



Facade Materials

Dree-Nica Isemar
Arch 2431 Spring 2020
Professor Sherman
Group: Dolma, Ousmane, Albijon

Opaque Material- Case Study

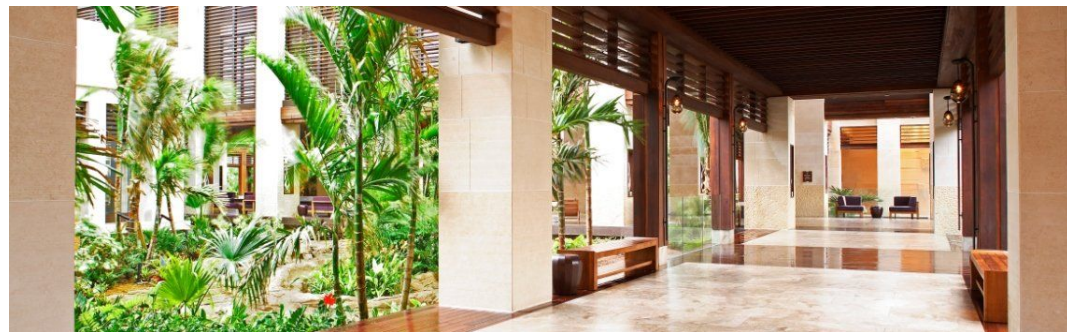
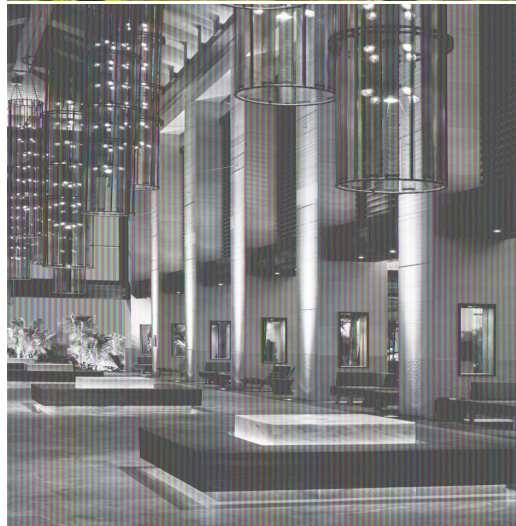
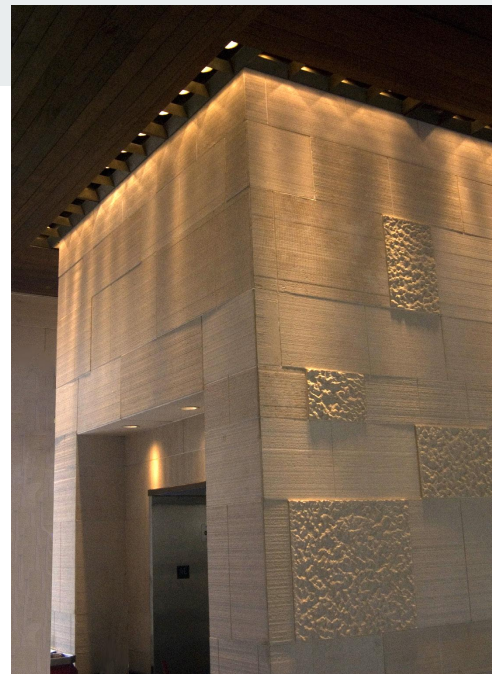


StonePly

Real Stone. Real Strong. Real Thin.



Atlantis Beach Resort

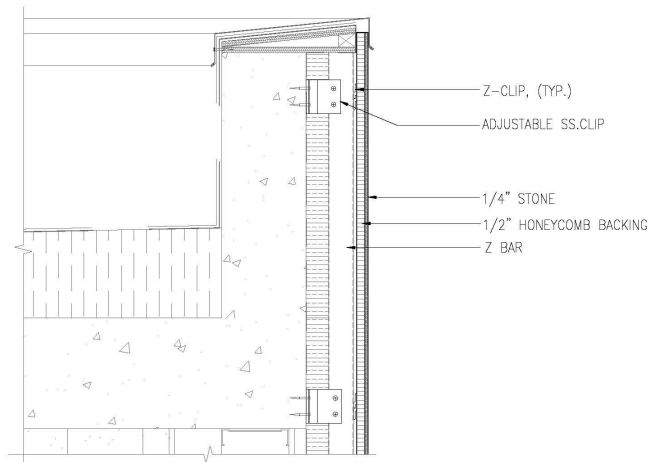




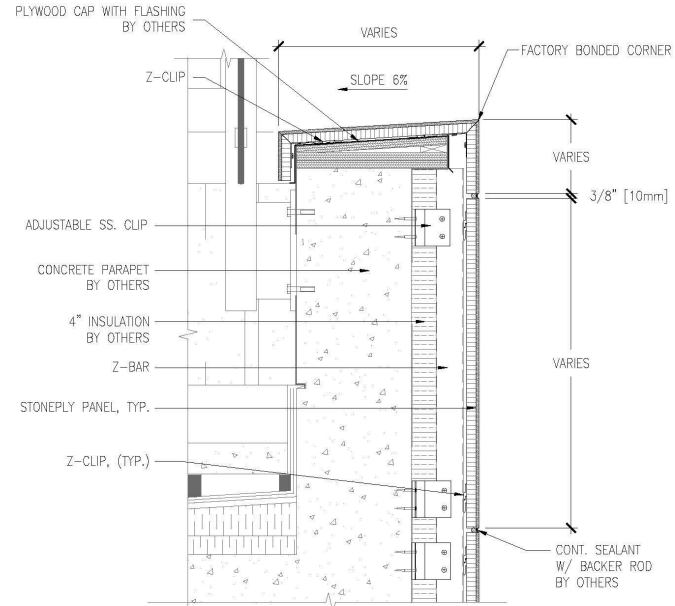
Structure

- Connected to the rest of the structure with various types of clips and anchors
- Loosely but also connected to allow for a bit shaking for seismic waves and extreme winds

Opaque Material Details

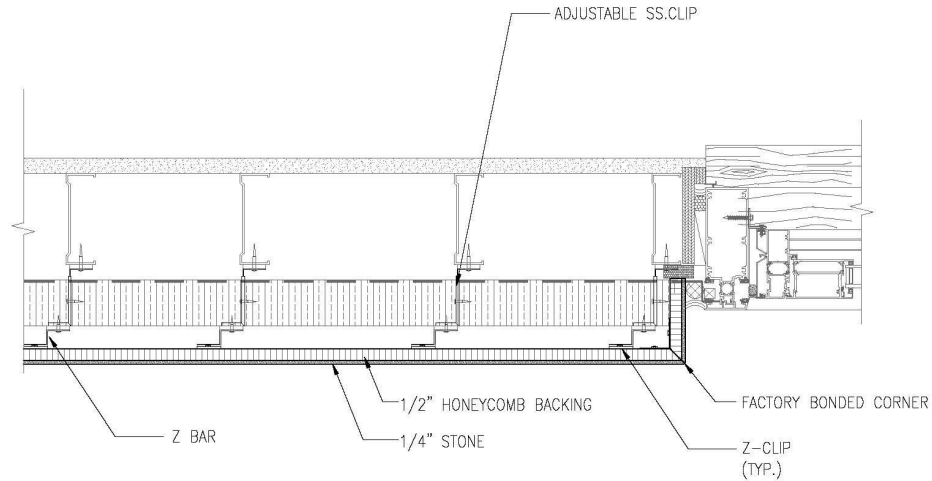
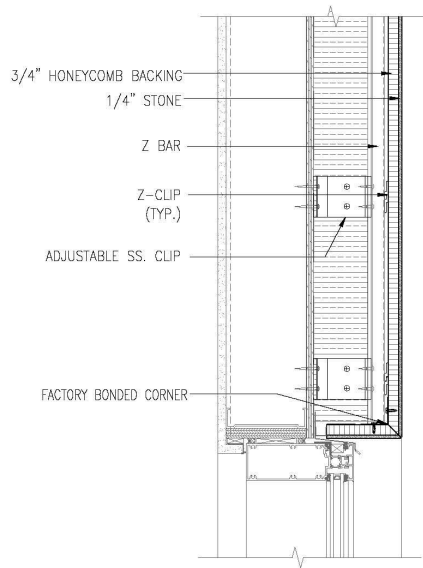


PARAPET DETAIL WITH STONEPLY AND METAL CAP
SCALE: 1 1/2" = 1'-0"



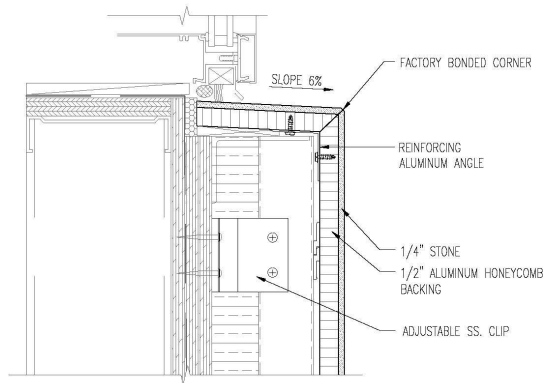
PARAPET DETAIL WITH STONEPLY CAP
SCALE: 1 1/2" = 1'-0"

Opaque Material Details

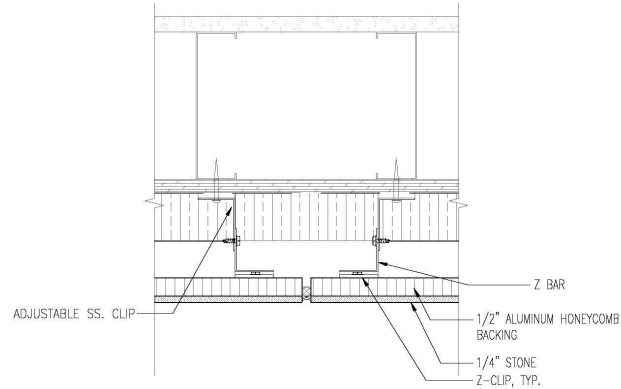


STONEPLY WINDOW JAMB
SCALE: 1 1/2" = 1'-0"

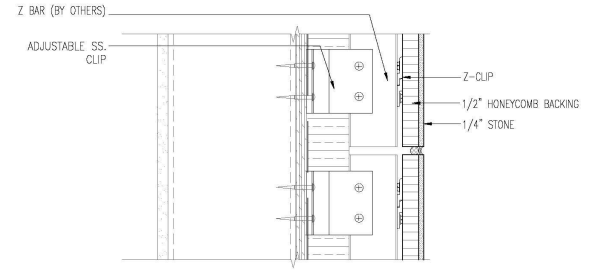
Opaque Material Details



WINDOW SILL
SCALE: 3" = 1'-0"

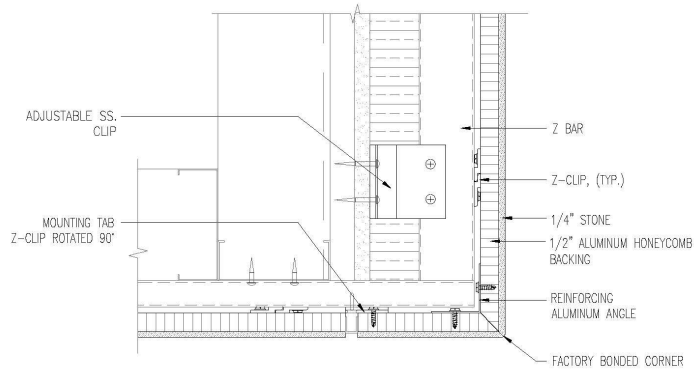


VERTICAL JOINT
SCALE: 3" = 1'-0"

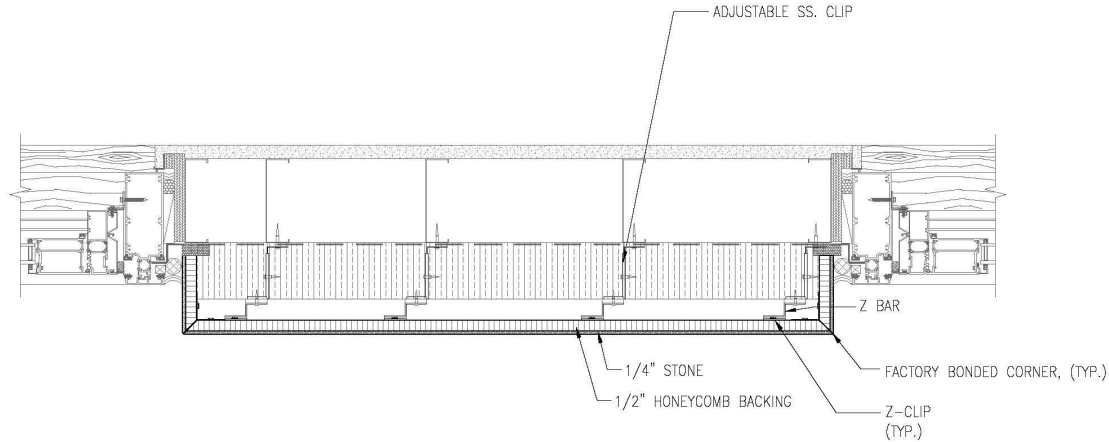


HORIZONTAL JOINT
SCALE: 3" = 1'-0"

Opaque Material Details



SOFFIT AND CEILING RETURN
SCALE: 3" = 1'-0"



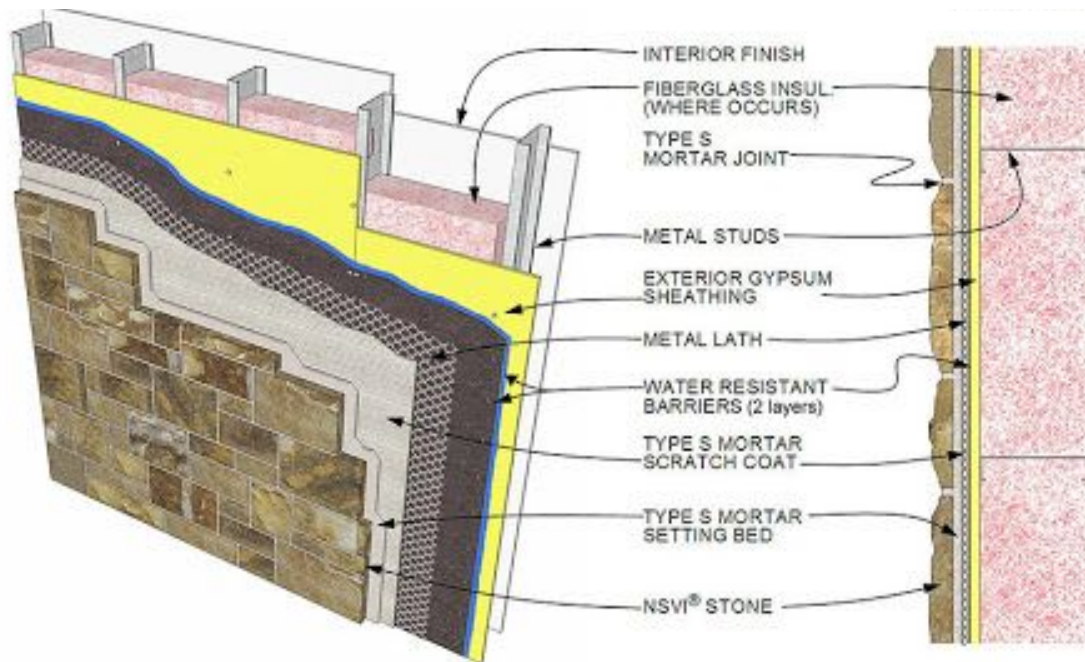
PILASTER
SCALE: 1 1/2" = 1'-0"



Thermal and Water-Proofing

Freeze/Thaw	ASTM C67	Passed. 100 cycles. No checking, delaminating, cracking or splitting.
Water Resistance	ASTM D2247	Passed. No deleterious effects after 120-day exposure.
Mildew/Fungus Resistance	ASTM D3273	Passes. Tested with both granite and marble.
Water Penetration	ASTM E331	Passed. No water penetration to the innermost plane of the wall.
Large Missile Impact Test	ASTM 1996-05B Specifications for Performance of Exterior Windows, Curtain Walls, Doors and Impact Protective Systems Impacted by Windborne Debris in Hurricanes	Passed. A weighted 2x4 was fired at the StonePly panel at 50 fps. There was no penetration
Accelerated Weathering	ASTM G53	2000 hours. No deterioration.
Air and Water Infiltration	ASTM E 283-7	Passed
Absorption - Freeze/Thaw	Panels soaked in water @ 20 °C for 4 days, then placed at -10 °C for 2 hours and +20 °C for 2 hours.	100 cycles. No delamination or failure.

Thermal and Water-Proofing



Glass Curtain Wall Material- Case Study



JOHNSON & WALES UNIVERSITY'S JOHN J.
BOWEN CENTER FOR SCIENCE AND
INNOVATION





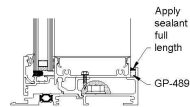
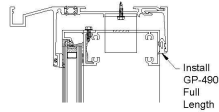
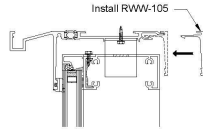
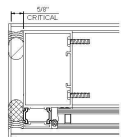
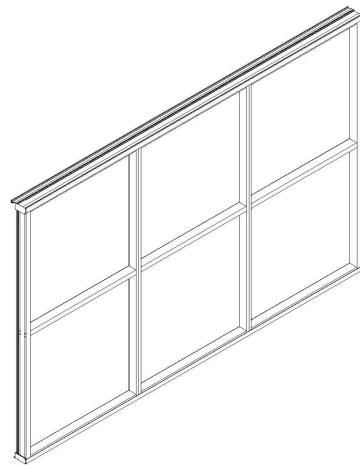
Glass Material Details



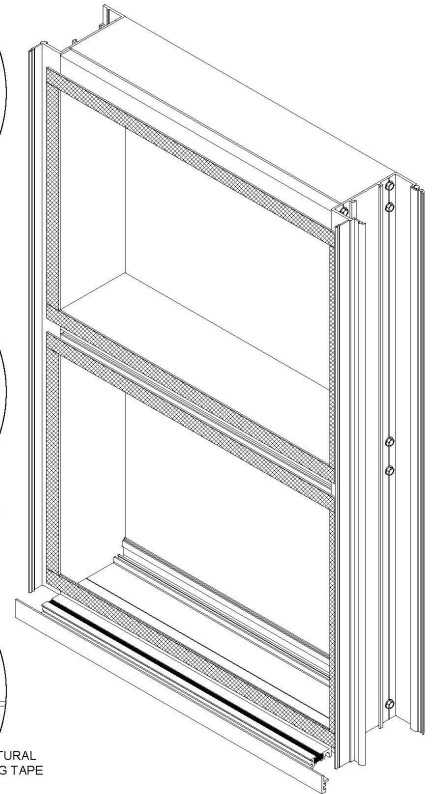
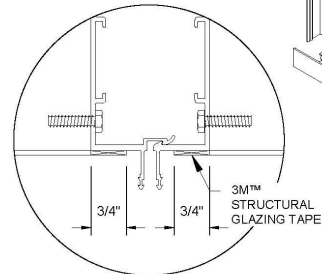
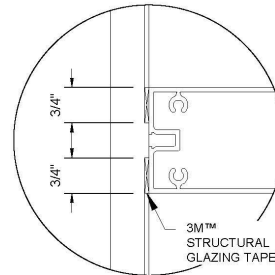
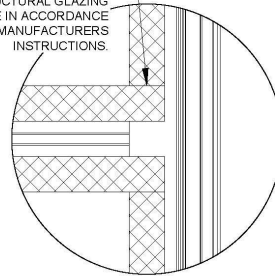
Reliance™ Window Wall— Thermal Structural Tape Glazed unitized Window Wall system

The **Reliance™ Window Wall** from Oldcastle BuildingEnvelope® is a shop assembled, sealed and glazed window wall product offering both Captured and Non-Captured options with a variety of 1" infill options. This screw spline assembly has square cut components to reduce fabrication and utilizes 3M's™ structural glazing tape in lieu of silicone to reduce glazing labor. The Reliance™ Window Wall design has reinforced polyamide thermal struts integrated into the head/sill cans to provide exceptional thermal performance. **One of the most outstanding benefits of Reliance™ Window Wall is the assembly and glazing of the window wall frames** under shop controlled conditions. This reduces field labor and minimizes on site applied seals. The system is also designed to be installed from inside the building which is an easier installation and eliminates the need for staging equipment during unit installation.

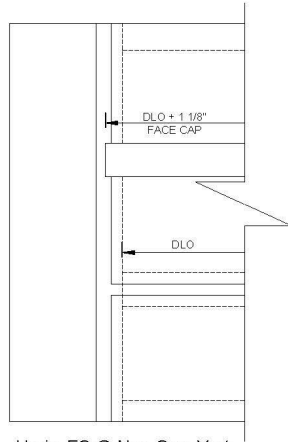
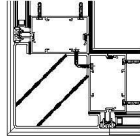
Glass Material Details



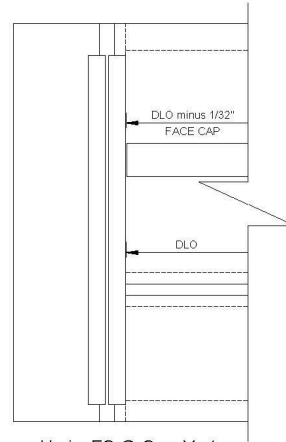
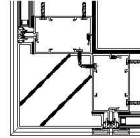
APPLY 3M™
STRUCTURAL GLAZING
TAPE IN ACCORDANCE
WITH MANUFACTURERS
INSTRUCTIONS.



Glass Material Details

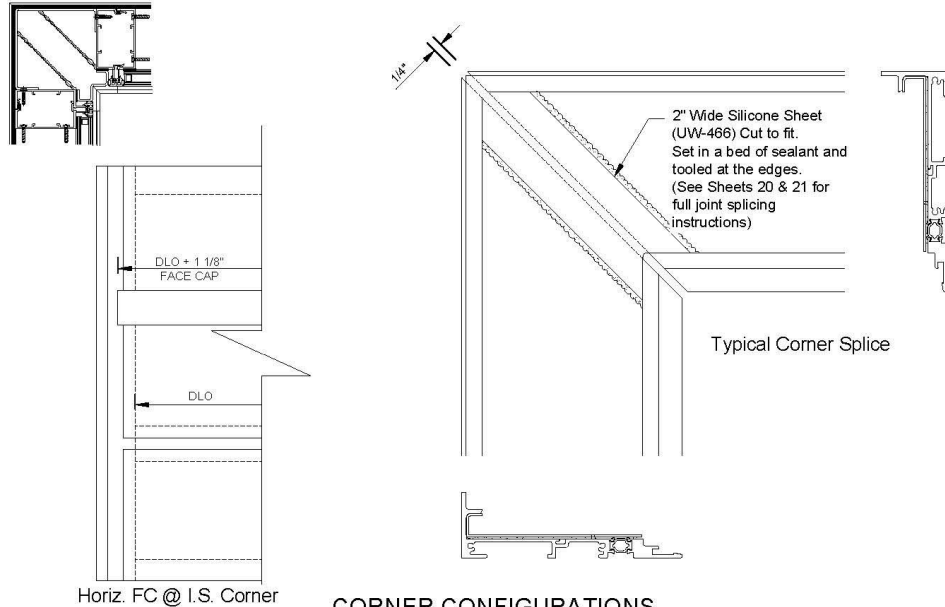


Horiz. FC @ Non-Cap. Vert.
O.S. Corner



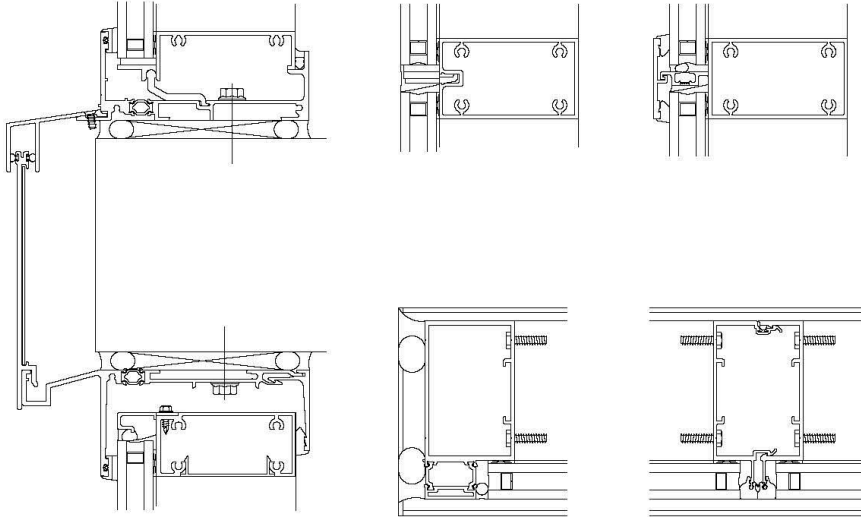
Horiz. FC @ Cap. Vert.
O.S. Corner

Glass Material Details





Glass Material Details





Thermal and Water-Proofing

- Windows themselves are thermal and water-proofed
- Additional water and vapor barriers are added to make sure water does not enter the joints where the window is connected to the head and sill
- Insulation is also added to the head and sill