PRIEST & ASSOCIATES CONSULTING, LLC

ENGINEERING EVALUATION

Engineering Extensions based on 15 NFPA 285 Tests

Project No. 10123, Revision 100

Prepared for:

Hunter Panels
15 Franklin Street
Portland, ME 04101

January 12, 2024

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Abstract

Fifteen NFPA 285 test reports on various wall designs have been submitted to determine Engineering Extensions on several aspects of wall designs. These include cavity insulation, exterior sheathing, water-resistive barrier (WRB), exterior insulation, exterior WRB, air gaps, claddings, window details, and base wall framing. We have determined that engineering extensions on various components of the tested wall designs can meet the criteria of NFPA 285 with specific limitations.

The conclusions reached by this evaluation are true and correct, within the bounds of sound engineering practice. All reasoning for our decisions is contained within this document.

Submitted by,

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January 12, 2024

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INTRODUCTION

The purpose of this evaluation is to determine engineering extensions for the components that can meet the requirements of NFPA 285. Fifteen NFPA 285 tests were conducted on various configurations of exterior wall system designs. The designs incorporated many variables, including cavity insulation, exterior sheathing, water-resistive barrier (WRB), exterior insulation, exterior WRB, air gaps, claddings, and window details. An analysis is conducted on the elements tested from the wall systems, forming a base wall system from which replacement components can be added. Additionally, several ESR-approved competing wall systems incorporate similar features to the submitted wall systems. This evaluation will also examine some of the engineering extensions of those systems.

SUBSTITUTION TABLES

The analysis results are presented in the following tables, which list the allowable substitutions based on the tests submitted and Engineering Extensions as detailed in the appendix of this report.

Table 1: Xci Foil (Class A) or XCi-286 Exterior Insulation (See Notes 1 through 8)

Wall Component	Table 1: Xci Foil (Class A) or XCi-286 Exterior Insulation Substitution Options
Base Wall Use either 1, 2, 3 or 4	1) Cast Concrete Walls 2) CMU Concrete Walls 3) 25 GA. min. 3⅝ in. (min.) steel studs spaced 24 in. OC (max.) a. ⅝ in. type X Gypsum Wallboard Interior b. Lateral Bracing every 4 ft 4) FRTW (fire-retardant-treated wood) studs: min. nominal 2 x 4 dimension, spaced 24 in. OC (max.) a. ⅝ in. type X Gypsum Wallboard Interior b. Bracing as required by code
Fire-Stopping at Floor Lines	1) Any approved mineral fiber-based safing insulation in each stud cavity at the floor line. Safing thickness must match stud cavity depth. 2) Solid FRTW fire blocking at floor line following building code requirements for Type III construction.
Cavity Insulation Use any Item 1 - 15 Items 8, 9, 10, 11, 12, 13, 14, or 15 may only be used with Exterior Sheathing 2 or the sheathing thickness specified.	1) None 2) 1½ in. (min.) of Carlisle SPI SealTite PRO (up to full cavity thickness), SealTite PRO Closed Cell, or SealTite PRO One Zero (up to full cavity thickness for each) 3) 1½ in. (min.) of BASF Walltite SPF (up to total cavity thickness) 4) Any noncombustible insulation per ASTM E136 5) Any Mineral Fiber (Board type faced or unfaced) 6) Any Fiberglass (Batt type faced or unfaced) 7) Any foam plastic insulation (SPF or board type) that has been tested per ASTM E1354 (at a minimum of 20 kW/m^2 heat flux) and shown by analysis to be less flammable (improved T_{ign}, Pk. HRR) than Covestro EcoBay CC or BASF Walltite 8) NCFI InsulBloc SPF (up to full cavity thickness) 9) Icynene MD-C-200v3 (Proseal) up to 5½ inches (only with ½ in. (min.) exterior gypsum sheathing) 10) SWD Urethane Quik-Shield 112 up to 6 inches in 6-inch (max.) stud cavities with an air gap not exceeding 2½ inches. 11) 1½ in. (min.) ThermoSeal 2000 (up to full cavity thickness) 12) Carlisle SealTite PRO High Yield, SealTite PRO Open Cell, SealTite PRO No Mix, SealTite PRO No Trim 21, or SealTite PRO OCX – up to full cavity thickness with ½ in. (min.) exterior gypsum sheathing 13) Gaco (Firestone) F6500R, 052N, F4500, 183M, F1850, F1880 – 3.5 in. (max.) for use with ⅝ in. Exterior Gypsum Sheathing

Wall Component	Table 1: Xci Foil (Class A) or XCi-286 Exterior Insulation Substitution Options
	14) JM Corbond III or Corbond IV – Full stud cavity depth or less for use with ⅝ in. exterior gypsum sheathing 15) Huntsman ProSeal HFO (8 in. max. thickness with no air gap, 6-inch max. thickness with air gap) for use with ½ in. or thicker exterior gypsum sheathing.
Exterior Sheathing Use Items 1, 2 or 3	1) None (only with cavity insulation 1, 2, 3, 4, 5, or 6) 2) ½ in. or thicker exterior gypsum sheathing 3) ½ in. (min.) FRTW structural panels in Type III construction
Multi-Function Sheathing & WRB Products Use Item 1 or 2	1) USG Securock® Exoair® 430 System 2) ⅝ inch Georgia Pacific DensElement, flashed with Prosoco R-Guard FastFlash on sheathing joints Note: Item 1 or 2 replaces the exterior sheathings above. When either of these items is used, do not use exterior sheathings or WRBs on the base wall surface in Table 6.
WRB over Base Wall Surface	See Table 6
Exterior Insulation Use Item 1 or 2 depending on the cladding.	1) 3½ in. thick (max.) Xci Foil (Class A) or Xci-286 for all claddings listed 2) 4 in. thick Xci Foil (Class A) or Xci-286 for Claddings 1 - 6
WRB over Exterior Insulation	See Table 6 The exterior insulation may be used with or without CavClear® Masonry Mat over the insulation with a maximum 1 in. air gap between the CavClear and the cladding. When CavClear is used, this may only be used with Cladding 1 - 6 or with thin brick/thin stone adhered to stucco as long as the total thickness is ¾ in. min.
Exterior Cladding Use any Item 1 - 17 Item 7 may use any tested/approved installation technique. Items 8, 9, or 12 may use any standard installation technique. If Claddings 2, 3, 4, 5, 13, 14, 15, or 16 are on stucco base with lath, a secondary WRB (WRB items above allowed over foam) can be installed between the insulation and lath and must not be full coverage asphalt or butyl based self-adhering membranes, but may be asphalt or butyl based slip sheet	1) Brick – Nominal 4 in. clay or concrete brick or veneer with a maximum 2 in. air gap behind the brick Brick Ties/Anchors 24 in. OC (max.) 2) Stucco – minimum ¾ in. thick exterior cement plaster and lath 3) Limestone – minimum 2 in. thick using any standard non-open joint installation technique such as shiplap 4) Natural Stone Veneer – minimum 2 in. thick using any standard non-open joint installation technique such as grouted/mortared stone 5) Cast Artificial Stone – minimum 1½ in. thick complying with ICC-ES AC 51 using any standard non-open joint installation technique such as shiplap 6) Terracotta Cladding – minimum 1¼ in. thick (solid or equivalent by weight) using any standard non-open joint installation technique such as shiplap 7) Any MCM that has successfully passed NFPA 285 8) Uninsulated sheet metal building panels, including steel, copper, aluminum, or zinc 9) ¼ in. (min.) uninsulated fiber-cement siding or porcelain or ceramic tile mechanically attached 10) Stone, porcelain, ceramic/aluminum honeycomb composite building panels that have successfully passed NFPA 285 criteria 11) Autoclaved-aerated-concrete (AAC) panels that have successfully passed NFPA 285 criteria 12) Terracotta Cladding – Any Rain-screen Terracotta (min. ½ in. thick) with ventilated shiplap 13) ½ in. Stucco – Any one coat stucco (½ in. min.) that meets AC11 acceptance criteria or is approved for use in Type I-IV construction or has been tested per NFPA 285 or stays in place

Wall Component	Table 1: Xci Foil (Class A) or XCi-286 Exterior Insulation Substitution Options
(stapled) with no adhesive.	when tested per ASTM E119 (stucco exposed to fire) for at least 30 minutes 14) Thin brick/cultured stone set in thin-set adhesive and metal lath tested to ASTM E119 (brick exposed to furnace) and remains in place for a minimum of 30 minutes or has passed an NFPA 285 test. Minimum ¾ in. . 15) Glen Gery Thin Tech Elite Series Masonry Veneer or Glen-Gery Tru-Brix (only with optional noncombustible mortar) or TABS II Panel System with ½ in. thick bricks using TABS Wall Adhesive 16) Natural Stone Veneer – minimum 1¼ in. thick using any standard installation technique 17) FunderMax M.Look – minimum ¼ inch thick using any standard installation technique

Table 2: Xci CG or Xci CG (Class A) Exterior Insulation (See Notes 1 through 8)

Wall Component	Table 2: Xci CG or Xci CG (Class A) Exterior Insulation Substitution Options
Base Wall Use Items 1, 2, 3 or 4	1) Cast Concrete Walls 2) CMU Concrete Walls 3) 25 GA. min. 3⅝ in. (min.) steel studs spaced 24 in. OC (max.) a. ⅝ in. type X Gypsum Wallboard Interior b. Lateral Bracing every 4 ft 4) FRTW studs: min. nominal 2 x 4 dimension, spaced 24 in. OC (max.) a. ⅝ in. type X Gypsum Wallboard Interior b. Bracing as required by building code
Fire-Stopping at Floor Lines Use Item 1 or 2	1) Any approved mineral fiber-based safing insulation in each stud cavity at the floor line. Safing thickness must match stud cavity depth. 2) Solid FRTW fire blocking at floor line following building code requirements for Type III construction.
Cavity Insulation Use any Item 1 - 15 Items 8 - 15 may only be used with Exterior Sheathing 2 or the specified thickness.	1) None 2) 1½ in. (min.) of Carlisle SPI SealTite PRO (up to full cavity thickness), SealTite PRO Closed Cell, or SealTite PRO One Zero (up to full cavity thickness for each) 3) 1½ in. (min.) of BASF Walltite SPF (up to total cavity thickness) 4) Any noncombustible insulation per ASTM E136 5) Any Mineral Fiber (Board type faced or unfaced) 6) Any Fiberglass (Batt Type faced or unfaced) 7) Any foam plastic insulation (SPF or board type) that has been tested per ASTM E1354 (at a minimum of 20 kW/m^2 heat flux) and shown by analysis to be less flammable (improved T_{ign}, Pk. HRR) than Covestro EcoBay CC or BASF Walltite 8) NCFI InsulBloc SPF (up to full cavity thickness) 9) Icynene MD-C-200v3 (Proseal) up to 5½ inches (only with ½ in. (min.) exterior gypsum sheathing) 10) SWD Urethane Quik-Shield 112 up to 6 inches in 6-inch (max.) stud cavities with an air gap not exceeding 2½ inches. 11) 1½ in. (min.) ThermoSeal 2000 (up to full cavity thickness) 12) Carlisle SealTite PRO High Yield, SealTite PRO Open Cell, SealTite PRO No Mix, SealTite PRO No Trim 21, or SealTite PRO OCX – up to full cavity thickness with ½ in. (min.) exterior gypsum sheathing 13) Gaco (Firestone) F6500R, 052N, F4500, 183M, F1850, or F1880 – 3½ in. (max.) for use with ⅝ in. Exterior Gypsum Sheathing

Wall Component	Table 2: Xci CG or Xci CG (Class A) Exterior Insulation Substitution Options
	14) JM Corbond III or Corbond IV – Full stud cavity depth or less for use with ⅝ in. exterior gypsum sheathing 15) Huntsman ProSeal HFO (8 in. max. thickness with no air gap, 6-inch max. thickness with air gap) for use with ½ in. or thicker exterior gypsum sheathing.
Exterior Sheathing Use Item 1, 2, or 3	1) None (only with Claddings 1 – 6 and Cavity Insulations 1, 2, 3, 4, 5, 6) 2) ½ in. or thicker exterior gypsum sheathing 3) ½" (min.) FRTW structural panels in Type III construction
Multi-Function Sheathing & WRB Products Use Item 1 or 2	1) USG Securock® Exoair® 430 System 2) ⅝ inch Georgia Pacific DensElement flashed with Prosoco R-Guard FastFlash on sheathing joints Note: Item 1 or 2 replaces the exterior sheathings above. When either of these items is used, do not use exterior sheathings or WRBs on the base wall surface in Table 6.
WRB on Base Wall	See Table 6
Exterior Insulation Use 1 or 2 depending on the cladding	1) 3½ in. thick (max.) Xci CG or Xci CG (Class A) for all claddings listed 2) 4 in. thick (max.) Xci-CG or Xci-CG (Class A) for Claddings 1 - 6
WRB on Insulation	See Table 6 The exterior insulation may be used with or without CavClear® Masonry Mat over the insulation with a maximum 1 in. air gap between the CavClear and the cladding. When CavClear is used, this may only be used with Cladding 1 - 6 or with thin brick/thin stone adhered to stucco as long as the total thickness is ¾ in. min.
Exterior Cladding Use any Item 1 - 17 Item 7 may use any tested/approved installation technique. Items 8, 9, or 12 may use any standard installation technique. If claddings 2, 3, 4, 5, 13, 14, 15, or 16 are on stucco base with lath, a secondary WRB (WRB items above allowed over foam) can be installed between the insulation and lath and must not be full coverage asphalt or butyl based self-	1) Brick – Nominal 4 in. clay or concrete brick or veneer with a maximum 2 in. air gap behind the brick. Brick Ties/Anchors 24 in. OC (max.) 2) Stucco – minimum ¾ in. thick exterior cement plaster and lath 3) Limestone – minimum 2 in. thick using any standard non-open joint installation technique such as shiplap 4) Natural Stone Veneer – minimum 2 in. thick using any standard non-open joint installation technique such as grouted/mortared stone 5) Cast Artificial Stone – minimum 1½ in. thick complying with ICC-ES AC 51 using any standard non-open joint installation technique such as shiplap 6) Terracotta Cladding – minimum 1¼ in. thick (solid or equivalent by weight) using any standard non-open joint installation technique such as shiplap 7) Any MCM that has successfully passed NFPA 285 8) Uninsulated sheet metal building panels including steel, copper, aluminum (or zinc only with Xci-CG (Class A)) 9) ¼ in. (min.) uninsulated fiber-cement siding or porcelain or ceramic tile mechanically attached 10) Stone, porcelain, ceramic/aluminum honeycomb composite building panels that have successfully passed NFPA 285 criteria 11) Autoclaved-aerated-concrete (AAC) panels that have successfully passed NFPA 285 criteria 12) Terracotta Cladding – Any Rain-screen Terracotta (min. ½ in. thick) with ventilated shiplap

Wall Component	Table 2: Xci CG or Xci CG (Class A) Exterior Insulation Substitution Options
adhering membranes, but may be asphalt or butyl based slip sheet (stapled) with no adhesive.	13) ½ in. Stucco – Any one coat stucco (½ in. min.) that meets AC11 acceptance criteria or is approved for use in Type I-IV construction or has been tested per NFPA 285 or stays in place when tested per ASTM E119 (stucco exposed to fire) for at least 30 minutes 14) Thin brick/cultured stone set in thin-set adhesive and metal lath tested to ASTM E119 (brick exposed to furnace) and remains in place for a minimum of 30 minutes or has passed an NFPA 285 test. Minimum ¾ in. . 15) Glen Gery Thin Tech Elite Series Masonry Veneer or Glen-Gery Tru-Brix (only with optional noncombustible mortar) or TABS II Panel System with ½ in. thick bricks using TABS Wall Adhesive 16) Natural Stone Veneer – minimum 1¼ in. thick using any standard installation technique 17) FunderMax M.Look – minimum ¼ inch thick using any standard installation technique

Table 3: Xci Foil Exterior Insulation (See Notes 1 through 8)

Wall Component	Table 3: Xci Foil Exterior Insulation Substitution Options
Base Wall Use Items 1, 2, 3 or 4	1) Cast Concrete Walls 2) CMU Concrete Walls 3) 25 GA. min. 3⅝ in. (min.) steel studs spaced 24 in. OC (max.) a. ⅝ in. type X Gypsum Wallboard Interior b. Lateral Bracing every 4 ft 4) FRTW studs: min. nominal 2 x 4 dimension, spaced 24 in. OC (max.) ⅝ in. type X Gypsum Wallboard Interior Bracing as required by code
Fire-Stopping at Floor Lines Use Item 1 or 2	1) Any approved mineral fiber-based safing insulation in each stud cavity at the floor line Safing thickness must match stud cavity depth. 2) Solid FRTW fire blocking at floor line following building code requirements for Type III construction.
Cavity Insulation Use any Item 1 - 15 Items 2, 3, 8, 9, 10, 11, 12, 13, 14, or 15 may only be used with Exterior Sheathing 2 or the specified thickness.	1) None 2) 1½ in. (min.) of Carlisle SPI SealTite PRO (up to full cavity thickness), SealTite PRO Closed Cell, or SealTite PRO One Zero (up to full cavity thickness for each) 3) 1½ in. (min.) of BASF Walltite SPF (up to total cavity thickness) 4) Any noncombustible insulation per ASTM E136 5) Any Mineral Fiber (Board type faced or unfaced) 6) Any Fiberglass (Batt Type faced or unfaced) 7) Any foam plastic insulation (SPF or board type) that has been tested per ASTM E1354 (at a minimum of 20 kW/m^2 heat flux) and shown by analysis to be less flammable (improved T_{ign}, Pk. HRR) than Covestro EcoBay CC or BASF Walltite. 8) NCFI InsulBloc SPF (up to full cavity thickness) 9) Icynene MD-C-200v3 (Proseal) up to 5½ inches (only with ½ in. (min.) exterior gypsum sheathing) 10) SWD Urethane Quik-Shield 112 up to 6 inches in 6-inch (max.) stud cavities with an air gap not exceeding 2½ inches. 11) 1½ in. (min.) ThermoSeal 2000 (up to full cavity thickness) 12) Carlisle SealTite PRO High Yield, SealTite PRO Open Cell, SealTite PRO No Mix, SealTite PRO No Trim 21, or SealTite PRO OCX – up to full cavity thickness with ½ in. (min.) exterior gypsum sheathing

Wall Component	Table 3: Xci Foil Exterior Insulation Substitution Options
	13) Gaco (Firestone) F6500R, 052N, F4500, 183M, F1850, or F1880 – 3½ in. (max.) for use with ⅝ in. exterior gypsum sheathing 14) JM Corbond III or Corbond IV – Full stud cavity depth or less for use with ⅝ in. exterior gypsum sheathing 15) Huntsman ProSeal HFO (8 in. max. thickness with no air gap, 6-inch max. thickness with air gap) for use with ½ in. or thicker exterior gypsum sheathing.
Exterior Sheathing Use Item 1, 2, or 3	1) None (only with cavity insulation 1, 4, 5, or 6) 2) ½ in. or thicker exterior gypsum sheathing 3) ½" (min.) FRTW structural panels in Type III construction are allowed in place of gypsum sheathing when combustible cavity insulation is not used.
Multi-Function Sheathing & WRB Products Use Item 1 or 2	1) USG Securock® Exoair® 430 System 2) ⅝ inch Georgia Pacific DensElement flashed with Prosoco R-Guard FastFlash on sheathing joints Note: Item 1 or 2 replaces the exterior sheathings above. When either of these items is used, do not use exterior sheathings or WRBs on the base wall surface in Table 6.
WRB over Base Wall Surface	See Table 6
Exterior Insulation	4 in. thick (max.) Xci Foil
WRB over Exterior Insulation	See Table 6 The exterior insulation may be used with or without CavClear® Masonry Mat over the insulation with a maximum 1 in. air gap between the CavClear and the cladding. When CavClear is used, this may only be used with Cladding 1 - 6 or with thin brick/thin stone adhered to stucco as long as the total thickness is ¾ in. min.
Exterior Cladding Use any Item 1 – 6 If Claddings 2, 3, 4, or 5 are on stucco base with lath, a secondary WRB (WRB items above allowed over foam) can be installed between the insulation and lath and must not be full coverage asphalt or butyl-based self-adhering membranes, but may be asphalt or butyl based slip sheet (stapled) with no adhesive.	1) Brick – Nominal 4 in. clay or concrete brick or veneer with a maximum 2 in. air gap behind the brick. Brick Ties/Anchors 24 in. OC (max.) 2) Stucco – minimum ¾ in. thick exterior cement plaster and lat 3) Limestone – minimum 2 in. thick using any standard non-open joint installation technique such as shiplap 4) Natural Stone Veneer – minimum 2 in. thick using any standard non-open joint installation technique such as grouted/mortared stone 5) Cast Artificial Stone – minimum 1½ in. thick complying with ICC-ES AC 51 using any standard non-open joint installation technique such as shiplap 6) Terracotta Cladding – minimum 1¼ in. thick (solid or equivalent by weight) using any standard non-open joint installation technique such as shiplap

Table 4: Xci Ply or Xci Ply (Class A) Exterior Insulation (See Notes 1 through 8)

Wall Component	Table 4: Xci Ply or Xci Ply (Class A) Exterior Insulation Substitution Options
Base Wall Use Items 1, 2, 3 or 4	1) Cast Concrete Walls 2) CMU Concrete Walls 3) 25 GA. min. 3⅝ in. (min.) steel studs spaced 24 in. OC (max.) a. ⅝ in. type X Gypsum Wallboard Interior b. Lateral Bracing every 4 ft 4) FRTW studs: min. nominal 2 x 4 dimension, spaced 24 in. OC (max.) a. ⅝ in. type X Gypsum Wallboard Interior b. Bracing as required by code
Fire-Stopping at Floor Lines	1) Any approved mineral fiber-based safing insulation in each stud cavity at the floor line Safing thickness must match stud cavity depth. 2) Solid FRTW fire blocking at floor line following building code requirements for Type III construction.
Cavity Insulation Use any Item 1 - 15 Items 3, 8, 9, 10, 11, 12, 13, 14, or 15 may only be used with Exterior Sheathing 2 or the specified thickness.	1) None 2) 1½ in. (min.) of Carlisle SPI SealTite PRO (up to full cavity thickness), SealTite PRO Closed Cell, or SealTite PRO One Zero (up to full cavity thickness for each) 3) 1½ in. (min.) of BASF Walltite SPF (up to total cavity thickness) 4) Any noncombustible insulation per ASTM E136 5) Any Mineral Fiber (Board type faced or unfaced) 6) Any Fiberglass (Batt Type faced or unfaced) 7) Any foam plastic insulation (SPF or board type) that has been tested per ASTM E1354 (at a minimum of 20 kW/m^2 heat flux) and shown by analysis to be less flammable (improved T_{ign}, Pk. HRR) than Covestro EcoBay CC or BASF Walltite. 8) NCFI InsulBloc SPF (up to full cavity thickness) 9) Icynene MD-C-200v3 (Proseal) up to 5½ inches (only with ½ in. (min.) exterior gypsum sheathing) 10) SWD Urethane Quik-Shield 112 up to 6 inches in 6-inch (max.) stud cavities with an air gap not exceeding 2½ inches. 11) 1½ in. (min.) ThermoSeal 2000 (up to full cavity thickness) 12) Carlisle SealTite PRO High Yield, SealTite PRO Open Cell, SealTite PRO No Mix, SealTite PRO No Trim 21, or SealTite PRO OCX – up to full cavity thickness with ½ in. (min.) exterior gypsum sheathing 13) Gaco (Firestone) F6500R, 052N, F4500, 183M, F1850, or F1880 – 3½ in. (max.) for use with ⅝ in. exterior gypsum sheathing 14) JM Corbond III or Corbond IV – Full stud cavity depth or less for use with ⅝ in. exterior gypsum sheathing 15) Huntsman ProSeal HFO (8 in. max. thickness with no air gap, 6-inch max. thickness with air gap) for use with ½ in. or thicker exterior gypsum sheathing.
Exterior Sheathing Use Items 1, 2 or 3	1) None (only with cavity insulation 1, 2, 4, 5, or 6) 2) ½ in. or thicker exterior gypsum sheathing 3) ½" (min.) FRTW structural panels in Type III construction.
Multi-Function Sheathing & WRB Products Use Item 1 or 2	1) USG Securock® Exoair® 430 System 2) ⅝ inch Georgia Pacific DensElement flashed with Prosoco R-Guard FastFlash on sheathing joints Note: Item 1 or 2 replaces the exterior sheathings above. When either of these items is used, do not use exterior sheathings or WRBs on the base wall surface in Table 6.

Wall Component	Table 4: Xci Ply or Xci Ply (Class A) Exterior Insulation Substitution Options
WRB over Base Wall Surface	See Table 6
Exterior Insulation Use Item 1 or 2 depending on the cladding	1) 4¼ in. (max.) Xci Ply or Xci Ply (Class A) (3½ in. foam max., ¾ in. FR Plywood max.) with all claddings listed 2) 4¾ in. (max.) Xci-Ply or Xci Ply (Class A) (4 in. foam max., ¾ in. FR Plywood max.) may be used with Claddings 1 - 6
WRB over Exterior Insulation	See Table 6 The exterior insulation may be used with or without CavClear® Masonry Mat over the insulation with a maximum 1 in. air gap between the CavClear and the cladding. When CavClear is used, this may only be used with Cladding 1 - 6 or with thin brick/thin stone adhered to stucco as long as the total thickness is ¾ in. min.
Exterior Cladding Use any Item 1 - 18 Item 9 may use any tested/approved installation technique. Items 10, 11, and 14 may use any standard installation technique. If Claddings 2, 3, 4, 5, 7, 8, 15, or 16 are on stucco base with lath, a secondary WRB (WRB items above allowed over foam) can be installed between the insulation and lath and must not be full coverage asphalt or butyl based self-adhering membranes, but may be asphalt or butyl based slip sheet (stapled) with no adhesive.	1) Brick – Nominal 4 in. clay, concrete brick, or veneer with a maximum of 2 in. air gap behind the brick. Brick Ties/Anchors 24 in. OC (max.) 2) Stucco – minimum ¾ in. thick exterior cement plaster and lath 3) Limestone – minimum 2 in. thick using any standard non-open joint installation technique such as shiplap 4) Natural Stone Veneer – minimum 2 in. thick using any standard non-open joint installation technique such as grouted/mortared stone 5) Cast Artificial Stone – minimum 1½ in. thick complying with ICC-ES AC 51 using any standard non-open joint installation technique such as shiplap 6) Terracotta Cladding – minimum 1¼ in. thick (solid or equivalent by weight) using any standard non-open joint installation technique such as shiplap 7) Thin brick/cultured stone set in thin-set adhesive and metal lath tested to ASTM E119 (brick exposed to furnace) and remains in place for a minimum of 30 minutes or has passed an NFPA 285 test. Minimum ¾ in. 8) Glen Gery Thin Tech Elite Series Masonry Veneer or Tru-Brix (only with optional noncombustible mortar) or TABS II Panel System with ½ in. thick bricks using TABS Wall Adhesive 9) Any MCM that has successfully passed NFPA 285 10) Uninsulated sheet metal building panels including steel, copper, aluminum (or zinc only with Xci-Ply (Class A)) 11) ¼ in. (min.) uninsulated fiber-cement siding or porcelain or ceramic tile mechanically attached 12) Stone, porcelain, ceramic/aluminum honeycomb composite building panels that have successfully passed NFPA 285 criteria 13) Autoclaved-aerated-concrete (AAC) panels that have successfully passed NFPA 285 criteria 14) Terracotta Cladding – Any Rain-screen Terracotta (min. ½ in. thick) with ventilated shiplap 15) ½ in. Stucco – Any one coat stucco (½ in. min.) that meets AC11 acceptance criteria or is approved for use in Type I-IV construction or has been tested per NFPA 285 or stays in place when tested per ASTM E119 (stucco exposed to fire) for at least 30 minutes 16) Natural Stone Veneer – minimum 1¼ in. thick using any standard installation technique 17) FunderMax M.Look– minimum ¼ inch thick using any standard installation technique

Wall Component	Table 4: Xci Ply or Xci Ply (Class A) Exterior Insulation Substitution Options
	18) AFC Terraslat by Tonality - Tonality Classic26 or Tonality Classic22

Table 5: Xci Foil (Class A) PLUS (See Notes 1 through 8)

Wall Component	Table 5: Xci Foil (Class A) PLUS Exterior Insulation Substitution Options
Base Wall Use either 1, 2, 3 or 4	1) Cast Concrete Walls 2) CMU Concrete Walls 3) 25 GA. min. 3⅝ in. (min.) steel studs spaced 24 in. OC (max.) a. ⅝ in. type X Gypsum Wallboard Interior b. Lateral Bracing every 4 ft 4) FRTW (fire-retardant-treated wood) studs: min. nominal 2 x 4 dimension, spaced 24 in. OC (max.) a. ⅝ in. type X Gypsum Wallboard Interior b. Bracing as required by code
Fire-Stopping at Floor Lines	1) Any approved mineral fiber-based safing insulation in each stud cavity at the floor line. Safing thickness must match stud cavity depth. 2) Solid FRTW fire blocking at floor line following building code requirements for Type III construction.
Cavity Insulation Use any Item 1 - 15 Items 8, 9, 10, 11, 12, 13, 14, or 15 may only be used with Exterior Sheathing 2 or the sheathing thickness specified.	1) None 2) 1½ in. (min.) of Carlisle SPI SealTite PRO (up to full cavity thickness), SealTite PRO Closed Cell, or SealTite PRO One Zero (up to full cavity thickness for each) 3) 1½ in. (min.) of BASF Walltite SPF (up to total cavity thickness) 4) Any noncombustible insulation per ASTM E136 5) Any Mineral Fiber (Board type faced or unfaced) 6) Any Fiberglass (Batt type faced or unfaced) 7) Any foam plastic insulation (SPF or board type) that has been tested per ASTM E1354 (at a minimum of 20 kW/m^2 heat flux) and shown by analysis to be less flammable (improved T_{ign}, Pk. HRR) than Covestro EcoBay CC or BASF Walltite 8) NCFI InsulBloc SPF (up to full cavity thickness) 9) Icynene MD-C-200v3 (Proseal) up to 5½ inches (only with ½ in. (min.) exterior gypsum sheathing) 10) SWD Urethane Quik-Shield 112 up to 6 inches in 6-inch (max.) stud cavities with an air gap not exceeding 2½ inches. 11) 1½ in. (min.) ThermoSeal 2000 (up to full cavity thickness) 12) Carlisle SealTite PRO High Yield, SealTite PRO Open Cell, SealTite PRO No Mix, SealTite PRO No Trim 21, or SealTite PRO OCX – up to full cavity thickness with ½ in. (min.) exterior gypsum sheathing 13) Gaco (Firestone) F6500R, 052N, F4500, 183M, F1850, F1880 – 3.5 in. (max.) for use with ⅝ in. Exterior Gypsum Sheathing 14) JM Corbond III or Corbond IV – Full stud cavity depth or less for use with ⅝ in. exterior gypsum sheathing 15) Huntsman ProSeal HFO (8 in. max. thickness with no air gap, 6-inch max. thickness with air gap) for use with ½ in. or thicker exterior gypsum sheathing.
Exterior Sheathing Use Items 1, 2 or 3	1) None (only with cavity insulation 1, 2, 3, 4, 5, or 6) 2) ½ in. or thicker exterior gypsum sheathing 3) ½ in. (min.) FRTW structural panels in Type III construction

Wall Component	Table 5: Xci Foil (Class A) PLUS Exterior Insulation Substitution Options
Multi-Function Sheathing & WRB Products Use Item 1 or 2	1) USG Securock® Exoair® 430 System 2) ⅝ inch Georgia Pacific DensElement, flashed with Prosoco R-Guard FastFlash on sheathing joints Note: Item 1 or 2 replaces the exterior sheathings above. When either of these items is used, do not use exterior sheathings or WRBs on the base wall surface in Table 6.
WRB over Base Wall Surface	See Table 6
Exterior Insulation	4 in. thick (max.) Xci Foil (Class A) PLUS for all claddings listed
WRB over Exterior Insulation	See Table 6 The exterior insulation may be used with or without CavClear® Masonry Mat over the insulation with a maximum 1 in. air gap between the CavClear and the cladding. When CavClear is used, this may only be used with Cladding 1 - 6 or with thin brick/thin stone adhered to stucco as long as the total thickness is ¾ in. min.
Exterior Cladding Use any Item 1 - 17 Item 7 may use any tested/approved installation technique. Items 8, 9, or 12 may use any standard installation technique. If Claddings 2, 3, 4, 5, 13, 14, 15, or 16 are on stucco base with lath, a secondary WRB (WRB items above allowed over foam) can be installed between the insulation and lath and must not be full coverage asphalt or butyl based self-adhering membranes, but may be asphalt or butyl based slip sheet (stapled) with no adhesive.	1) Brick – Nominal 4 in. clay or concrete brick or veneer with a maximum 2 in. air gap behind the brick Brick Ties/Anchors 24 in. OC (max.) 2) Stucco – minimum ¾ in. thick exterior cement plaster and lath 3) Limestone – minimum 2 in. thick using any standard non-open joint installation technique such as shiplap 4) Natural Stone Veneer – minimum 2 in. thick using any standard non-open joint installation technique such as grouted/mortared stone 5) Cast Artificial Stone – minimum 1½ in. thick complying with ICC-ES AC 51 using any standard non-open joint installation technique such as shiplap 6) Terracotta Cladding – minimum 1¼ in. thick (solid or equivalent by weight) using any standard non-open joint installation technique such as shiplap 7) Any MCM that has successfully passed NFPA 285 8) Uninsulated sheet metal building panels, including steel, copper, aluminum, or zinc 9) ¼ in. (min.) uninsulated fiber-cement siding or porcelain or ceramic tile mechanically attached 10) Stone, porcelain, ceramic/aluminum honeycomb composite building panels that have successfully passed NFPA 285 criteria 11) Autoclaved-aerated-concrete (AAC) panels that have successfully passed NFPA 285 criteria 12) Terracotta Cladding – Any Rain-screen Terracotta (min. ½ in. thick) with ventilated shiplap 13) ½ in. Stucco – Any one coat stucco (½ in. min.) that meets AC11 acceptance criteria or is approved for use in Type I-IV construction or has been tested per NFPA 285 or stays in place when tested per ASTM E119 (stucco exposed to fire) for at least 30 minutes 14) Thin brick/cultured stone set in thin-set adhesive and metal lath tested to ASTM E119 (brick exposed to furnace) and remains in place for a minimum of 30 minutes or has passed an NFPA 285 test. Minimum ¾ in. 15) Glen Gery Thin Tech Elite Series Masonry Veneer or TABS II Panel System with ½ in. thick bricks using TABS Wall Adhesive 16) Natural Stone Veneer – minimum 1¼ in. thick using any standard installation technique

Wall Component	Table 5: Xci Foil (Class A) PLUS Exterior Insulation Substitution Options
	17) FunderMax M.Look – minimum ¼ inch thick using any standard installation technique

Table 6. Allowable WRBs for Tables 1 - 5

Wall Component	Table 6. Allowable WRBs
WRB over Base Wall Surface Use any of Items 1 – 34 or None Note – Some WRBs are only allowed with specific systems. Item 24 (Securock Exoair 430) or 25 (DensElement with FastFlash) replaces the exterior sheathings in Tables 1 - 4. When either of these items is used, do not use exterior sheathings listed in Tables 1 - 4 or WRBs on the base wall surface in this table (Table 6).	1) Hunter Xci VP-SA WRB 2) Carlisle Fire Resist 705 RS, Fire Resist Barrithane VP, Fire Resist 705 VP, Fire Resist 705 FR-A, Fire Resist Barritech NP (or NP LT), Fire Resist Barritech VP (or VP LT). Fire Resist 705 VP may be used with 702 WB, Cav-Grip, or Low VOC Travel-Tack adhesives. Fire Resist 705 FR-A may be used with CCW 702, 702LV, 702 WB, CAV-Grip, and Low VOC Travel Tack adhesives. 3) CCW-705 (with 702 LV, 702 WB, Cav-Grip, Low VOC Travel-Tack, or 702 adhesives) may be used with Xci Class A (or Xci-286) or unfaced noncombustible insulation and cladding Options 1 - 6. 4) GE Momentive SEC 2500 SilShield, Elemax 2600 5) VaproShield WrapShield SA, RevealShield SA, BlockShield SA, PanelShield SA 6) WR Grace Permabarrier VPS, Perm-A-Barrier NPL (AKA: PAB NP20), Perm-A-Barrier® VPL, Perm-A-Barrier Aluminum Wall Membrane (AWM), Perm-A-Barrier VPL LT. The following may only be used with Claddings 1 - 6 - Perm-A-Barrier NPL 10, Perm-A-Barrier VPL 50 7) StoGuard Vaporseal 8) 3M 3015 (with Hold Fast 70 adhesive @ six mils) or 3M 3015 NP or 3015 VP 9) Henry Air-Bloc® 17MR, Air-Bloc® 21S, All Weather STPE, Blueskin SA (only with Xci-Class A and Claddings 1 - 6), Air-Bloc 16MR, Blueskin VP 160, Henry Blueskin MetalClad 10) Tyvek CommercialWrap, CommercialWrap D, StuccoWrap, Fluid Applied WB (only with Xci-Foil (Class A) or Xci-Ply, or Xci-Ply (Class A)) 11) PolyGuard Spray-N-Roll (STPE), Air Lok Sheet UV400 NP, Air Lok Flex VP, FlexGuard, Stretch Flex, Air Lok Sheet 400 NP (Only with Cladding 1-6) 12) Prosoco R-Guard Cat 5, R-Guard Cat 5 Rainscreen, R-Guard VB, or R-Guard Spray Wrap MVP 13) Dryvit Backstop NT 14) WR Meadows Air Shield LMP (Gray), Air Shield LMP (Black), Air Shield TMP, Air Shield LSR, or Air-Shield SMP 15) Dörken Systems Inc., Delta-Vent SA, Delta-Vent S, Delta-Fassade S, Delta Maxx, Delta Stratus SA 16) Any WRB that has been tested per ASTM E1354 (at a minimum of 20 kW/m^2 heat flux) and shown by analysis to be less flammable (improved T_{ign}, Pk. HRR) than those listed above 17) BASF Enershield HP or Enershield I 18) Soprema Sopraseal Stick VP, Soprasolin HD, LM 204 VP, Stick 1100T with Elastocol 600c Primer (1100T only for use with Xci-CG, Xci-CG (Class A), Xci Foil (Class A), Xci-Ply or Xci-Ply (Class A) 19) Pecora XL-Perm^{ULTRA} VP, XL-Perm^{ULTRA} NP, ProPerm VP 20) Siga Majvest or Majvest 500 SA 21) Sto Gold Coat or Emerald Coad 22) Tremco ExoAir 230 and ExoAir 130 23) Fortifiber Building Systems Group WeatherSmart Housewrap, WeatherSmart Drainable, WeatherSmart Commercial or Super Jumbo Tex 60

Wall Component	Table 6. Allowable WRBs
	24) USG Securock Exoair 430 System 25) ⅝ inch Georgia Pacific DensElement flashed with Prosoco R-Guard FastFlash on sheathing joints 26) Dow Chemical DefendAir 200 (or LT version) or DefendAir 200C (Charcoal) 27) Hohmann & Barnard Enviro Barrier and Enviro Barrier VP 28) STS FW100 or FW100A 29) Karnak 321 K-NRG 30) NaturaSeal AirSeal NS-A-250LP, AirSeal NS-A-250HP 31) Jumpstart HWW-65A, HWW-65B, HWHP-80A, HWMP-90A, HWD2-72A, HWHPT-92A, HWMPC-105A 32) Master Wall Rollershield 33) Parex WeatherSeal Spray & Roll-On 34) Protecto Wrap Protecto Wall VP or Universal Primer Free Membrane
WRB over Exterior Insulation Use any Items 1 – 28 or None. Note – Some WRBs are only allowed with specific systems.	1) Hunter Xci VP-SA WRB 2) Carlisle Fire Resist 705 RS, Fire Resist Barrithane VP, Fire Resist 705 VP (with 702 WB, Cav-Grip, or Low VOC Travel-Tack adhesives), Fire Resist 705 FR-A (with CCW 702, 702LV, 702 WB, CAV-Grip, and Low VOC Travel Tack adhesives), Fire Resist Barritech VP (or VP LT), Fire Resist Barritech NP (or NP LT) 3) GE Momentive SEC 2500 SilShield, Elemax 2600 4) VaproShield WrapShield SA, RevealShield SA, PanelShield SA 5) Grace Perm-A-Barrier NPL (AKA: PAB NP20), Perm-A-Barrier® VPL, Perm-A-Barrier Aluminum Wall Membrane (AWM), Perm-A-Barrier VPL LT, Perm-A-Barrier VPS 6) Henry Air-Bloc® 17MR, Air-Bloc® 21S, Blueskin® VP160 (only with Xci-Ply), All Weather STPE, and Air-Bloc 16MR 7) Tyvek CommercialWrap, StuccoWrap, or CommercialWrap D 8) PolyGuard Air Lok Sheet UV400 NP, Stretch Flex (only with Claddings 1 - 6), Air Lok Flex VP (over Xci-Ply with any cladding listed or over the other Xci foams listed with Claddings 1 - 6), FlexGuard (over Xci-Ply with any cladding listed or over the other Xci foams listed with Claddings 1 - 6) 9) Prosoco R-Guard Cat 5, R-Guard Cat 5 Rainscreen, R-Guard VB, or R-Guard Spray Wrap MVP 10) Sto Gold coat or Emerald Coat (only with Xci-Ply) 11) Dryvit Backstop NT 12) Any WRB that has been tested per ASTM E1354 (at a minimum of 50 kW/m^2 heat flux) and shown by analysis to be less flammable (improved T_{ign}, Pk. HRR) than those listed above 13) 3 in. AlumaGRIP 701 or 4 in. FG-1402 joint tape may be interchanged. (Hardcast AFT is a rebrand of AlumaGRIP 701). 14) WR Meadows Air Shield LMP (Gray), Air Shield LMP (Black), Air Shield TMP, Air Shield LSR, or Air-Shield SMP 15) Dörken Systems Inc., Delta-Vent SA, Delta-Vent S, Delta-Fassade S, Delta Maxx 16) Soprema Sopraseal Stick VP (with Claddings 1 - 6, not with Xci-Foil), Soprasolin HD 17) Pecora XL-Perm^{ULTRA} VP, XL-Perm^{ULTRA} NP, ProPerm VP 18) Siga Majvest (for all claddings) or Majvest 500 SA (only with Claddings 1 - 6) 19) Fortifiber Building Systems Group WeatherSmart Housewrap, WeatherSmart Drainable, or WeatherSmart Commercial. 20) Dow Chemical DefendAir 200 (or LT version) or DefendAir 200C (Charcoal)

Wall Component	Table 6. Allowable WRBs
	21) Hohmann & Barnard Enviro Barrier VP 22) STS FW100A 23) Karnak 321 K-NRG 24) Jumpstart HWW-65A, HWW-65B, HWHP-80A, HWMP-90A, HWD2-72A, HWHPT-92A, HWMPC-105A 25) Master Wall Rollershield 26) Parex WeatherSeal Spray & Roll-On 27) 3M 3015 VP 28) Protecto Wrap Protecto Wall VP or Universal Primer Free Membrane

Note 1: The following adhesives may be used to attach the polyisocyanurate (polyiso) insulation.

1) Adhesive applied discontinuously at a rate of ⅜ in. x 3 in. dabs, 16 in. OC: LM 800 XL or BarriBond or BarriBond XL
2) Aerosol adhesive at the application rate as per mfg. instructions: CAV-GRIP™ or Low VOC Travel-Tack

Note 2: The following may be used as a gap-filler between insulation panels: FOMO HandiFoam Fireblock or TVM Fireblock

Note 3: These CCW detailing materials may be used over the base wall assembly and alone or with any approved WRB for the construction.

1) Board Joint Treatments:
   a. 2 in. x 40 mil ribbon of BarriBond or BarriBond XL
   b. 4 in. DCH Reinforcing Fabric embedded in Fire-Resist Barritech VP/NP/NP LT or embedded in Fire Resist Barrithane VP
   c. 4 in. Foil-GRIP 1402*
   d. 4 in. AlumaGRIP 701*
2) Termination Mastic for Flashing/Membrane: 1 in. X 40 mil ribbon or tooled 3/8 in. bead of SURE-SEAL Lap Sealant, CCW-704, LM 800 XL, BarriBond, or BarriBond XL
3) Detail Flashing, 3 in. on each side, at Openings, Terminations, Penetrations, Transitions, and Angle Changes.
   a. CCW-705/XLT*, CCW-705 TWF/XLT* or Fire Resist 705 FR-A/XLT*
   b. SURE-SEAL P/S Elastoform* or SURE-SEAL P/S Cover Strip*
   c. LiquiFiber or DCH Reinforcing Fabric embedded in Barritech VP/NP/NP LT
   d. 40 mil application of BarriBond, BarriBond XL, or Barrithane VP
   *Prepare the surface as CCW recommends using CCW-702, CCW-702 LV, CCW-702 WB, CCW-715, Low VOC Travel-Tack, CAV-GRIP, HP 250 Primer, or Low VOC EPDM Primer per instructions on Product Data Sheet.

Note 4: These CCW detailing materials may be used over the polyiso insulation and alone or with any approved WRB for the assembly.

1) Board Joint Treatments:
   a. 2 in. x 40 mil ribbon of BarriBond or BarriBond XL
   b. 4 in. DCH Reinforcing Fabric embedded in Fire-Resist Barritech VP/NP/NP LT or embedded in Fire Resist Barrithane VP
   c. 4 in. Foil-GRIP 1402*
   d. 4 in. AlumaGRIP 701*
2) Termination Mastic for Flashing/Membrane: 1 in. X 40 mil ribbon or tooled ⅜ in. bead of SURE-SEAL Lap Sealant, LM 800 XL, BarriBond, or BarriBond XL
3) Detail Flashing, 3 in. on each side at Openings, Terminations, Penetrations, Transitions, and Angle Changes
   a. Fire Resist 705 FR-A/XLT*
   b. SURE-SEAL P/S Elastoform* or SURE-SEAL P/S Cover Strip*
   c. LiquiFiber or DCH Reinforcing Fabric embedded in Barritech VP/NP/NP LT

d. 40 mil application of BarriBond, BarriBond XL, or Barrithane VP
*Prepare the surface as CCW recommends using CCW-702, CCW-702 LV, CCW-702 WB, CCW-715, Low VOC Travel-Tack, CAV-GRIP, HP 250 Primer, or Low VOC EPDM Primer per instructions on Product Data Sheet.

Note 5: In the NFPA 285 test, flashings for fenestration, including through-wall flashing "TWF," are not considered part of the WRB (Ref: 2015 IBC Sec. 1403.5). Therefore, suitable combustible or noncombustible *flashings* are permitted in wall assemblies as required in Building Code (Ref: 2015 IBC Sec. 1405.4). Through-Wall Flashing "TWF" is allowed for use in wall assemblies clad with masonry or stone at the base of wall, head of wall, relieving angle, window head, window sill, and at other interruptions in the exterior cavity. TWF shall be applied a maximum of 8 in. onto the back-up wall and terminate at daylight or onto a drip edge. The following "TWF" products may be used:

e. CCW-705 TWF/XLT*
f. Pre-Kleened EPDM TWF loose-laid or adhered with SURE-SEAL 90-8-30A bonding Adhesive or SURE-SEAL Low VOC Bonding Adhesive
g. Metal TWF by others

Note 6: BRT-801 tape may be used over Fire-Resist 705 RS at membrane splices, terminations, and penetrations. Fire-Resist 705 RS and the substrate may be treated with CCW-702, CCW-702 LV, CCW-702 WB, or Low VOC Travel-Tack to promote adhesion of BRT-801.

Note 7: Fire-Resist 705 RS may be used in the following applications:

1) Over the exterior insulation, while another approved WRB is used over the base wall assembly.
2) Over a WRB on the base wall assembly while no exterior insulation is used. Use only WRBs listed below:
   a. CC Fire Resist 705 FR-A
   b. Other WRBs that produce no ignition when tested per ASTM E1354 at a heat flux of 50 kW/m^2.

Note 8: Insulating coating over a noncombustible substrate can mitigate thermal bridging at wall assembly terminations and penetrations. Coating in these conditions covers a small percentage of the total wall surface area. The following products are allowed:

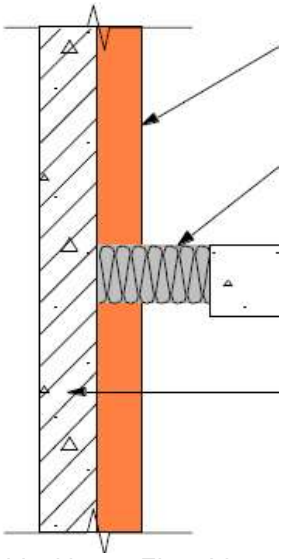
1) Aerolon 945 tape with primer by Tnemec
2) Aerolon 971 coating with primer by Tnemec

Table 7: Mass Wall Interior Insulation (See Notes 1, 2 & 3)

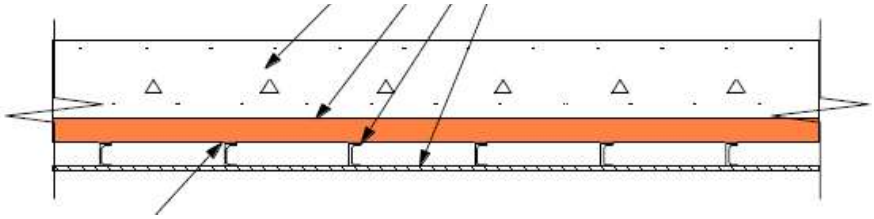
Wall Component	Table 7: Mass Wall Interior Insulation Substitution Options
Base Wall Use either 1 or 2	1) Cast concrete walls (min. 2 in. thick) 2) CMU concrete walls (min. 4 in. thick)
Exterior Coating Use either 1, 2, 3 or 4	3) Portland cement or Lime Stucco 4) Any ASTM E84 Class A Paint or Elastomeric Coating 5) Any ASTM E84 Class A Clear Sealer 6) None
Air/Vapor Barrier Membrane Position 1 over Base Wall Interior	See Table 6 – WRB over Base Wall Surface
Continuous Insulation Use 1, 2 or 3	1) 3½ in. thick (max.) Xci Foil (Class A) (or Xci-286) 2) 3½ in. thick (max.) Xci CG or Xci CG (Class A) 3) 3½ in. thick (max.) Xci Foil
Air / Vapor Barrier Membrane Position 2 over Insulation	See Table 6 – WRB over Base Wall Surface Insulation joints may be taped with Foil-Grip 1402, 4 in. width (max.)
Interior Cladding	⅝ in. type X Interior Gypsum Sheathing installed directly over the insulation or installed to 3⅝ in. (max. depth) steel studs or Metal Hat or Z Furring directly (no gap between stud/hat/Z and

Wall Component	Table 7: Mass Wall Interior Insulation Substitution Options
	insulation – see drawing below). If an air gap between the stud/hat/Z and insulation is created, fire blocking with mineral wool per IBC section 718 shall be installed. See the drawings below. Mass wall designs are assumed to use platform construction (concrete floor line intersects exterior concrete, creating a firestop at floor lines). If the floor line is separated from the exterior concrete, fireblocking with mineral wool must be installed to prevent uncontrolled vertical flame spread. See the drawing below.

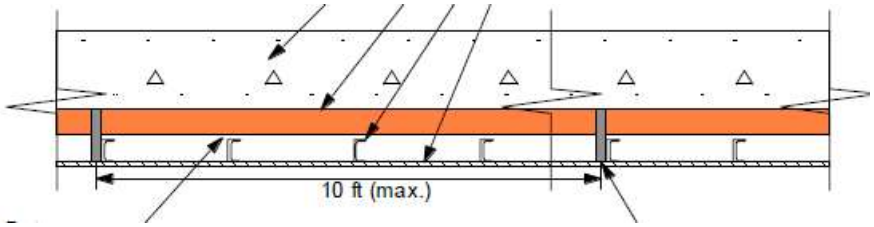
Note 1: Left Blank – per Rev. 50
Note 2: WRBs used in Position 1 or Position 2, not both
Note 3: The insulation can be tacked in place with Cav-Grip or Travel-Tack during installation. Follow the instructions on the Product Data Sheet.



Fireblocking at Floor Line



No Air Gap between the stud face and the insulation



The Air Gap between the stud face and insulation requires fireblocking per IBC 718.

~~ End of Summary ~~