACHMENT WITH ENGINEER FOR CLADDING WEIGHT REQUIREMENTS.
3. "CURED" - FLASHING IS APPLIED ALONG THE STUD LINES AND CURED MIN. 24 HOURS PRIOR TO FASTENING CLADDING ATTACHMENT.
4. "WET" - FLASHING IS WET APPLIED UNDER THE ATTACHMENT SYSTEM, AND CAN BE APPLIED DIRECTLY TO THE ATTACHMENT SYSTEM BEFORE SETTING IT AND FASTENING IT TO THE WALL.

Wood Furring

KEY

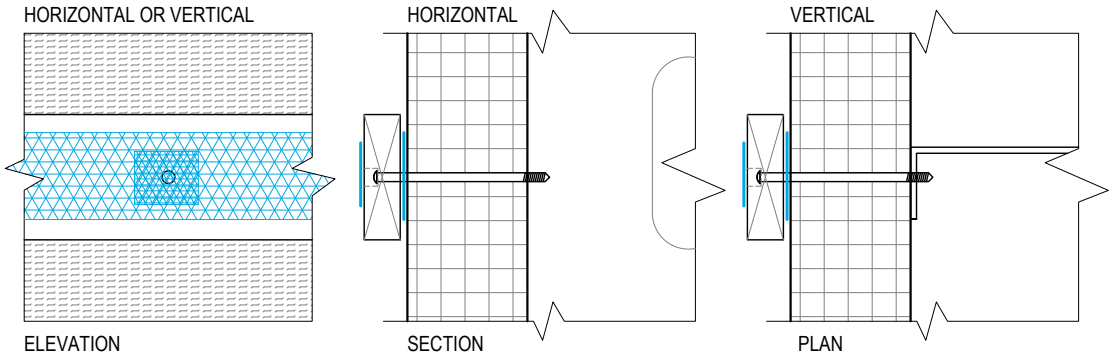
- DUPONT™ LIQUIDARMOR™* VISIBLE (L), BEHIND (R)(1)
- COMPATIBLE TAPE VISIBLE (L), BEHIND (R)(2)
- DUPONT™ THERMAX™ XARMOR™ (CI)* (section)
- THERMAX™ XARMOR™ (CI) (elevation)

TYPICAL CLADDING TYPES USING WOOD FURRING

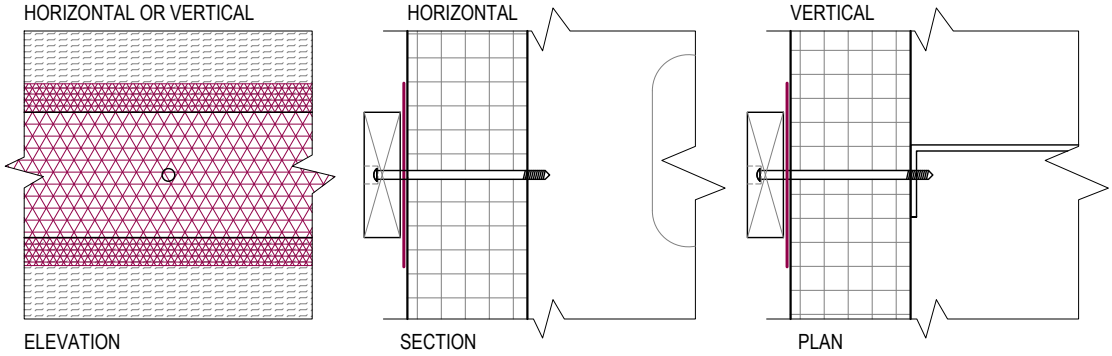
1. MCM
2. ACM
3. TERRA COTTA
4. FIBER CEMENT PANEL
5. BACKER BOARD FOR APPLIED FINISHES

NOTE: LIST NOT EXHAUSTIVE.

WOOD FURRING - LIQUIDARMOR™ QS ($CURED_3$) OR LT (WET_4)



UNDER WOOD FURRING - TAPE



WOOD FURRING

TWS-R07 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

1. SEE DETAIL TWS-G02 FOR MIN. LIQUIDARMOR™ FLASHING AND SEALANT APPLICATION THICKNESS & WIDTH.
2. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR COMPATIBLE TAPE AND SEALANT OPTIONS, AND NOTED WARRANTY DIFFERENCES.
3. SEE DETAIL TWS-R02 FOR MIN FURRING REQUIREMENTS AND VERIFY ATTACHMENT W/ ENGINEER TO ENSURE ADEQUACY FOR CLADDING WEIGHT REQUIREMENTS.
3. "CURED" - FLASHING IS APPLIED ALONG THE STUD LINES AND CURED MIN. 24 HOURS PRIOR TO FASTENING CLADDING ATTACHMENT.
4. "WET" - FLASHING IS WET APPLIED UNDER THE ATTACHMENT SYSTEM, AND CAN BE APPLIED DIRECTLY TO THE ATTACHMENT SYSTEM BEFORE SETTING IT AND FASTENING IT TO THE WALL.
5. FLUID APPLIED FLASHING SHOWN ON FASTENERS IS APPLIED AFTER CLADDING ATTACHMENT IS FASTENED TO THE WALL.

DUPONT

Thermax Wall System

RAINSCREEN

Knight Wall Furring

KEY

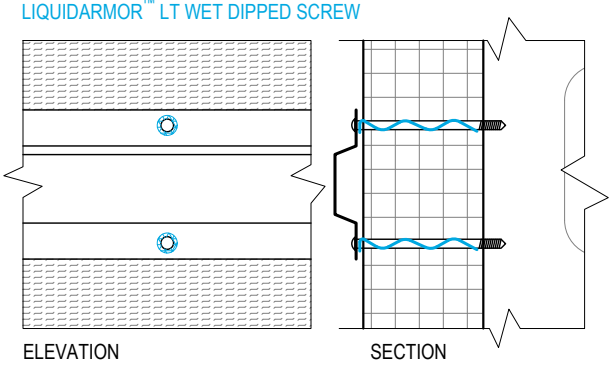
- DUPONT™ LIQUIDARMOR™ LT FLASHING AND SEALANT
- COMPATIBLE TAPE (VISIBLE)(1)
- COMPATIBLE TAPE (BEHIND)(1)
- DUPONT™ THERMAX™ XARMOR™ CI* (section)
- THERMAX™ XARMOR™ CI (elevation)

TYPICAL CLADDING TYPES USING KNIGHT WALL

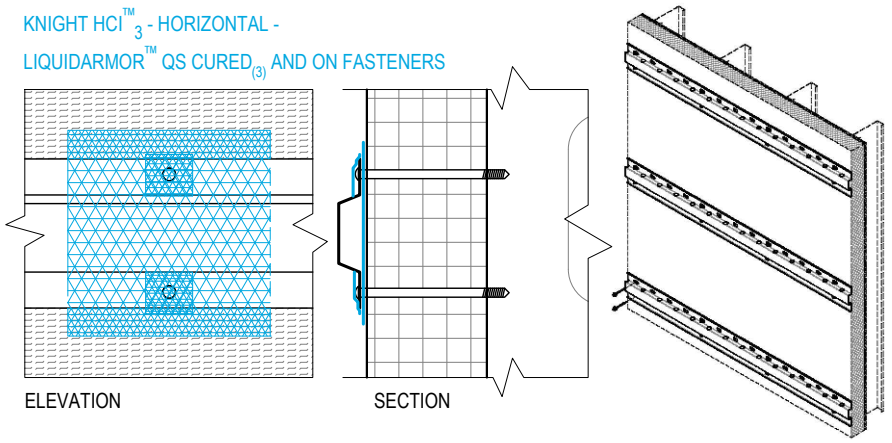
1. MCM
2. ACM
3. TERRA COTTA
4. FIBER CEMENT PANEL
5. BACKER BOARD FOR APPLIED FINISHES

NOTE: LIST NOT EXHAUSTIVE.

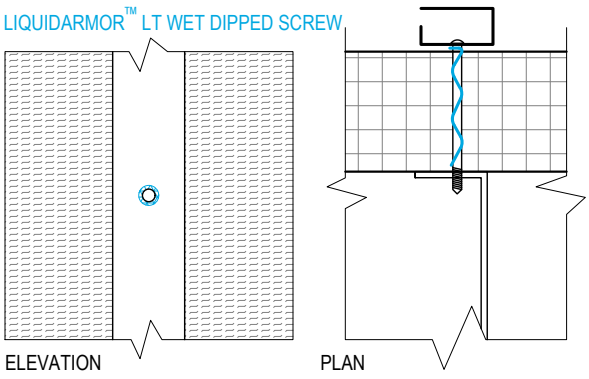
KNIGHT HCI™3 - HORIZONTAL -
LIQUIDARMOR™ LT WET DIPPED SCREW



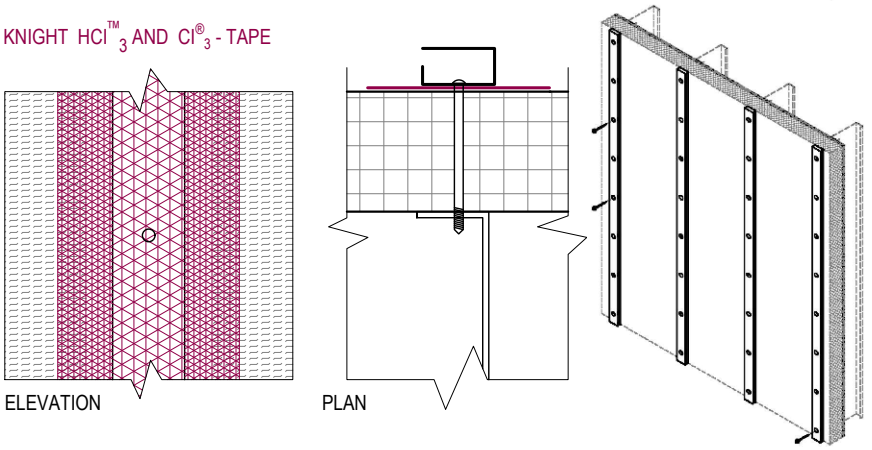
KNIGHT HCI™3 - HORIZONTAL -
LIQUIDARMOR™ QS CURED(3) AND ON FASTENERS



KNIGHT CI®3 - VERTICAL -
LIQUIDARMOR™ LT WET DIPPED SCREW



KNIGHT HCI™3 AND CI®3 - TAPE



KNIGHT WALL SYSTEM3

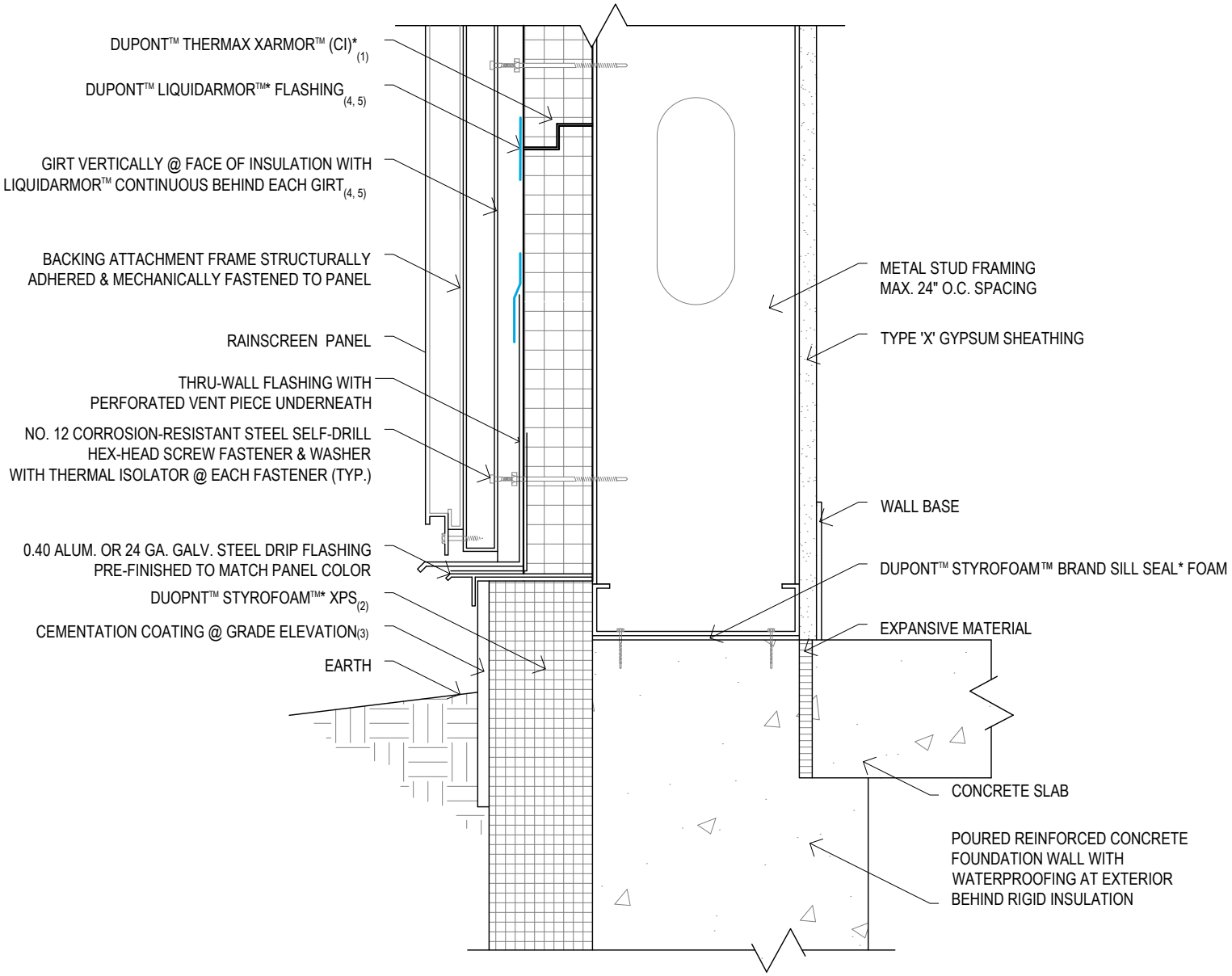
TWS-R08 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

1. SEE DETAIL TWS-G02 FOR "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS, COMPATIBLE TAPE OPTIONS, AND NOTED WARRANTY DIFFERENCES.
2. SEE DETAIL TWS-R02 FOR MIN FURRING REQUIREMENTS AND VERIFY ATTACHMENT WITH ENGINEER TO ENSURE ADEQUACY FOR CLADDING WEIGHT REQUIREMENTS.
3. "CURED" - FLASHING IS APPLIED ALONG THE STUD LINES AND CURED MIN. 24 HOURS PRIOR TO FASTENING CLADDING ATTACHMENT.
4. VISIT KNIGHT WALL WEBSITE FOR MANUFACTURER SPECIFICS. CI AND CI-GIRT ARE REGISTERED TRADEMARKS CONTROLLED BY KNIGHT WALL SYSTEMS, INC. CI-SYSTEM, HCI-SYSTEM, AND HCI-GIRT ARE TRADEMARKS OF KNIGHT WALL SYSTEMS, INC.

*A former product of The Dow Chemical Company.

Foundation & Typ. Wall



FOUNDATION & TYP. WALL

TWS-R08 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

1. DUPONT™ THERMAX™* INSULATION NOT INTENDED FOR USE BELOW GRADE.
2. MIN. 25 PSI STYROFOAM™ TYPE IV (PER ASTM C578) EXTRUDED POLYSTYRENE (XPS) TO BE USED WHEN INSULATING BELOW GRADE.
3. EXTEND COATING MIN. 6" BELOW GRADE.
4. MIN. APPLICATION WIDTH & THICKNESS OF LIQUIDARMOR™ FLAHSHING ONTO INSULATION BASED ON DETAIL TWS-G02.
5. LIQUIDARMOR™ FLASHING TO BE APPLIED TO INSULATION BOARD SEAMS (NOT OVER ENTIRE INSULATION FACE). SEE DETAILS TWS-R03 THROUGH TWS-R08 FOR FURRING SEALING OPTIONS.
6. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS, AND FOR SPRAY FOAM AND SEALANT OPTIONS & REQUIREMENTS.

DUPONT Thermax™

DuPont™ Thermax™ Wall System Applied / Adhered Veneer

Detailing Recommendations for Jobs Using Applied Veneers

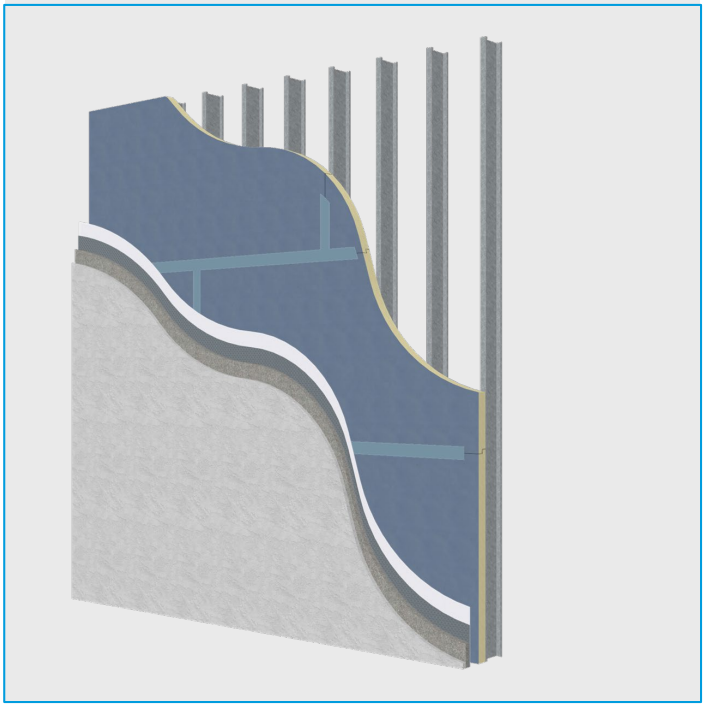
CONTENTS

NAVIGATING

Nomenclature *Key*

TWS-G01

System — **TWS** DuPont™ Thermax™ Wall System*
Detail Set — **G** General / Cladding Neutral, **M** Masonry Cladding, **R** Rainscreen Cladding, **A** Applied, Adhered Veneer
Detail Number



*A former product of The Dow Chemical Company.

Applied Overview

DETAILS GUIDE

1. WALL SECTION LISTS APPLICABLE DETAILS FOR REFERENCE.
2. DETAIL NAMING SYSTEM:

TWS-X00.0
- .0 - DETAIL NUMBER ON PAGE
- 00 - DETAIL NUMBER IN SET
- G - GENERAL
- A - APPLIED
- TWS - DUPONT™ THERMAX™ WALL SYSTEM*

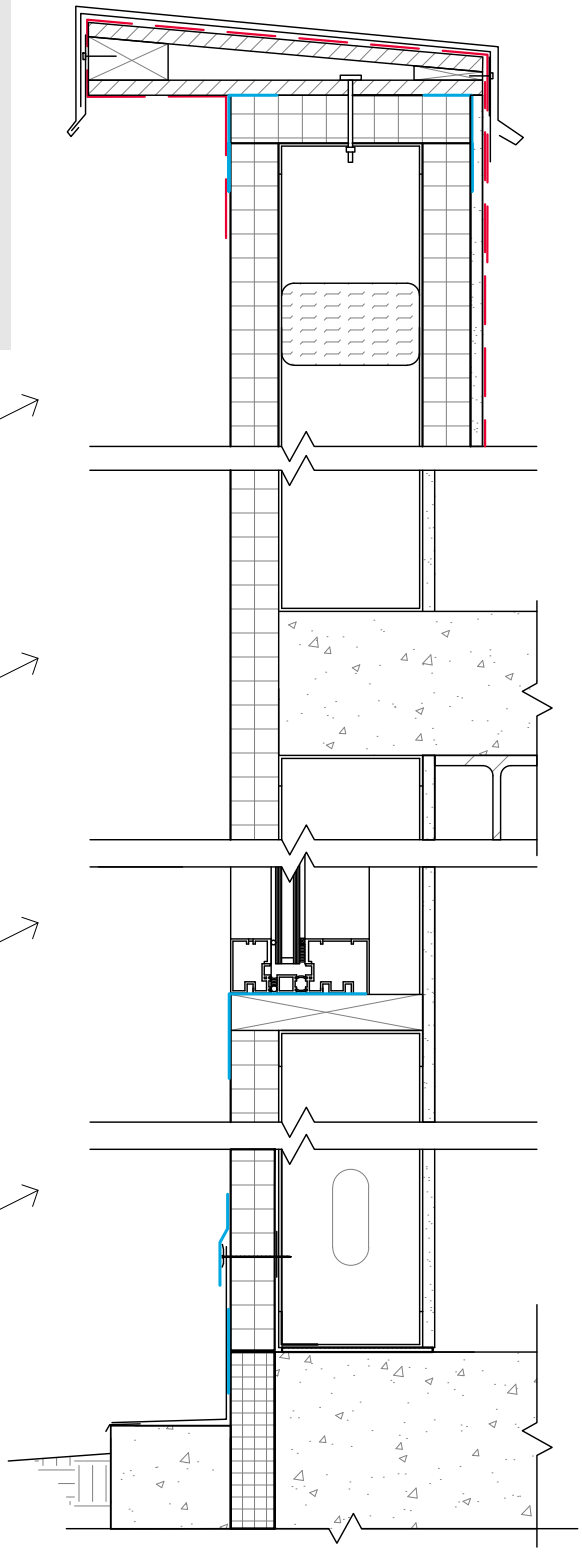
3. DETAILS AND ADDITIONAL INFORMATION AVAILABLE AT BUILDING.DUPONT.COM
4. SEE TWS-G DETAIL SET FOR MINIMUM REQUIREMENTS.

PARAPET DETAILS
TWS-G15.1
TWS-G15.2
TWS-G16.1
TWS-G16.2

EDGE OF SLAB DETAILS
TWS-G12.1
TWS-G12.2

WINDOW DETAILS
TWS-G09.1
TWS-G09.2
TWS-G09.3
TWS-G09.4
TWS-G10.1
TWS-G10.2
TWS-G10.3
TWS-G10.4

FOUNDATION DETAILS
TWS-G07.1
TWS-G07.2
TWS-G07.3
TWS-G07.4



APPLIED OVERVIEW SECTION
TWS-A01 *COLOR FOR VISUAL CLARIFICATION ONLY*

APPLIED
Direct Fastening

Design Intent

1. Use lath surface mounted over the rigid insulation and fastened to the structure.
2. Use table below as a guide for max thickness of insulation depending on cladding weight and fastening options.
3. Seal penetrations of lath attachment to maintain continuous air and water barrier at the face of the rigid insulation.

Sealant Options

1. DuPont™ LiquidArmor™ CM* Flashing
2. DuPont™ LiquidArmor™ QS* Flashing
3. DuPont™ LiquidArmor™ LT* Flashing

See detail TWS-G02 for more options.

IBC 2018: TABLE 2603.12.1
CLADDING MINIMUM FASTENING REQUIREMENTS FOR DIRECT ATTACHMENT OVER FOAM PLASTIC SHEATHING TO SUPPORT CLADDING WEIGHT[a]

CLADDING FASTENER THROUGH FOAM SHEATHING INTO:	CLADDING FASTENER TYPE AND MINUMUM SIZE[b]	FASTENER SPACING IN FURRING (Inches)	MAXIMUM THICKNESS OF FOAM SHEATHING[c] (Inches)							
			16" o.c. furring[e]				24" o.c. furring[e]			
			Cladding Weight				Cladding Weight			
			3 psf	11 psf	18 psf	25 psf	3 psf	11 psf	18 psf	25 psf
Steel framing (minimum penetration of steel thickness plus 3 threads)	#8 screw into 33 mil steel or thicker	6	3.00	2.95	2.20	1.45	3.00	2.35	1.25	DR
		8	3.00	2.55	1.60	0.60	3.00	1.80	DR	DR
		12	3.00	1.80	DR	DR	3.00	0.65	DR	DR
	#10 screw into 33 mil steel	6	4.00	3.50	2.70	1.95	4.00	2.90	1.70	0.55
		8	4.00	3.10	2.05	1.00	4.00	2.25	0.70	DR
		12	4.00	2.25	0.70	DR	3.70	1.05	DR	DR
	#10 screw into 43 mil steel or thicker	6	4.00	4.00	4.00	3.60	4.00	4.00	3.45	2.70
		8	4.00	4.00	3.70	3.00	4.00	3.85	2.80	1.80
		12	4.00	3.85	2.80	1.80	4.00	3.05	1.50	DR

For SI: 1 inch = 25.4 mm; 1 pound per square food (psf) = 0.0479 kPa, 1 pound per square inch = 0.00689 MPa.
DR = design required; o.c. = on center.
a. Steel framing shall be minimum 33 ksi steel for 33 mil and 43 mil steel and 50 ksi steel for 54 steel or thicker.
b. Screws shall comply with the requirements of AISI S200.
c. Foam sheathing shall have a minimum compressive strength of 15 pounds per square inch in accordance with ASTM C578 or ASTM C1289.

MINIMUM REQUIREMENTS

1. TABLE 2603.12.1 REFERENCED FROM INTERNATIONAL BUILDING CODE (IBC) 2018. SEE CODE FOR OTHER REQUIREMENTS.
2. SEE DETAIL TWS-G02 FOR MIN. LIQUIDARMOR™ FLASHING APPLICATION THICKNESS & WIDTH.
3. VERIFY WITH ENGINEER THAT ATTACHMENT METHOD ADEQUATE FOR WEIGHT OF CLADDING.

APPLIED

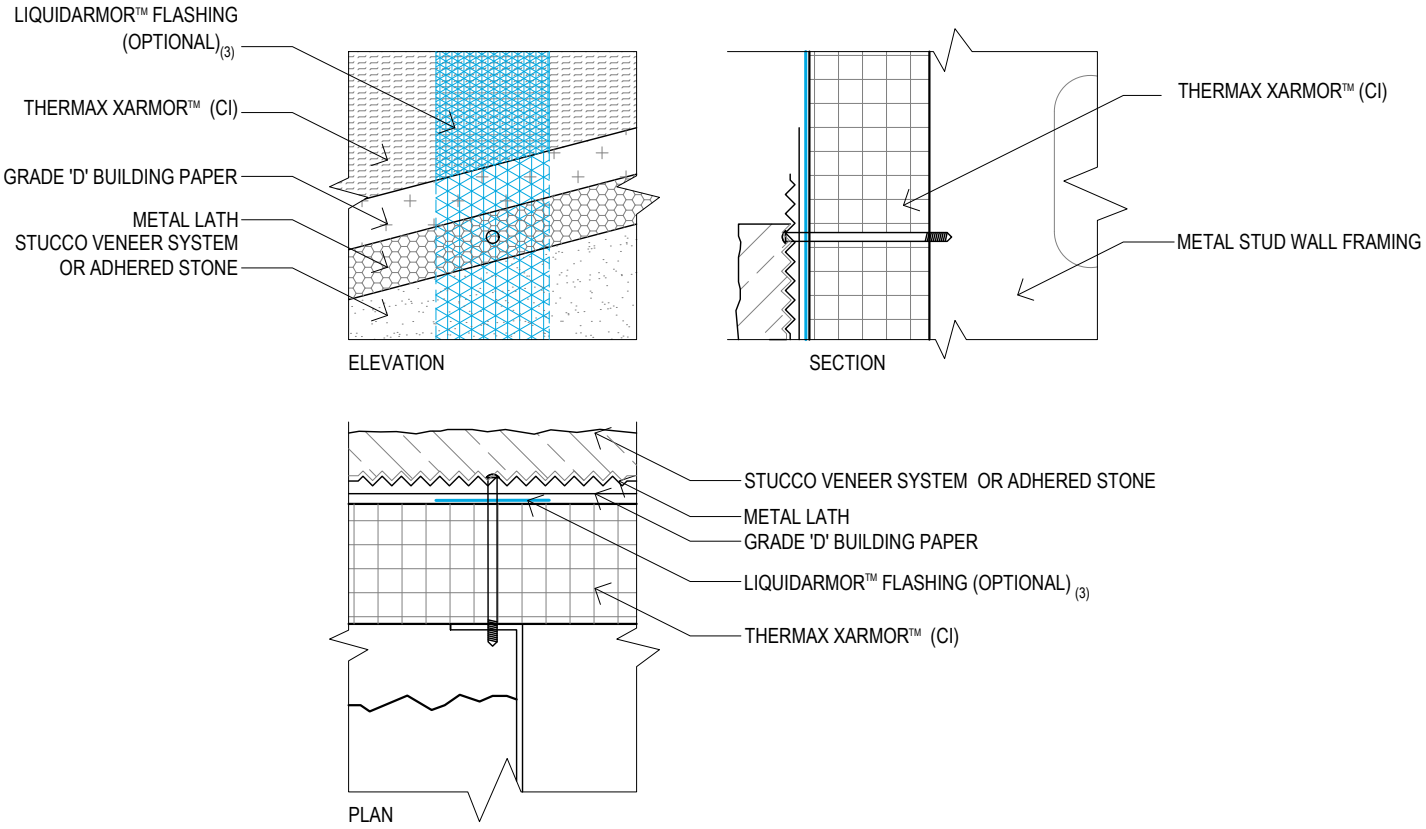
Sealing Lath

Design Intent

1. Use lath surface mounted over the rigid insulation and fastened to the structure.
2. Seal penetrations of lath attachment using DuPont™ Liquidarmor™* Flashing (optional).

Key

- LIQUIDARMOR™ FLASHING (OVER)
- LIQUIDARMOR™ FLASHING (BEHIND)
- DUPONT™ THERMAX XARMOR™ (CI)* (SECTION)
- THERMAX XARMOR™ (CI) (ELEVATION)
- STUCCO
- METAL LATH
- BUILDING PAPER

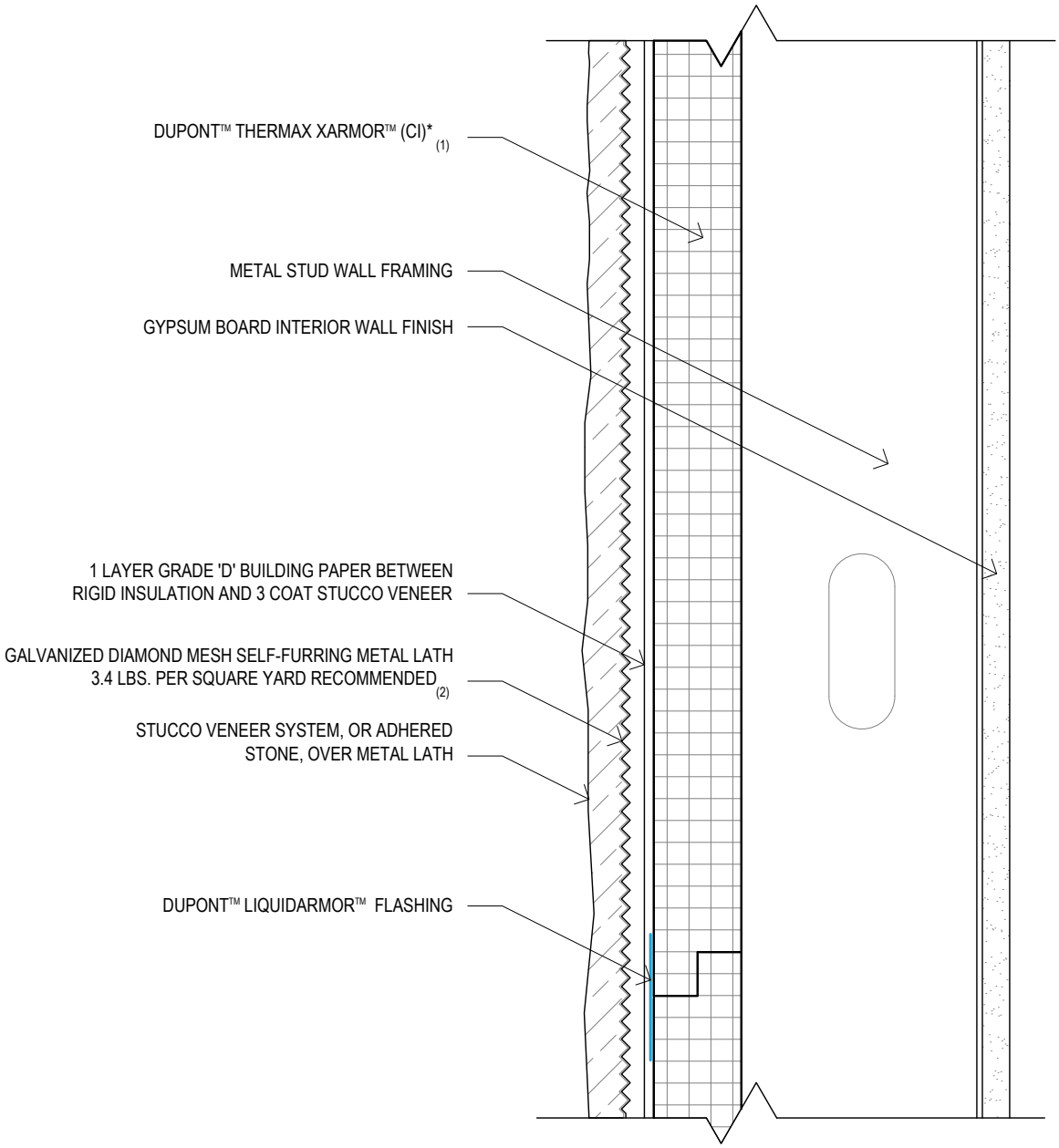


SEALING LATH FASTENERS

TWS-A03 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

1. SEE DETAIL TWS-G02 FOR MIN. LIQUIDARMOR™ FLASHING APPLICATION THICKNESS & WIDTH.
2. SEE DETAIL TWS-A02 FOR FASTENING & MAX INSULATION THICKNESS REQUIREMENTS, AND VERIFY ATTACHMENT WITH ENGINEER TO ENSURE ADEQUACY FOR CLADDING WEIGHT REQUIREMENTS.
3. LIQUIDARMOR™ FLASHING REQUIRED AS SEAM TREATMENT OVER INSULATION BOARD JOINTS IF USING THE DUPONT™ THERMAX™ WALL SYSTEM* AS AIR AND WATER BARRIER, BUT OPTIONAL BEHIND LATH FASTENING.
4. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS, AND FOR SPRAY FOAM AND SEALANT OPTIONS & REQUIREMENTS.



TYPICAL EXTERIOR WALL WITH STUCCO

TWS-A04 *COLOR FOR VISUAL CLARIFICATION ONLY*

MINIMUM REQUIREMENTS

1. INSULATION THAT IS SHIP-LAPPED HORIZONTAL EDGE SHOULD BE LAYERED IN A SHINGLE-LAP FASHION (AS SHOWN) TO PROMOTE WATER SHEDDING AND PREVENT MOISTURE INTRUSION AT HORIZONTAL INSULATION JUNCTURES.
2. APPLY DIAMOND MESH LATH WITH LONG DIMENSIONS PERPENDICULAR TO STUD FRAMING AND ATTACH WITH GALVANIZED STEEL SCREWS OF TYPE & LENGTH SUITABLE FOR MIN. 2/3" PENETRATION OF STEEL STUD SYSTEM.
3. MIN. ADHESION OF LIQUIDARMOR™ FLASHING ONTO EACH FACE OF INSULATION BASED ON DETAIL TWS-G02.
4. SEE DETAIL TWS-G02 "SYSTEM OPTIONS" FOR OTHER SYSTEM CONFIGURATIONS, AND FOR SPRAY FOAM AND SEALANT OPTIONS & REQUIREMENTS.

NOTICE: No freedom from any patent owned by DuPont or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, Customer is responsible for determining whether products and the information in this document are appropriate for Customer's use and for ensuring that Customer's workplace and disposal practices are in compliance with applicable laws and other government enactments. The product shown in this literature may not be available for sale and/or available in all geographies where DuPont is represented. The claims made may not have been approved for use in all countries or regions. DuPont assumes no obligation or liability for the information in this document. References to "DuPont" or the "Company" mean the DuPont legal entity selling the products to Customer unless otherwise expressly noted. NO EXPRESS WARRANTIES ARE GIVEN EXCEPT FOR ANY APPLICABLE WRITTEN WARRANTIES SPECIFICALLY PROVIDED BY DUPONT. ALL IMPLIED WARRANTIES INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.

Illustrations are not intended to replace the need for design by appropriate professionals such as architects or engineers.

Great Stuff Pro™* Insulating Foam sealant and adhesive products contain isocyanate and a flammable blowing agent. Read all instructions and (Material) Safety Data Sheet ((M)SDS), carefully before use. Eliminate all sources of ignition before use. Cover all skin. Wear long sleeves, gloves, and safety glasses or goggles. Not for use in aviation, or food/beverage contact, or as structural support in marine applications. Provide adequate ventilation or wear proper respiratory protection. Contents under pressure. Not to be used for filling closed cavities or voids such as behind walls and under tub surrounds.
CAUTION: When cured, these products are combustible and will burn if exposed to open flame or sparks from high-energy sources. Do not expose to temperatures above 240ºF (116ºC). For more information, consult (Material) Safety Data Sheet ((M)SDS), call DuPont at 1-866-583-BLUE (2583) or contact your local building inspector. In an emergency, call 1-989-636-4400 in the U.S. or 1-519-339-3711 in Canada.

Polyurethane Foam Insulation and Sealant
CAUTION: When cured, these products are combustible and will burn if exposed to open flame or sparks from high-energy sources. Do not expose to temperatures above 240ºF (116ºC). For more information, consult (Material) Safety Data Sheet ((M)SDS), call DuPont at 1-866-583-BLUE (2583) or contact your local building inspector. In an emergency, call 1-989-636-4400 in the U.S. or 1-519-339-3711 in Canada.
CAUTION: This product is combustible and shall only be used as specified by the local building code with respect to flame spread classification and to the use of a suitable thermal barrier. For more information, consult (Material) Safety Data Sheet ((M)SDS), call DuPont at 1-866-583-BLUE (2583) or contact your local building inspector. In an emergency, call 1-989-636-4400 in the U.S. or 1-519-339-3711 in Canada.

DuPont ™ LiquidArmor™*
Read the instructions and (Material) Safety Data Sheets ((M)SDS) carefully before use. It is recommended that spray applicators and those working in the spray area wear eye protection. Contact with exposed skin may cause skin discoloration and dryness. Gloves are recommended for prolonged exposures. Ensure adequate ventilation during spray applications.

DuPont ™ Thermax™* Brand Polyisocyanurate Insulation
CAUTION: This product is combustible and shall only be used as specified by the local building code with respect to flame spread classification and to the use of a suitable thermal barrier. For more information, consult (Material) Safety Data Sheet ((M)SDS), call DuPont at 1-866-583-BLUE (2583), or contact your local building inspector. In an emergency, call 1-989-636-4400.

DuPont™ Styrofoam™* Brand Extruded Polystyrene Foam Insulation
CAUTION: This product is combustible. Protect from high heat sources. A protective barrier or thermal barrier may be required as specified in the appropriate building code. For more information, consult (Material) Safety Data Sheet ((M)SDS), call DuPont at 1-866-583-BLUE (2583) or contact your local building inspector. In an emergency, call 1-989-636-4400 in the U.S. or 1-519-339-3711 in Canada.

WARNING: Rigid foam insulation does not constitute a working walkable surface or qualify as a fall protection product.

Building and/or construction practices unrelated to building materials could greatly affect moisture and the potential for mold formation. No material supplier including DuPont can give assurance that mold will not develop in any specific system.

References to "DUPONT" or the "Company" mean DuPont de Nemours, Inc., and its consolidated subsidiaries unless otherwise expressly noted.

*A former product of The Dow Chemical Company.

Thermal Grip® and Plasti-Grip® are TRUFAST® Walls (formerly Rodenhouse Inc.) trademarks.