NFPA 285 COMPLIANT WALL ASSEMBLIES WITH DUPONT™ TYVEK® COMMERCIAL AIR AND WATER BARRIER SYSTEMS[1]

I. BASE WALL SYSTEM

1 **Concrete Wall**

2 **Concrete Masonry Wall (CMU)**

3 **Standard Clay Brick Wall**

4 **Adobe Block Wall**

5 **Steel Stud Framed Wall:** minimum 20-gauge, 3-5/8" studs, with lateral bracing every 4 feet vertically (24" on center maximum)

a. Interior wallboard: minimum of 1 layer of 5/8" Type X gypsum wallboard on interior face of studs

b. Interior vapor barrier (optional): 1 layer of maximum 6 mil thick polyethylene plastic or equivalent can be applied

c. Cavity insulation: None or any noncombustible insulation (faced or unfaced)

d. Floorline firestopping (where studs are outboard of the floor assembly): 4 lb./cu. ft. mineral wool (e.g. Thermafiber®) in each stud cavity and at each floorline – attached with Z-clips or equivalent

e. Exterior sheathing: 1/2" or 5/8" thick, exterior type gypsum sheathing

II. AIR AND WATER BARRIER

Applied to base wall OR over exterior insulation

1 **None**

2 **DuPont™ Tyvek® CommercialWrap®**

3 **DuPont™ Tyvek® CommercialWrap® D**

4 **DuPont™ Tyvek® ThermaWrap™**

5 **DuPont™ Tyvek® Fluid Applied Weather Barrier (WB):** Nominal 25 wet mil thickness. **NOT** to be applied OVER exterior insulation.

NOTE: Any air and water barrier to be installed in accordance with manufacturer installation instructions. Flash windows, doors and other exterior penetrations with asphalt, acrylic or butyl-based flashing tape with a maximum 12" width. Use primer when applicable, unless otherwise noted by flashing manufacturer.

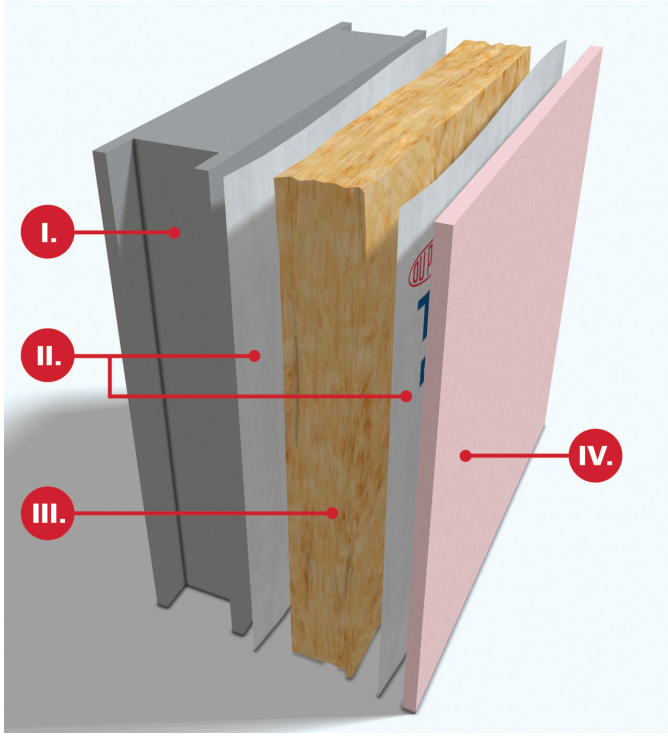
III. EXTERIOR INSULATION

1 **None**

2 **Any unfaced noncombustible insulation (fiberglass, mineral wool)**

3 **Dow Thermax™ Polyisocyanurate Rigid Insulation**
Total thickness to be a minimum of 5/8" a maximum of 3"

4 **Extruded Polystyrene Foam Insulation (XPS) - Type IV per ASTM C578:** Total thickness to be a minimum of 1/2" to maximum of 3". On insulation joints, an asphalt or butyl-based flashing tape with a 4" maximum width can be used. Use any header treatment shown in NFPA 285 Window Head Detail Options, figures 1–6 for all window and door openings in the exterior wall.



IV. EXTERIOR CLADDING

1 **Brick**
Standard nominal 4" thick, clay brick. Use standard brick veneer anchors installed maximum 24" on center vertically on each stud with a 2" maximum air gap between exterior insulation and brick.

2 **Stucco**
Minimum 3/4" thick, exterior cement plaster and lath. An optional secondary water-resistive barrier can be installed between the exterior insulation and the lath. The secondary water-resistive barrier shall not be full-coverage asphalt or butyl- based self- adhered membranes. (Cannot be combined with Exterior Insulation: #4-XPS)

3 **Stone Veneer**
Minimum 2" thick, limestone or natural stone veneer or minimum 1-1/2" thick cast artificial stone veneer. Any standard installation technique can be used.

4 **Fiber Cement Siding or Panels**
Any standard installation technique can be used. (Cannot be combined with Exterior Insulation: #4-XPS)

5 **Metal Exterior Wall Coverings**
Including but not limited to steel, aluminum, and copper installed using standard installation techniques. (Cannot be combined with Exterior Insulation: #4-XPS)

IV. EXTERIOR CLADDING (continued)

6 Terracotta Cladding

Use any terracotta cladding system in which terracotta is minimum 1-1/4" thick. Any standard installation technique can be used.

7 Metal Composite Material (ACM/MCM)

Use any ACM/MCM system that has been successfully tested by the panel manufacturer via NFPA 285 test method. (Cannot be combined with Exterior Insulation: #4-XPS)

8 High Pressure Laminate (HPL)

Use any HPL panel cladding system that has been successfully tested by the panel manufacturer via NFPA 285 test method. (Must be combined with Exterior Insulation: #2 Mineral Wool that meets ASTM C612 with minimum 2" thickness that is unfaced and mechanically attached.)

9 Concrete Masonry Units (CMU)

Minimum 4" thick CMU, with a 2" maximum air gap between exterior insulation and CMU.

10 Concrete Panels

Minimum 2" thick panel, with a 2" maximum air gap between exterior insulation and concrete panel.

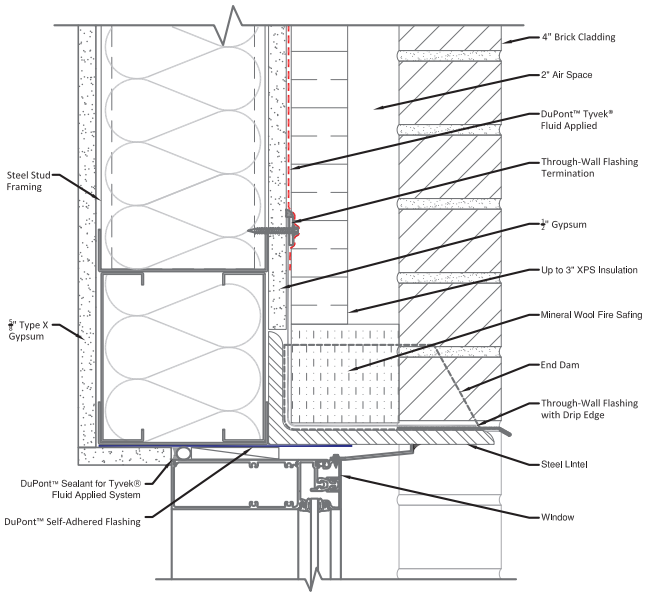
11 Insulated Concrete Sandwich Panels

Minimum 2" outer and inner faces. Maximum 2" air gap between panel and wall system.

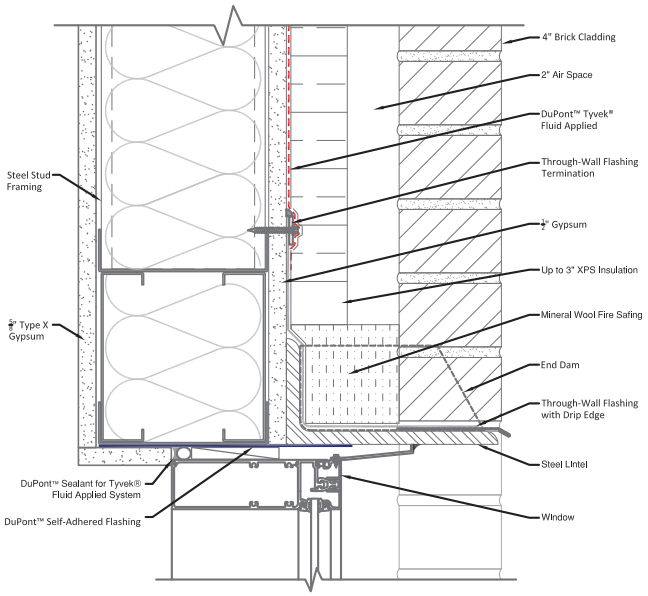
NOTE: All exterior veneer/cladding systems must be installed in accordance with manufacture's installation instructions and with applicable building codes.

(1) DuPont - Various NFPA 285 Complying Exterior Wall Constructions Using DuPont™ Tyvek®, HAI Project No. 1JJB00088.000 Dated August 14, 2012, HAI Project No. 1JJB00088.000a Dated April 22, 2013, HAI Project No. 1JJB00088.000b Dated April 23, 2013, and HAI Project No. 1JJB00088.000c Dated April 22, 2013.

XPS EXTERIOR INSULATION FIGURES 1–6 FOR ALL EXTERIOR WINDOW AND DOOR OPENINGS

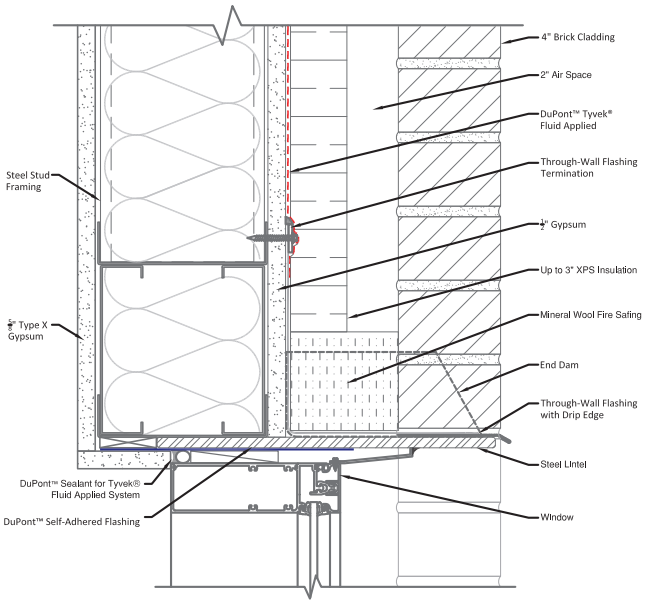


NFPA 285 Window Head
Detail Option #1

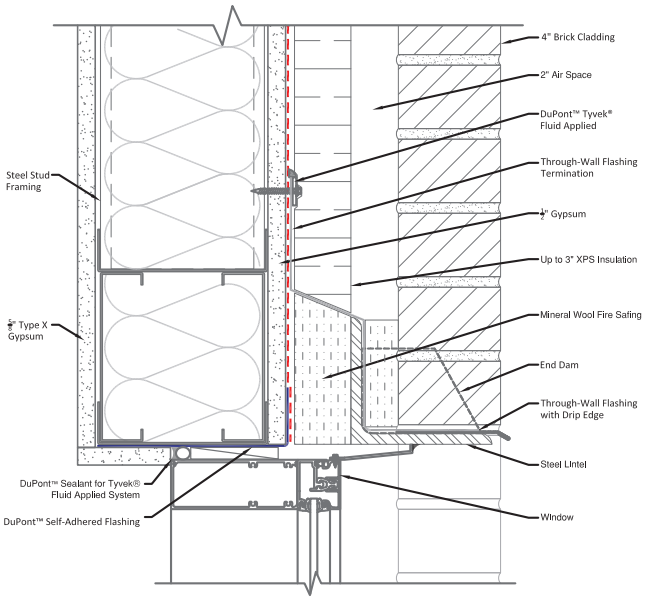


NFPA 285 Window Head
Detail Option #2

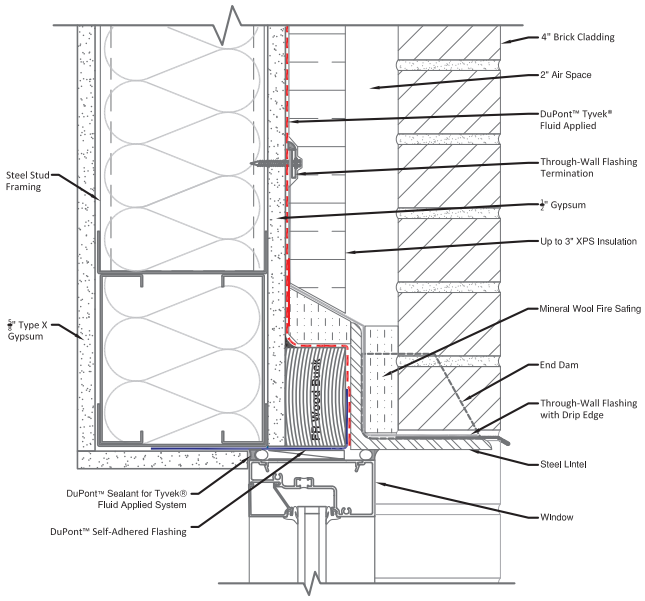
XPS EXTERIOR INSULATION FIGURES 1–6 FOR ALL EXTERIOR WINDOW AND DOOR OPENINGS (continued)



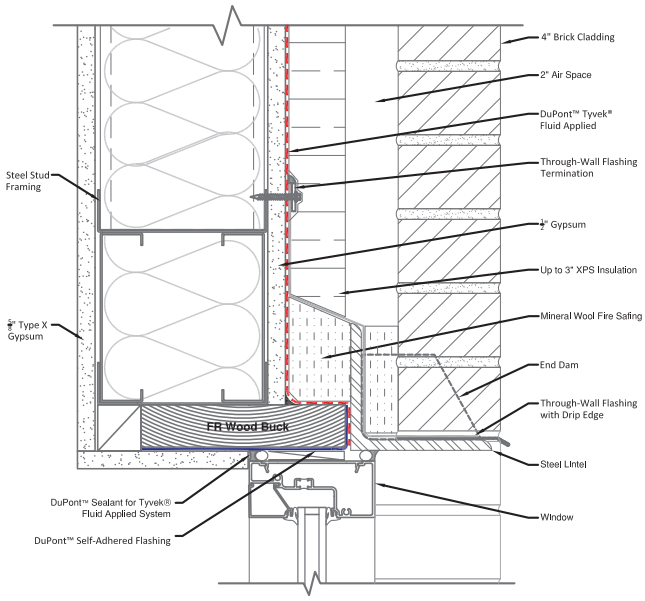
NFPA 285 Window Head
Detail Option #3



NFPA 285 Window Head
Detail Option #4



NFPA 285 Window Head
Detail Option #5



NFPA 285 Window Head
Detail Option #6

NFPA 285 COMPLIANT WALL ASSEMBLIES WITH DUPONT™ TYVEK® COMMERCIAL AIR AND WATER BARRIER SYSTEMS

For additional NFPA 285 compliant wall assemblies utilizing DuPont™ Tyvek® Commercial Air and Water Barrier products, referenced from other assembly component manufacturers, visit **http://buildinginnovations.us.dupont.com/code-updates** under the Evaluation Reports, Code Updates & MSDS section.

For more information on DuPont™ Tyvek® Weatherization Systems, please call 1-800-44-TYVEK or visit www.weatherization.tyvek.com

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