** NOTE TO SPECIFIER ** CastleRock Building Products, Inc. DBA ICAP-USA and InsulStone insulated panels with porcelain, stone, thin brick, and magnesium oxide fascia.

This section is based on the products of CastleRock Building Products, Inc. manufactured by: ICAP-USA/InsulStone, Inc. which is located at:

300 e. Franklin Rd.
Meridian, ID 83642
Tel: (208) 895-8557
Fax: (208) 639-6422
Email: insulstone@gmail.com, icap.sales@gmail.com


It has an interlocking tongue and groove connector. It can be installed with screws or staples faster and easier and is much stronger, safer and more cost effective than traditional construction methods.

NFPA 285 Compliant ICAP Porcelain panels are composed a layer of a high-density interlocking EPS foam panel (R-8 to R-12), a layer of ½” MgO fireboard available with a variety of fascia materials such as, Porcelain, Thin Brick, Engineered or Natural Stone and Magnesium Oxide Board (MgO). Metal retainer clips are required above windows and available optionally for the rest of the wall. The system meets the NFPA 285 fire and IECC continuous insulation requirements for cladding applications.

This cladding installs several times faster than traditional methods, is more cost efficient and can be installed in most any weather conditions. Other fascia options include Stone, Porcelain, Thin Brick, Natural Stones, Metal and Magnesium Oxide.

Standard components include flat panels, end/corner panels, window trims, metal starter section and a cap. Accessories may include electrical plates, hose bibs, light bases, and accents.

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Pre-engineered Insulated panels with continuous insulation tongue and groove interlock and hidden fastener system.

B. Specification includes methods for installation of panels meeting either ASTM E-84 or NFPA 285 Fire compliance requirements.

1.2 RELATED SECTIONS

A. Section 07430 – Thermal Moisture Protection – Insulated Wall Panel Systems

B. Section 07620 - Sheet Metal Flashing and Trim: Veneer Flashing.
C. Section 07900 - Joint Sealers: Perimeter Sealing at Openings.

1.3 REFERENCES

A. ASTM International (ASTM):

ASTM C 920, Type S, Grade NS, Class 100/50, Use T, NT, M, G, A, and O

B. IBC - Foam Plastic, Section 2603 IBC, Section R 314 IRC and Sections 3.1, 3.2, 3.6, 3.7, and 4.5.15 of AC12. AC51 Sections 3.6 and 4.2. Freeze/Thaw Resistance


D. ULC S102-07 - Flame Spread and Smoke Generation.

1.4 QUALITY ASSURANCE

A. Pre-Engineered Veneer System with Foam Backing, Mfg. by CastleRock Building Products, Inc. (ICAP-USA) Tested by Intertek Laboratories, W-H Listing 20269, Warnock Hersey/ETL third party QA assurance program.
Surface Burning Characteristics (ASTM E-84) (CAN/ULC S102): Flame spread – 0, Smoke developed – 0.
Transverse Load Testing (Wind Load): 126 lbs/psf (6 kPa) per ASTM E330. (Various Panel Series available as required to meet required wind loads)

1.5 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
Preparation instructions and recommendations.
Storage and handling requirements and recommendations.
Installation methods.

C. Verification Samples: Submit sample boards of selected veneer with foam backing.

1.6 CLOSEOUT SUBMITTALS

A. Submit the following in compliance with the requirements of Section 01770.
Installation Guide
Maintenance Instructions
Warranty.

1.7 QUALITY ASSURANCE
A. Manufacturer Qualifications: Minimum 5-year experience manufacturing similar products.

B. Installer Qualifications.
Company with documented experience in installation of continuous insulated wall systems or proof of completion of the factory authorized installer training program.

Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship. Prepare 4 feet by 4 feet (1219.2 mm x 1219.2mm) field mock-up at a location on the structure as directed by the Architect or Construction Manager. Use approved materials and colors. Obtain approval of Architect. Protect and retain mock-up as a basis for approval of completed work. Approved mock-up may be incorporated into completed work.

1.8 PRE-INSTALLATION MEETINGS
A. Convene minimum two weeks prior to starting work of this section.

1.9 DELIVERY, STORAGE, AND HANDLING
A. Transport, handle, store, and protect products in compliance with the requirements of Section 01600 and manufacturer's recommendations.

B. Prevent damage or contamination to materials by water, foreign matter, and other causes.

C. Handling: Handle materials to avoid damage.

1.10 PROJECT CONDITIONS
A. Keep materials dry prior to installation. Store adhesives at minimum 40-degree F (4.4-degree C) for ease of application.

1.11 SEQUENCING
A. Coordinate lead time for fabrication and delivery with manufacturer. Order materials to prevent delay of construction progress. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

1.12 WARRANTYManufacturer's extended published limited warranty.

1.13 EXTRA MATERIALS
A. Extra Materials: Furnish extra cladding materials in a variety of shapes and sizes in quantity equal to at least ten percent of the installed stone.

PART 2 PRODUCTS

2.1 MANUFACTURERS
A. Acceptable Manufacturer: CastleRock Building Products, Inc. DBA ICAP-USA/InsulStone, Inc; 300 E. Franklin Rd., Meridian, ID 83642. ASD. Tel: (208) 895-8557. Fax: (208) 639-6422. Email: insulstone@gmail.com. Web: http://www.icap-usa.com.

B. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 SECTION FOR INSULATED PORCELAN, THIN BRICK, PANELS
Pre-Engineered Insulated Porcelain Panels (900 Series) with Continuous Insulation Tongue and Groove Interlock: Manufactured by: CastleRock Building Materials, Inc. DBA: ICAP/InsulStone
PART 3 PANELS:

A. Porcelain, Thin Brick, Stone or Magnesium Oxide
   1. Fascia Panel Sizes:
      a. ______________________________
      b. ______________________________
      c. ______________________________
      d. ______________________________
      e. ______________________________

      Note #1: Additional sizes may be added above as necessary
      Note #2: Multiple fascia pieces may be incorporated into one panel by as designed by the
              manufacturer.
      Note #3: Panels may be modified as necessary by trained personnel in factory or on-site

   2. Fascia Style: ______________________________
   3. Fascia Color: ______________________________

   4. Flat Panels Panel Sizes PAN-900 Series – to fit fascia sizes as described in A-1.
      a. Minimum Width: 1.00 Inches ( mm) Height: 1” Inches ( mm)
      b. Maximum Width: 120.00 Inches ( mm) Height: 24” Inches ( mm)

B. SPECIALTY PANELS

   1. Corner Panels
      Left Hand Corner Panel Part # CPL-910
      Right Hand Corner Panel Part # CPR-920

   2. Above & Below Window Panels Part # MAG-930

   3. Window Side Panels Part # SPL-940

   4. Custom Panels
      A. Non-combustible panel for Above/Below Windows(R-4.3) Part # CPW-990

C. Porcelain Panels and Components

   1. Window Door Side Fire Barrier Part #TRM____
   2. Above and below the window Fire Barrier Panels Part #CPW-990
   3. Window Side Panel Components Part #WSP-
      A. Left Side of Window Part # WSP-R8L
      B. Right Side of Window Part # WSP-R8R
      C. Double Tongue Splice “T” Part # DTS-9R8
   4. Starter Strip Part # SSS-048

REQUIRED SPECIALTY TOOLS

B. Traditional carpentry and cladding tools, caulking, etc. and the following specialty tools
   available from ICAP:

   1. EPS Foam Cutting Hot knife with ICAP custom grooving blade
   2. Cordless Screw gun or drill with adjustable torque settings
   3. Wet/Dry Tile saw with porcelain diamond blade
   4. Laser Level or String Lines to level courses

3.2 ACCESSORY MATERIALS

A. Flashing: Rigid, corrosion-resistant metal a minimum of .019 inches (0.5 mm) or 26 gauge in
   thickness; or plastic weep screed a minimum of 0.050 inch (1.3 mm) with a minimum vertical
   attachment flange of 3-1/2 inches (89 mm) wide.
B. FASTERNERS:
For attachment to 5/8" MgO Panels (5/8" MgO sheathing required for NFPA 285)
ICAP Part's #:

a. ICAP ¼" x 3.00" Screw/washer assembly Part #SC3-103
b. ICAP ¼" x 3.00" Screw for Metal Panel Clips Part #CLS-103
d. Screw for Starter Strip Part #SSS-112
e. Metal Clip for Panels above the Window/door Part # CLP-103
f. Metal Clip for Sides of Panels Part # CLP-104
g. ICAP ¼" x 3.00" Screw Required for Metal Clips Part #CLS-103

All panels fastened to 5/8"inch MgO (12.70 mm) sheathing spaced at 4 inches (304 mm) OC.
Metal Clips Location: 2 minimum top side of each panel and 1 each side of panel in the area up to 96 inches above the window. Clips to be installed as illustrated in installation guide.

3.3 EXECUTION

3.4 EXAMINATION
A. Do not begin installation until substrates have been properly prepared.
B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
C. Liquid Applied Water Resistive Barriers approved for use with ICAP NFPA 285 Wall System and conforming to ICC-ES AC38 acceptance criteria:
   - Tremco ExoAir 230 system
   - STO Guard Gold Coat
   - Master Wall
   Contact ICAP-USA for detailed contact information for these suppliers

3.5 PREPARATION
A. Clean surfaces thoroughly prior to installation.
B. Protection: Prevent work from occurring on the opposite of walls to which cladding is being applied.

3.6 INSTALLATION
A. Installation as shown on drawings and as specified in accordance with manufacturer’s installation instructions. Panels are designed to be installed from left to right. Install from left to right whenever possible.
B. Weather-Resistant Barrier:
   Installation of the recognized weather barrier and sheathing shall comply with local building code requirements or Authority Having Jurisdiction. Install weather barrier per manufacturer’s installation instructions.
C. Flashing: Install flashing as shown.
   Flashing and flashing accessories shall be corrosion resistant materials and integrated with the weather barrier materials. Flashing shall be installed at all through-wall penetrations and at terminations of the panel system, around doors, windows and other protrusions in accordance with local building codes. Install flashing around penetrations and terminations of the veneer application. Install flashing to divert water run-off away from the finished surface area.
D. PATTERNS AND LAYOUT

1. Determine the area to be covered with ICAP Panels and lay out the pattern per panel size, corners, window/door trims, window/door perimeter panels and transition components if required. Refer to plans for locations of various panel sizes and types.

E. WINDOW/DOORS/PROTRUSION TRIM

Note: Special requirements for NFPA 285
Window trim components are required for NFPA 285 compliance. See Detail #5.

1. Install flashings around windows as required by local building codes.

2. SIDES OF WINDOWS AND DOORS
   Cut Fire Barrier Side Trims (TRM-S08) 1” longer than the height of the window and ½” higher than the height of the door. Install side trims extending the trim ½” above, below and to each side of the window and ½” above the door frame to allow for backer rod and sealant. See detail #5.

3. ABOVE AND BELOW WINDOWS:

4. After installing cladding panels (PAN-000 Series) no closer than 3-1/2” from the bottom of the window, convert to a row of MAG-930 panels. The MAG-930 panels may be notched to fit around the window and fit to the Side Trim (TRM-S08) as shown in detail #5, but must cover the area 3-1/2” below the window.

5. Install backer rod and sealant on sides and top as illustrated in detail #7.

F. INSTALLING CLADDING PANELS

1. STARTER SECTIONS: Determine the location of the bottom panels and install the J-hook shaped “starter section” Part # SSS-048 at bottom of the wall and lap it a minimum of 1” (25.4 mm) over the foundation. Attach every 6” (152.4 mm) to the plate or studs with appropriate fasteners. Note: ICAP panels will hang ¾” below the bottom of the j-hook starter. Check local building codes for code requirements above grade and sidewalks, etc. In the absence of local codes, locate the panels 2 inches (50.8 mm) above sidewalks, pavement etc. and 4 inches (101.6 mm) Above grade. See Detail #1.

2. Begin by installing corner panels to the on each end of the wall. Corner panels (OSC-RL & OSC-RR) left and right hand meet to form a corner. Locate points at each end of the wall which are level by using a laser level and mark a level line or string to keep the rows straight and level. As you install from left to right, the last panel or as you encounter a window, door or other protrusion will require cutting for the correct length. Remove the necessary amount from the “grooved end” of the panel and re-groove using the ICAP grooving tool. This will allow you to install the last panel from the top and then attach to the wall with the appropriate screws.

3. Install the panels from left to right until you cannot fit another panel between the bottom of the window and the top row of panels. Cut the panels to fit around windows and doors as necessary.
4. At the top of the window/door, the panel will require similar modification as below to fit around the opening.

G. PANELS ABOVE THE WINDOW

In the area above the window, the width of the window and 96” above the window, the installation of clips and sealant are required for NFPA 285 compliance. All panels above the window with a vertical seam located in the area up to 96” above the window must overlap beyond the sides of the window at least 24” and be fastened with a minimum of 2 SCW-101 screw/washer assemblies.

1. Secure the panels above the window to the wall to the left and right of the window with SCW-3 screw and washers (a minimum of 2 (two) screws are required outside of the area above the window.

2. Note: Special longer panels may be required to cover the area on wider windows. See detail #4.

3. The area 96” above the window requires the installation of metal clips CL-103 (top clip every 48”) and CL-104 (side clip) every 24” (609.6mm) with a minimum of 2 clips on top and 1 on each side of a panel. See Detail #4.

4. Grout all seams as shown in the installation guide. See Detail #4.

5. Continue installation of panels on the wall and fit to windows/doors and other penetrations as required.

J. CORNERS

Outside corners: Various fascia utilize specialized corners. Install each style panel in accordance with the installation guide included in that type of fascia.

Inside Corners – Field cut to fit.

A. To install an inside corner, measure the distance from the panel to the left to the wall. Then, remove fascia the width of the adjoining panel from the first panel to allow the adjoining panel to fit to the foam to foam to insure continuous insulation. See detail provided in the installation guide.

2. Outside Corners

A. Each type of fascia utilizes a different type of corner. See instructions in the appropriate Installation Guide for detailed instructions.

K. SOFFITS

1. Soffit

Install panels until the last row will not fit under the soffit. Measure the distance between top of the panel and the soffit. Cut the panel ¾” (19.05) shorter than the desired space. Install the panel by inserting into the space between the uppermost panel and the soffit. The panel will slide down over the tongue of the panel below, leaving a space between the top of the cut panel and the soffit.
2. Screw the panel to wall through the tongue section on the side of the panels. Install backer rod and sealant into the space between the top panel and soffit. See Installation guide detail #12

L. PARAPETS

1. Install panels up to the height of the parapet. The top row of cladding will need to be cut to the correct height to match the height of the parapet. Secure panels by screwing through the tongue flange where possible and then “toe nail” screw the top of the panel to the parapet with appropriate screws. When the metal cap is installed, it will secure the top panels in place. See detail 11.

2. Install the metal cap over the top and sides of the panels as required.

M. GROUT JOINTS

Note: Have a qualified caulking/sealant person install the grout required by the specific fascia in the its Installation Guide.

Porcelain: Dow 790 Colored Silicone
Engineered Stone: None Required
Natural Stone: Masonry Grout
Thin Brick: Masonry Grout
Magnesium Oxide: None Required

Note: Have a qualified caulking installer install the silicone grout.

N. CLEANING

A. Cleaning Veneer Units:
   Wash with soft bristle brush and water/dish detergent solution or mild house cleaner.
   Rinse immediately with clean water.

3.7 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

C. Masonry Mortars require sealing with a water resistant sealant to prevent moisture intrusion. Contact a masonry distributor or visit www.icap-usa.com for recommended products.

END OF SECTION