Rain enters cup due to momentum ("kinetic energy")

Cup drains water to exterior
Rain enters cup due to momentum ("kinetic energy")

Wind enters cup—pressurizing cup; no rain entry due to wind driven rain

Cup can still drain water to exterior

Entire wind pressure taken here
Baffle to deflect raindrops hitting face of cup due to momentum ("kinetic energy")

Pressure in cup is same as pressure outside on face of baffle

Momentum driving force converted to gravity—water drains away

Wind enters cup—pressurizing cup; no rain entry due to wind driven rain

Cup can still drain water to exterior

Entire wind pressure taken here
Insulating glass unit

Seal (gasket)

Seal (tape)

Setting block (typically two per unit)

Hole providing drainage and pressurization

Frame

Rough opening
Outer seal sees water but not pressure; no pressure difference across this seal, therefore no rain entry.

Pressure in chamber is same as pressure outside on face of assembly.

Air enters and pressurizes chamber.

Key seal is interior seal as it takes maximum wind load but it does not see water.

Entire wind pressure taken here.

Pressure chamber.
Intent of sealant is to limit this lateral flow of water between sheathing and building wrap.
Where Is The Water Control Layer?
Where Is The Water Control Layer?
Behind The Continuous Insulation?
Or The Face of The Continuous Insulation?
Where Is The Water Control Layer?
Behind The Continuous Insulation?
Or The Face of The Continuous Insulation?
Where Is The Window?
Where Is The Water Control Layer?  
Behind The Continuous Insulation?  
Or The Face of The Continuous Insulation?  
Where Is The Window?  
Is It An Innie Or Outie Or Tweeny?
Window flange flashed to face of structural sheathing with flashing tape

Head trim flashing

Head trim

Horizontal return trim

Drainage “gap”

Sealant
Asphalt shingles

2x8

Stainless steel drip edge

Cellular PVC trim

Cellular PVC trim

Wood siding

1x4 siding

Four layers of 2" rigid insulation

Five layers of 2" rigid insulation

Plywood

Fully-adhered membrane

Fully-adhered membrane

Plywood

Tar paper

Board sheathing

Board sheathing

Tar paper

Plywood

Fully-adhered membrane
1x4 wood furring attached through rigid insulation to 2x4 wood furring

2x4 wood furring mechanically attached to masonry wall

Fluid-applied water control layer and air control layer

Cladding

Joints offset horizontally and vertically with each layer taped

Masonry wall

Interior plaster and lath
Liquid-applied membrane lining, sub-sill window flashing, air and water barrier transition membrane

HD spray foam “filet” to be applied before rest of foam

HD spray foam
HD spray foam

Liquid-applied membrane lining, window flashing, air and water barrier transition membrane

Flashing

HD spray foam “filet” to be applied before rest of foam

Air seal
Liquid-applied membrane lining, sub-sill window flashing, air and water barrier transition membrane

HD spray foam “filet” to be applied before rest of foam

HD spray foam

Paperless gypsum sheathing

Air seal
HD spray foam

Liquid-applied membrane lining, window flashing, air and water barrier transition membrane

Flashings

HD spray foam “filet” to be applied before rest of foam

Paperless gypsum sheathing

Air seal