

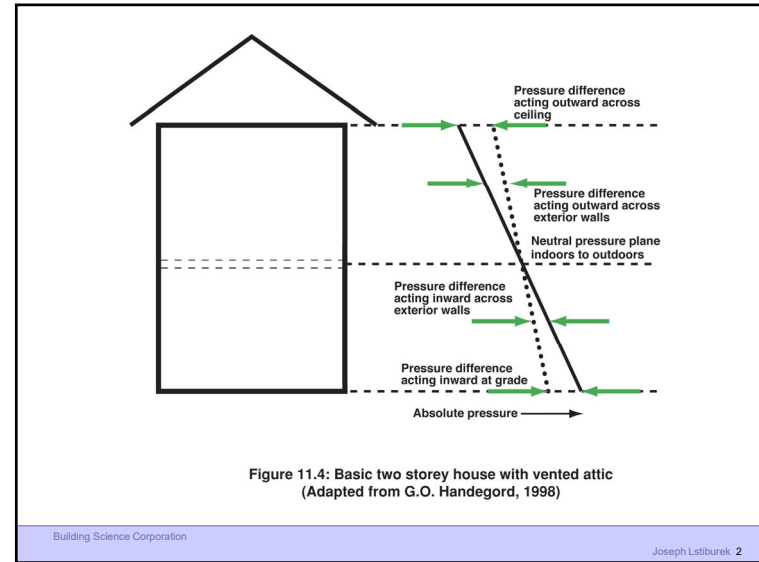
Joseph Lstiburek, Ph.D., P.Eng, ASHRAE Fellow

Building Science

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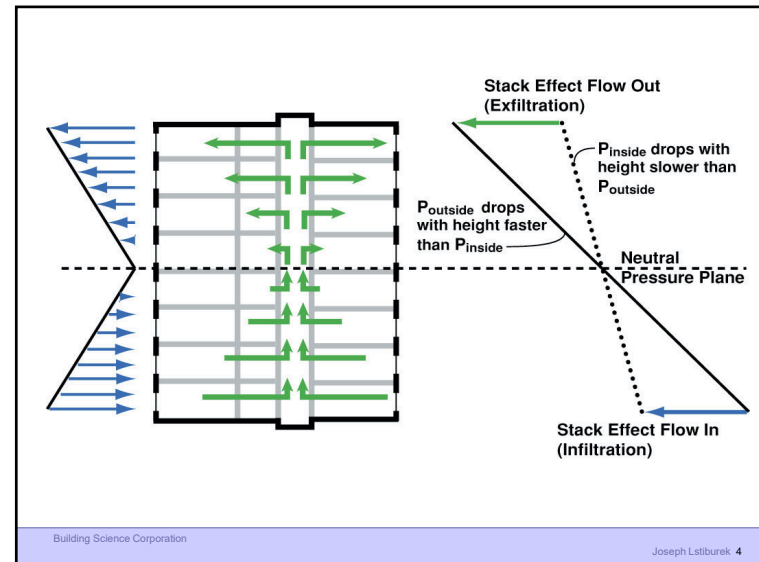
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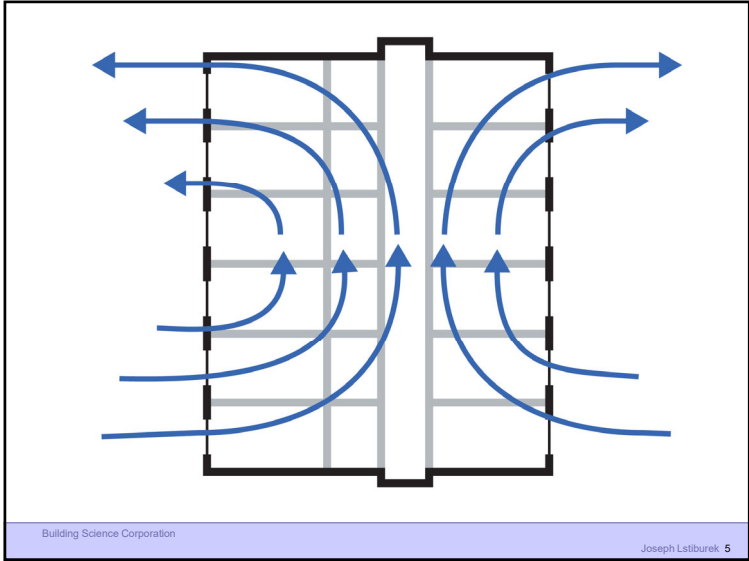
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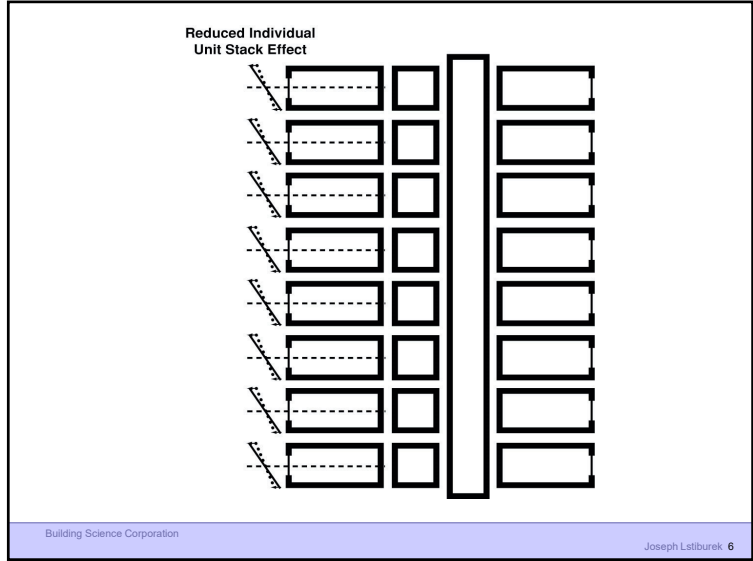
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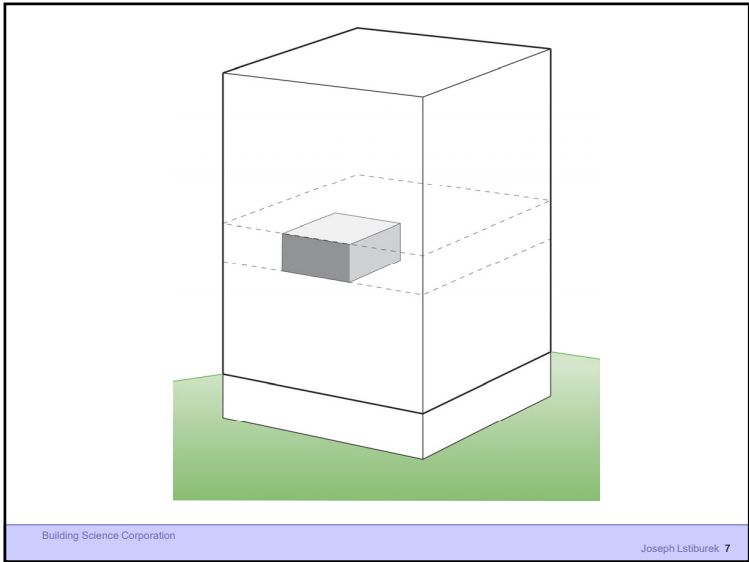
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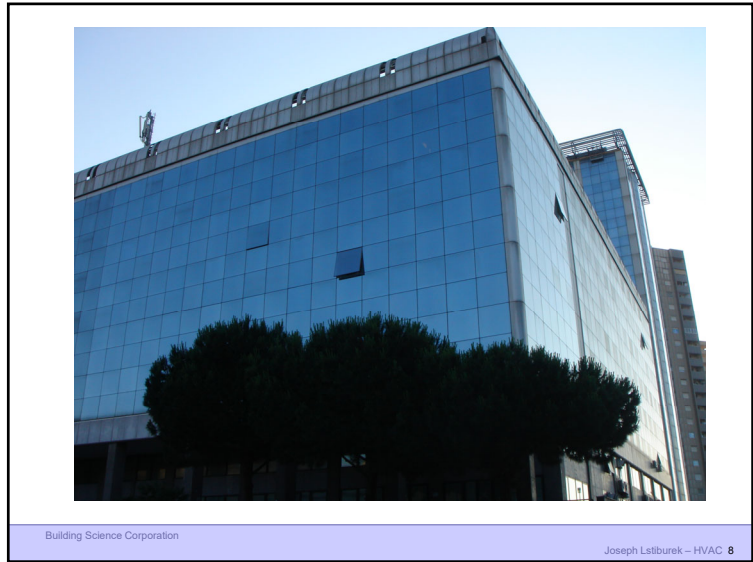
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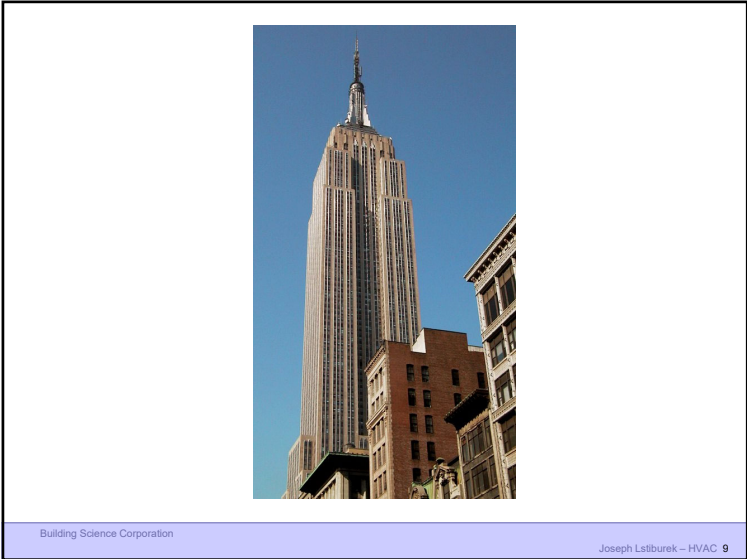
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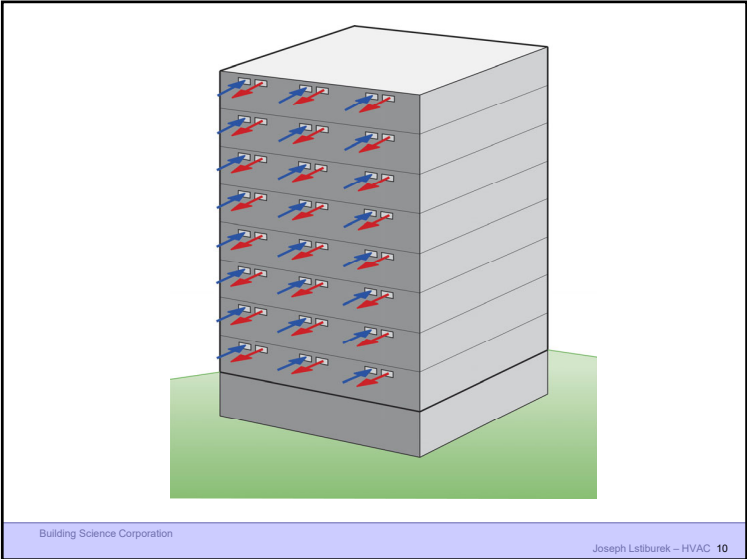
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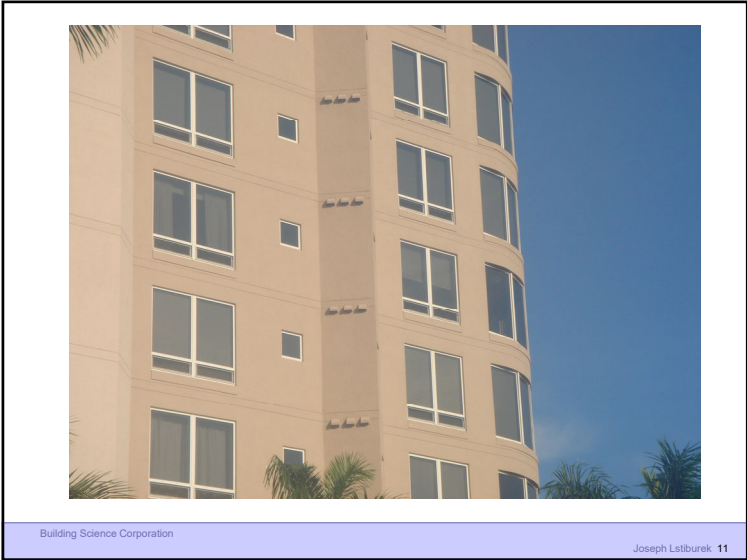
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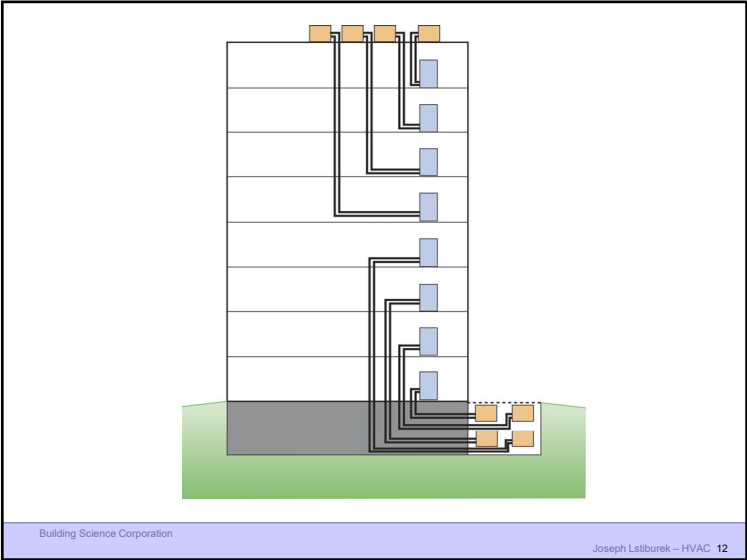
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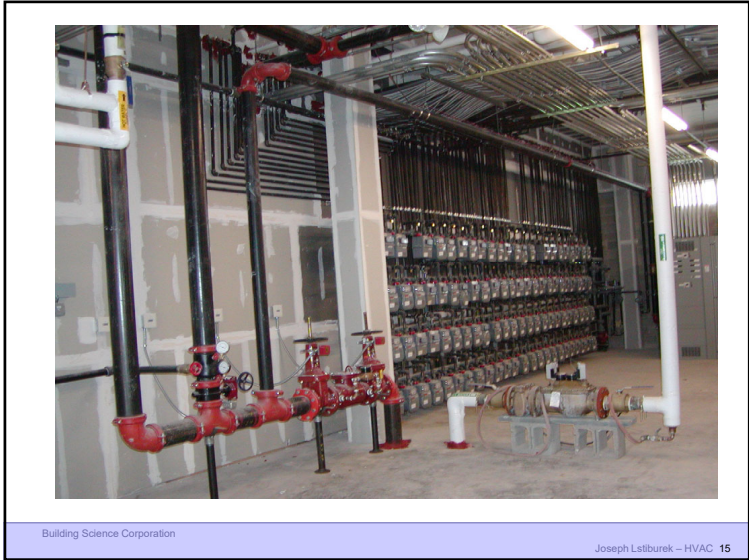
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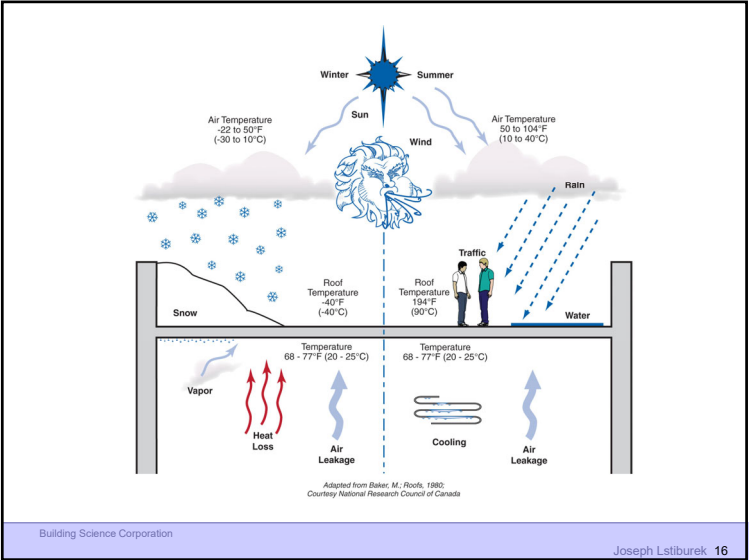
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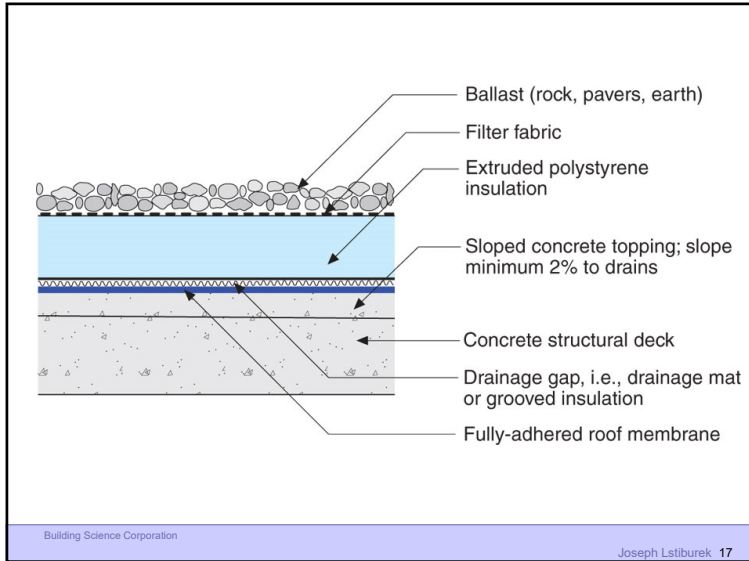
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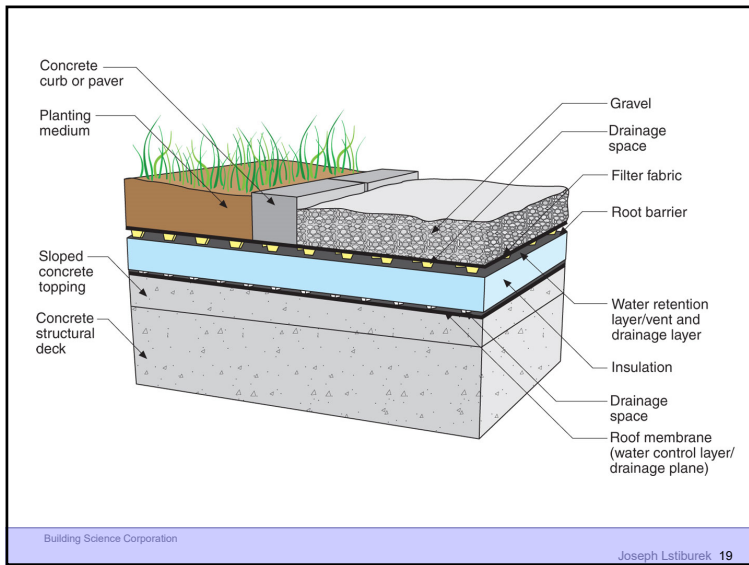
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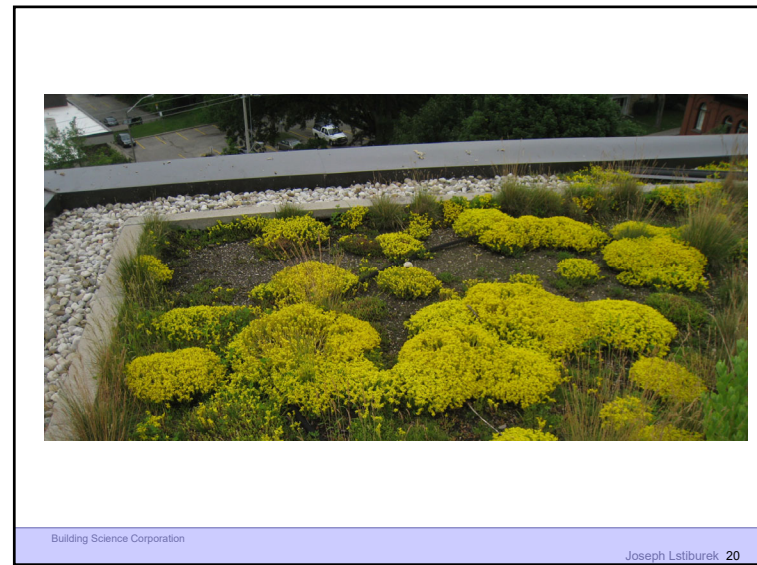
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Stucco Evolved As A Barrier System

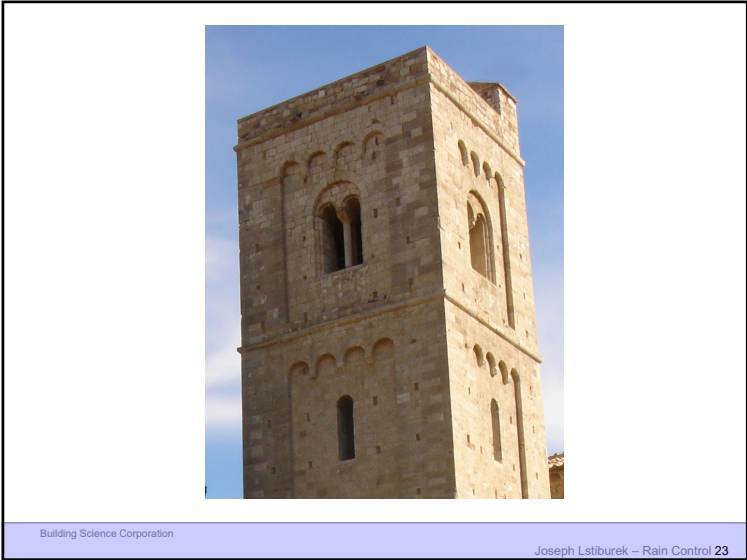
Building Science Corporation Joseph Lstiburek 21

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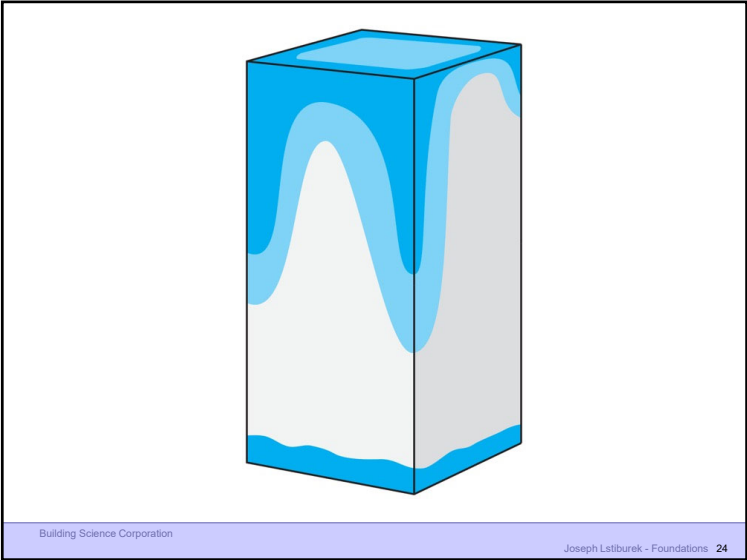
Mass Wall Evolution

Building Science Corporation Joseph Lstiburek 22

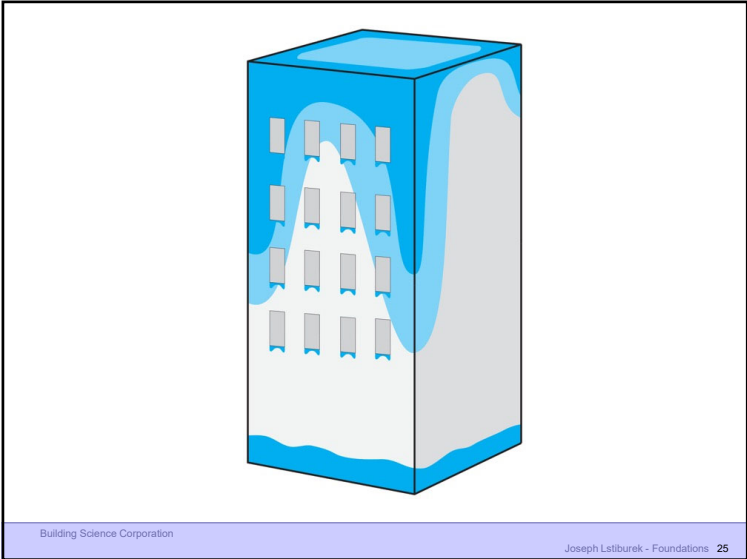
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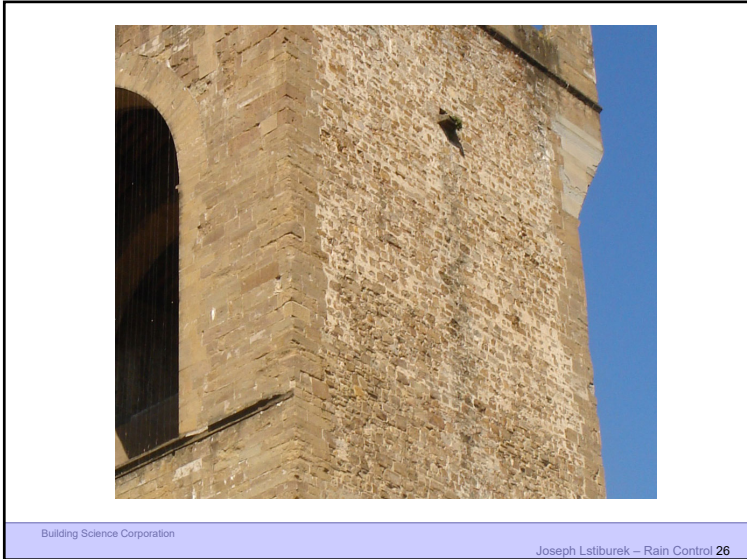
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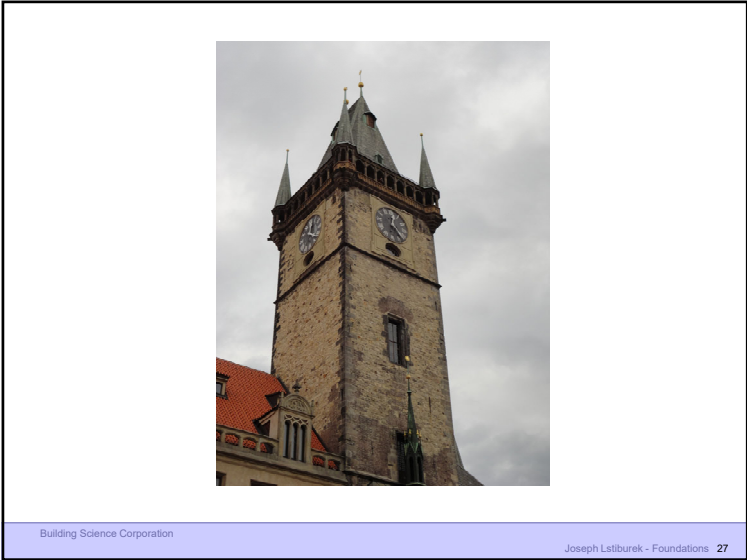
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Joseph Lstiburek - Rain Control 26

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Joseph Lstiburek - Foundations 27

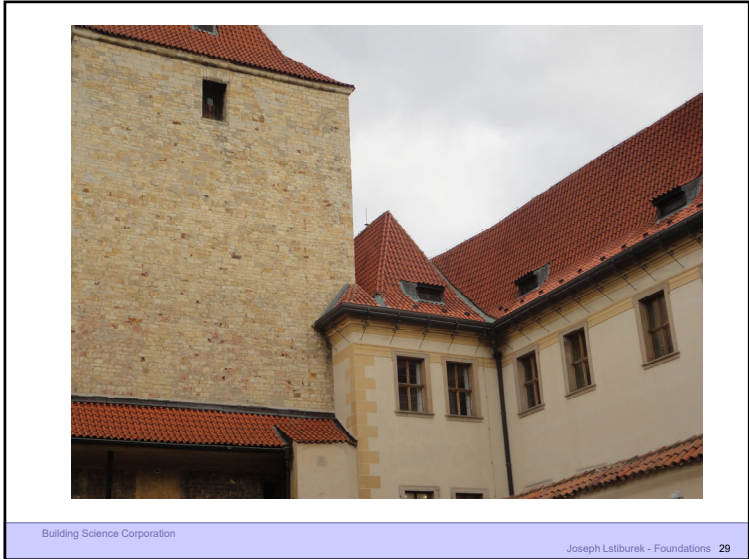
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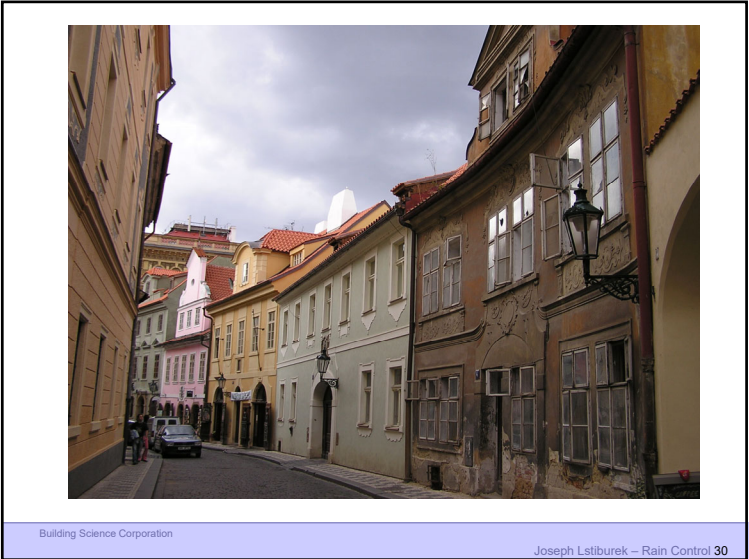
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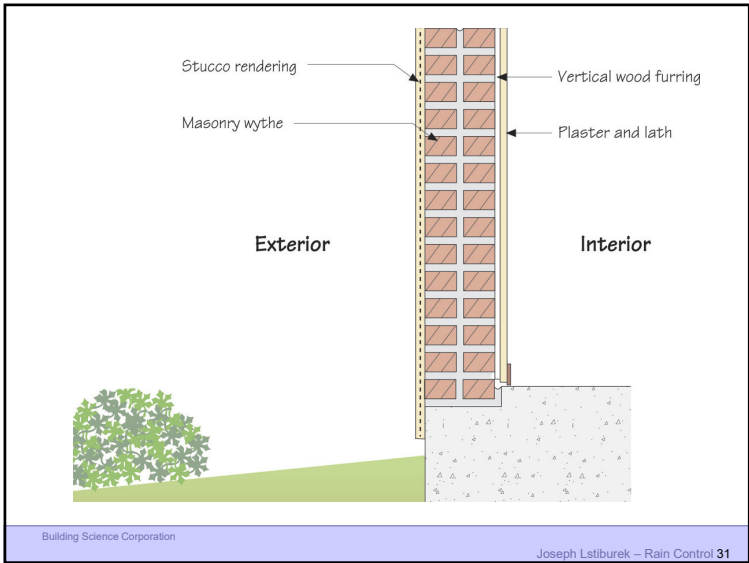
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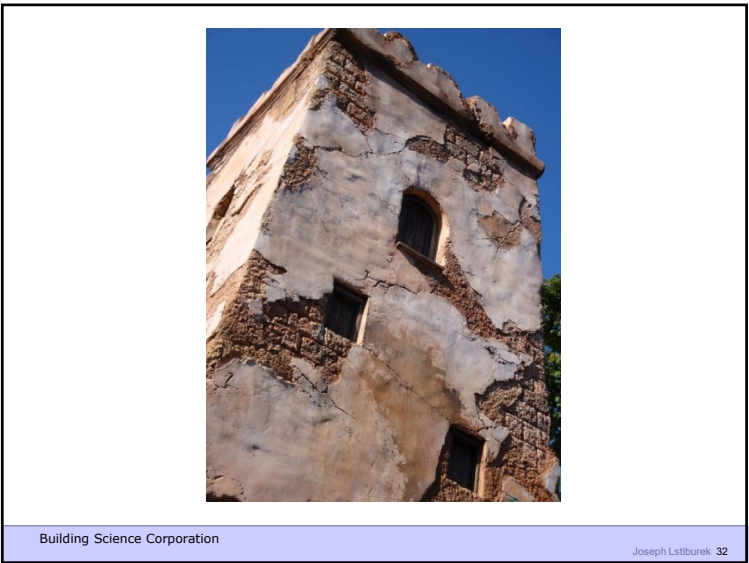
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32



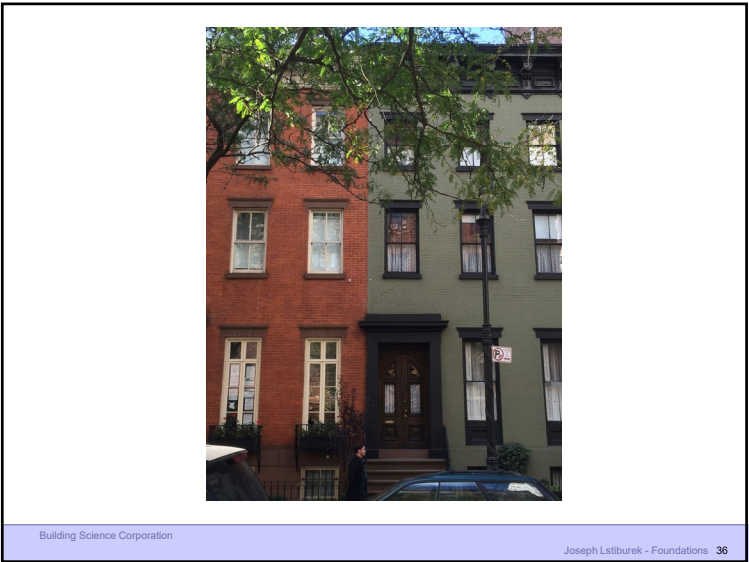
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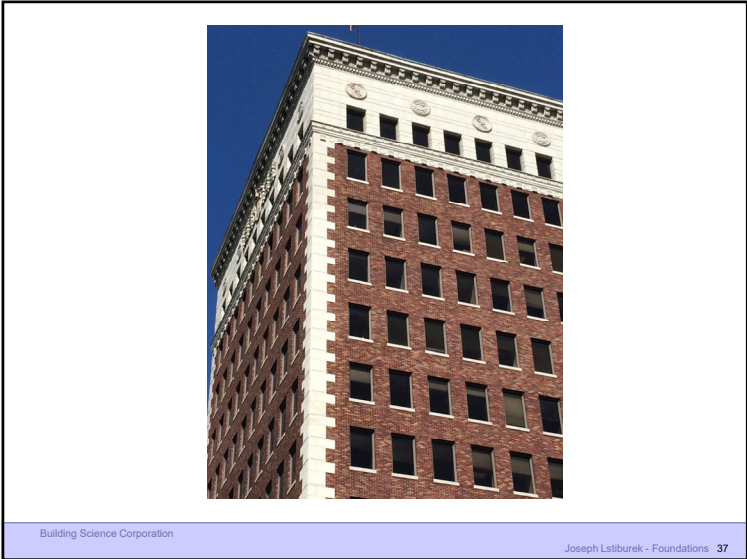
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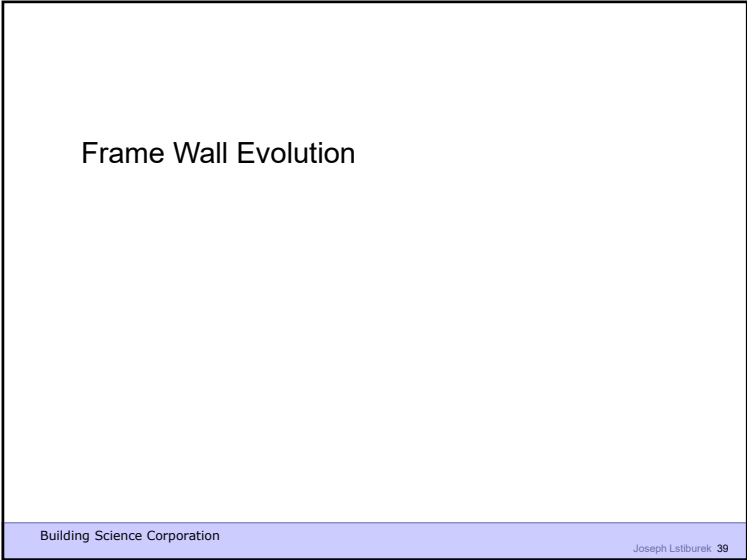
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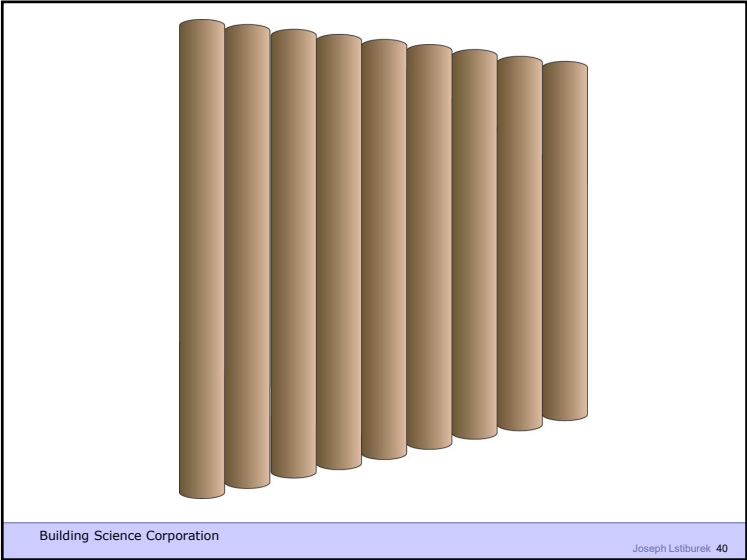
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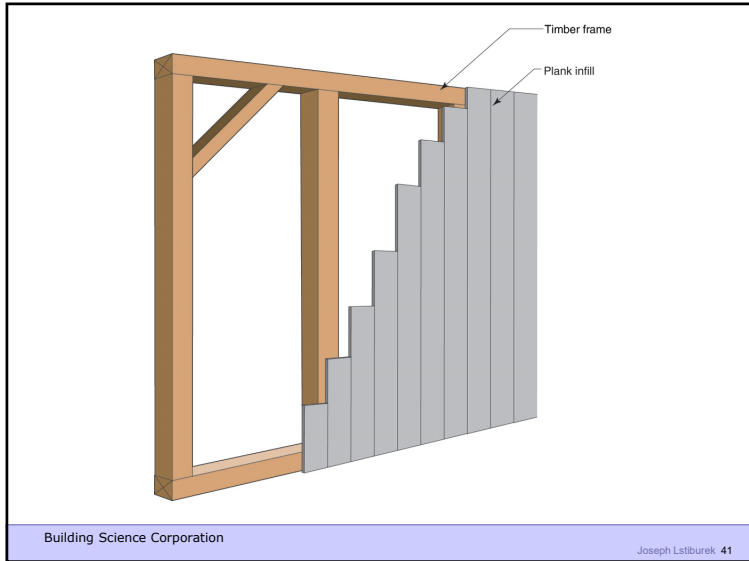
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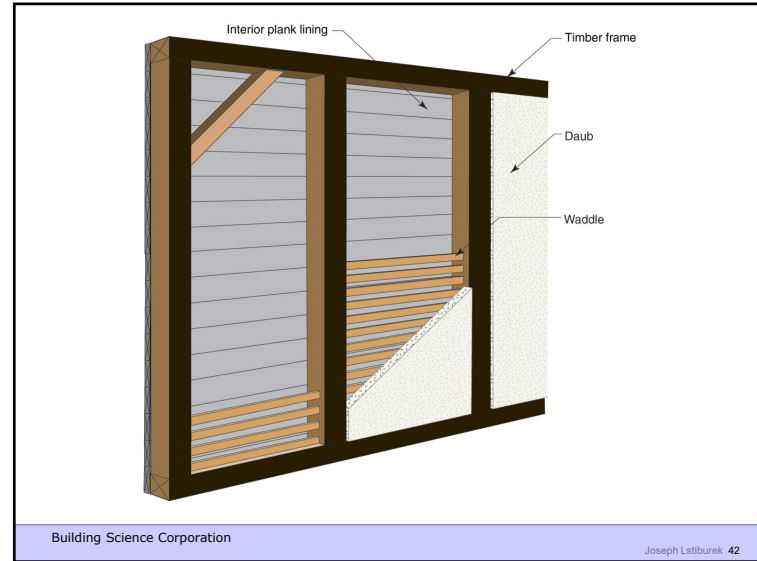
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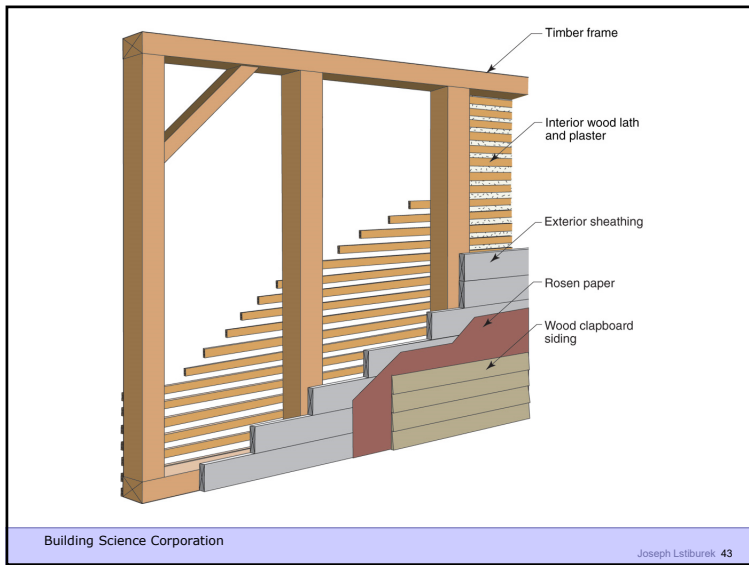
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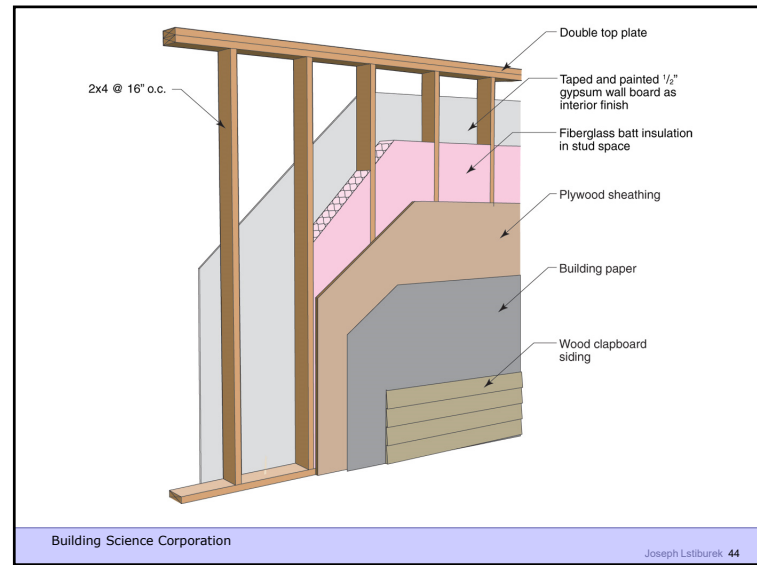
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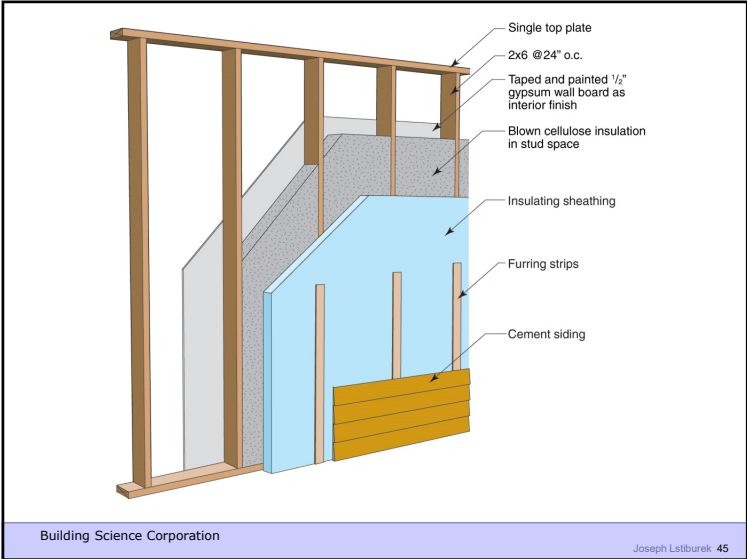
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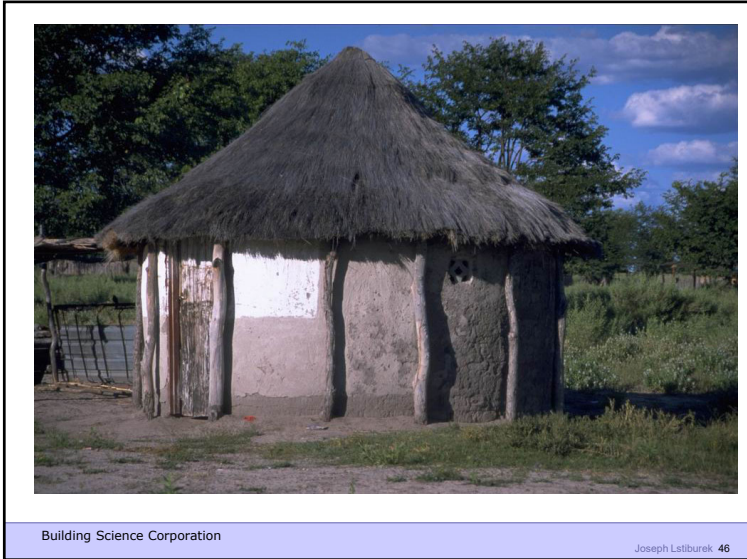
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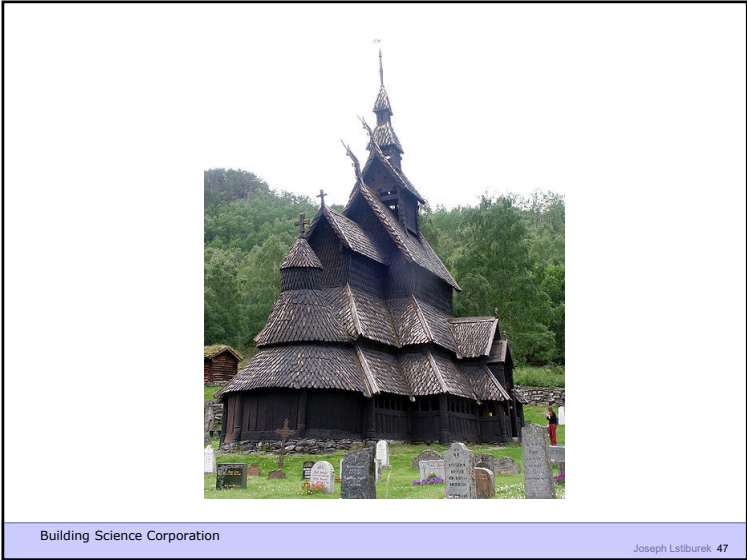
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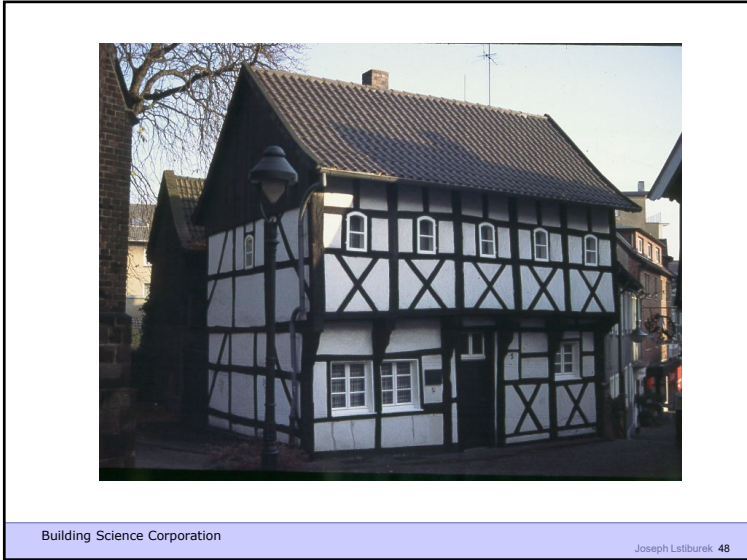
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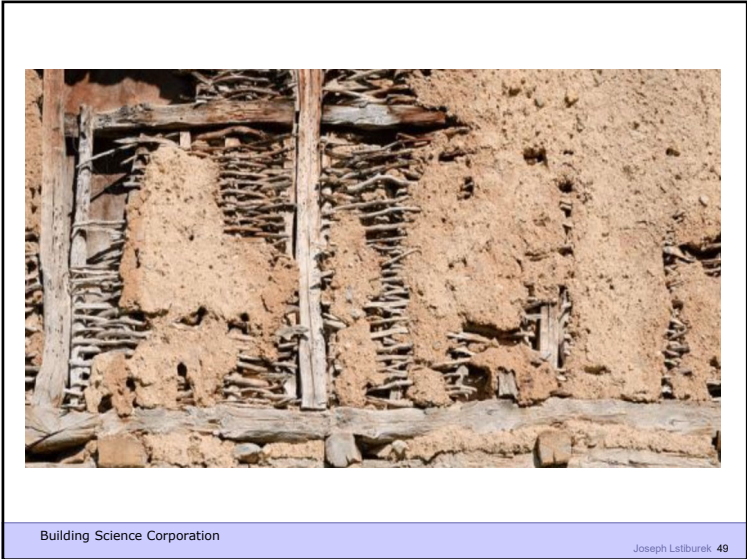
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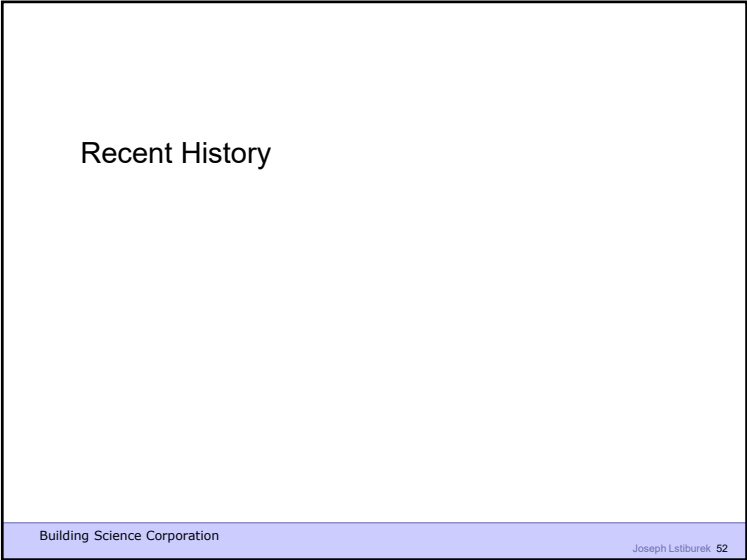
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Exterior Insulation Finish Systems
EIFS

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Exterior Insulation Finish Systems
EIFS
Barrier System
Face-Sealed Not Water Managed

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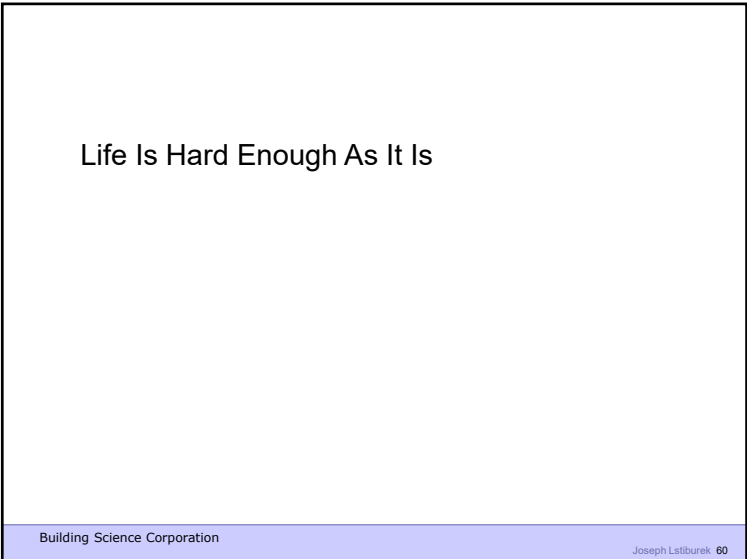
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It's Harder When You Are Stupid

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Don't Do Stupid Things

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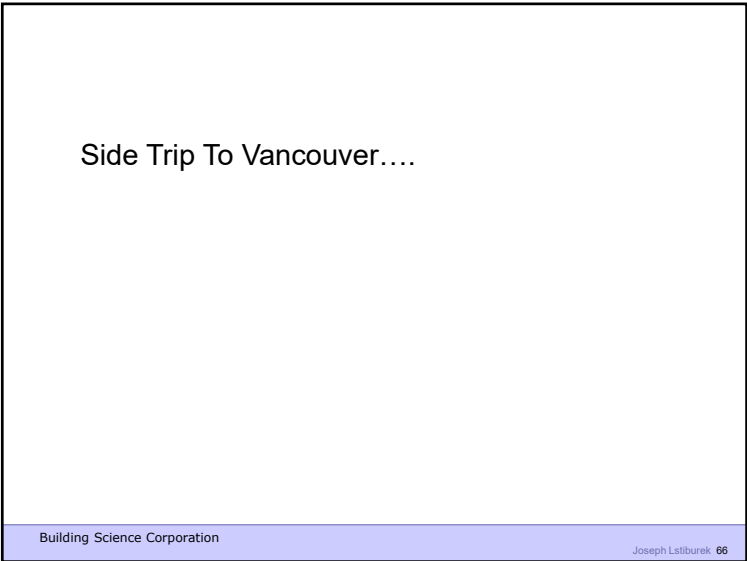
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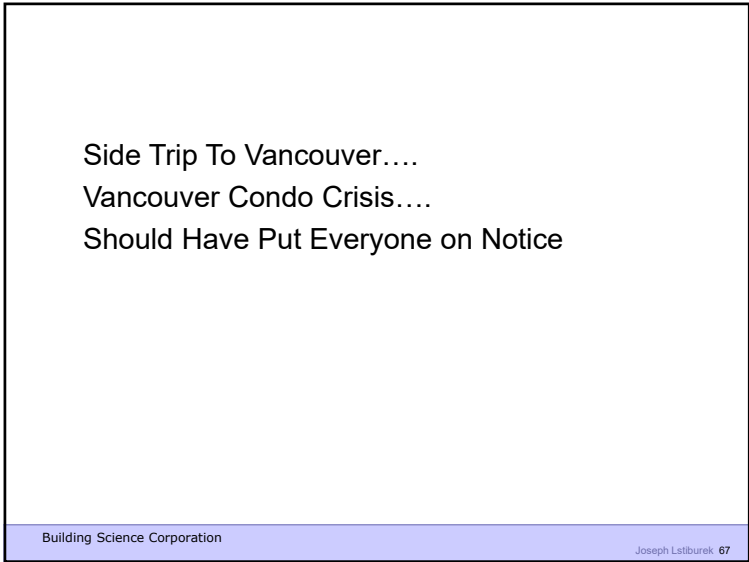
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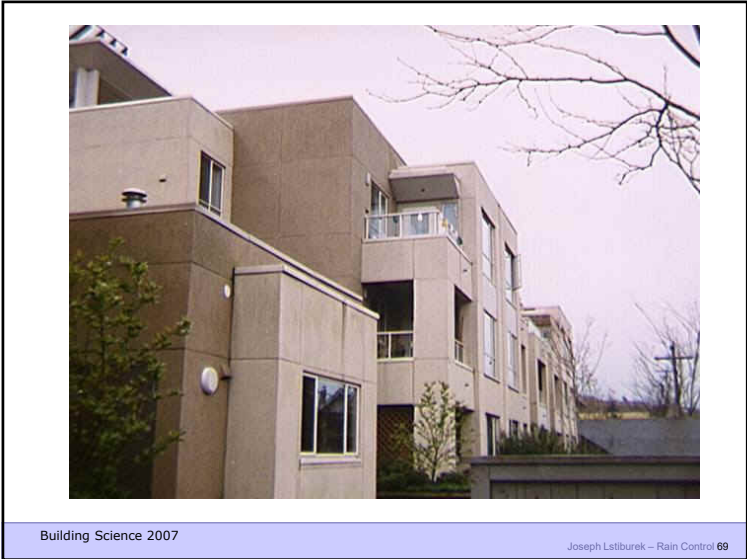
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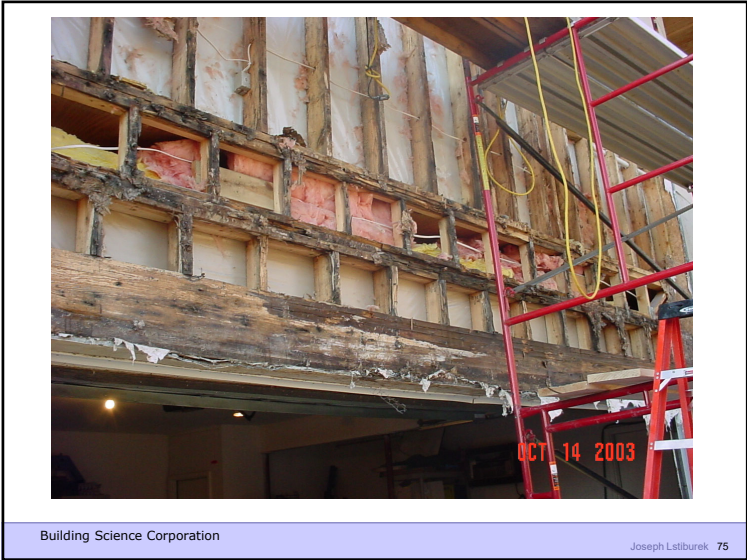
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What Happened In Vancouver?
 OSB Instead of Plywood
 Non Traditional Building Wraps
 Interior Vapor Barriers
 Increased Thermal Resistance
 Portland Cement Instead of Lime

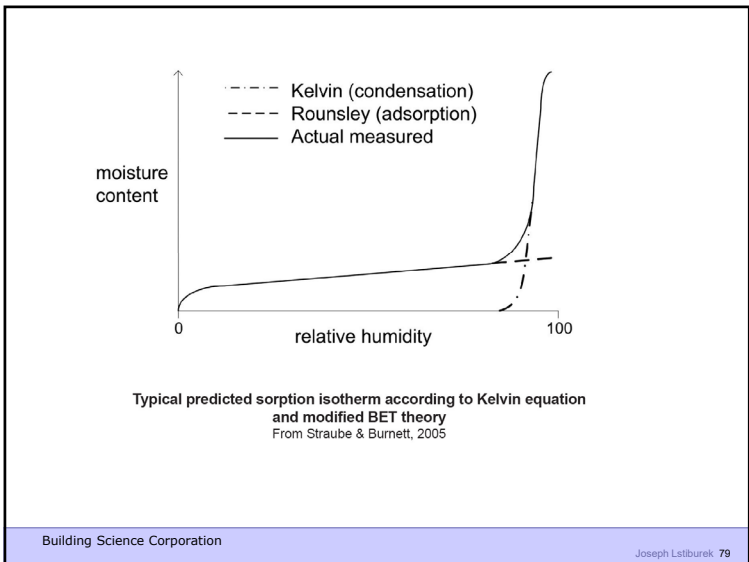
Building Science Corporation Joseph Lstiburek 77

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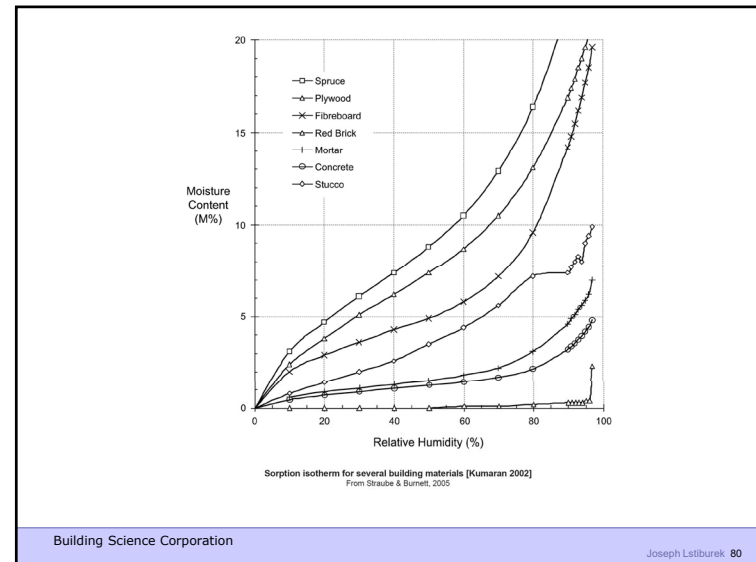
Materials
 Inward Drive
 Energy

Building Science Corporation Joseph Lstiburek 78

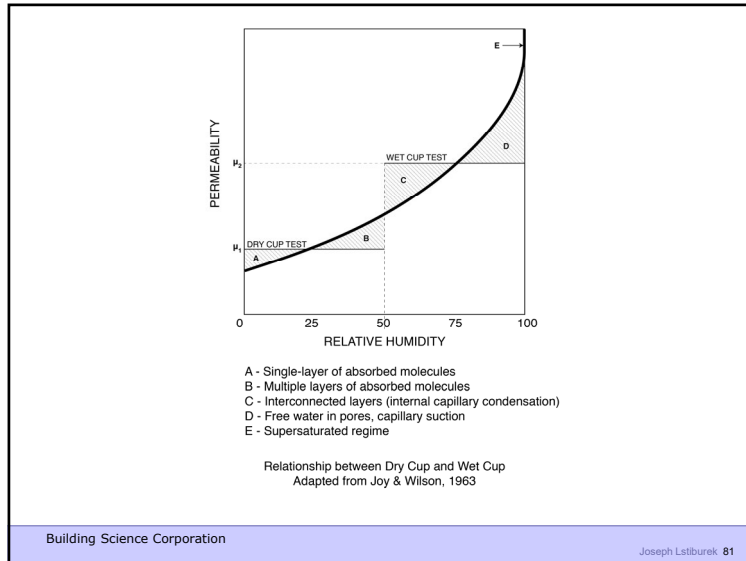
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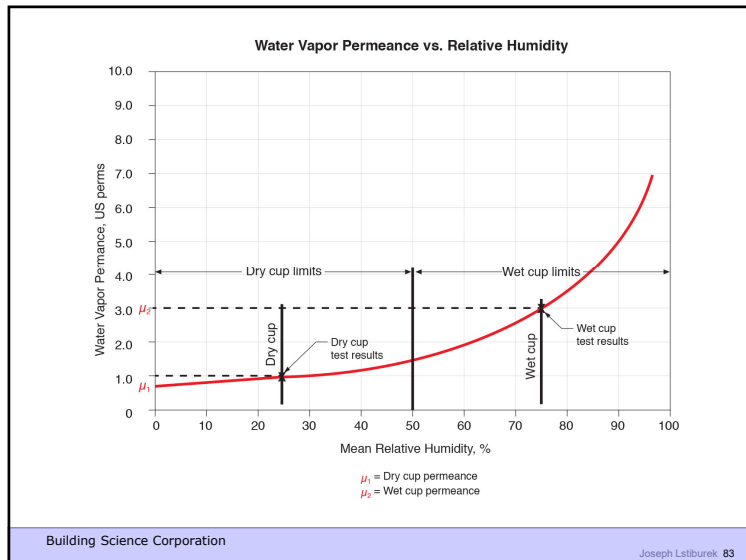
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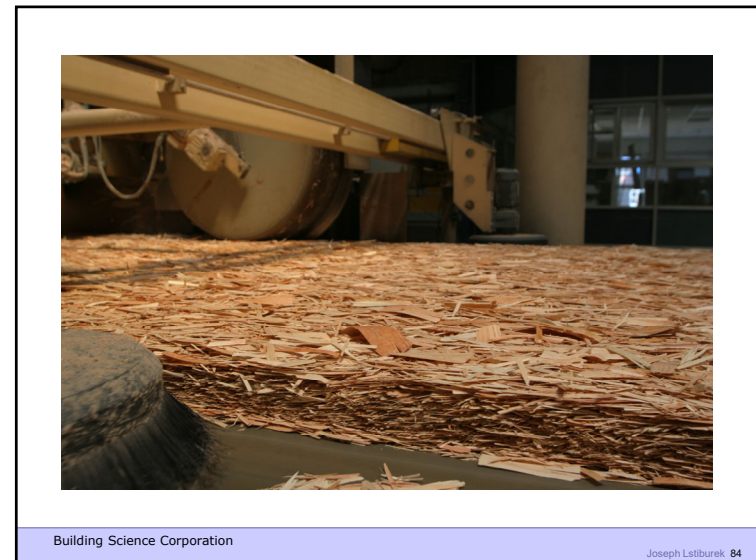
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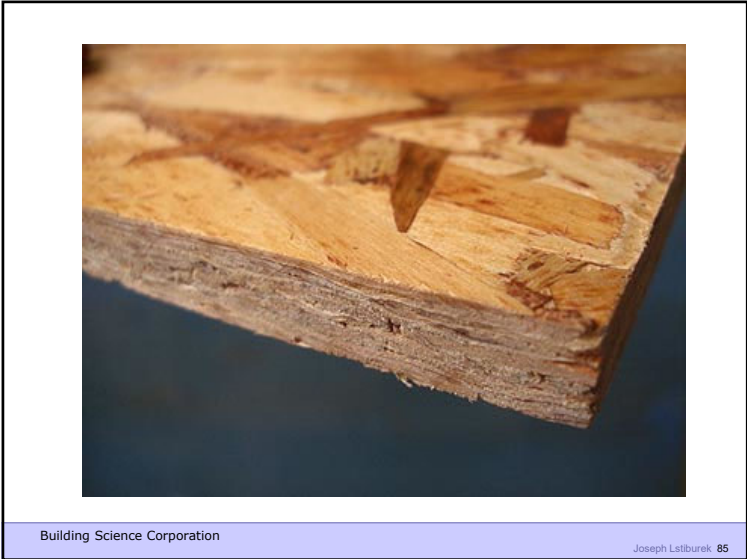
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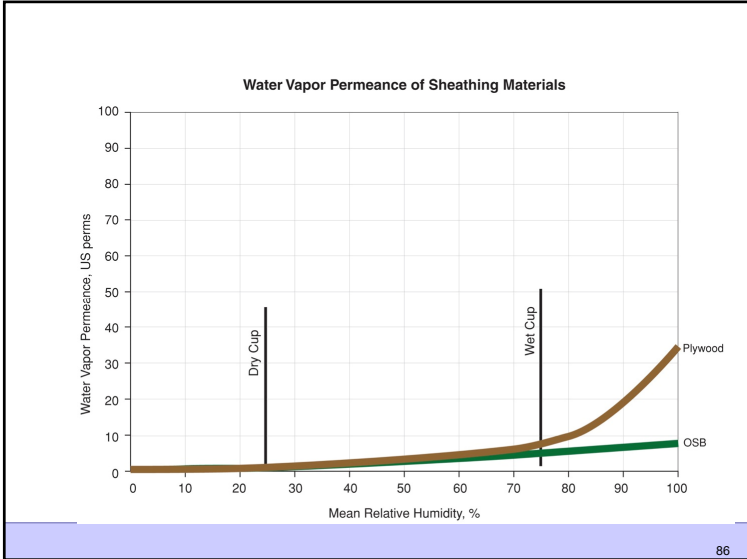
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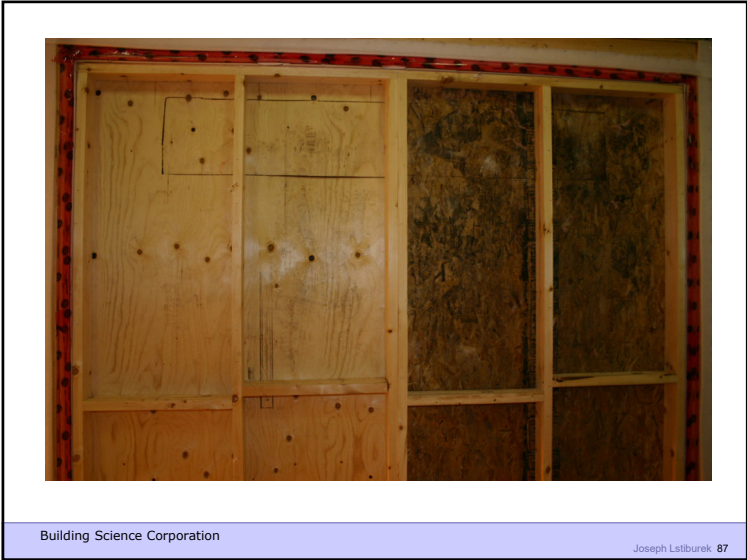
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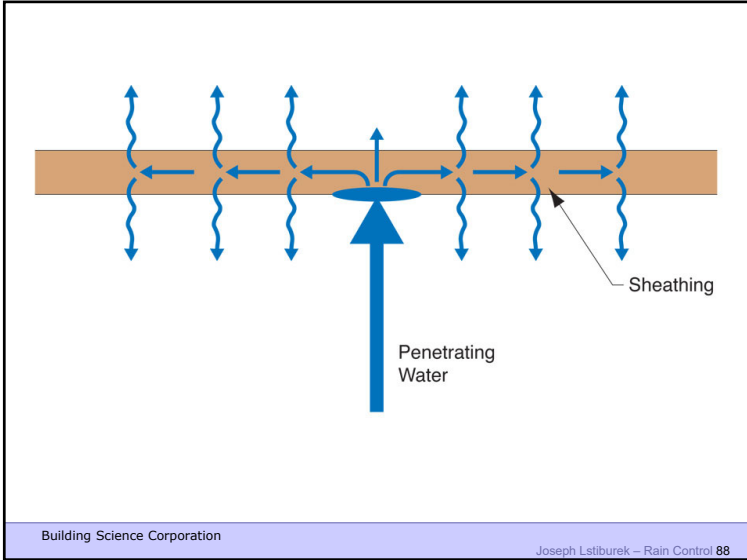
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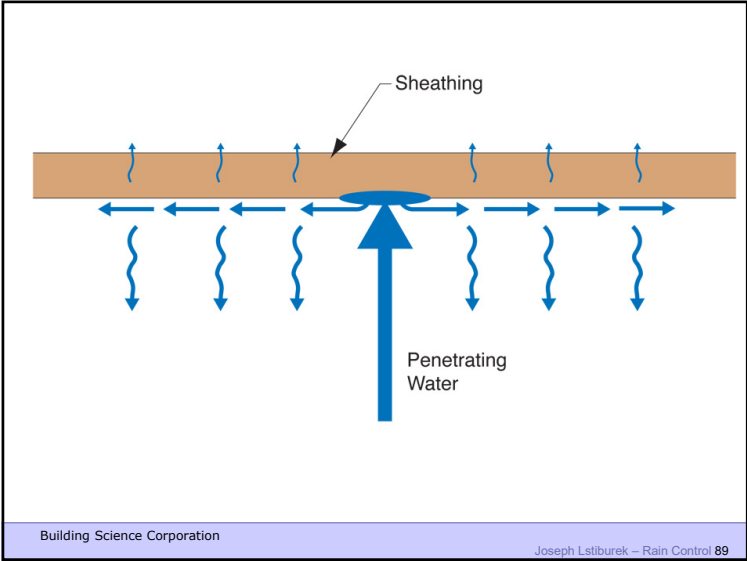
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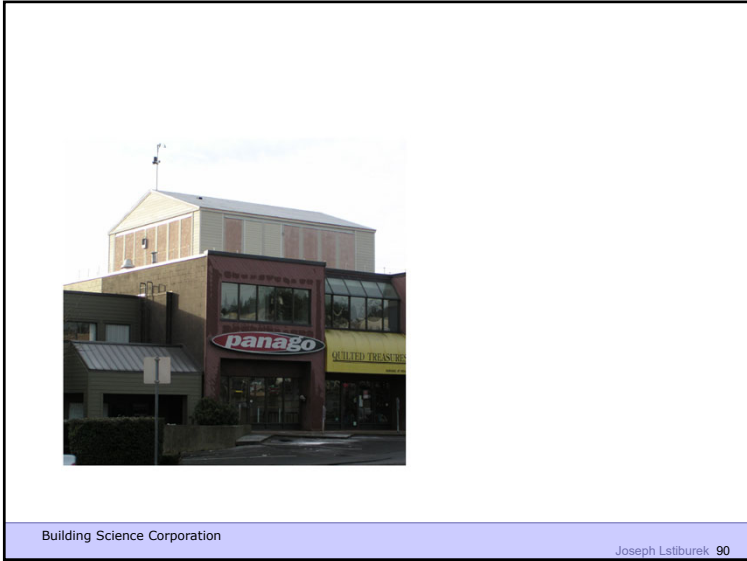
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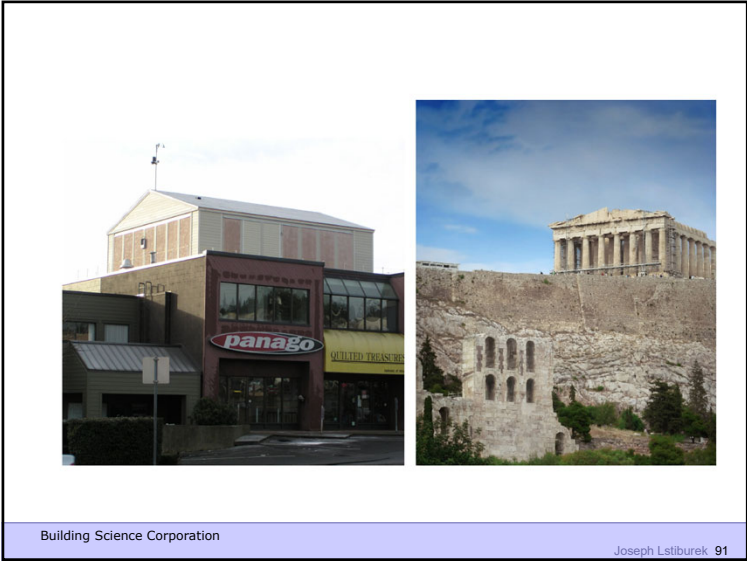
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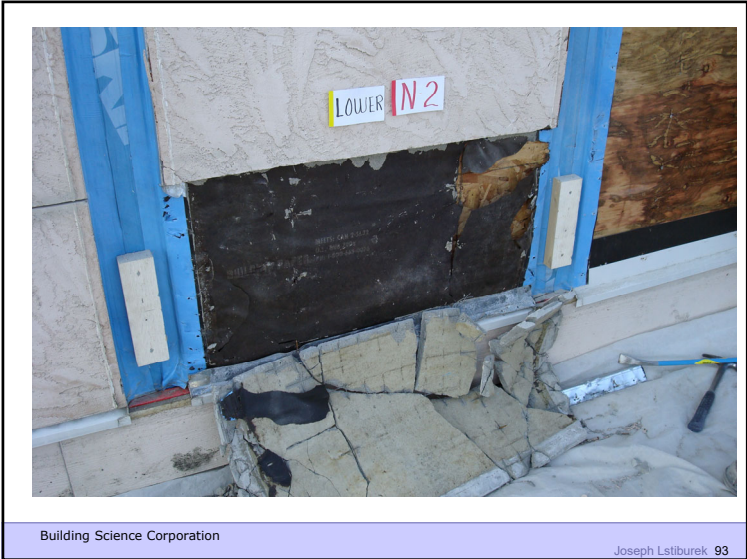
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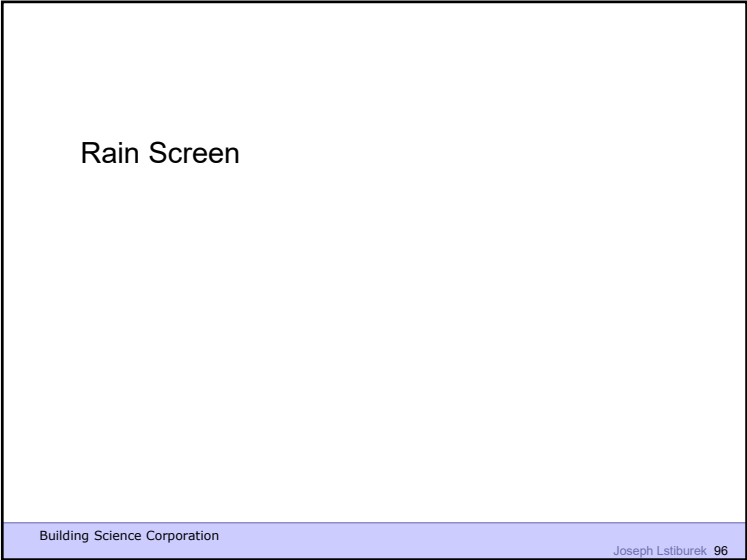
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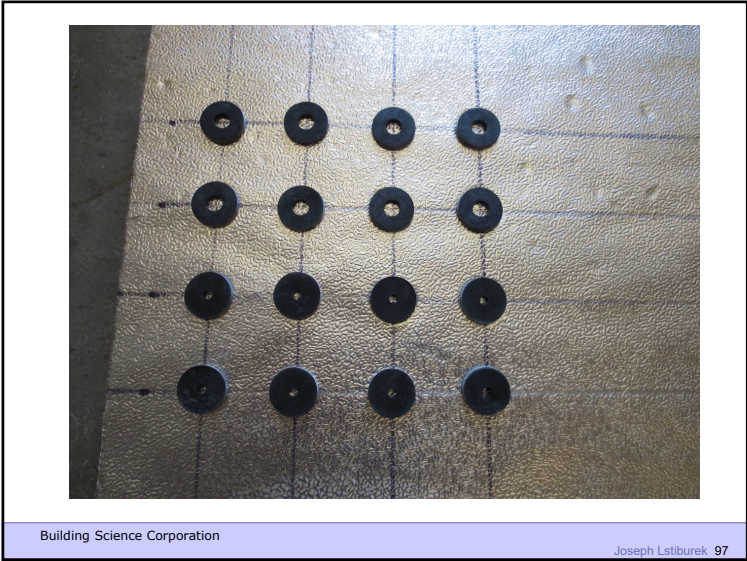
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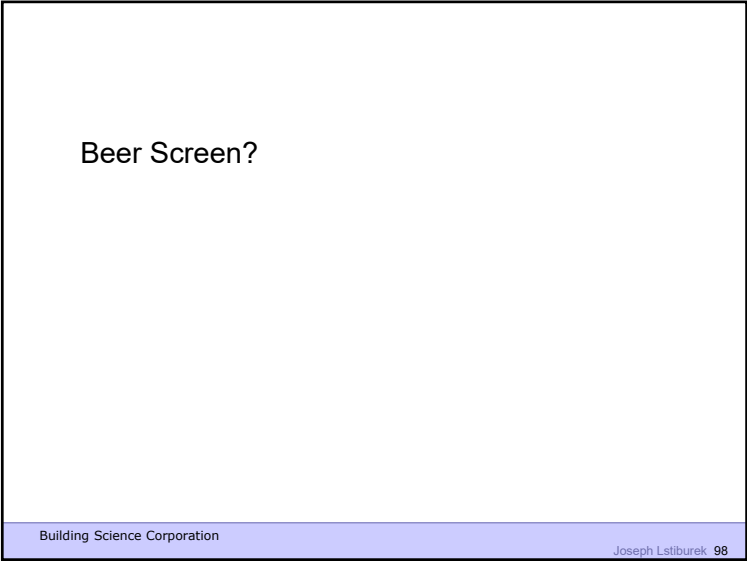
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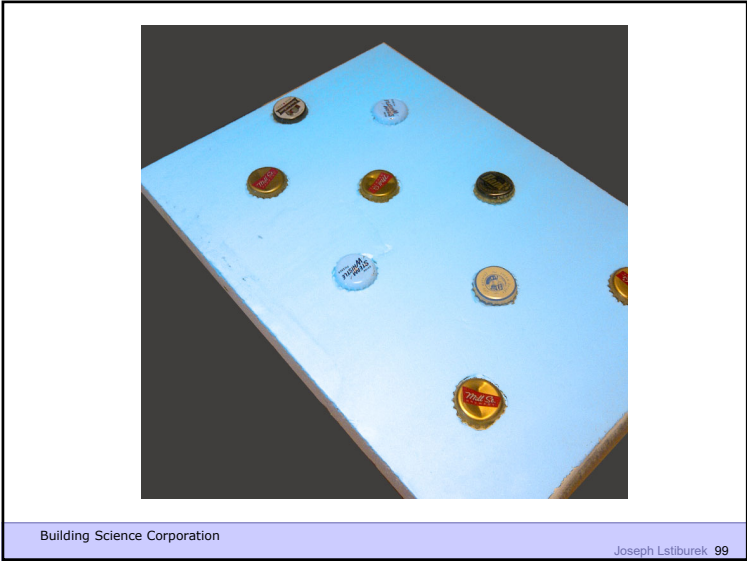
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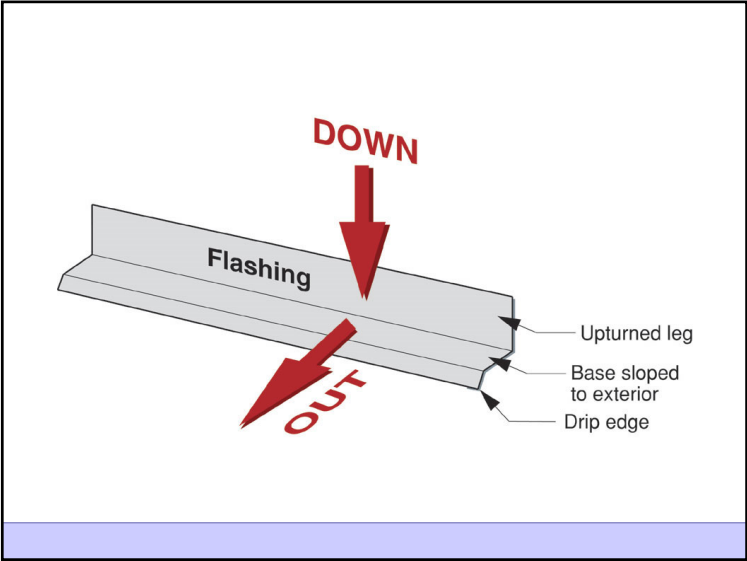
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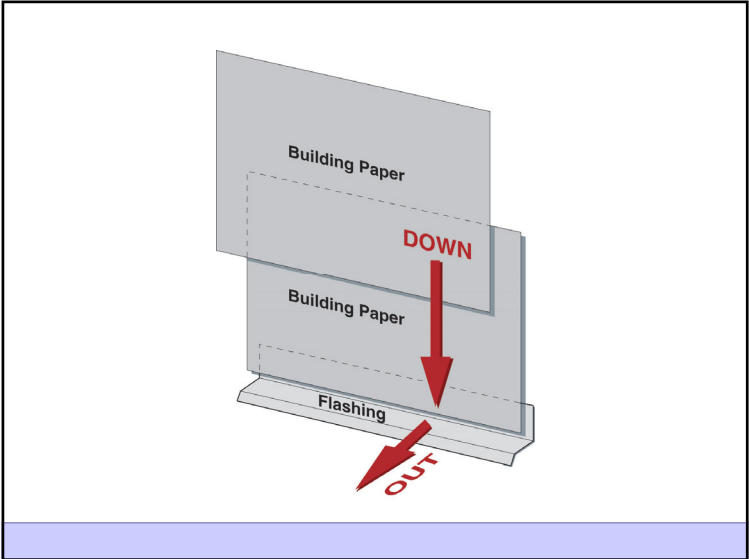
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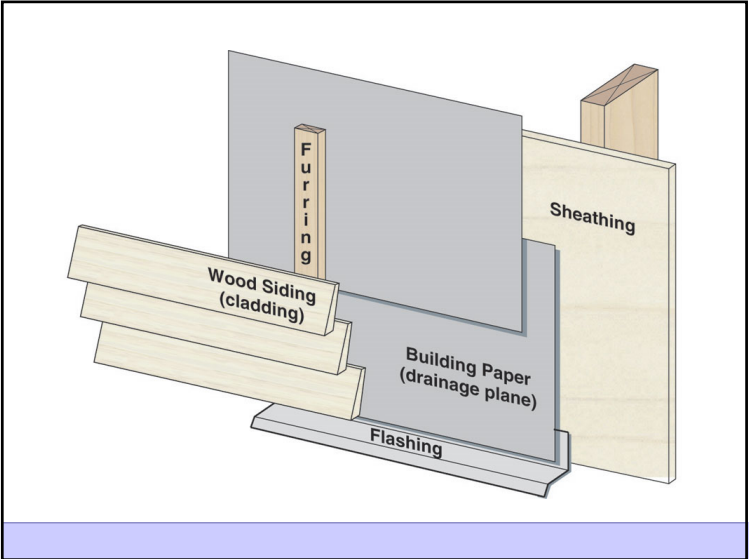
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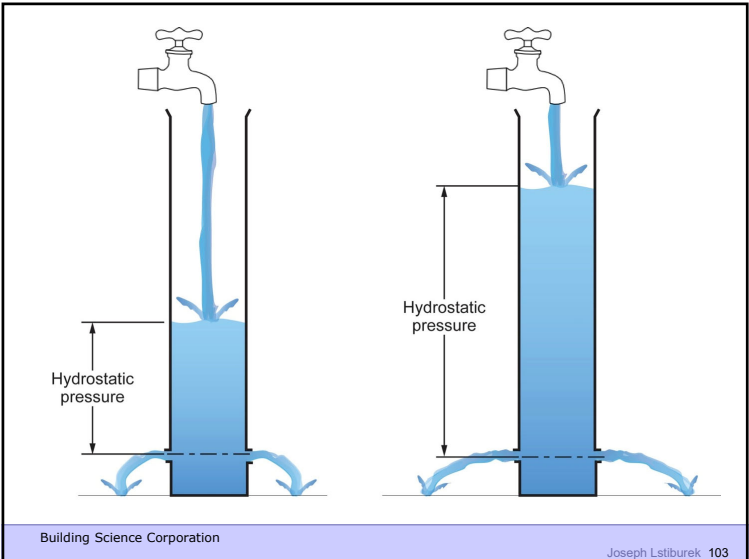
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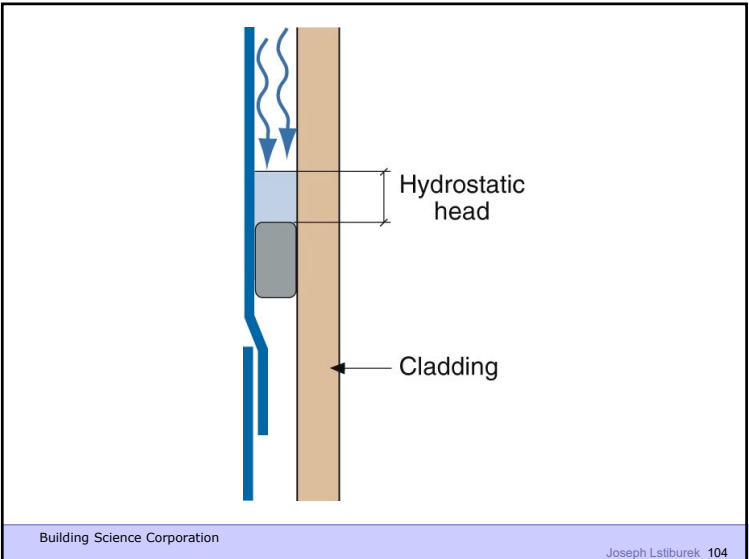
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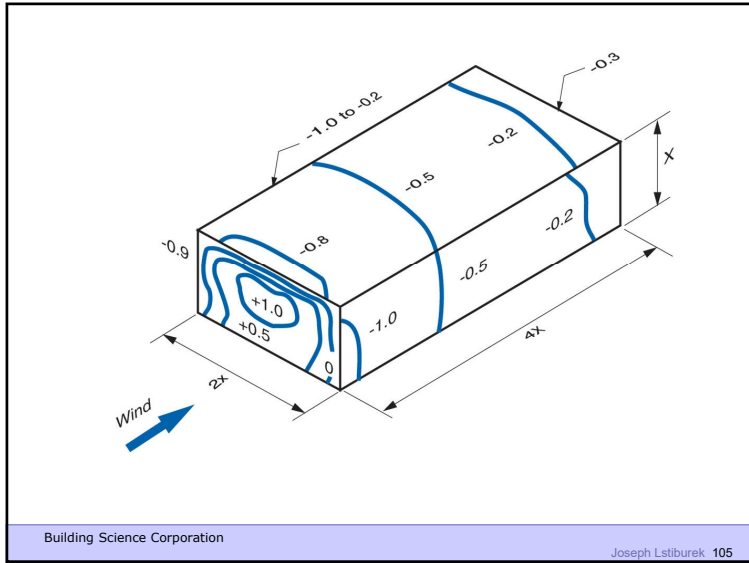
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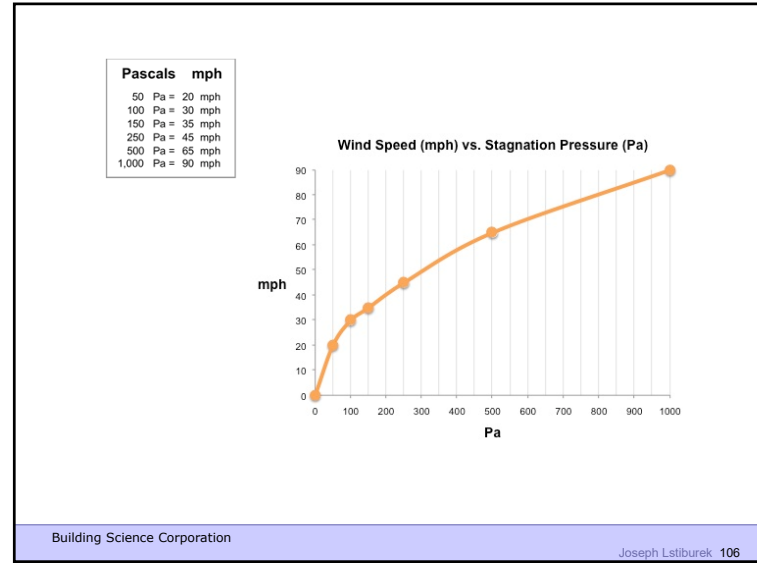
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Joseph Lstiburek 104



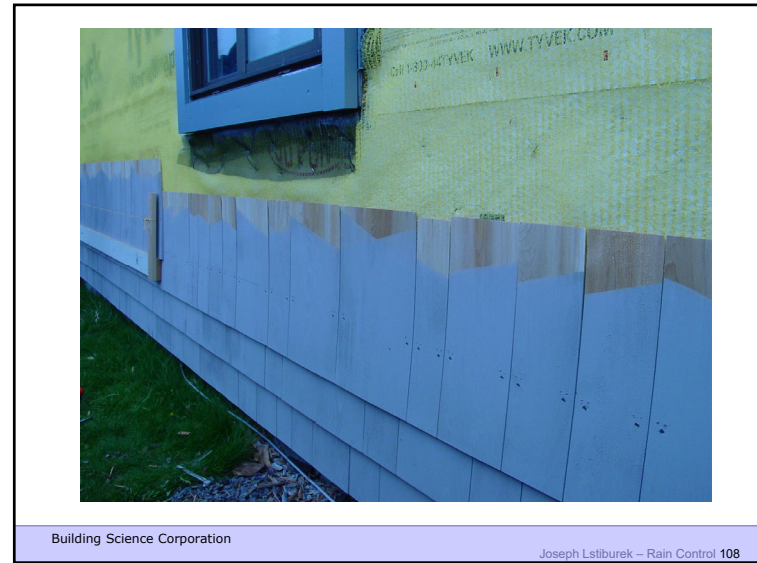
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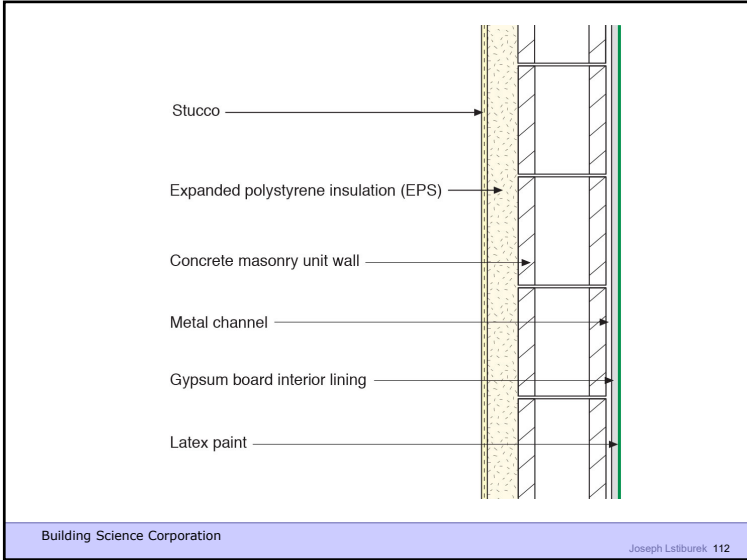
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EIFS No Longer Has Issues

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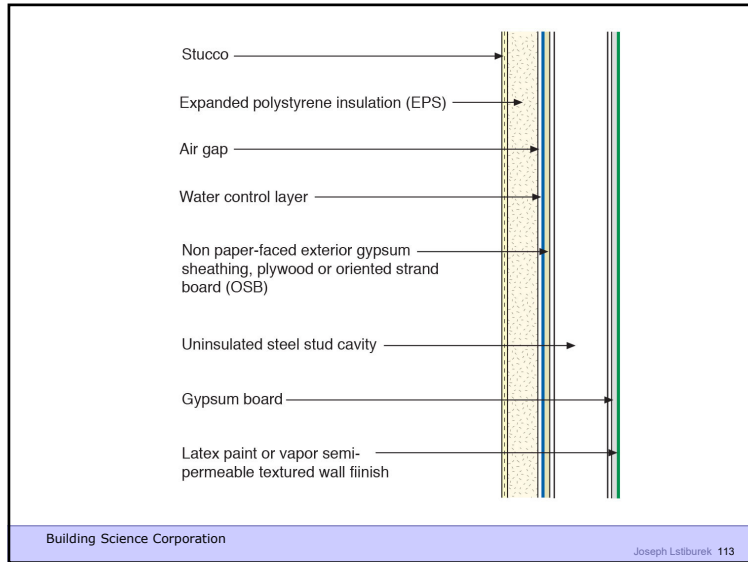
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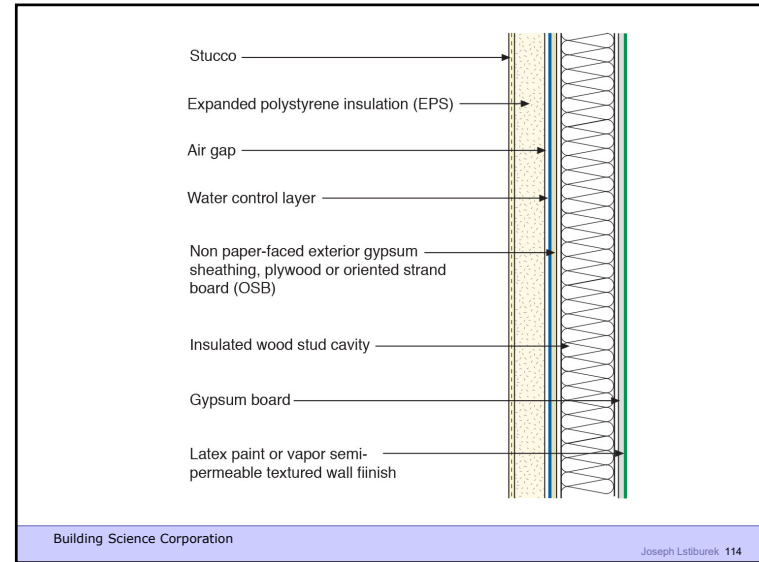
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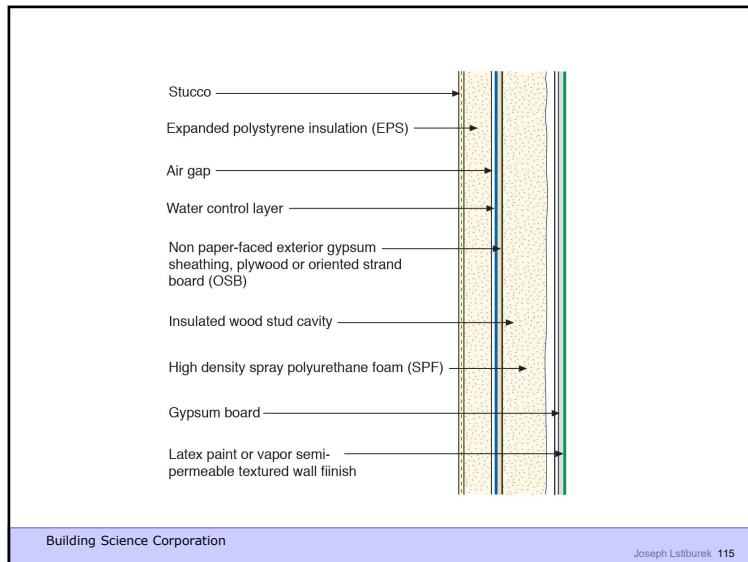
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Back To Stucco....

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Lime vs Portland Cement
Polymer Modification

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Traditional Lime Stucco	Greater than 20 perms
Lime/Portland Cement Stucco	5 to 10 perms
Portland Cement Stucco	1 to 5 perms
Polymer Modification	Less than 1

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← Increasing Permeance

Scratch Coat
Brown Coat
Finish Coat

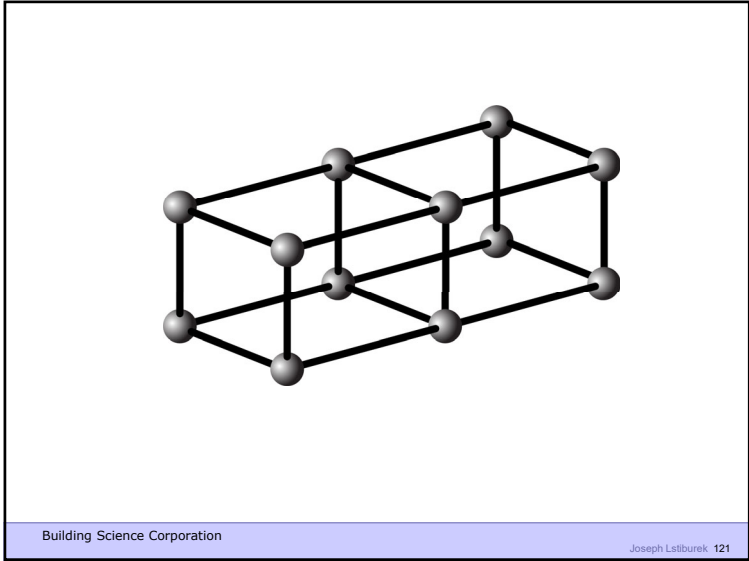
Building Science Corporation Joseph Lstiburek 119

119

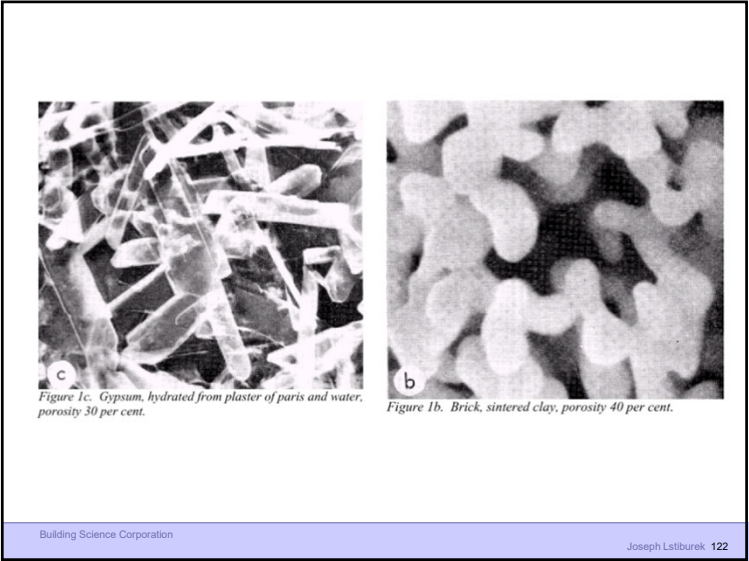
Horizontal "scoring"
provides mechanical
bond and "shelf"
for water during "wet" curing

Building Science Corporation Joseph Lstiburek 120

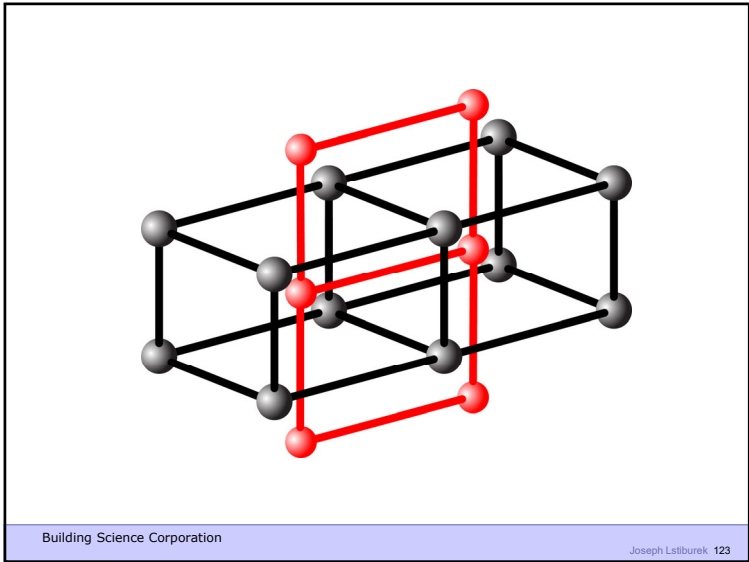
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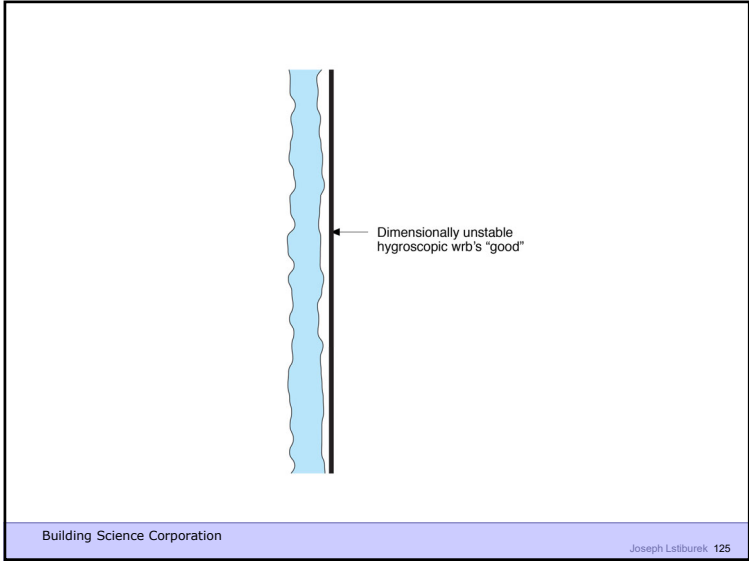


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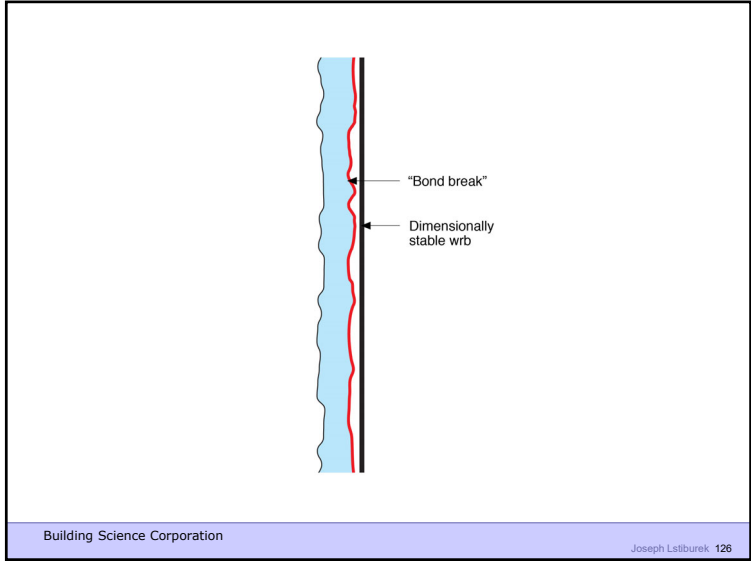
Non Traditional Building Wraps

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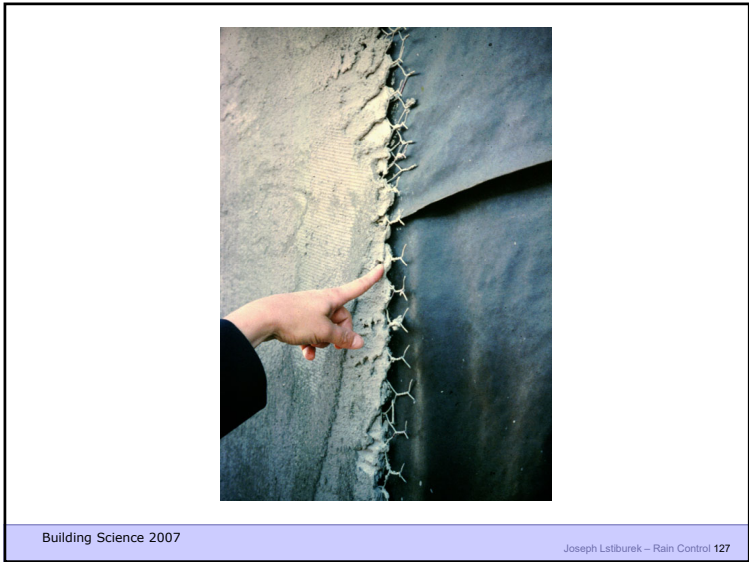
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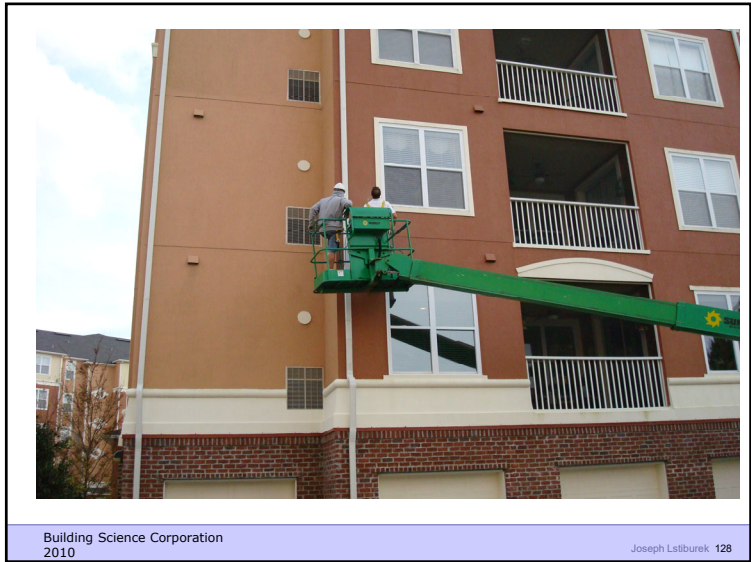
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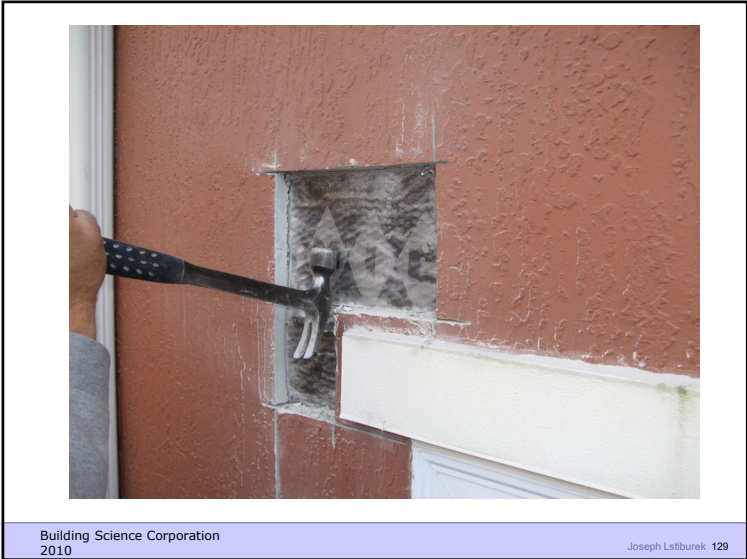
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Joseph Lstiburek 132

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Side Trip To My Backyard....

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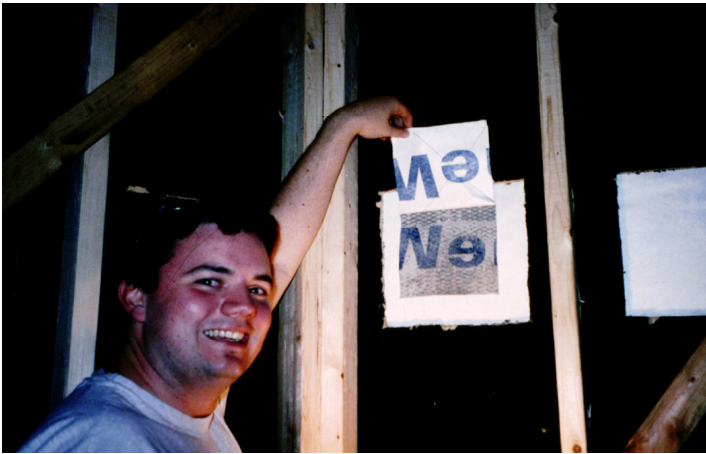
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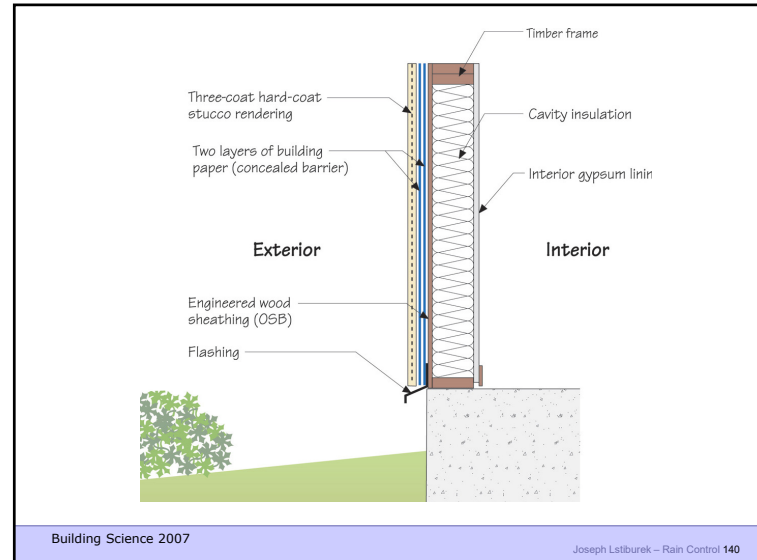
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“Lumpy Stucco”....
Should Have Been The Big US Warning....

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Back To America....Pennsylvania....
And Then Pretty Much Anywhere It Rains...

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Joseph Lstiburek 146

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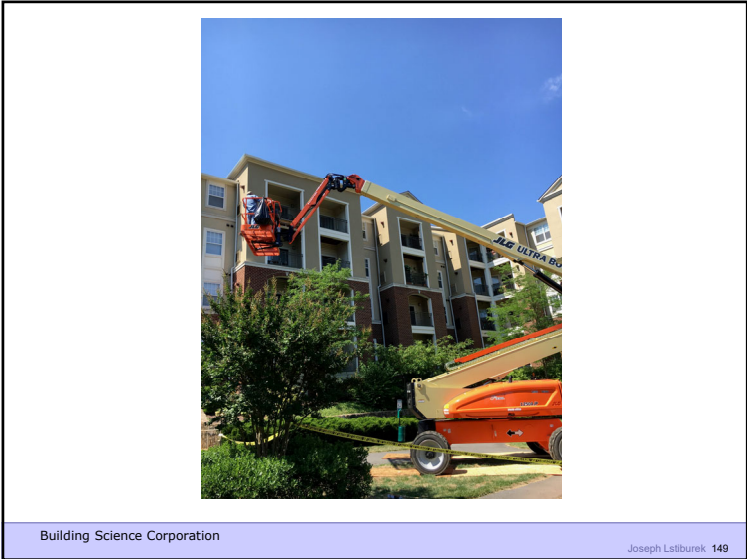
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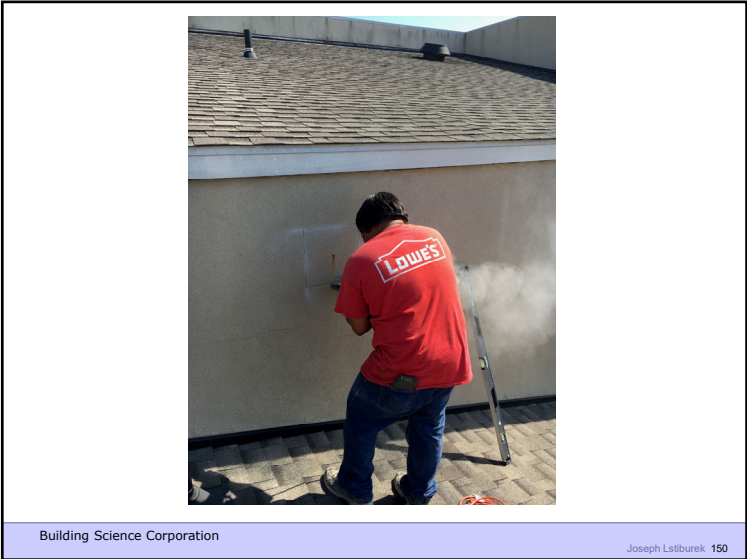
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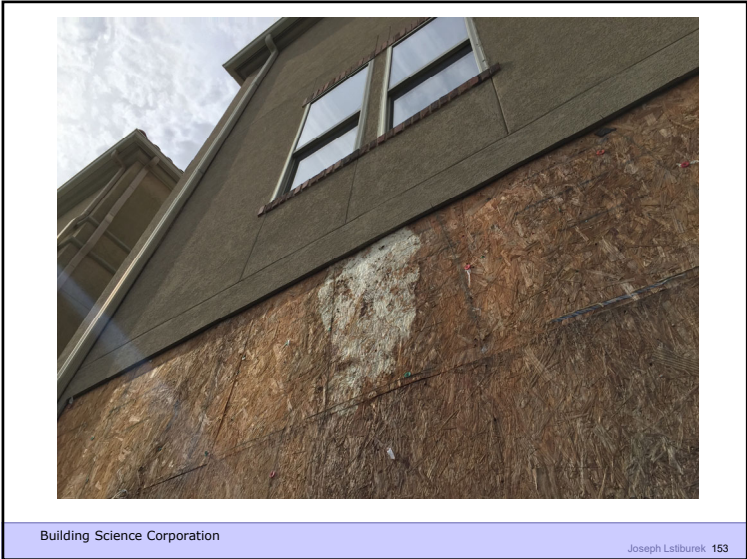
151



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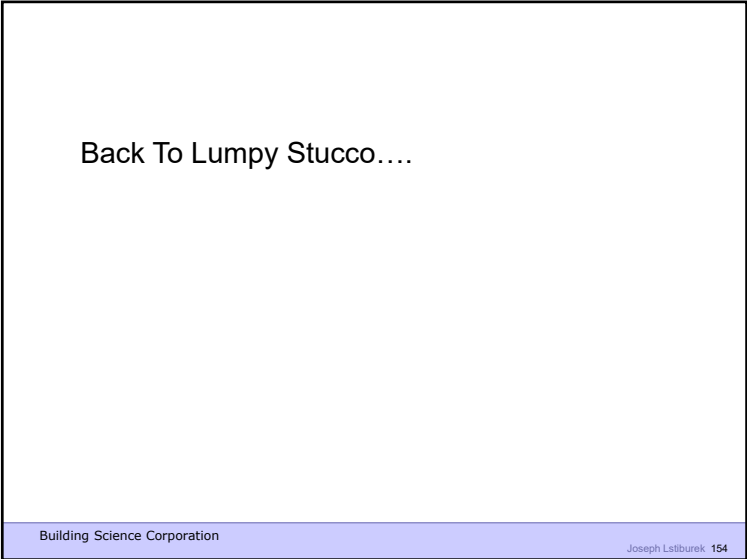
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Joseph Lstiburek 154

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Joseph Lstiburek 155

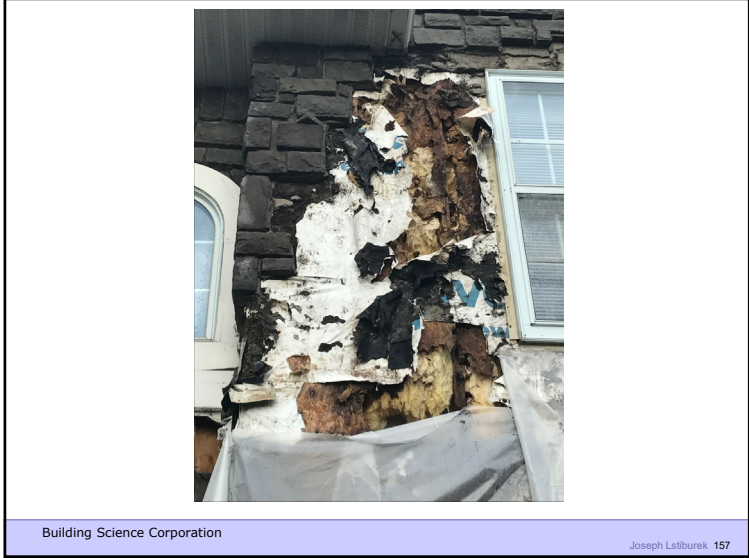
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Joseph Lstiburek 157

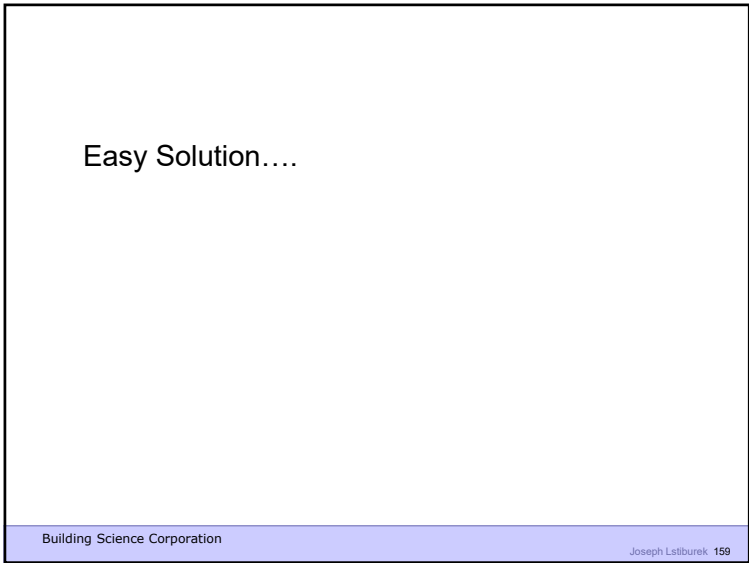
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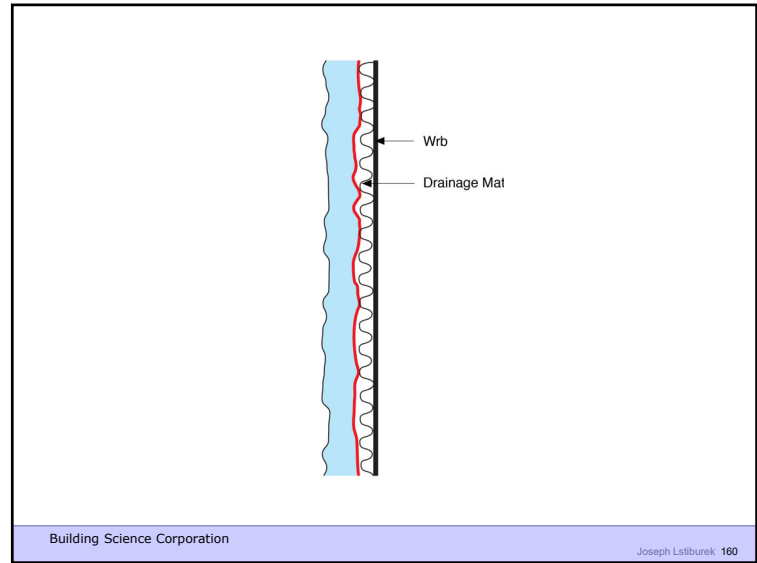
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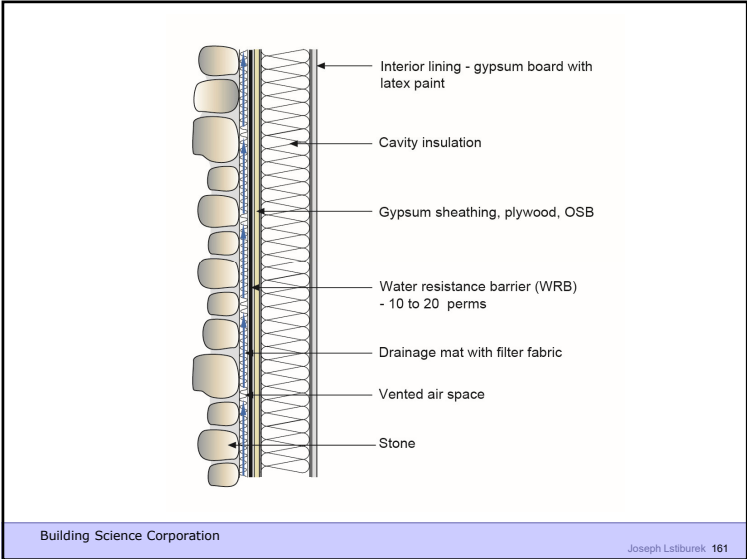
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