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Building Science

Adventures In Building Science

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What is a Building?

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A Building is an Environmental Separator

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- Control heat flow
- Control airflow
- Control water vapor flow
- Control rain
- Control ground water
- Control light and solar radiation
- Control noise and vibrations
- Control contaminants, environmental hazards and odors
- Control insects, rodents and vermin
- Control fire
- Provide strength and rigidity
- Be durable
- Be aesthetically pleasing
- Be economical

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First Law - Conservation of Energy
 Second Law - Entropy
 Third Law - Absolute Zero

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In an isolated system, a process can occur only if it increases the total entropy of the system

Rudolf Clausius

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Heat Flow Is From Warm To Cold
 Moisture Flow Is From Warm To Cold
 Moisture Flow Is From More To Less
 Air Flow Is From A Higher Pressure to a Lower Pressure
 Gravity Acts Down

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Carrier
PSYCHROMETRIC CHART
 NORMAL TEMPERATURES
 SI METRIC UNITS
 Barometric Pressure 101.325 kPa
 SEA LEVEL

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Damage Functions

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Damage Functions
Water
Heat
Ultra Violet Radiation

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80 Percent of all Construction Problems are
Related to Water

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Heat
Air
Moisture

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HAM

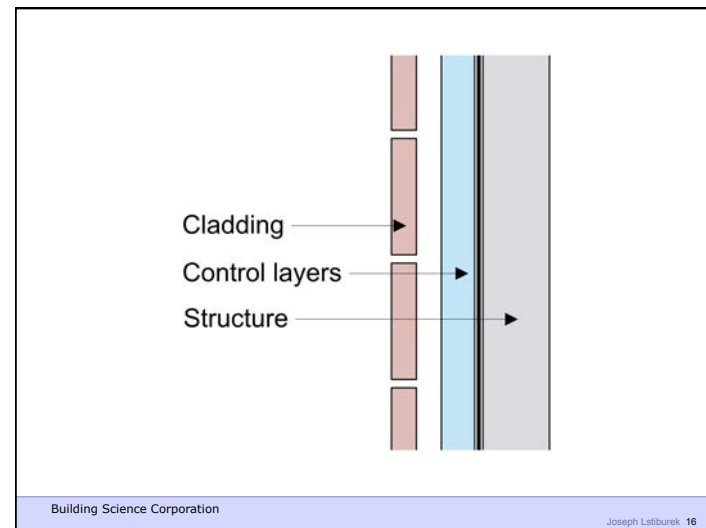
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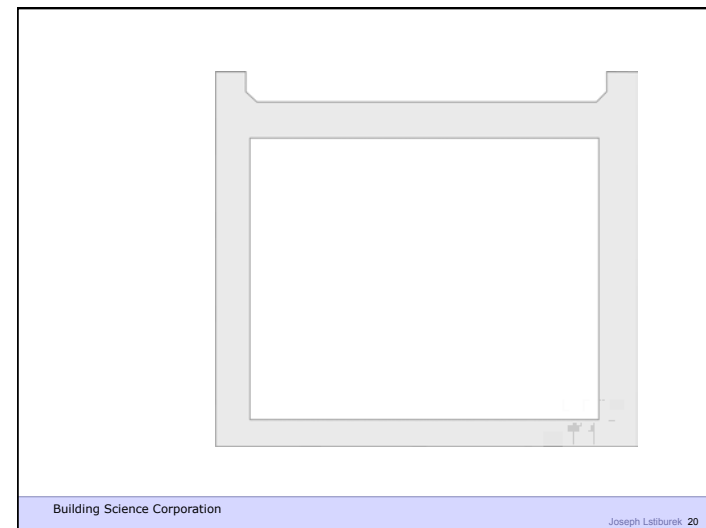
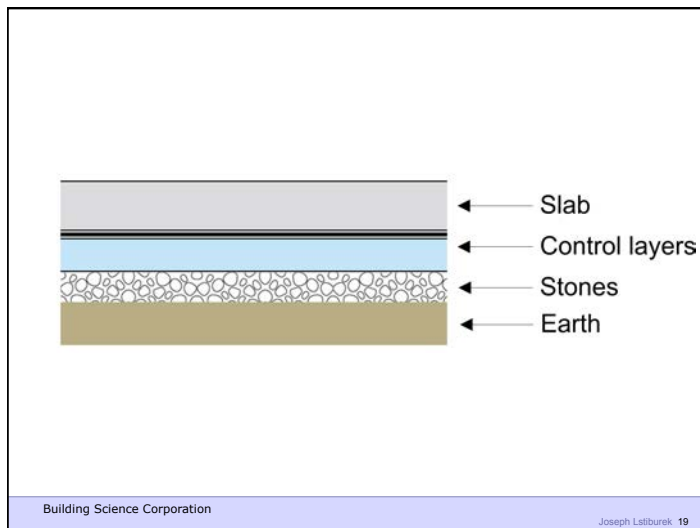
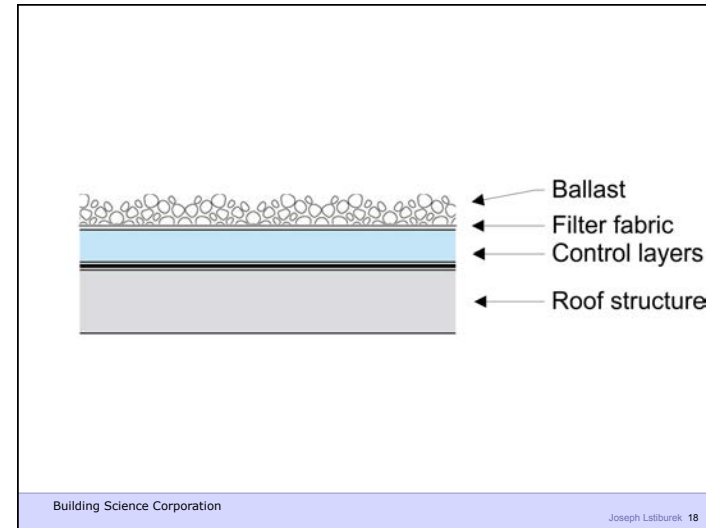
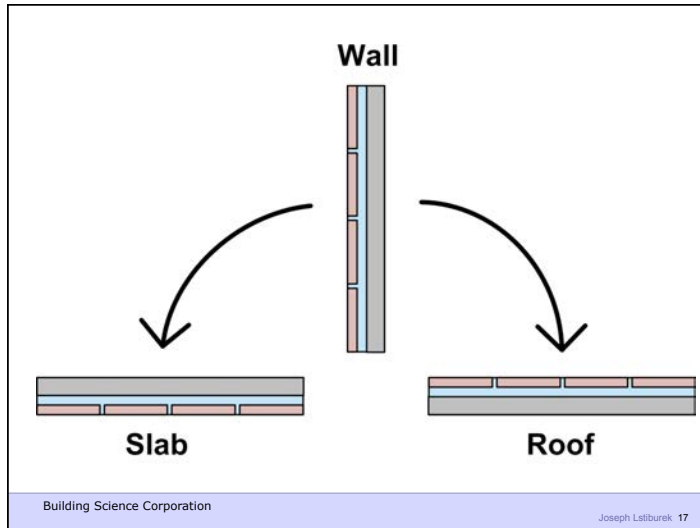
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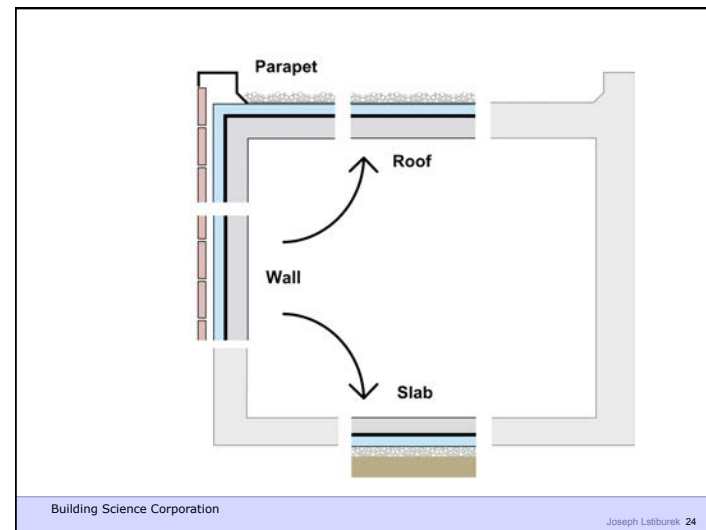
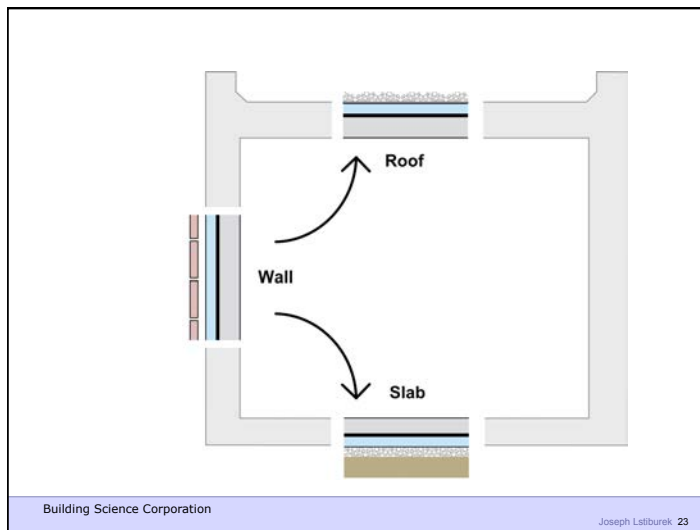
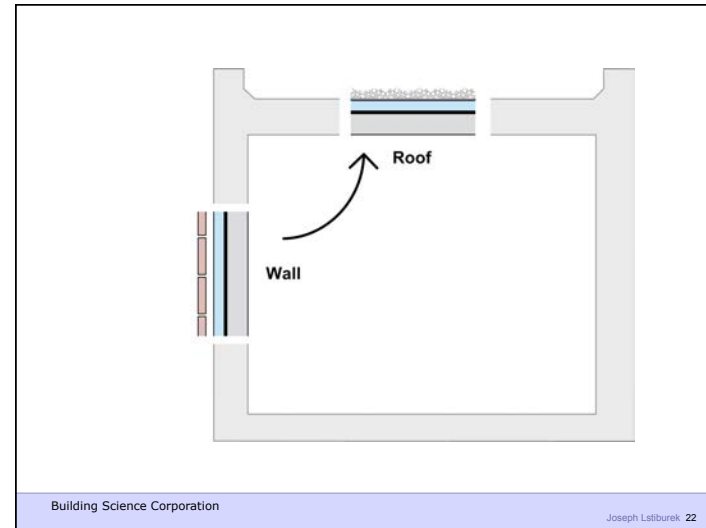
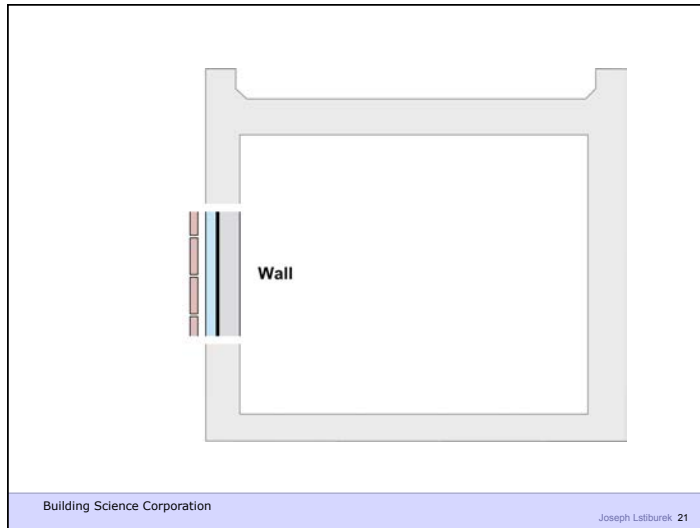
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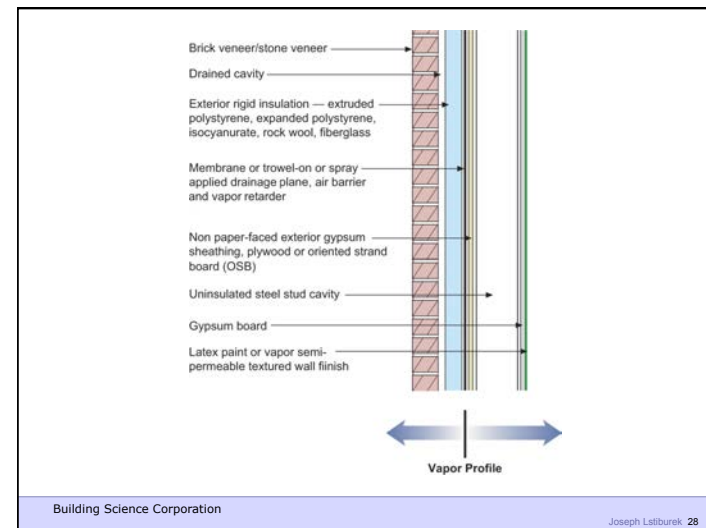
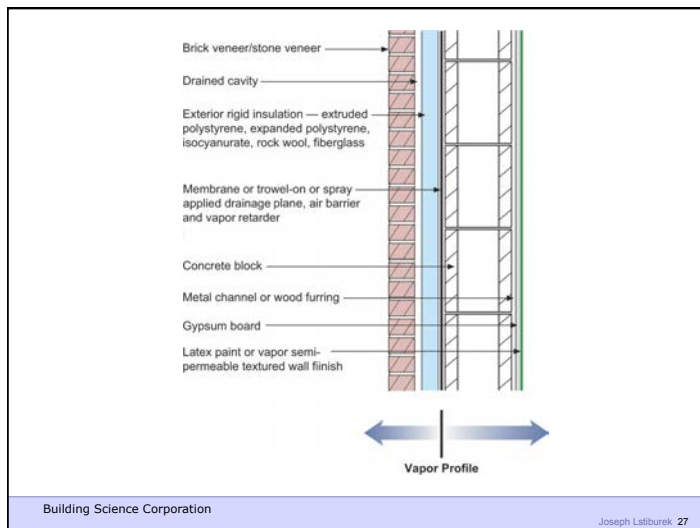
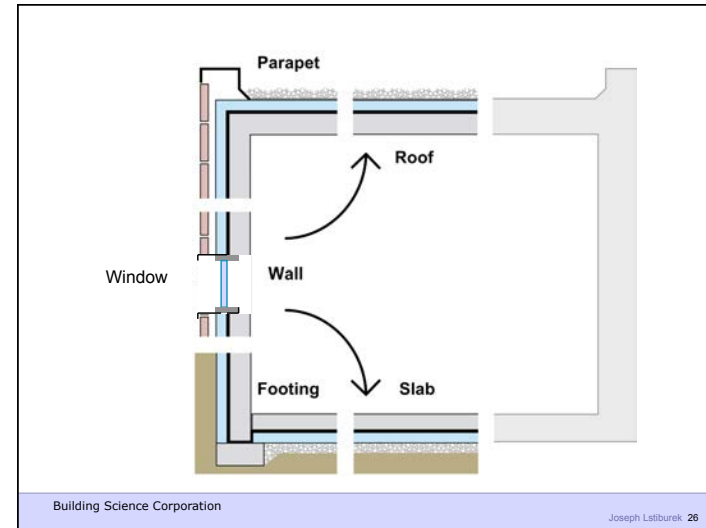
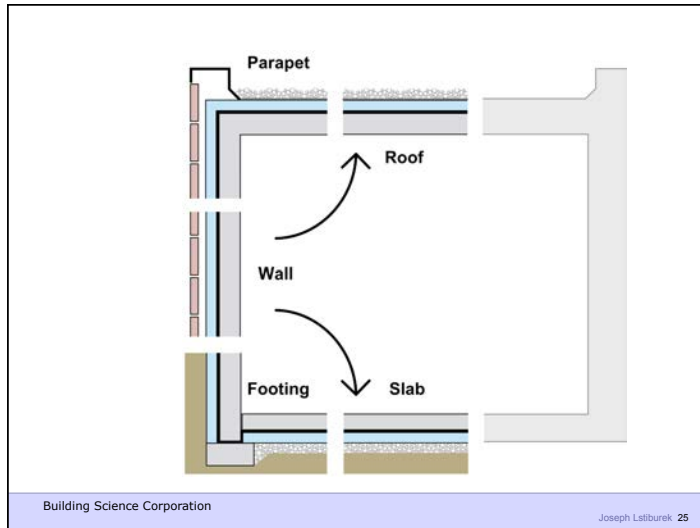
Water Control Layer
Air Control Layer
Vapor Control Layer
Thermal Control Layer

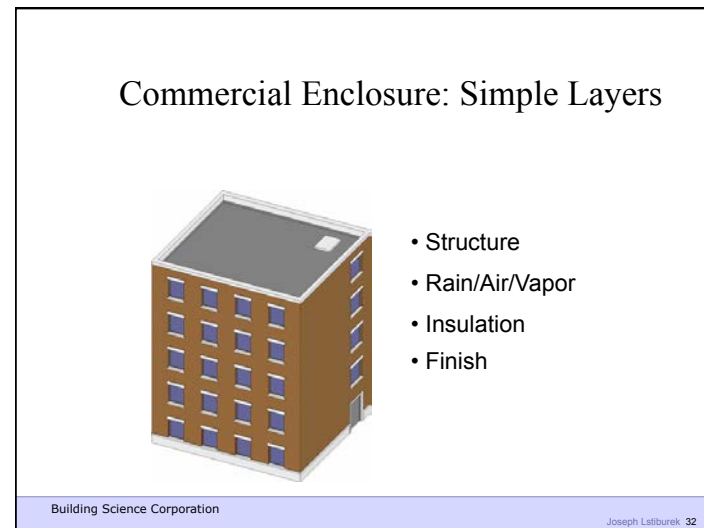
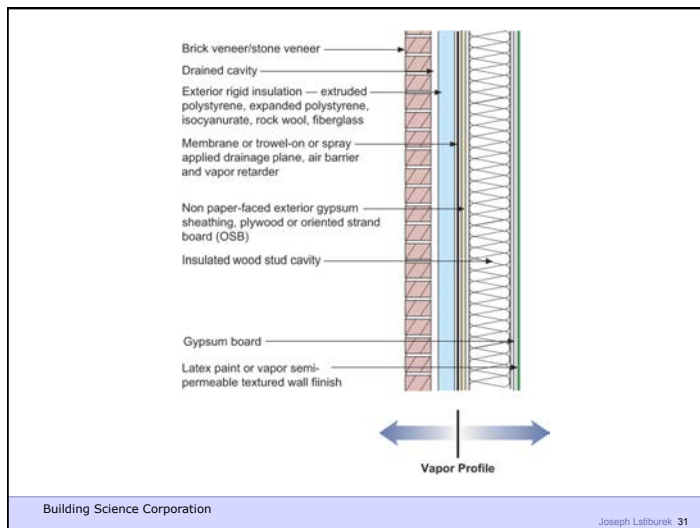
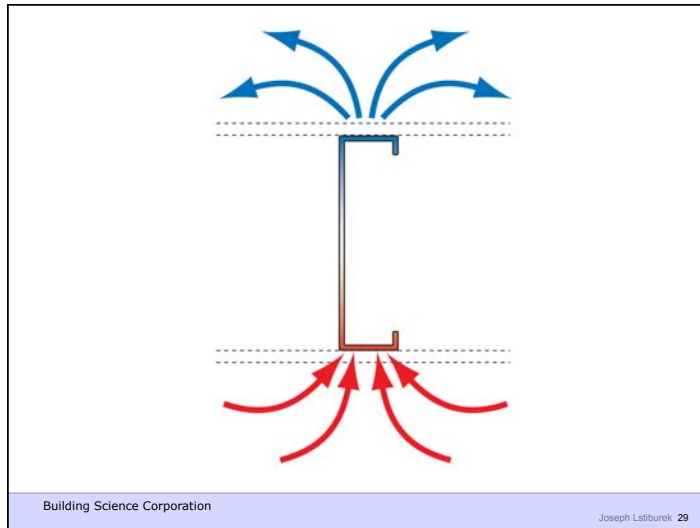
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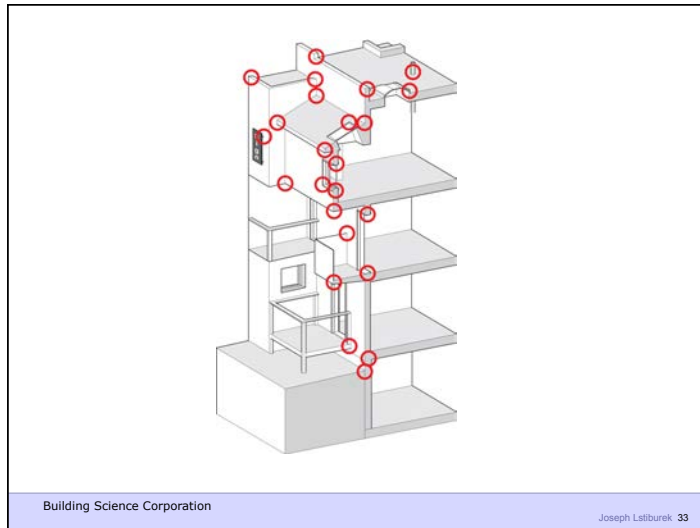


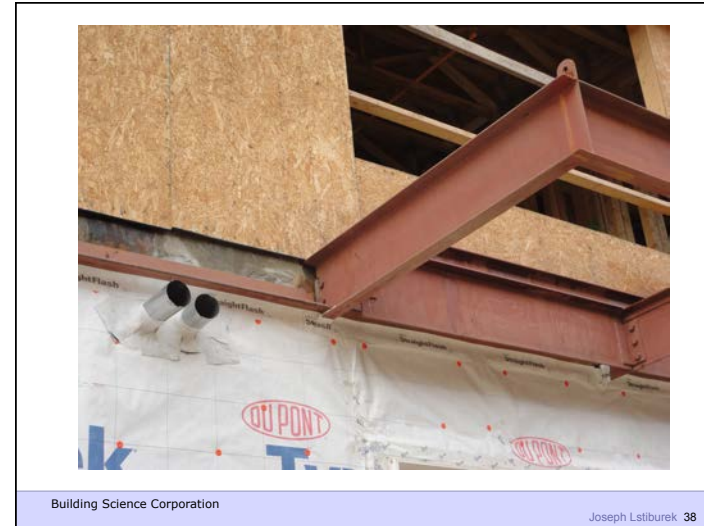


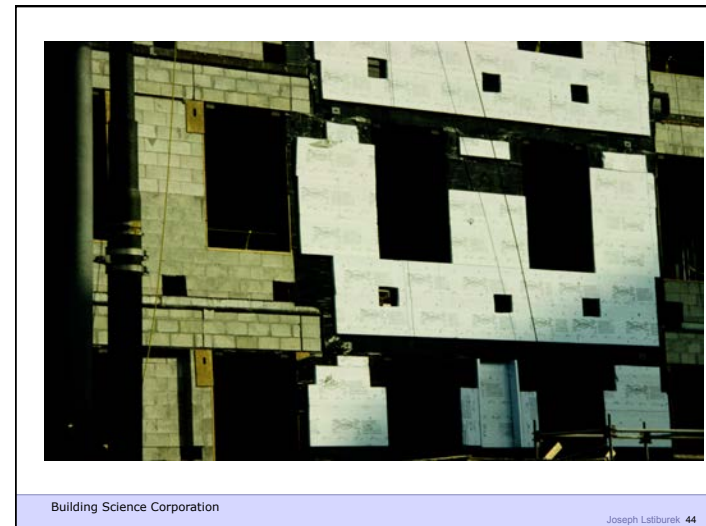
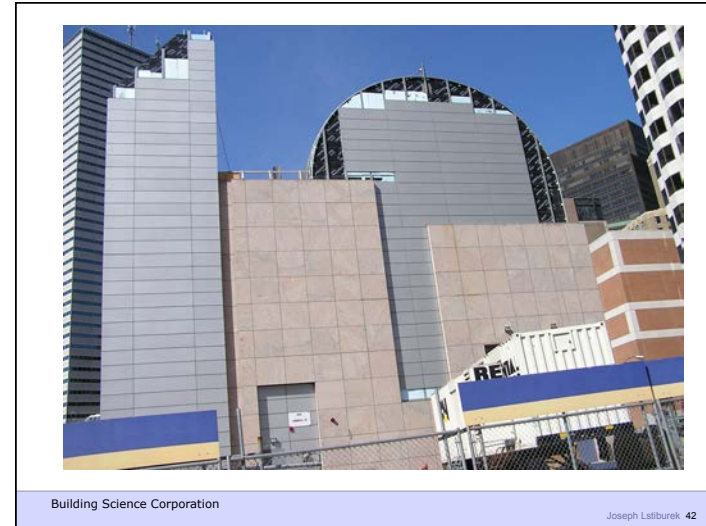
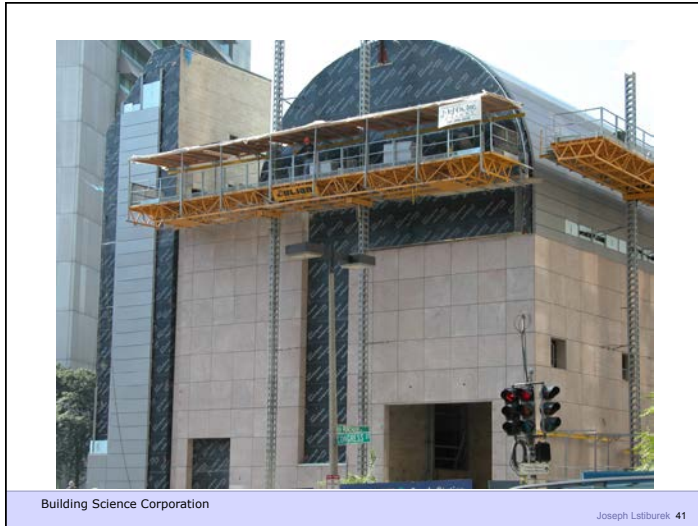


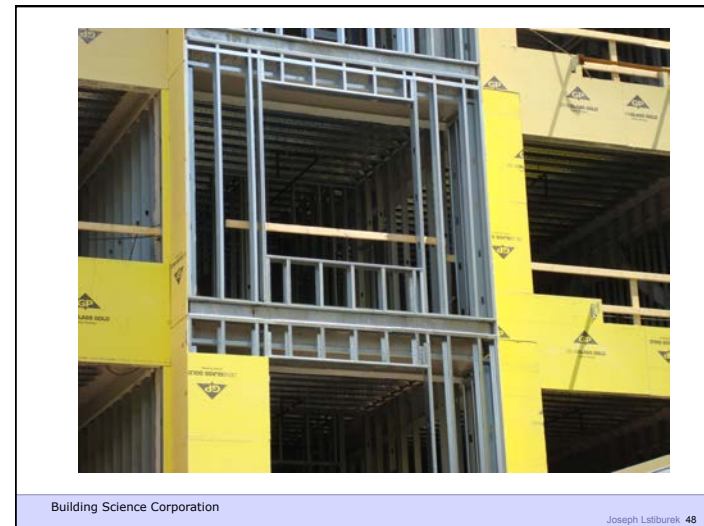
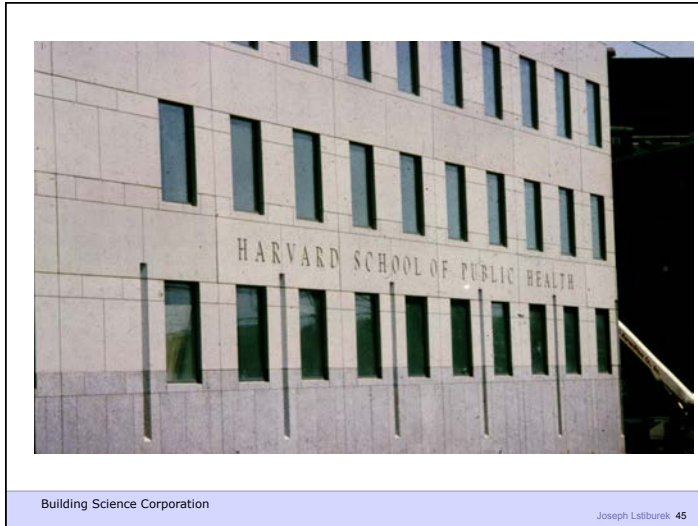




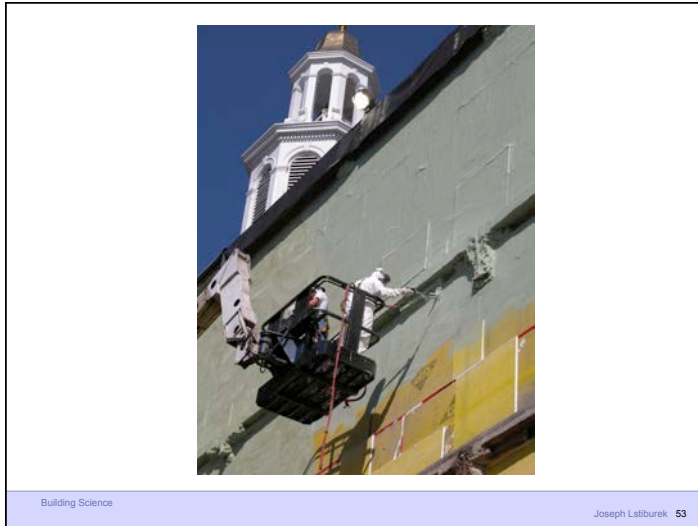


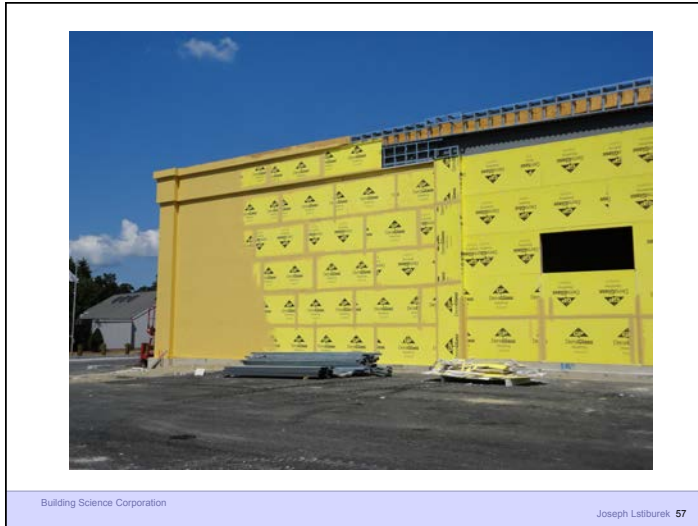






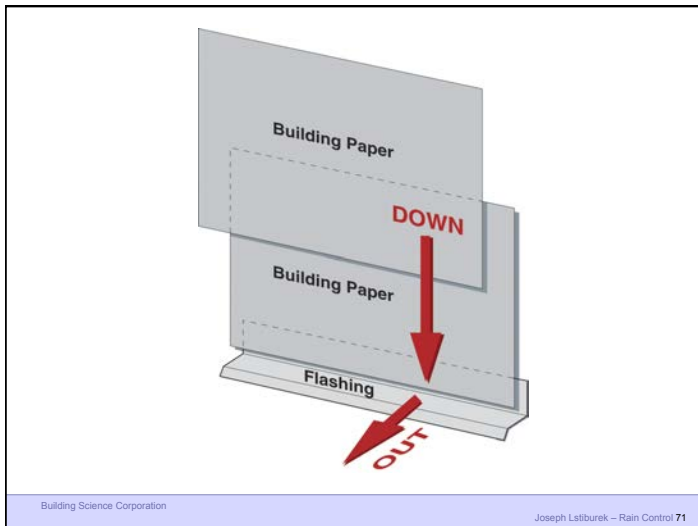
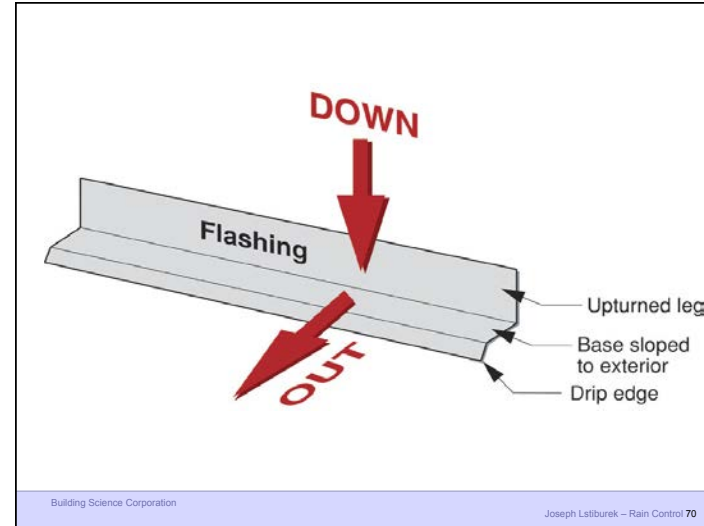
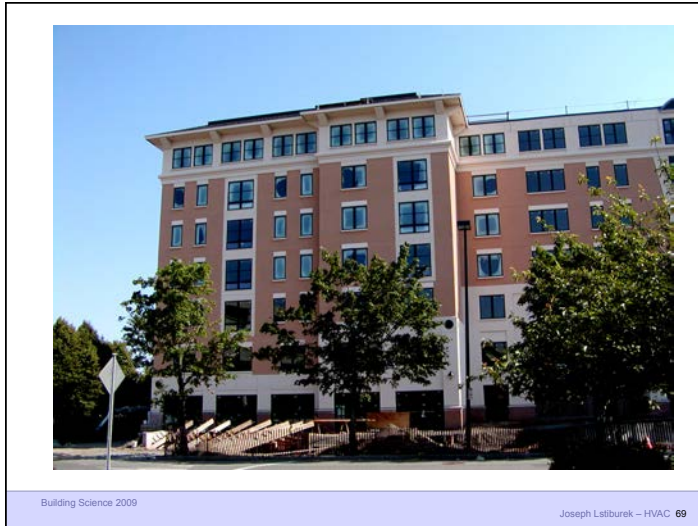








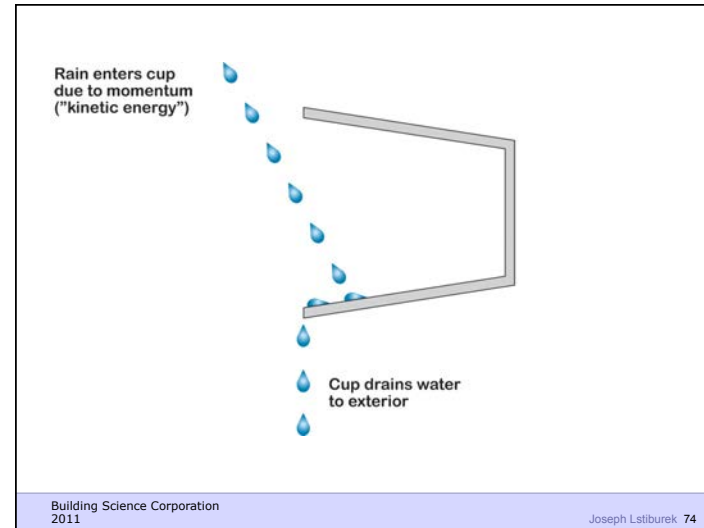






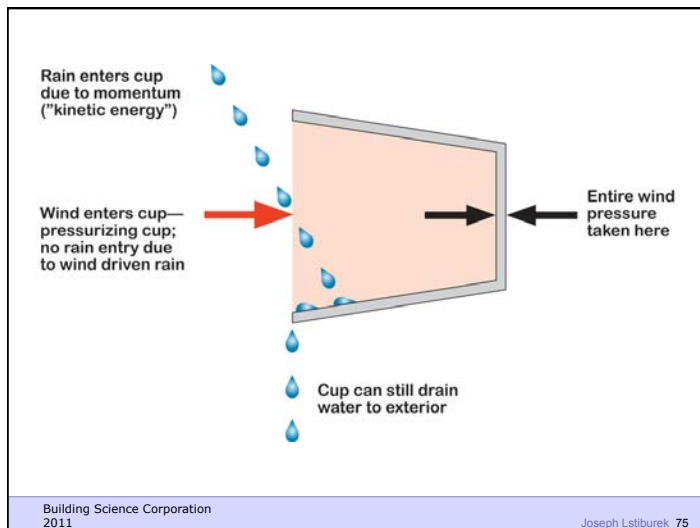
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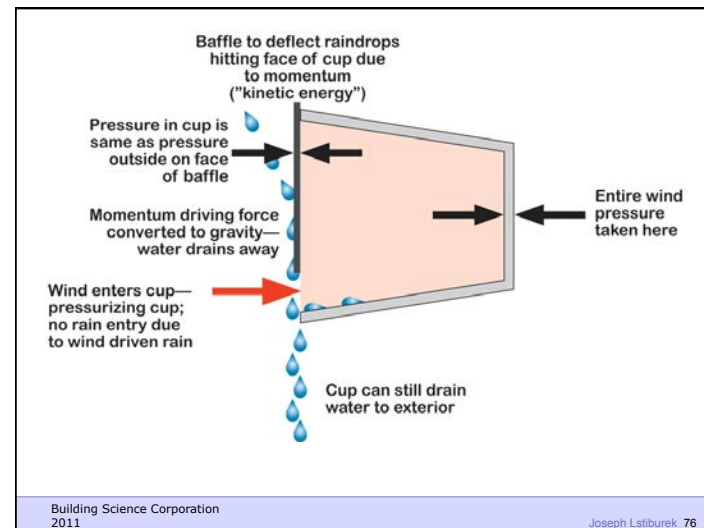
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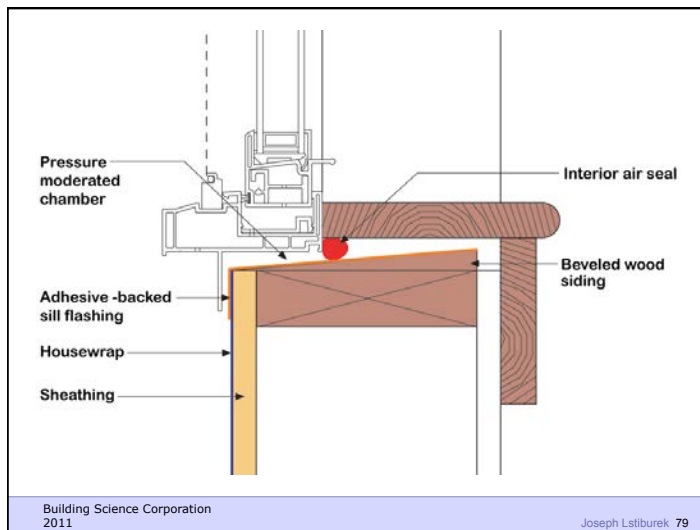
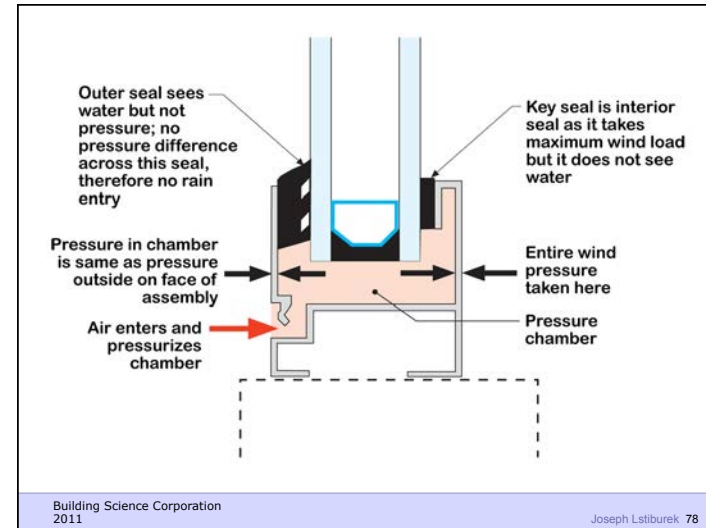
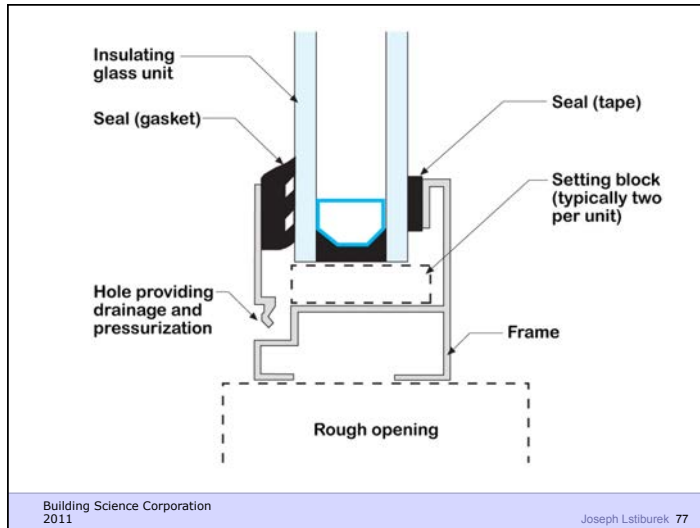
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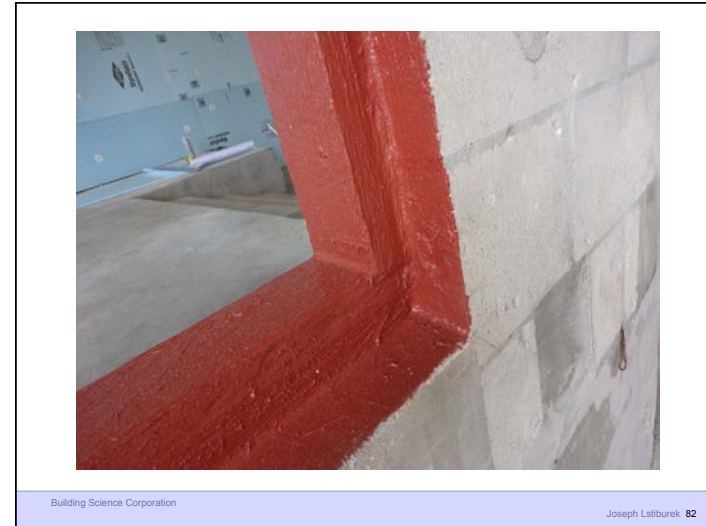
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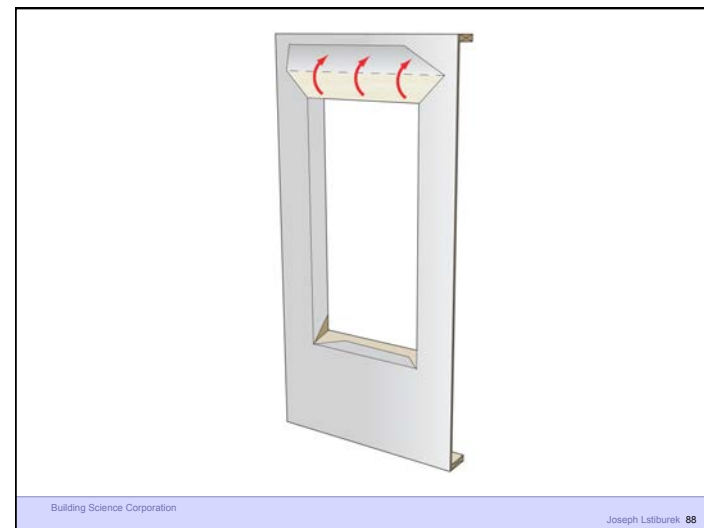
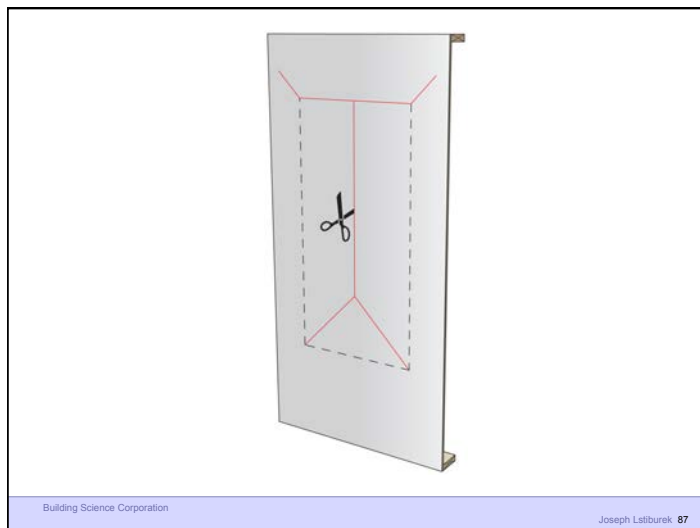
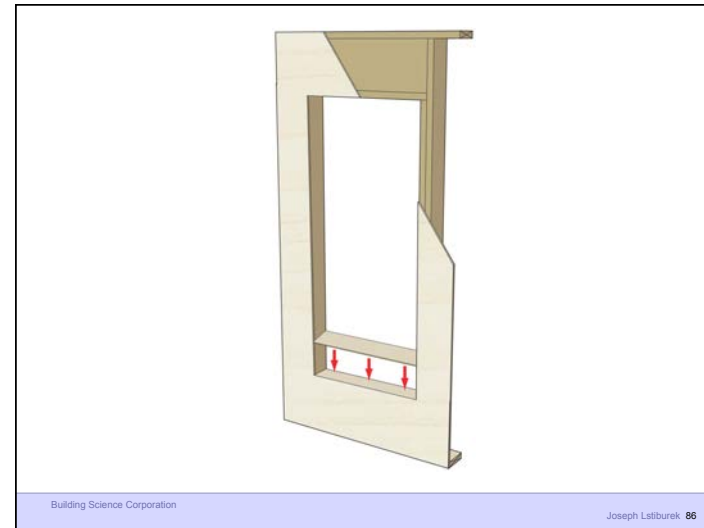
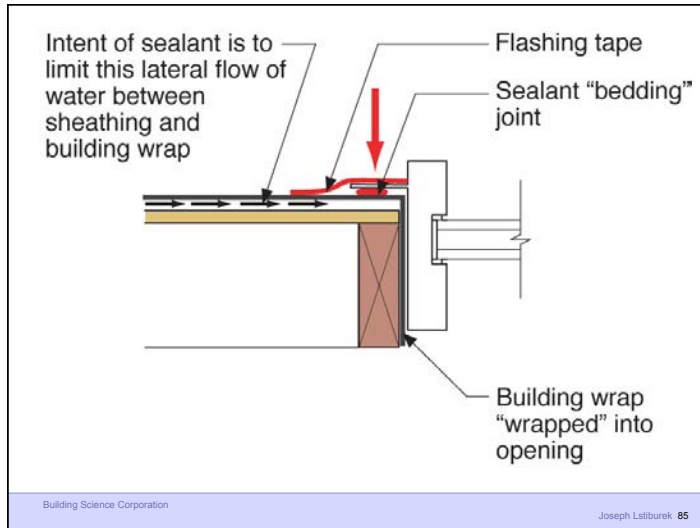


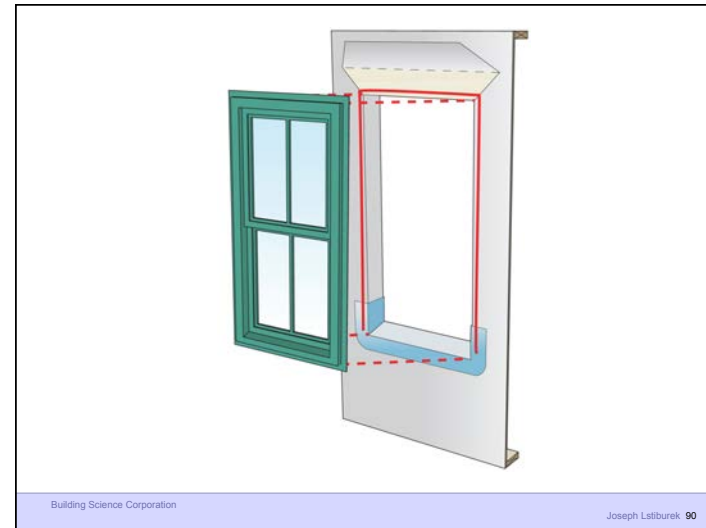
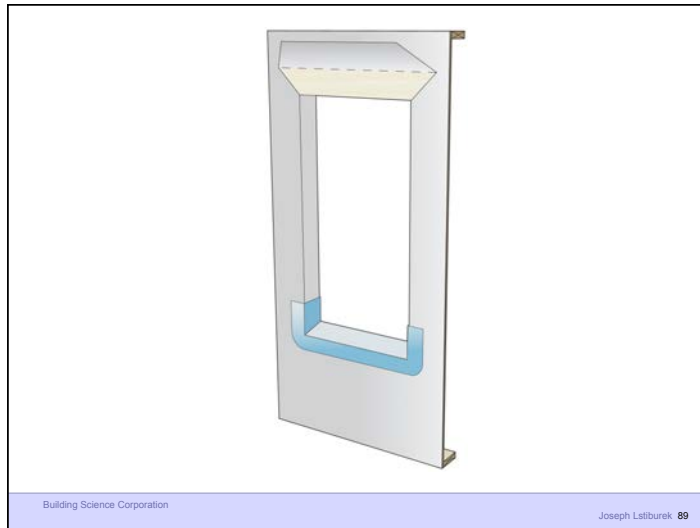
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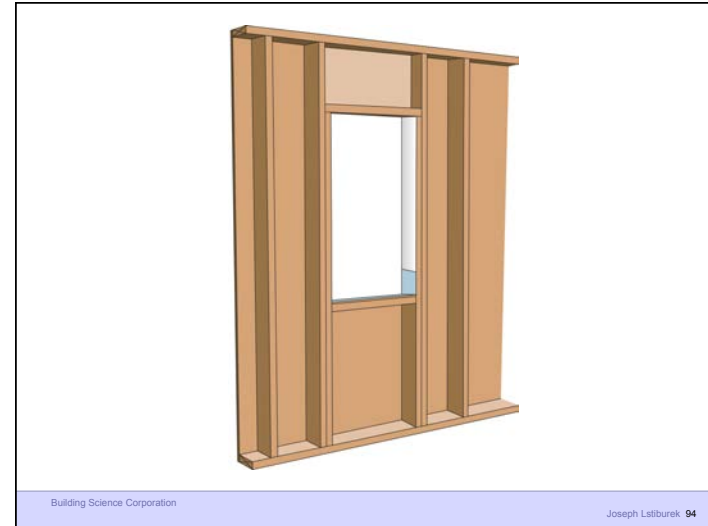
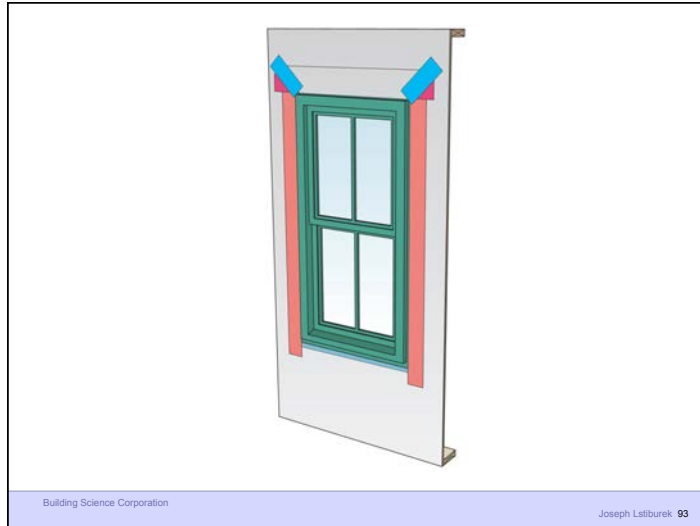
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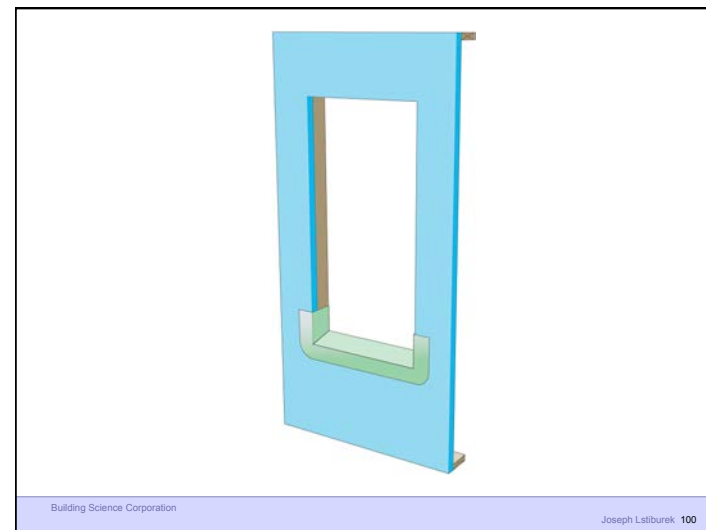
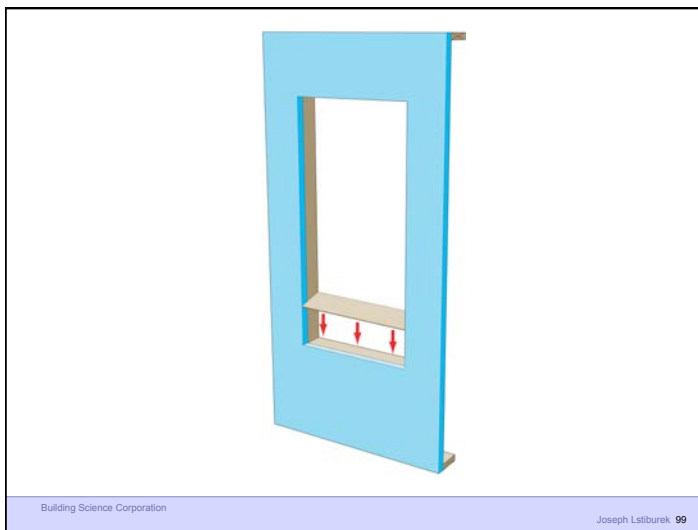
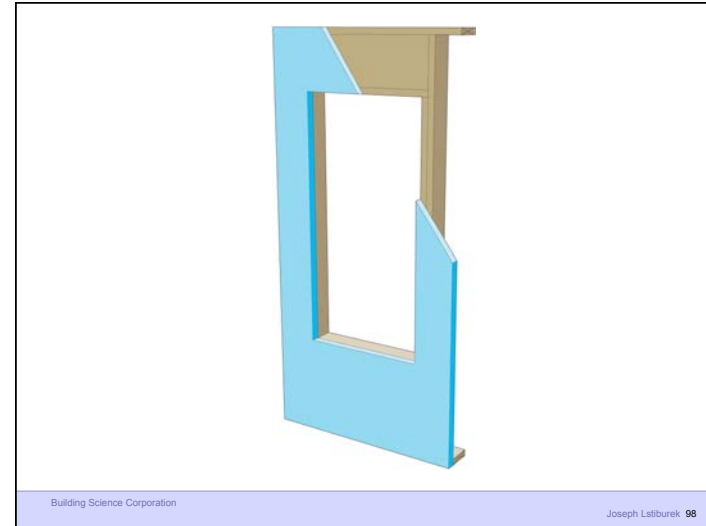


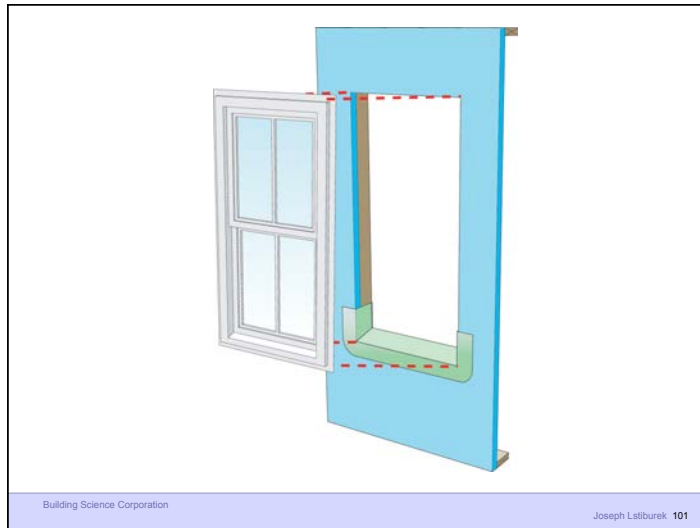




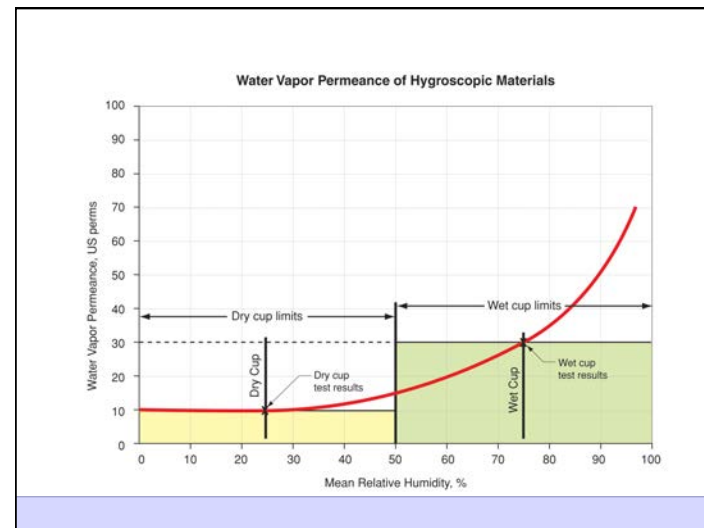
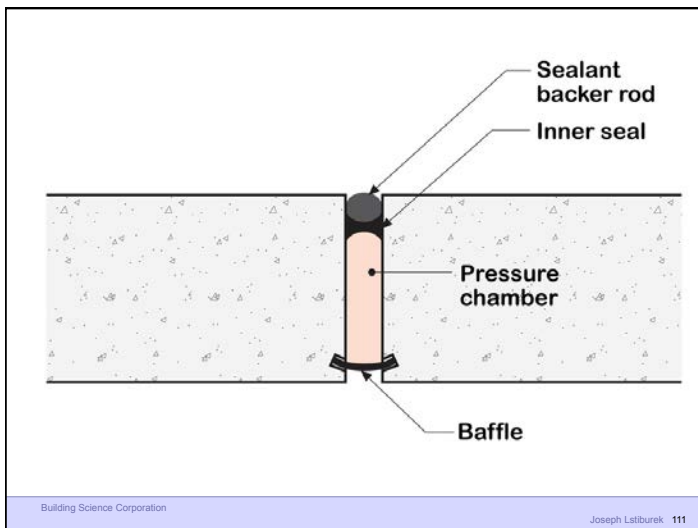
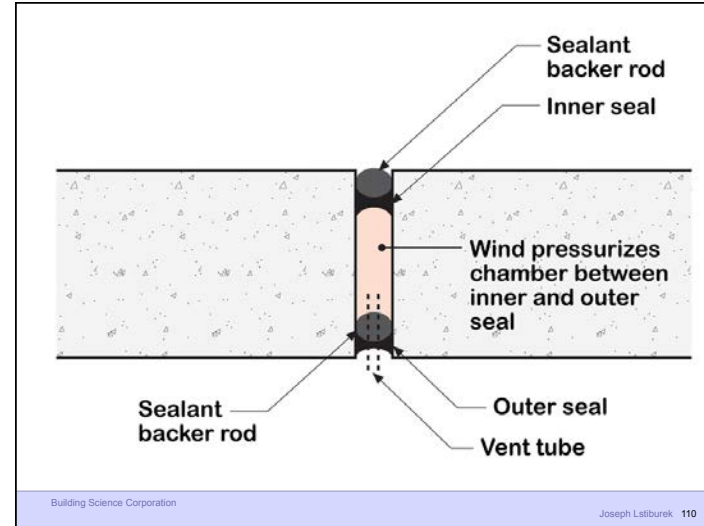


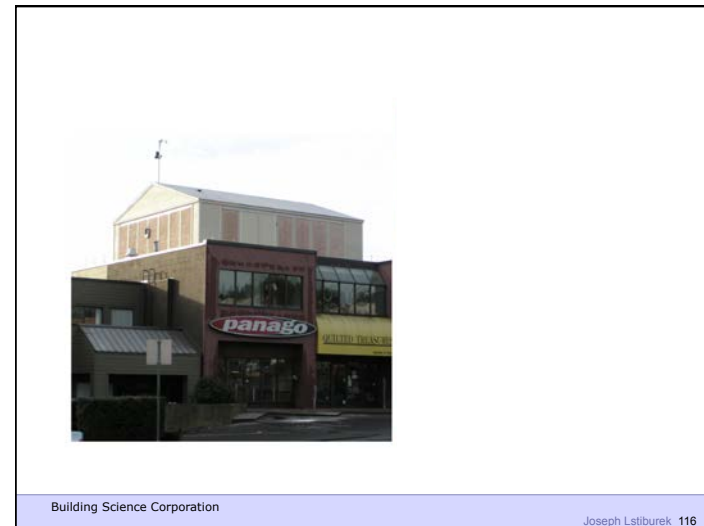
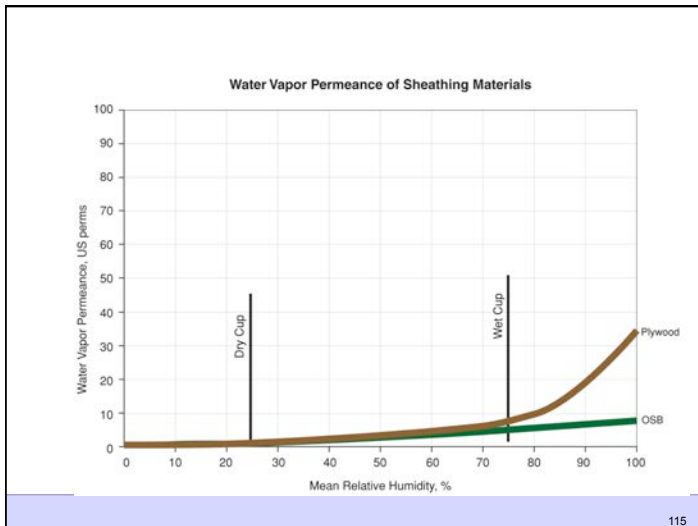
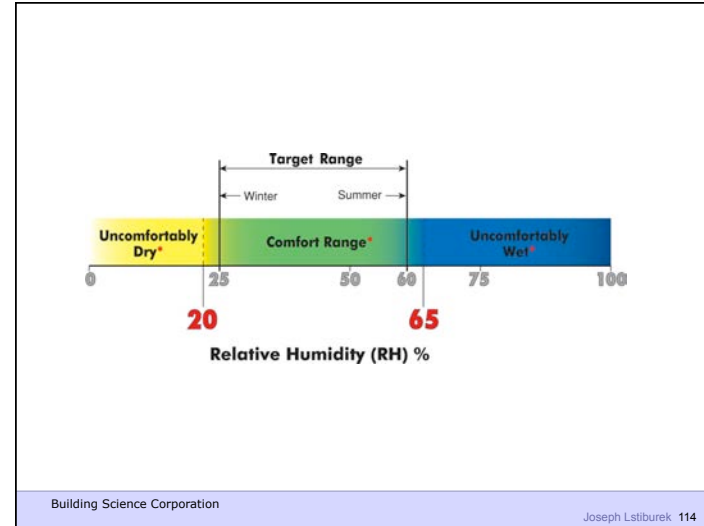
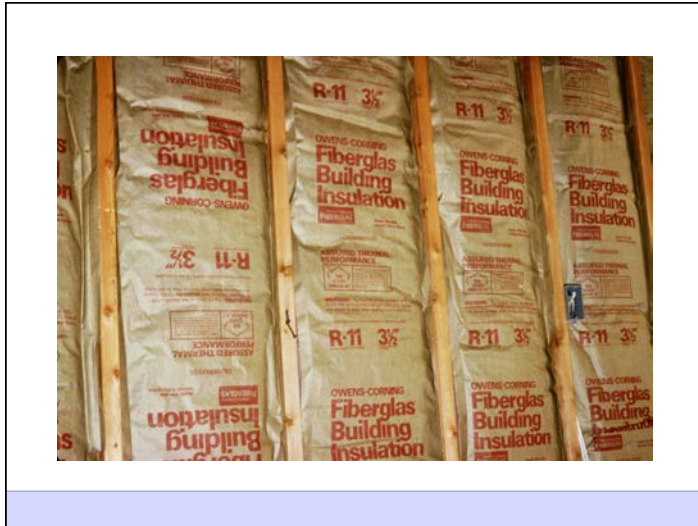


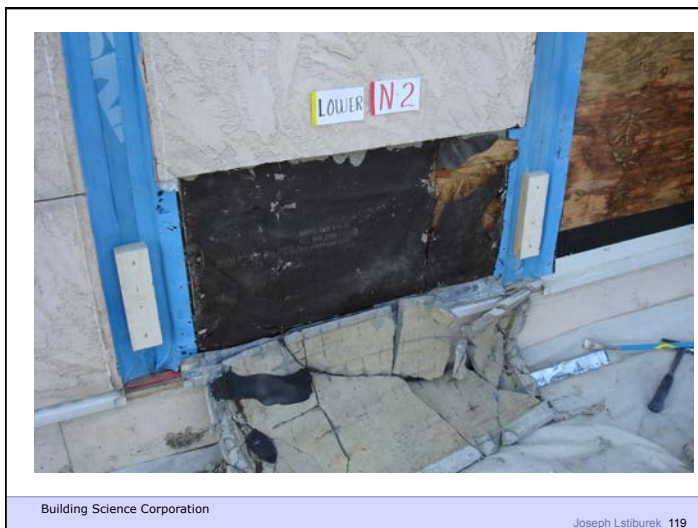
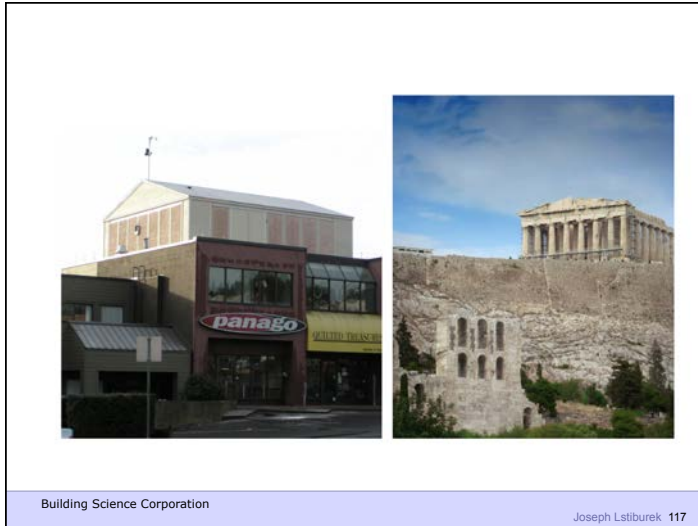


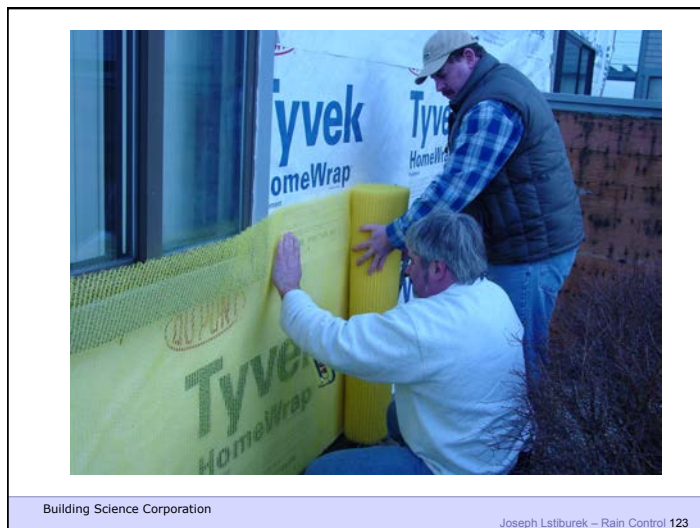
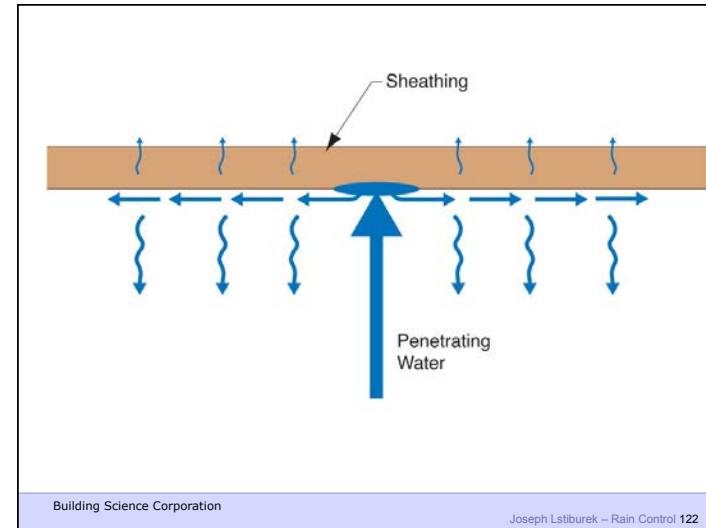
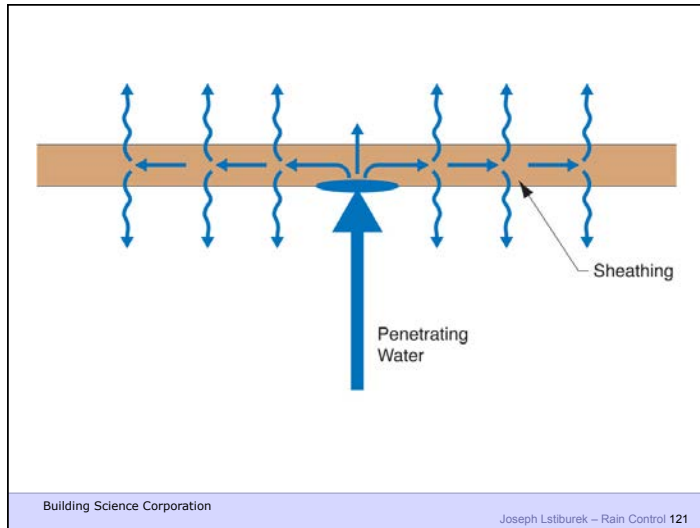












Rain Screen

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