Tech-Talk Bulletin

Effective 09/27/2018
Supersedes all previous versions

Henry® NFPA 285 Air Barrier Assemblies

The following Henry® air barrier assemblies meet the performance requirements of NFPA 285 as required by the International Building Code® (2003, 2006, 2009, 2012 and 2015 editions).

Install NFPA 285 compliant wall assemblies as described in this tech-talk bulletin. Changes or modifications to the construction, and/or materials, may affect the tested assembly fire performance and void NFPA 285 compliance. Install Henry® air barrier assemblies per Henry® installation instructions. Refer to product specific technical data sheet (TDS), guide specification and standard details.

Henry® Company regularly expands the NFPA 285 complaint wall assembly offerings. Refer to the Henry® website at www.henry.com for the most up to date version.

Table of contents

Third-party assemblies

Disclaimer
Henry® Company regularly expands the NFPA 285 complaint wall assembly offerings. It is the user's responsibility to obtain and to confirm the most recent version. Information contained in this Tech-Talk Bulletin may change without notice.

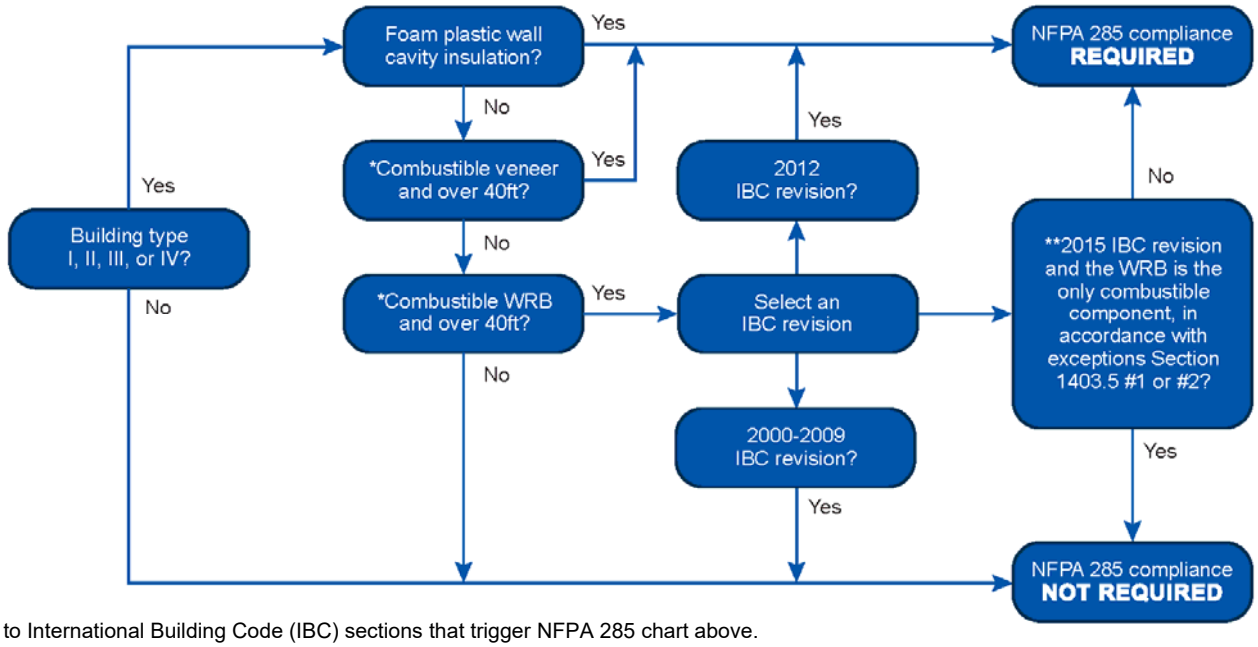
NFPA 285 Performance Requirements and Code References

NFPA 285 is a standard test method for evaluating fire propagation characteristics of exterior noncombustible wall assemblies containing combustible components. NFPA 285 compliance is identified through assembly analysis by accredited testing facilities and Fire Protection Engineers as referenced in AC12 §6.6. This document is based on verified NPFA 285 compliant wall assembly reports, and is intended as a guide for architects, general contractors, building owners, and authority of jurisdictions in the design and construction of walls requiring NFPA 285 compliance. Product manufacturers do not have the authority to approve and do not approve project specific NFPA 285 compliance. Contact the authority of jurisdiction for final approval.

International Building Code (IBC) sections that trigger NFPA 285

Common exterior wall materials that trigger NFPA 285 compliance		
Relevant section of the International Building Code	Materials	Year instated
Foam Plastics	§2603.5.5	1988 edition
Combustible Veneers		
MCMs & ACMs	§1407.10	2000 edition
HPLs	§1409.10	2009 edition
EIFS	§1408.2	2009 edition
FRPs	§2612.5	2009 edition
Water-resistive barriers (WRB)	§1403.5	2012 edition

Quick reference NFPA 285 flow chart



*Refer to International Building Code (IBC) sections that trigger NFPA 285 chart above.

**2015 International Building Code excerpt Section "1403.5 Vertical and lateral fame propagation. Exterior walls on buildings of Types I, II, III or IV construction that are greater than 40 feet (12192mm) in height above grade plane and contain a combustible water-resistive barrier shall be tested in accordance with and comply with the acceptance criteria of NFPA 285. For the purposes of this section, fenestration products and flashing of fenestration products shall not be considered part of the water-resistive barrier.

Exceptions:

1. Walls in which the water-resistive barrier is the only combustible component and the exterior wall has a wall covering of brick, concrete, stone, terracotta, stucco or steel with minimum thickness in accordance with Table 1405.2.
2. Walls in which the water-resistive barrier is the only combustible component and the water-resistive barrier has a peak heat release rate of less than 150 kW/M2, a total heat release of less than 20MJ/m2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E 1354 and has a flame spread index of 25 or less and a smoke-developed index of 450 or less as determined in accordance with ASTM E84 or UL 723."

Table 1. Walls containing Extruded Polystyrene (XPS) insulation and Henry® air barrier membranes

Henry® assembly	
Wall component	Materials
Base wall system *Use either 1, 2, 3 or 4*	1. Concrete wall 2. Concrete masonry unit wall 3. Steel Studs – 20-gauge (min.) 3-5/8 inch (min.) steel studs spaced 24 inches OC (max.) with lateral bracing every 4 feet vertically or as required by building code a. 5/8 inch thick, Type X, gypsum wallboard on interior 4. Where allowed in Types I, II, III, or IV construction, FRTW (fire retardant treated wood) studs complying with IBC Section 2303.2, min. nominal 2X4 dimension, spaced 24" OC (max.) a. 5/8" (min.) type X Gypsum Wallboard Interior b. Bracing as required by code
Floor line fire-stopping *Use either 1, 2 or 3*	1. None (base wall systems 1 and 2) 2. 4 pcf. mineral wool in each stud cavity at floor lines – attached with Z-clips or equivalent. Safing thickness must match cavity depth 3. FRTW fire blocking at floor line in accordance with applicable code requirements
Stud cavity insulation *Use either 1, 2, 3, 4 or 5* *Note: items 2-4 may incorporate a Class A vapor barrier film*	1. None 2. Noncombustible insulation (faced or un-faced) per ASTM E136 3. Mineral fiber (board type Class A, faced or un-faced meeting ASTM E84) 4. Fiberglass (batt type Class A, faced or un-faced meeting ASTM E84) 5. Henry Permax® SPF - 6 inches (max.)
Interior vapor membrane *Optional - use either 1 or 2*	1. None 2. One layer of 6-mil thick (max.) polyethylene film (do not use spray polyurethane foam stud cavity insulation if incorporating an interior vapor barrier membrane - see note above)
Exterior sheathing *Use either 1, 2, 3 or 4*	1. None (base wall systems 1 and 2) 2. 1/2 inch thick, exterior grade gypsum sheathing 3. 5/8 inch thick, Type X, exterior grade gypsum sheathing 4. 1/2 inch thick (min.) FRTW sheathing complying with IBC Section 2303.2 and installed in accordance with code allowances for Types I, II, III or IV construction
Henry® air barrier membrane *Select from list*	1. Air-Bloc® 16MR 2. Air-Bloc® 17MR 3. Air-Bloc® 21FR or Air-Bloc® 21S 4. Air-Bloc® 31MR 5. Air-Bloc® 32MR 6. Air-Bloc® 33MR 7. Blueskin® VP160 8. Blueskin® SA or Blueskin® SA LT 9. Metal Clad™ 10. FoilSkin®
Exterior insulation	Extruded Polystyrene Foam Insulation (XPS) - Type IV per ASTM C578 – 3 inches (max.). Flash insulation board joints in accordance with applicable code using asphalt, acrylic or butyl based flashing (Blueskin® SA, Blueskin® Butyl Flash or Air-Bloc® LF) – maximum 12-inches wide.
Exterior veneer *Use either 1, 2, 3, 4, 5 or 6*	1. Brick – Nominal 4 inch thick (min.), clay or concrete brick, with a 2 inch (max.) air gap between insulation and brick and standard veneer anchors installed 24 inches (max.) OC 2. Stone veneer – 2 inches thick (min.) using any standard installation technique 3. Cast stone – 1-1/2 inches thick (min.) using any standard installation technique 4. Terracotta cladding – 1-1/4 inch thick (min.) using any non-open-joint installation technique 5. Concrete Masonry Units (CMU) – 4 inches thick (min.) with a 2 inch (max) air gap between exterior insulation and CMU 6. Concrete Panels – 2 inches thick (min.) with a 2 inch (max.) air gap between exterior insulation and concrete panel
Special conditions	Use header treatment shown in figure 1, 2 or 3 for window and door openings in walls utilizing XPS insulation.
Flashing of window, door and other exterior wall penetrations	Flash window, door and exterior penetrations in accordance with applicable code using asphalt, acrylic or butyl based flashing (Blueskin® SA, Blueskin® Butyl Flash or Air-Bloc® LF) – 12-inches wide (max.).

Figure 1 – Extruded Polystyrene (XPS) Window/door opening detail

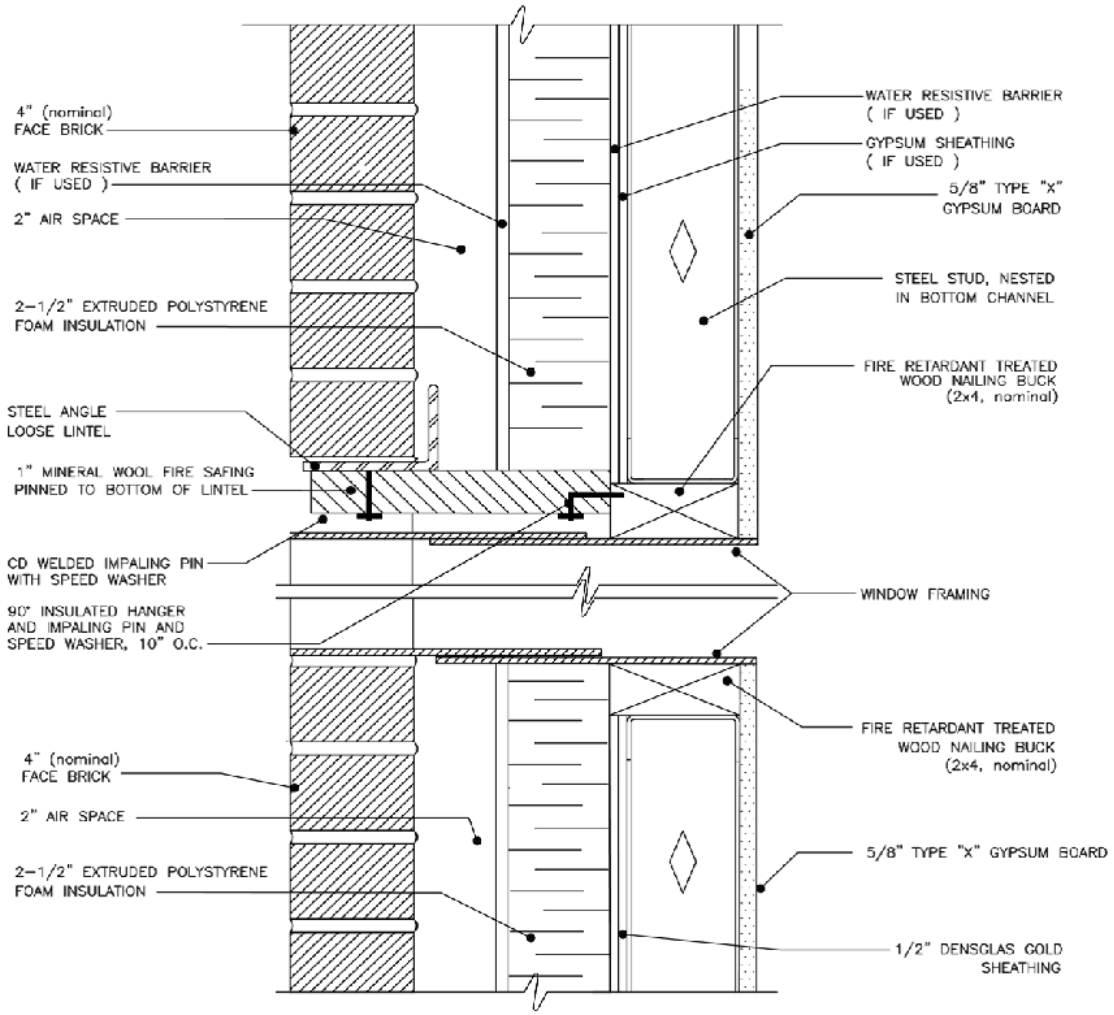


Figure 2 – Extruded Polystyrene (XPS) Window/door opening detail

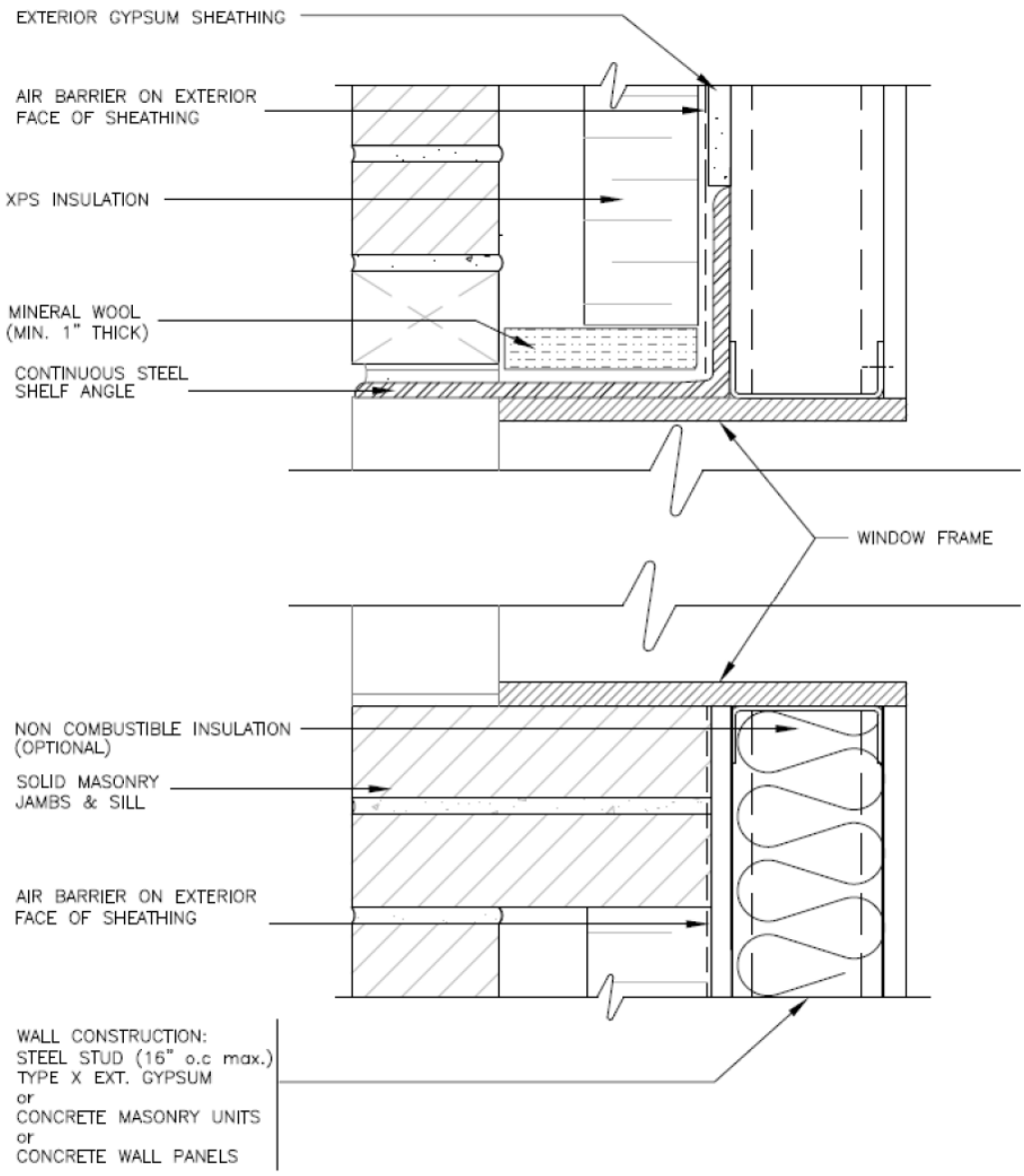


Figure 3 – Extruded Polystyrene (XPS) Window/door opening detail

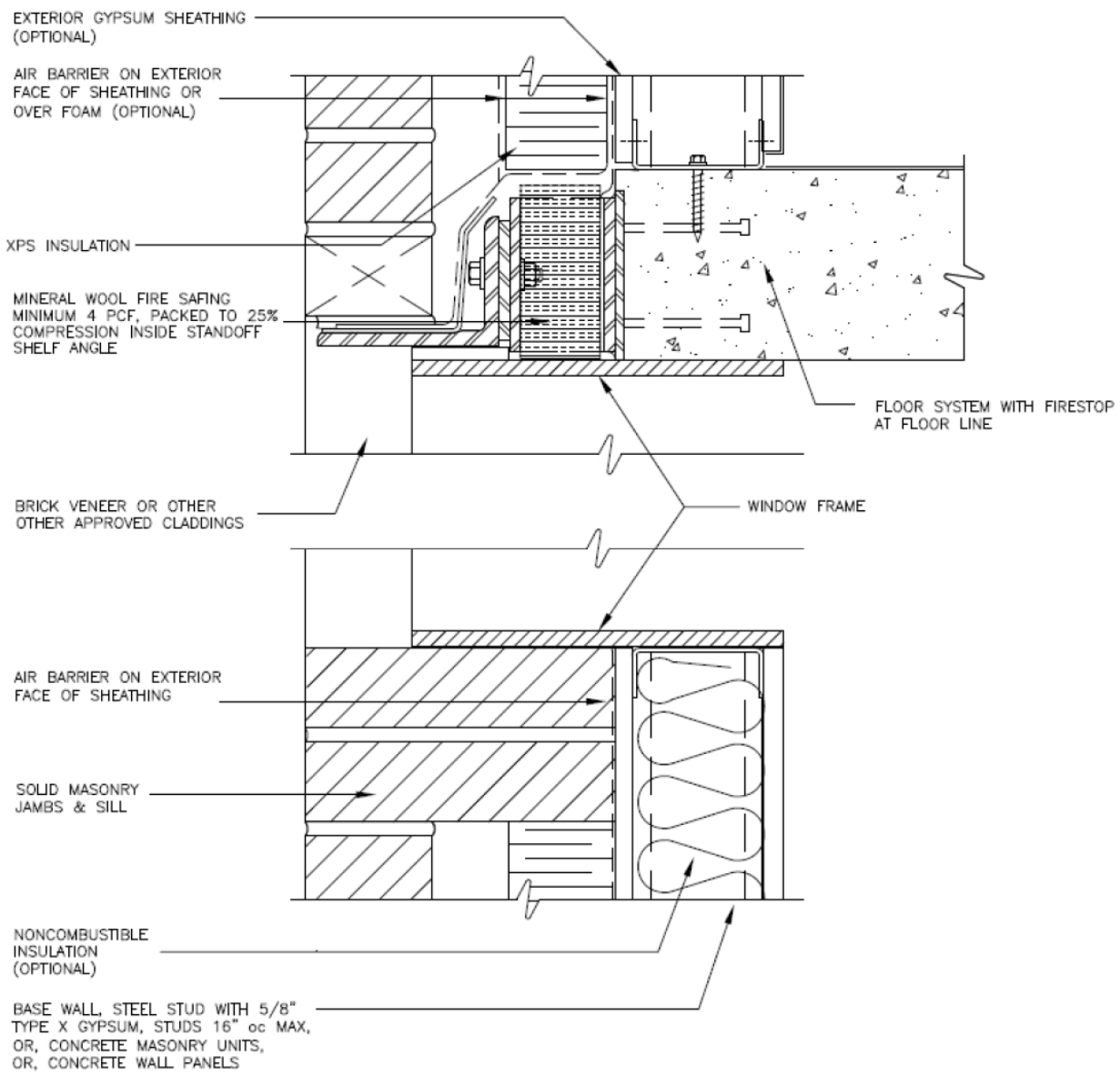


Table 2.1 Walls containing Henry® Permax® 2.0 or Permax® 1.8 Closed-Cell SPF

Henry® assembly	
Wall component	Materials
Base wall system *Use either 1, 2 or 3*	1. Concrete wall 2. Concrete masonry unit wall 3. Studs – 16-gauge (min.) 6 inch (min.) steel studs spaced 16 inches OC (max.) with lateral bracing every 4 feet vertically or as required by building code a. 5/8 inch thick, Type X, gypsum wallboard on interior
Floor line fire-stopping *Use either 1 or 2*	1. None (base wall systems 1 and 2) 2. 4 pcf. mineral wool in each stud cavity at floor lines – attached with Z-clips or equivalent. Safing thickness must match cavity depth
Stud cavity insulation *Use either 1, 2 or 3*	1. None 2. Fiberglass batt insulation (faced or un-faced) 3. Mineral fiber (Board type Class A, ASTM E84 faced or un-faced)
Exterior sheathing *Use either 1, 2 or 3*	1. None (base wall systems 1 and 2) 2. 1/2 inch thick, exterior grade gypsum sheathing 3. 5/8 inch thick, Type X, exterior grade gypsum sheathing
Henry® exterior insulation *Select from list*	1. Permax® 1.8 – 4 inches thick (max.) 2. Permax® 2.0 – 4 inches thick (max.)
Exterior veneer *Use either 1, 2, 3 or 4*	1. Brick – Nominal 4 inch thick (min.), clay or concrete brick, with a 2 inch (max.) air gap between insulation and brick and standard veneer anchors installed 24 inches (max.) OC 2. Stucco – 3/4 inch thick (min.), exterior cement plaster and lath do not install a full coverage asphalt or butyl-based self-adhered membranes as the secondary water-resistive barrier 3. Stone veneer – 2 inches thick (min.) using any standard installation technique 4. Terracotta cladding – 1-1/4 inch thick (min.) using any non-open-joint installation technique
Special conditions	Frame window and door openings with 16-gauge (min.) steel.
Flashing of window, door and other exterior wall penetrations	Flash window, door and exterior penetrations in accordance with applicable code using asphalt, acrylic or butyl based flashing (Blueskin® SA, Blueskin® Butyl Flash or Air-Bloc® LF) – 12-inches wide (max.).

Table 2.2 Walls containing Henry® Permax® 2.0X or Permax® 2.0X Fast Closed-Cell SPF

Henry® assembly	
Wall component	Materials
Base wall system *Use either 1, 2 or 3*	1. Concrete wall 2. Concrete masonry unit wall 3. Steel Studs – 20-gauge (min.) 3-5/8 inch (min.) steel studs spaced 24 inches OC (max.) with lateral bracing every 4 feet vertically or as required by building code a. 5/8 inch thick, Type X, gypsum wallboard on interior
Floor line fire-stopping *Use either 1 or 2*	1. None (base wall systems 1 and 2) 2. 4 pcf. mineral wool in each stud cavity at floor lines – attached with Z-clips or equivalent. Safing thickness must match cavity depth
Stud cavity insulation *Use either 1, 2, 3 or 4*	1. None 2. Fiberglass batt insulation (faced or un-faced) 3. Permax® 2.0X SPF 4. Permax® 2.0X Fast Closed-Cell SPF
Exterior sheathing *Use either 1, 2 or 3*	1. None (base wall systems 1 and 2) 2. 1/2 inch thick, exterior grade gypsum sheathing 3. 5/8 inch thick, Type X, exterior grade gypsum sheathing
Henry® exterior insulation *Select from list*	1. Permax® 2.0X – 3 inches thick (max.) 2. Permax® 2.0X Fast Closed-Cell – 3 inches thick (max.)
Exterior veneer *Use either 1, 2 or 3*	1. Brick – Nominal 4 inch thick (max.), clay or concrete brick, with a 2 inch (max.) air gap between insulation and brick and standard veneer anchors installed 24 inches (max.) OC 2. Stucco – 3/4 inch thick (min.), exterior cement plaster and lath - do not install a full coverage asphalt or butyl-based self-adhered membranes as the secondary water-resistive barrier 3. Limestone veneer – 2 inches thick (min.) using any standard installation technique
Special conditions	Refer to Permax® 2.0X/2.0X Fast Closed Cell SPF ICC-EX report ESR -3647

Table 3. Walls containing Polyisocyanurate insulation and Henry® air barrier membranes

Henry® assembly	
Wall component	Materials
Base wall system *Use either 1, 2, 3 or 4*	1. Concrete wall 2. Concrete masonry unit wall 3. Steel Studs – 20-gauge (min.) 3-5/8 inch (min.) steel studs spaced 24 inches OC (max.) with lateral bracing every 4 feet vertically or as required by building code a. 5/8 inch thick, Type X, gypsum wallboard on interior 4. Where allowed in Types I, II, III, or IV construction, FRTW (fire retardant treated wood) studs complying with IBC Section 2303.2, min. nominal 2X4 dimension, spaced 24" OC (max.) a. 5/8" (min.) type X Gypsum Wallboard Interior b. Bracing as required by code
Floor line fire-stopping *Use either 1, 2 or 3*	1. None (base wall systems 1 and 2) 2. 4 pcf. mineral wool in each stud cavity at floor lines – attached with Z-clips or equivalent. Safing thickness must match cavity depth 3. FRTW fire blocking at floor line in accordance with applicable code requirement
Stud cavity insulation *Use either 1, 2, 3, 4 or 5* *Note: items 2-4 may incorporate a Class A vapor barrier film*	1. None 2. Noncombustible insulation (faced or un-faced) per ASTM E136 3. Mineral fiber (Board type Class A, ASTM E84 faced or un-faced) 4. Fiberglass (Batt type Class A, ASTM E84 faced or un-faced) 5. Henry® Permax® Closed-Cell SPF - 6 inches (max.). (See special conditions)
Interior vapor membrane *Optional -use either 1 or 2*	1. None 2. One layer of 6-mil thick (max.) polyethylene film (do not use spray polyurethane foam stud cavity insulation if incorporating an interior vapor barrier membrane -see note above)
Exterior sheathing *Use either 1, 2, 3 or 4*	1. None (base wall systems 1 and 2) 2. 1/2 inch thick, exterior grade gypsum sheathing 3. 5/8 inch thick, Type X, exterior grade gypsum sheathing 4. 1/2 inch thick (min.) FRTW sheathing complying with IBC Section 2303.2 and installed in accordance with code allowances for Types I, II, III or IV construction
Henry® air barrier membrane *Select from list*	1. Air-Bloc® 16MR 2. Air-Bloc® 17MR 3. Air-Bloc® 21FR or Air-Bloc® 21S 4. Air-Bloc® 31MR 5. Air-Bloc® 32MR 6. Air-Bloc® 33MR 7. Blueskin® VP160 8. Blueskin® SA or Blueskin® SA LT 9. Metal Clad™ 10. FoilSkin®
Exterior insulation *Use either 1, 2 or 3*	1. Atlas® Energy Shield® Pro Rigid Insulation – 4 inches thick (max.) 2. Atlas® Energy Shield® Pro2 Rigid Insulation – 4 inches thick (max.) 3. Atlas® Rboard® Rigid Insulation – 4 inches thick (max.)
Exterior veneer *Use either 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 or 11*	1. Brick – Nominal 4 inch thick (max.), clay or concrete brick, with a 2 inch (max.) air gap between insulation and brick and standard veneer anchors installed 24 inches (max.) OC 2. Stucco – 3/4 inch thick (min.), exterior cement plaster and lath - do not install a full coverage asphalt or butyl-based self-adhered membranes as the secondary water-resistive barrier 3. Stone veneer – 2 inches thick (min.) using any standard installation technique 4. Cast stone – 1-1/2 inches thick (min.) using any standard installation technique 5. Terracotta cladding – 1-1/4 inch thick (min.) using any non-open-joint installation technique 6. Metal veneer such as steel, aluminum, copper – Any system successfully tested by the panel manufacturer via NFPA 285 with steel window framing and using any standard installation technique 7. Fiber cement siding or fiber cement panels using any standard installation technique 8. Metal Composite Material (MCM) – Any MCM system successfully tested by the panel manufacturer via NFPA 285 with steel window framing and using any standard installation technique 9. Concrete Masonry Units (CMU) – 4 inch thick CMU (min.), with a 2 inch (max.) air gap between exterior insulation and CMU 10. Concrete Panels – 2 inch thick (min.) panel, with a 2 inch (max.) air gap between exterior insulation and concrete panel 11. Insulated Concrete Sandwich Panels – 2 inch thick (min.) outer and inner faces with 2 inch (max.) air gap between inner face and wall system
Special conditions	Use 0.03 inch stainless flashing header treatment when polyisocyanurate exterior insulation is installed in conjunction with spray polyurethane foam cavity insulation.
Flashing of window, door and other exterior wall penetrations	Flash window, door and exterior penetrations in accordance with applicable code using asphalt, acrylic or butyl based flashing (Blueskin® SA, Blueskin® Butyl Flash or Air-Bloc® LF) – 12-inches wide (max.).

Table 4. Walls containing mineral wool insulation and Henry® air barriers

Henry® assembly	
Wall component	Materials
Base wall system *Use either 1, 2, 3 or 4*	1. Concrete wall 2. Concrete masonry unit wall 3. Steel Studs – 20-gauge (min.) 3-5/8 inch (min.) steel studs spaced 24 inches OC (max.) with lateral bracing every 4 feet vertically or as required by building code a. 5/8 inch thick, Type X, gypsum wallboard on interior 4. Where allowed in Types I, II, III, or IV construction, FRTW (fire retardant treated wood) studs complying with IBC Section 2303.2, min. nominal 2X4 dimension, spaced 24" OC (max.) a. 5/8" (min.) type X Gypsum Wallboard Interior b. Bracing as required by code
Stud cavity insulation *Use either 1, 2, 3, 4 or 5* *Note: items 2-4 may incorporate a Class A vapor barrier film*	1. None 2. Noncombustible insulation (faced or un-faced) per ASTM E136 3. Mineral fiber (board type Class A, faced or un-faced meeting ASTM E84) 4. Fiberglass (batt type Class A, faced or un-faced meeting ASTM E84) 5. Henry® Permax® Closed-Cell SPF - 6 inch (max.)
Interior vapor membrane *Optional-use either 1 or 2*	1. None 2. One layer of 6-mil thick (max.) polyethylene film (do not use spray polyurethane foam stud cavity insulation if incorporating an interior vapor barrier membrane - see note above)
Exterior sheathing *Use either 1, 2, 3 or 4*	1. None (base wall systems 1 and 2) 2. 1/2 inch thick, exterior grade gypsum sheathing 3. 5/8 inch thick, Type X, exterior grade gypsum sheathing 4. 1/2 inch thick (min.) FRTW sheathing complying with IBC Section 2303.2 and installed in accordance with code allowances for Types I, II, III or IV construction
Henry® air barrier membrane *Select from list*	1. Air-Bloc® 06WB 2. Air-Bloc® 16MR 3. Air-Bloc® 17MR 4. Air-Bloc® 21FR or Air-Bloc® 21S 5. Air-Bloc® 31MR 6. Air-Bloc® 32MR 7. Air-Bloc® 33MR 8. Blueskin® VP160 9. Blueskin® SA or Blueskin® SA LT 10. Metal Clad™ 11. FoilSkin®
Exterior insulation	Mineral wool insulation as per ASTM C612 and meeting the following conditions: 1. 1-1/2 inch thick minimum 2. Noncombustible via ASTM E136 testing 3. Density range from 4.0 to 9.0 lbs/ft^3 4. R-value/inch range from 3.5 to 4.5 5. Mechanically attach mineral wool 6. Completely cover the air barrier membrane with mineral wool
Exterior veneer *Use either 1, 2, 3, 4, 5, 6, 7 or 8*	1. Brick – Nominal 4 inch thick (min.), clay or concrete brick, with a 2 inch (max.) air gap between insulation and brick and standard veneer anchors installed 24 inches (max.) OC 2. Stone veneer – 2 inches thick (min.) using any standard installation technique 3. Cast stone – 1-1/2 inches thick (min.) using any standard installation technique 4. Terracotta cladding – 1-1/4 inch thick (min.) using any non-open-joint installation technique 5. Metal veneer such as steel, aluminum, copper – Any system successfully tested by the panel manufacturer via NFPA 285 with steel window framing and using any standard installation technique 6. Concrete Masonry Units (CMU) – 4 inches thick (min.) with a 2 inch (max) air gap between exterior insulation and CMU 7. Concrete Panels – 2 inches thick (min.) with a 2 inch (max.) air gap between exterior insulation and concrete panels 8. NFPA 285 complying combustible veneer
Special conditions	1. Do not install the air barrier onto the exterior face of the mineral wool insulation. 2. Do not use other combustibles, such as foam plastic insulations, in the wall system.
Flashing of window, door and other exterior wall penetrations	Flash window, door and exterior penetrations in accordance with applicable code using asphalt, acrylic or butyl based flashing (Blueskin® SA, Blueskin® Butyl Flash or Air-Bloc® LF) – 12-inches wide (max.).

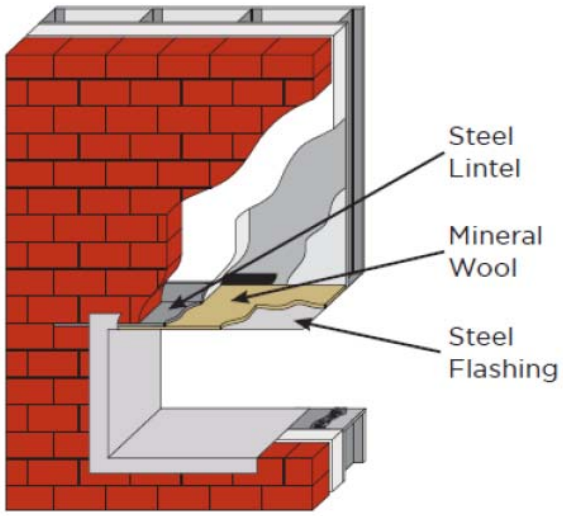
Table 5. Walls containing Expanded Polystyrene (EPS) insulation and Henry® air barrier membranes

Henry® assembly	
Wall component	Materials
Base wall system *Use either 1, 2, 3 or 4*	1. Concrete wall 2. Concrete masonry unit wall 3. Steel Studs – 20-gauge (min.) 3-5/8 inch (min.) steel studs spaced 24 inches OC (max.) with lateral bracing every 4 feet vertically or as required by building code a. 5/8 inch thick, Type X, gypsum wallboard on interior 4. Where allowed in Types I, II, III, or IV construction, FRTW (fire retardant treated wood) studs complying with IBC Section 2303.2, min. nominal 2X4 dimension, spaced 24" OC (max.) a. 5/8" (min.) type X Gypsum Wallboard Interior b. Bracing as required by code
Floor line fire-stopping *Use either 1, 2 or 3*	1. None (base wall systems 1 and 2) 2. 4 pcf. mineral wool in each stud cavity at floor lines – attached with Z-clips or equivalent. Safing thickness must match cavity depth 3. FRTW fire blocking at floor line in accordance with applicable code requirements
Stud cavity insulation *Use either 1, 2, 3, 4 or 5* *Note: items 2-4 may incorporate a Class A vapor barrier film*	1. None 2. Noncombustible insulation (faced or un-faced) per ASTM E136 3. Mineral fiber (Board type Class A, ASTM E84 faced or un-faced) 4. Fiberglass (Batt type Class A, ASTM E84 faced or un-faced) 5. Henry Permax® Closed-Cell SPF – 6 inch (max.)
Interior vapor membrane (optional) *Use either 1 or 2*	1. None 2. One layer of 6-mil thick (max.) polyethylene film (do not use spray polyurethane foam stud cavity insulation if incorporating an interior vapor barrier membrane - see note above)
Exterior sheathing *Use either 1, 2, 3 or 4*	1. None (base wall systems 1 and 2) 2. 1/2 inch thick, exterior grade gypsum sheathing 3. 5/8 inch thick, Type X, exterior grade gypsum sheathing 4. 1/2 inch thick (min.) FRTW sheathing complying with IBC Section 2303.2 and installed in accordance with code allowances for Types I, II, III or IV construction
Henry® air barrier membrane *Select from list*	1. Air-Bloc® 16MR 2. Air-Bloc® 17MR 3. Air-Bloc® 21FR or Air-Bloc® 21S 4. Air-Bloc® 31MR 5. Air-Bloc® 33MR 6. Blueskin® VP160 7. Blueskin® SA or Blueskin® SA LT 8. Metal Clad™ 9. FoilSkin®
Exterior insulation *Use either 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 or 12*	1. Atlas ThermalStar® CVT™ 25 – 5.4-inch thick (max.) 2. Atlas ThermalStar® CVT™ 15 – 7.2-inch thick (max.) 3. Atlas ThermalStar® LCi™ 25 – 5.4-inch thick (max.) 4. Atlas ThermalStar® LCi™ 15 – 7.2-inch thick (max.) 5. Atlas ThermalStar® CHROME 15 – 7.2-inch thick (max.) 6. Atlas ThermalStar® CHROME 25 – 5.4-inch thick (max.) 7. AFM Foam Control® EPS Type I – 10.75-inch (max.) 8. AFM Foam Control® EPS Type VIII – 8.25-inch (max.) 9. AFM Foam Control® EPS Type II – 7-inch (max.) 10. AFM Foam Control® EPS Type IX – 5.25-inch (max.) 11. AFM Foam Control® EPS Type XIV – 4-inch (max.) 12. AFM Foam Control® EPS Type XV – 3.25-inch (max.)
Exterior veneer *Use either 1, 2, 3, 4 or 5*	1. Brick – Nominal 4 inch thick (max.), clay or concrete brick with a 2 inch (max.) air gap behind brick and standard veneer anchors installed 24 inches (max.) OC 2. Stucco – 3/4 inch thick (min.), exterior cement plaster and lath - do not install a full coverage asphalt or butyl-based self-adhered membranes as the secondary water-resistive barrier 3. Stone veneer – 2 inches thick (min.) using any standard installation technique 4. Cast stone – 1-1/2 inches thick (min.) using any standard installation technique 5. Terracotta cladding – 1-1/4 inch thick (min.) using any non-open-joint installation technique
Special conditions	Use header treatment shown in figure 4 for all window and door openings in walls utilizing EPS insulation.
Flashing of window, door and other exterior wall penetrations	Flash window, door and exterior penetrations in accordance with applicable code using asphalt, acrylic or butyl based flashing (Blueskin® SA, Blueskin® Butyl Flash or Air-Bloc® LF) – 12-inches wide (max.).

Figure 4 – Expanded Polystyrene (EPS) Window/door opening detail

Window Header Detail

1. 25 GA. (min.) sheet metal (steel) flashing with 1" thick, 4 pcf mineral wool over interior of sheet steel
2. Header design equal or better than item 1



Source: AFM Technologies

Table 6. Walls with Henry® air barriers and excluding exterior insulation

Henry® assembly	
Wall component	Materials
Base wall system *Use either 1, 2, 3 or 4*	1. Concrete wall 2. Concrete masonry unit wall 3. Steel Studs – 20-gauge (min.) 3-5/8 inch (min.) steel studs spaced 24 inches OC (max.) with lateral bracing every 4 feet vertically or as required by building code a. 5/8 inch thick, Type X, gypsum wallboard on interior 4. Where allowed in Types I, II, III, or IV construction, FRTW (fire retardant treated wood) studs complying with IBC Section 2303.2, min. nominal 2X4 dimension, spaced 24" OC (max.) a. 5/8" (min.) type X Gypsum Wallboard Interior b. Bracing as required by code
Floor line fire-stopping *Use either 1, 2 or 3*	1. None (base wall systems 1 and 2) 2. 4 pcf. mineral wool in each stud cavity at floor lines – attached with Z-clips or equivalent. Safing thickness must match cavity depth. 3. FRTW fire blocking at floor line in accordance with applicable code requirements.
Stud cavity insulation *Use either 1 or 2*	1. None 2. Noncombustible insulation (faced or un-faced) per ASTM E136
Interior vapor membrane (optional) *Use either 1 or 2*	1. None 2. One layer of 6-mil thick (max.) polyethylene film
Exterior sheathing *Use either 1, 2, 3 or 4*	1. None (base wall systems 1 and 2) 2. 1/2 inch thick, exterior grade gypsum sheathing 3. 5/8 inch thick, Type X, exterior grade gypsum sheathing 4. 1/2 inch thick (min.) FRTW sheathing complying with IBC Section 2303.2 and installed in accordance with code allowances for Types I, II, III or IV construction
Henry® air barrier membrane *Select from list*	1. Metal Clad™ 2. Air-Bloc® 17MR
Exterior insulation	None
Exterior veneer *Use either 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 or 11*	1. Brick – Nominal 4 inch thick (min.), clay or concrete brick, with a 2 inch (max.) air gap behind brick and standard veneer anchors installed 24 inches (max.) OC 2. Stucco – 3/4 inch thick (min.), exterior cement plaster and lath - do not install a full coverage asphalt or butyl-based self-adhered membranes as the secondary water-resistive barrier 3. Stone veneer – 2 inches thick (min.) using any standard installation technique 4. Cast stone – 1-1/2 inches thick (min.) using any standard installation technique 5. Terracotta cladding – 1-1/4 inch thick (min.) using any non-open-joint installation technique 6. Metal veneer such as steel, aluminum, copper – Any system successfully tested by the panel manufacturer via NFPA 285 with steel window framing and using any standard installation technique 7. Fiber cement siding or fiber cement panels using any standard installation technique 8. Metal Composite Material (MCM) – Any MCM system successfully tested by the panel manufacturer via NFPA 285 with steel window framing and using any standard installation technique 9. Concrete Masonry Units (CMU) – 4 inches thick (min.) with a 2 inch (max) air gap between exterior insulation and CMU 10. Concrete Panels – 2 inch thick (min.) panel, with a 2 inch (max.) air gap between exterior insulation and concrete panel 11. Insulated Concrete Sandwich Panels – 2 inch thick (min.) outer and inner faces. 2 inch (max.) air gap between inner face and wall system
Flashing of window, door and other exterior wall penetrations	Flash window, door and exterior penetrations in accordance with applicable code using asphalt, acrylic or butyl based flashing (Blueskin® SA, Blueskin® Butyl Flash or Air-Bloc® LF) – 12-inches wide (max.).

NFPA 285 Approved Assemblies by Third Party

Certification of NFPA 285 test results or extension by engineering analysis provided by listed manufacturer. Henry® did not participate in their testing or certification processes and therefore assumes no responsibility for their results. Contact the product specific manufacturer for more information.

The Dow Chemical Company

The assemblies below are the property of The Dow Chemical Company (Dow®). For additional information, clarification or installation questions please contact DOW at 800-331-6451. You may also visit their website at www.dow.com.

Table 1. Dow® Thermax™ Insulation 4-1/4 inches thick (max.) for heavy masonry claddings

Henry® assembly	
Wall component	Materials
Base wall system *Use either 1, 2, 3 or 4*	1. Concrete wall 2. Concrete masonry unit wall 3. Steel Studs – 20-gauge (min.) 3-5/8 inch (min.) steel studs spaced 24 inches OC (max.) with lateral bracing every 4 feet vertically or as required by building code a. 5/8 inch thick, Type X, gypsum wallboard on interior 4. Where allowed in Types I, II, III, or IV construction, FRTW (fire retardant treated wood) studs complying with IBC Section 2303.2, min. nominal 2X4 dimension, spaced 24” OC (max.) a. 5/8” (min.) type X Gypsum Wallboard Interior b. Bracing as required by code
Floor line fire-stopping *Use either 1, 2 or 3*	1. None (base wall systems 1 and 2) 2. 4 pcf. mineral wool in each stud cavity at floor lines – attached with Z-clips or equivalent. Safing thickness must match cavity depth. 3. FRTW fire blocking at floor line in accordance with applicable code requirements.
Stud cavity insulation *Use either 1, 2 or 3*	1. None 2. Fiberglass (batt type Class A, faced or un-faced meeting ASTM E84) 3. Full stud depth (max.) Dow Styrofoam Spray Polyurethane Foam CM2030, 2045 or 2060 complying with ESR 2670. Apply to interior side of exterior sheathing
Exterior sheathing *Use either 1, 2, 3 or 4*	1. None (base wall systems 1 and 2) 2. 1/2 inch thick, exterior grade gypsum sheathing 3. 5/8 inch thick, Type X, exterior grade gypsum sheathing 4. 1/2 inch thick (min.) FRTW sheathing complying with IBC Section 2303.2 and installed in accordance with code allowances for Types I, II, III or IV construction
Henry® air barrier membrane *Select from list*	1. Air-Bloc® 17MR 2. Air-Bloc® 21S or Air-Bloc® 21FR 3. Air-Bloc® 31MR 4. Air-Bloc® 32MR 5. Air-Bloc® 33MR 6. Blueskin® SA or Blueskin® SA LT 7. Blueskin® VP160 8. Foilskin® 9. Metal Clad™
Exterior insulation	Dow® Thermax™ Insulation – 4-1/4 inches thick (max.)
Exterior veneer *Use either 1, 2, 3, 4, 5 or 6*	1. Brick – Nominal 4 inch thick (min.), clay or concrete brick, with a 2 inch (max.) air gap behind brick and standard veneer anchors installed 24 inches (max.) OC 2. Stucco – 3/4 inch thick (min.), exterior cement plaster and lath - do not install a full coverage asphalt or butyl-based self-adhered membranes as the secondary water-resistive barrier 3. Stone veneer – 2 inches thick (min.) using any standard installation technique 4. Cast stone – 1-1/2 inches thick (min.) using any standard installation technique 5. Terracotta cladding – 1-1/4 inch thick (min.) using any non-open-joint installation technique 6. Concrete Panels – 1-1/2 inches thick (min.) with a 2 inch (max.) air gap between exterior insulation and concrete panels
Special conditions	Window headers must incorporate 25 ga. (min.) steel flashing.

Table 2. Dow® Thermax™ Insulation 3 inches thick (max.) for light claddings

Henry® assembly	
Wall component	Materials
Base wall system *Use either 1, 2, 3 or 4*	1. Concrete wall 2. Concrete masonry unit wall 3. Steel Studs – 20-gauge (min.) 3-5/8 inch (min.) steel studs spaced 24 inches OC (max.) with lateral bracing every 4 feet vertically or as required by building code a. 5/8 inch thick, Type X, gypsum wallboard on interior 4. Where allowed in Types I, II, III, or IV construction, FRTW (fire retardant treated wood) studs complying with IBC Section 2303.2, min. nominal 2X4 dimension, spaced 24” OC (max.) a. 5/8” (min.) type X Gypsum Wallboard Interior b. Bracing as required by code
Floor line fire-stopping *Use either 1, 2 or 3*	1. None (base wall systems 1 and 2) 2. 4 pcf. mineral wool in each stud cavity at floor lines – attached with Z-clips or equivalent. Safing thickness must match cavity depth 3. FRTW fire blocking at floor line in accordance with applicable code requirements
Stud cavity insulation *Use either 1, 2 or 3*	1. None 2. Fiberglass (batt type Class A, faced or un-faced meeting ASTM E84) 3. Full stud depth (max.) Dow Styrofoam Spray Polyurethane Foam CM2030, 2045 or 2060 complying with ESR 2670. Apply to interior side of exterior sheathing
Exterior sheathing *Use either 1, 2, 3 or 4*	1. None (base wall systems 1 and 2) 2. 1/2 inch thick, exterior grade gypsum sheathing 3. 5/8 inch thick, Type X, exterior grade gypsum sheathing 4. 1/2 inch thick (min.) FRTW sheathing complying with IBC Section 2303.2 and installed in accordance with code allowances for Types I, II, III or IV construction
Henry® air barrier membrane *Select from list*	1. Air-Bloc® 17MR 2. Air-Bloc® 21S or Air-Bloc® 21FR 3. Air-Bloc® 31MR 4. Air-Bloc® 32MR 5. Air-Bloc® 33MR 6. Blueskin® SA or Blueskin® SA LT 7. Blueskin® VP160 8. Foilskin® 9. Metal Clad™
Exterior insulation	Dow® Thermax™ Insulation – 3 inches thick (max.)
Exterior veneer *Use either 1, 2, 3, 4, 5, 6, 7, 8 or 9*	1. Stone veneer – 2 inches thick (min.) using any standard installation technique 2. Cast stone – 3/4 inch thick (min.) bonded using cementitious mortar to a 1/2 inch thick (min.) cement board or gypsum sheathing - do not install a full coverage asphalt or butyl-based self-adhered membranes as the secondary water-resistive barrier 3. Metal Composite Material (MCM) – Any MCM system successfully tested by the panel manufacturer via NFPA 285 with steel window framing and using any standard installation technique 4. Terracotta cladding – 1-1/4 inch thick (min.) using any non-open-joint installation technique 5. Metal veneer such as steel, aluminum, copper – Any system successfully tested by the panel manufacturer via NFPA 285 with steel window framing and using any standard installation technique 6. Fiber cement siding or fiber cement panels using any standard installation technique 7. Concrete Panels – 1-1/2 inches thick (min.) with a 2 inch (max.) air gap between exterior insulation and concrete panels 8. Ceramic tile – 3/8 inch thick (min.) bonded using noncombustible mortar adhesive to a 1/2 inch thick (min.) cement board or gypsum sheathing 9. Thin brick – 3/4 inch thick (min.), exterior cement plaster and lath - do not use a full-coverage asphalt or butyl-based self-adhered membrane for secondary WRB
Special conditions	Window headers must incorporate 25 ga. (min.) steel flashing.

Laminators Inc. - Omega-Lite® Dry Seal System

The assemblies below are the property of Laminators Inc. For additional information, clarification or installation questions please contact Laminators Inc. at 877-OMEGA77. You may also visit their website at www.laminatorsinc.com.

Henry® assembly	
Wall component	Materials
Base wall system	Steel Studs – 20-gauge (min.) 6 inch (min.) steel studs spaced 16 inches OC (max.) with lateral bracing every 4 feet vertically or as required by building code 1. 5/8 inch thick, Type X, gypsum wallboard on interior
Floor line fire-stopping	4 pcf. mineral wool in each stud cavity at floor lines – attached with Z-clips or equivalent. Safing thickness must match cavity depth
Stud cavity insulation *Use either 1 or 2*	1. None 2. Any noncombustible insulation (un-faced) per ASTM E136
Exterior sheathing	5/8 inch thick, Type X, exterior grade gypsum sheathing
Henry® air barrier membrane *Select from list*	1. Air-Bloc® 31MR (For ext. veneer option 1 or 2 only) 2. Air-Bloc® 33MR (For ext. veneer option 3 only)
Exterior insulation *Use either 1 or 2*	1. None 2. Mineral wool non-combustible insulation
Exterior veneer *Use either 1, 2 or 3*	1. Omega-Lite® 1 Piece, Tight-fit Molding System 2. Omega-Lite® Dry Seal System 3. Omega-Lite® Rout & Return System
Flashing of window, door and other exterior wall penetrations	Flash window, door and exterior penetrations in accordance with applicable code using asphalt, acrylic or butyl based flashing (Blueskin® SA, Blueskin® Butyl Flash or Air-Bloc® LF) – 12-inches wide (max.).

Tech-talk: Henry® NFPA 285 Assemblies

Hunter Panels

The assemblies below are the property of Hunter Panels. For additional information, clarification or installation questions please contact Hunter Panels at 888-746-1114. You may also visit their website at www.hunterxci.com.

Henry® assembly	
Wall component	Materials
Base wall system *Use either 1, 2, 3 or 4*	1. Concrete wall 2. Concrete masonry unit wall 3. Steel Studs – 25-gauge (min.) 3-5/8 inch (min.) steel studs spaced 24 inches OC (max.) with lateral bracing every 4 feet vertically or as required by building code a. 5/8 inch thick, Type X, gypsum wallboard on interior 4. Where allowed in Types I, II, III, or IV construction, FRTW (fire retardant treated wood) studs complying with IBC Section 2303.2, min. nominal 2X4 dimension, spaced 24" OC (max.) a. 5/8" (min.) type X Gypsum Wallboard Interior b. Bracing as required by code
Floor line fire-stopping *Use either 1, 2 or 3*	1. None (base wall systems 1 and 2) 2. 4 pcf. mineral wool in each stud cavity at floor lines – attached with Z-clips or equivalent. Safing thickness must match cavity depth. 3. FRTW fire blocking at floor line in accordance with applicable code requirements.
Stud cavity insulation *Use either 1, 2, 3 or 4*	1. None 2. Noncombustible insulation (faced or un-faced) per ASTM E136 3. Mineral fiber (board type Class A, faced or un-faced meeting ASTM E84) 4. Fiberglass (batt type Class A, faced or un-faced meeting ASTM E84)
Exterior sheathing *Use either 1, 2, 3 or 4*	1. None (base wall systems 1 and 2) 2. 1/2 inch thick, exterior grade gypsum sheathing 3. 5/8 inch thick, Type X, exterior grade gypsum sheathing 4. 1/2 inch thick (min.) FRTW sheathing complying with IBC Section 2303.2 and installed in accordance with code allowances for Types I, II, III or IV construction
Henry® air barrier membrane *Select from list*	1. Air-Bloc® 16MR 2. Air-Bloc® 17MR 3. Air-Bloc® 21S or Air-Bloc® 21FR 4. Air-Bloc® 31MR 5. Air-Bloc® 33MR 6. Blueskin® VP160 7. Foilskin® 8. Metal Clad™
Exterior insulation *Use either 1, 2 or 3*	1. Hunter Xci CG – 3-1/2 inch thick (max.) 2. Hunter Xci Class A – 3-1/2 inch thick (max.) 3. Hunter Xci-286 – 3-1/2 inch thick (max.)
Exterior veneer *Use either 1, 2, 3, 4, 5, 6, 7, 8 or 9*	1. Brick – Nominal 4 inch thick (min.), clay or concrete brick, with a 2 inch (max.) air gap behind brick and standard veneer anchors installed 24 inches (max.) OC 2. Stucco – 3/4 inch thick (min.), exterior cement plaster and lath - do not install a full coverage asphalt or butyl-based self-adhered membranes as the secondary water-resistive barrier 3. Stone veneer – 2 inches thick (min.) using any standard installation technique 4. Cast stone – 1-1/2 inches thick (min.) using any standard installation technique 5. Terracotta cladding – 1-1/4 inch thick (min.) using any non-open-joint installation technique 6. Metal Composite Material (MCM) – Any MCM system successfully tested by the panel manufacturer via NFPA 285 with steel window framing and using any standard installation technique 7. Metal veneer such as steel, aluminum, copper – Any system successfully tested by the panel manufacturer via NFPA 285 with steel window framing and using any standard installation technique 8. Fiber cement siding or fiber cement panels using any standard installation technique 9. Stone Aluminum Honeycomb Composite Panels – Any system successfully tested by the panel manufacturer via the NFPA 285 test method using standard installation technique
Special conditions	Install 25 gauge (min.) steel flashing at window header.

Rmax® ECOBASEci™

The assemblies below are the property of Rmax®. For additional information, clarification or installation questions please contact Hunter Panels at 888-746-1114. You may also visit their website at www.rmax.com.

Henry® assembly	
Wall component	Materials
Base wall system *Use either 1, 2, 3 or 4*	1. Concrete wall 2. Concrete masonry unit wall 3. Steel Stud – 20-gauge (min.) 3-5/8" (min.) steel studs spaced 24" OC (max) with lateral bracing every 4 feet vertically or as required by building code. a. 5/8" (min.) type X Gypsum Wallboard Interior 4. Where allowed in Types I, II, III, or IV construction, FRTW (fire retardant treated wood) studs complying with IBC Section 2303.2, min. nominal 2X4 dimension, spaced 24" OC (max.) a. 5/8" (min.) type X Gypsum Wallboard Interior b. Bracing as required by code
Floor line fire-stopping *Use either 1, 2 or 3* *Note- use 2 with Fire Retardant Treated Wood (FRTW) framing*	1. None (base wall systems 1 and 2) 2. 4 pcf. mineral wool in each stud cavity at floor lines – attached with Z-clips or equivalent. Safing thickness must match cavity depth 3. FRTW fire blocking at floor line in accordance with applicable code requirements
Stud cavity insulation *Use either 1, 2, 3 or 4*	1. None 2. Noncombustible insulation (un-faced) per ASTM E136 3. Mineral fiber (board type Class A, faced or un-faced meeting ASTM E84) 4. Fiberglass (batt type Class A, faced or un-faced meeting ASTM E84)
Exterior sheathing *Use either 1 or 2*	1. 1/2 inch thick (min.) exterior grade gypsum sheathing 2. 1/2 inch thick (min.) FRTW structural panels complying with IBC Section 2303.2 and installed in accordance with code allowances for Types I, II, III, or IV construction
Henry® air barrier membrane *Select from list*	1. Air-Bloc® 17MR 2. Air-Bloc® 21FR 3. Air-Bloc® 31MR 4. Air-Bloc® 32MR 5. Air-Bloc® 33MR 6. Blueskin® SA 7. Blueskin® VP160 8. Foilskin® 9. Metal Clad™
Exterior insulation *May be installed with the FRT plywood on exterior side where ECOBASEci™ is installed over exterior sheathing.*	RMAX ECOBASEci™, 4-1/2 inch (max.) foam with 5/8 inch (min.) FRT plywood. Installed in accordance with applicable code requirements. Must be applied perpendicular to studs with joints staggered. Fasteners used for securing panels must penetrate through the foam plastic into FRTW studs or steel framing. Design the system to handle the cladding and wind load per the applicable code.
Exterior veneer *Use either 1, 2, 3, 4, 5, 6, 7, 8 or 9*	1. Brick – Nominal 4-inch thick or greater, clay or concrete brick with 2-inch (max.) air gap behind brick and standard veneer anchors installed 24-inch (max.) OC 2. Stucco – Minimum 3/4-inch thick, exterior cement plaster and lath. Do not use a full-coverage asphalt or butyl-based self-adhered membrane for secondary WRB 3. Stone – Minimum 2-inch thick using any standard installation technique 4. Cast stone – Minimum 1-1/2 inch thick using any standard installation technique 5. Terracotta cladding – 1-1/4 inch thick (min.) using any non-open-joint installation technique 6. Fiber cement siding or fiber cement panels using any standard installation technique 7. Metal Composite Material (MCM) – Any MCM system successfully tested by the panel manufacturer via NFPA 285 with steel window framing and using any standard installation technique 8. Metal veneer such as steel, aluminum, copper – Any system successfully tested by the panel manufacturer via NFPA 285 with steel window framing and using any standard installation technique 9. Stone Aluminum Honeycomb Composite Panels – Any system successfully tested by the panel manufacturer via the NFPA 285 test method using standard installation technique
Special conditions	Window headers must incorporate 20 ga. (min.) steel flashing to cover air gaps between the exterior sheathing or exterior insulation and the exterior veneer. Flash window, door and exterior penetrations in accordance with applicable code using asphalt, acrylic or butyl based flashing (Blueskin® SA, Blueskin® Butyl Flash or Air-Bloc® LF) – 12-inches wide (max.).

TAKTL®

The assemblies below are the property of TAKTL®. For additional information, clarification or installation questions please contact TAKTL® at 412-486-1600. You may also visit their website at www.taktl-llc.com.

Henry® assembly	
Wall component	Materials
Base wall system	Steel Stud – 16-gauge (min.) 3-5/8" (min.) steel studs spaced 24" OC (max.) with lateral bracing every 4 feet vertically or as required by building code a. 5/8" (min.) type X Gypsum Wallboard Interior
Floor line fire-stopping	4 pcf. mineral wool in each stud cavity at floor lines – attached with Z-clips or equivalent. Safing thickness must match cavity depth
Stud cavity insulation	None
Exterior sheathing	5/8 inch thick, Type X, exterior grade gypsum sheathing
Henry® air barrier membrane	Air-Bloc® 16MR
Exterior insulation	Roxul® Cavity Rock®, 2 inch (max.) mineral wool. Installed with 3 inch, solid based, insulation impaling pins 24 inches OC (max.) in accordance with applicable code requirements.
Exterior veneer	TAKTL® THK Panel – 5/8 inch (max.) thick with Rainscreen Solutions Extr4uded Aluminum brackets and sub-girts and Taktl Extruded Aluminum Panel clips and rails. Install veneer in accordance with TAKTL® NFPA 285 installation requirements.
Special conditions	Flash perimeter of window and door openings with 0.080 in. aluminum flashing.
Flashing of window, door and other exterior wall penetrations	Flash window, door and exterior penetrations in accordance with applicable code using asphalt, acrylic or butyl based flashing (Blueskin® SA, Blueskin® Butyl Flash or Air-Bloc® LF) – 12-inches wide (max.).