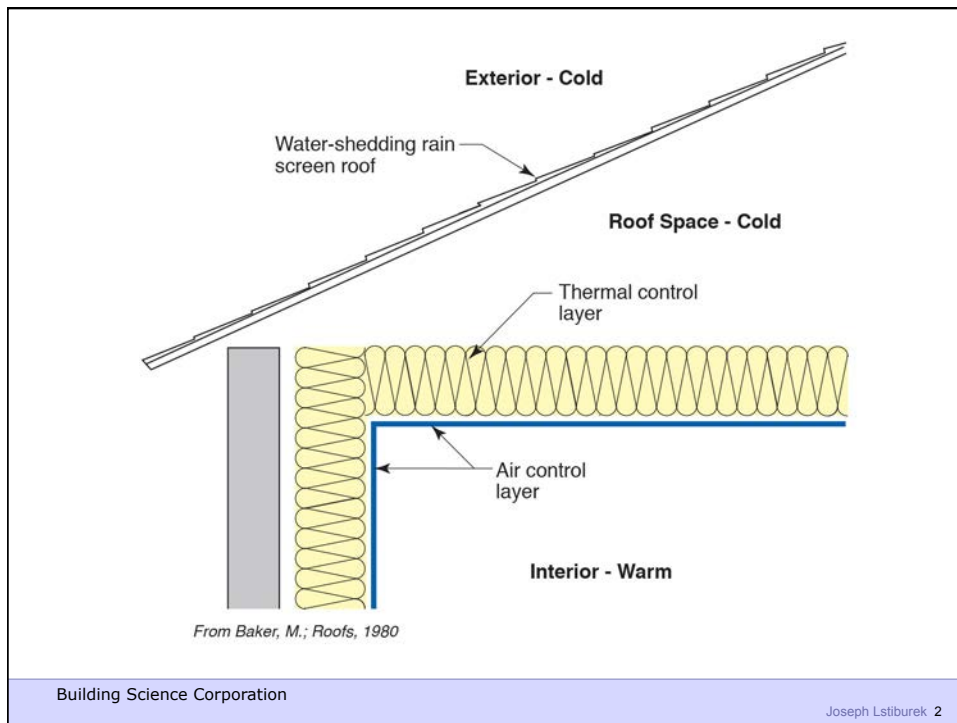


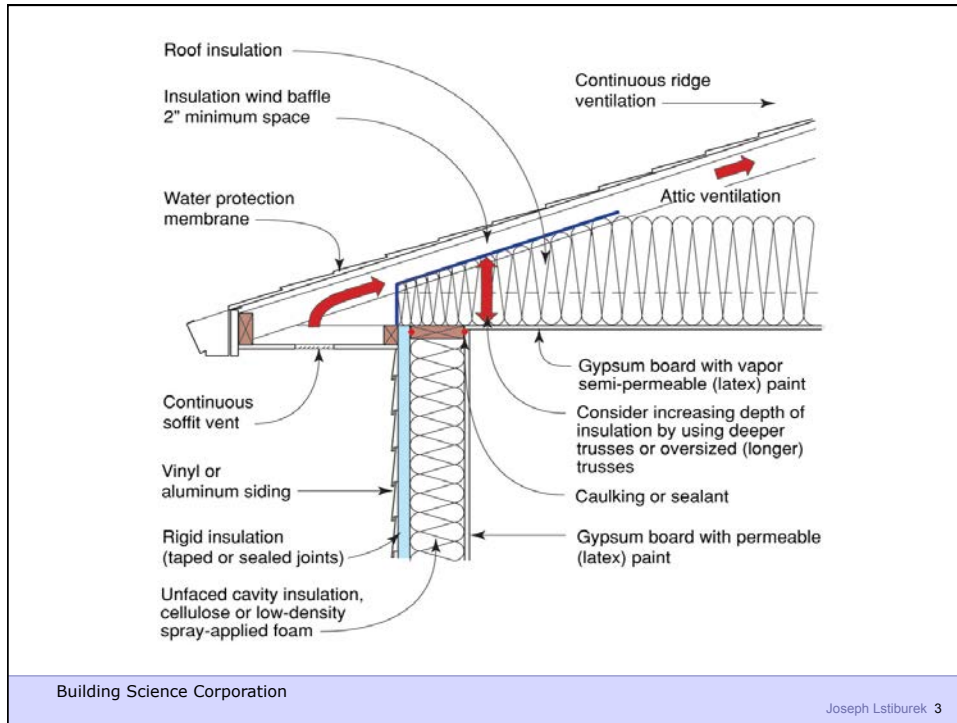
Joseph Lstiburek, Ph.D., P.Eng, ASHRAE Fellow

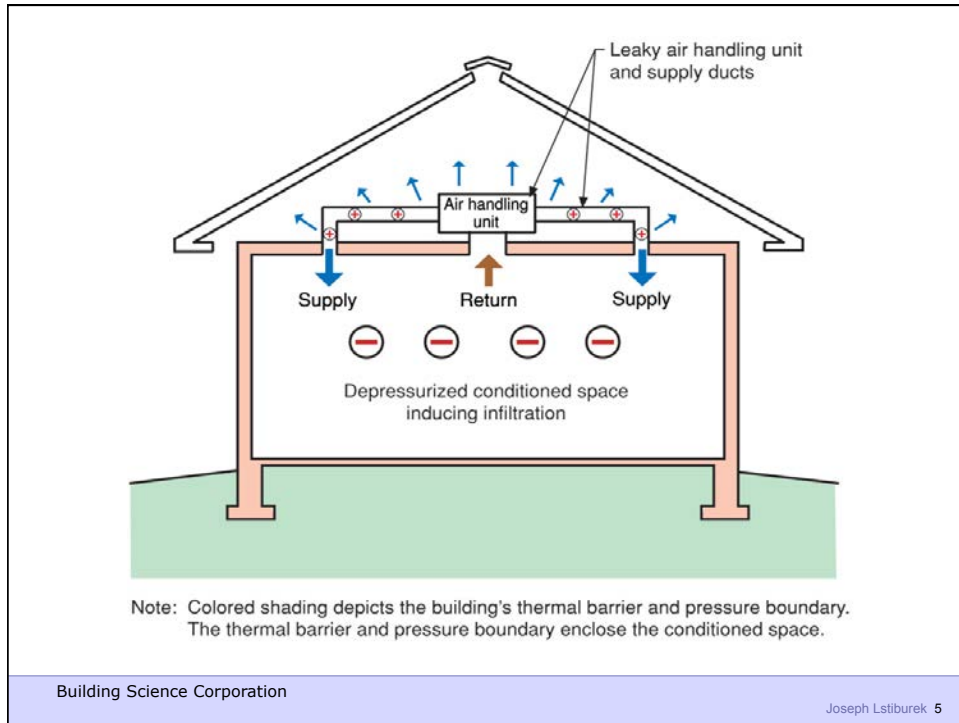
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Roofs

presented by www.buildingscience.com



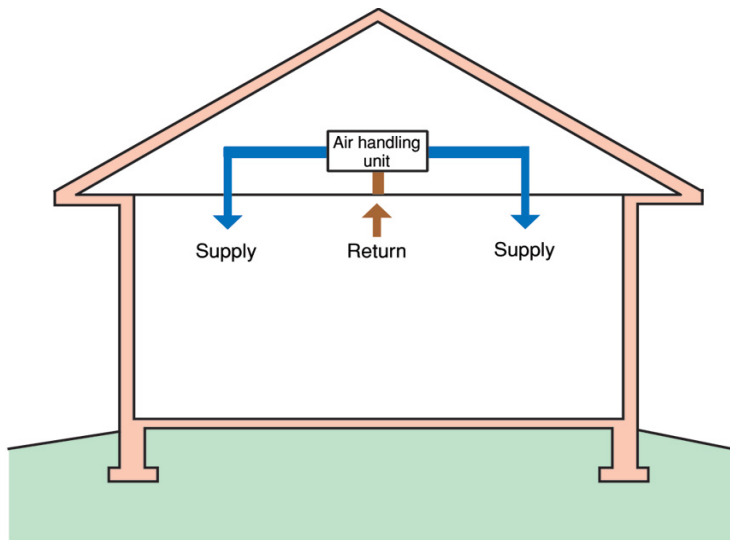






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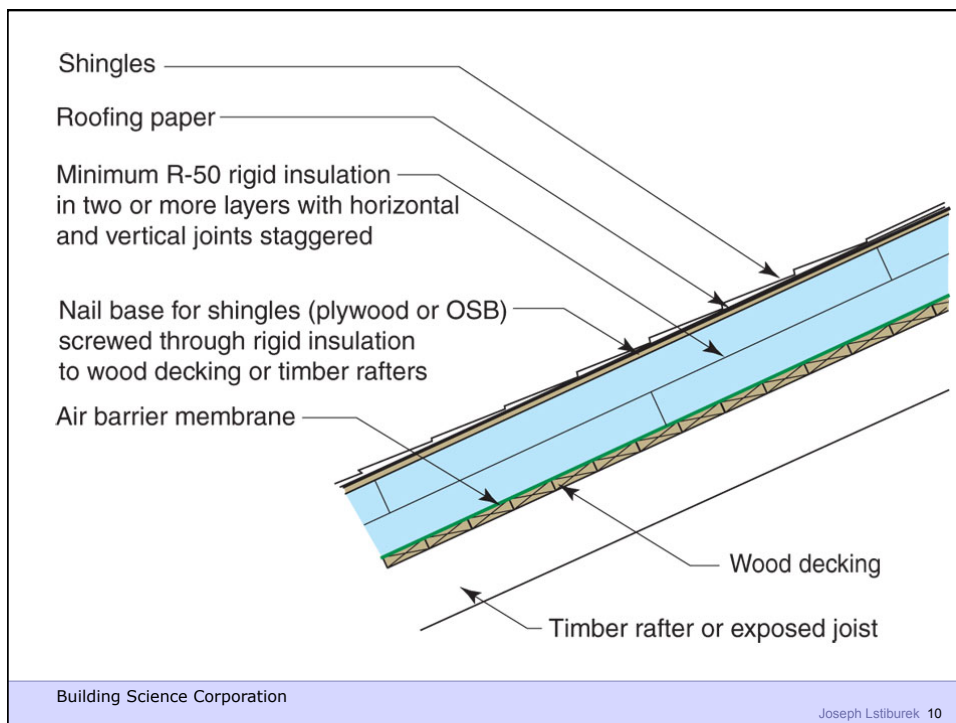
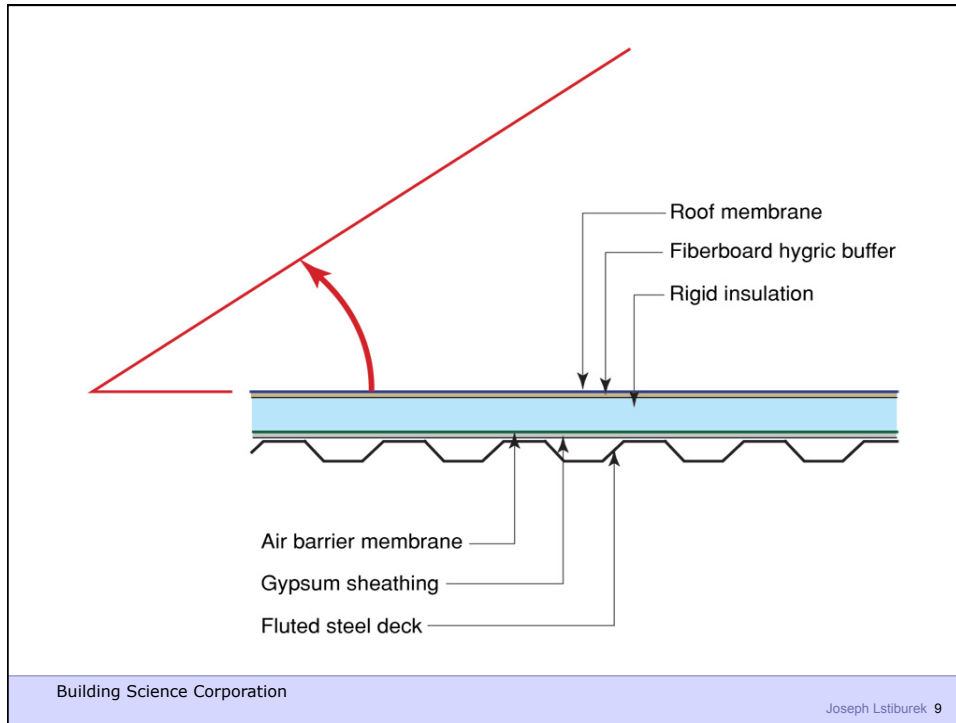
Joseph Lstiburek 7

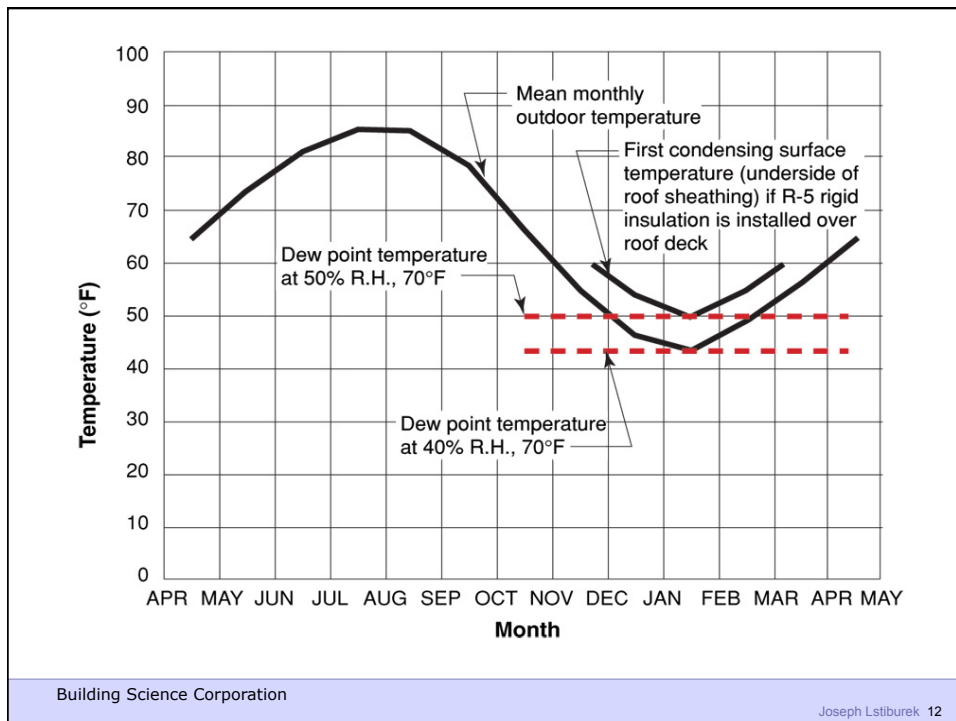
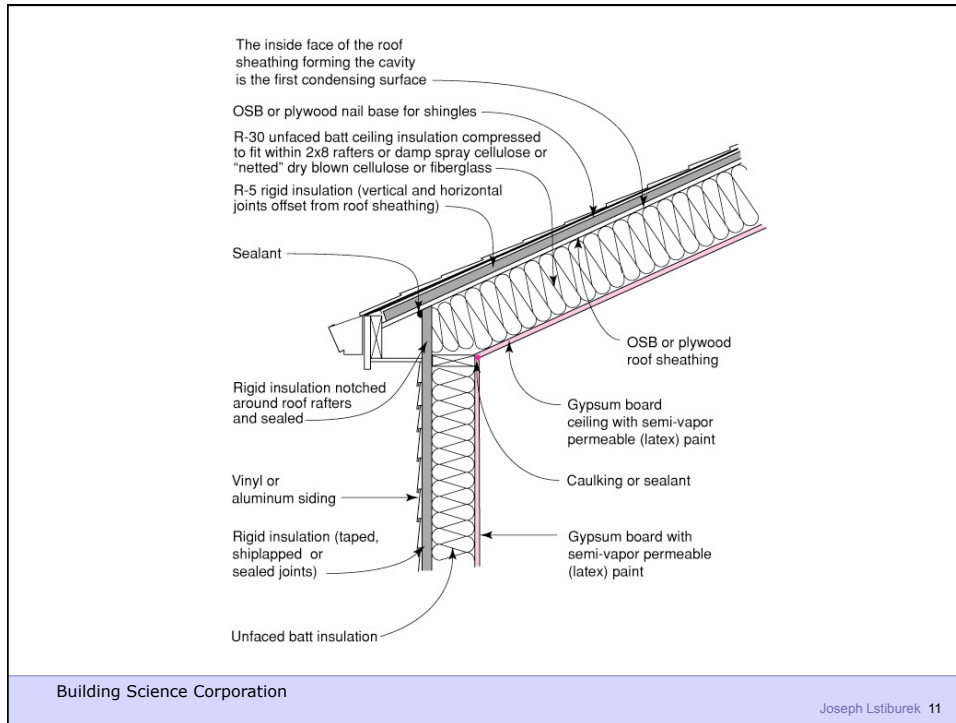


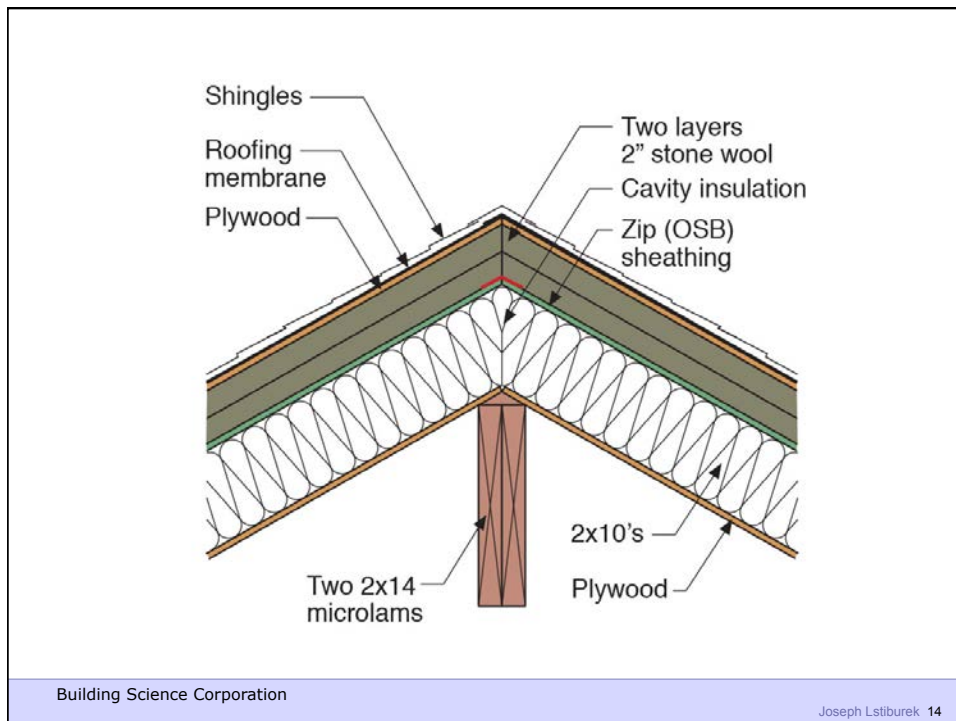
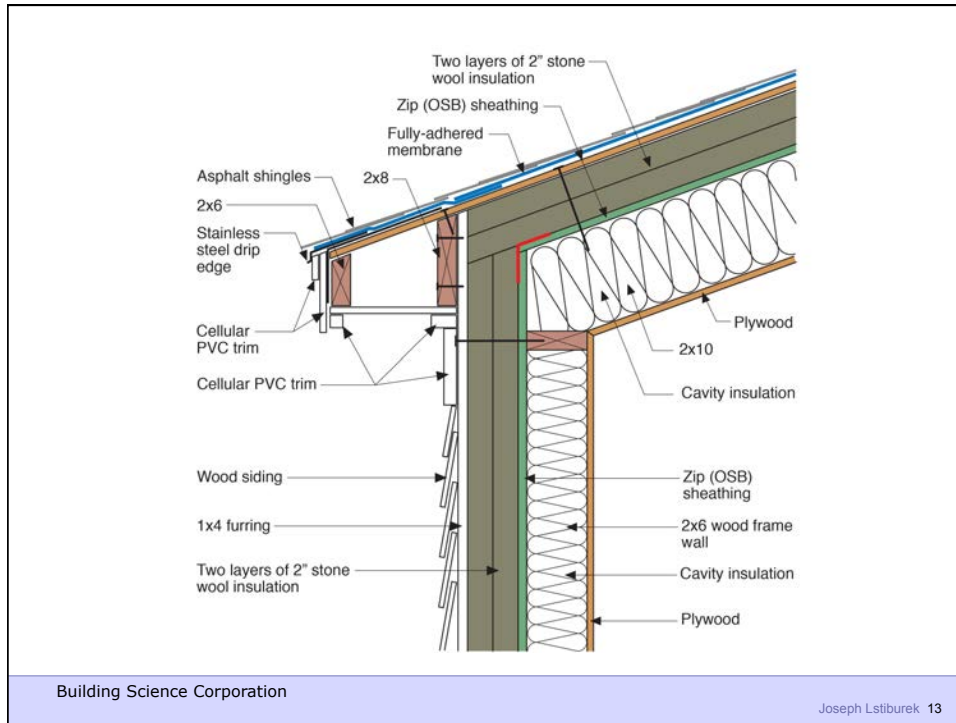
Note: Colored shading depicts the building's thermal barrier and pressure boundary. The thermal barrier and pressure boundary enclose the conditioned space.

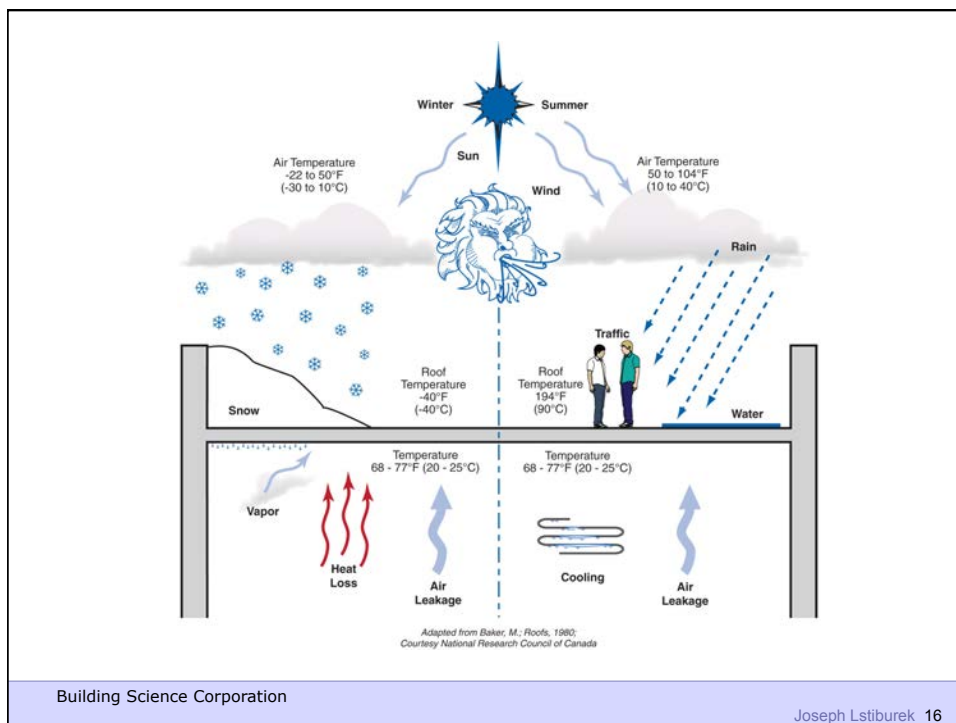
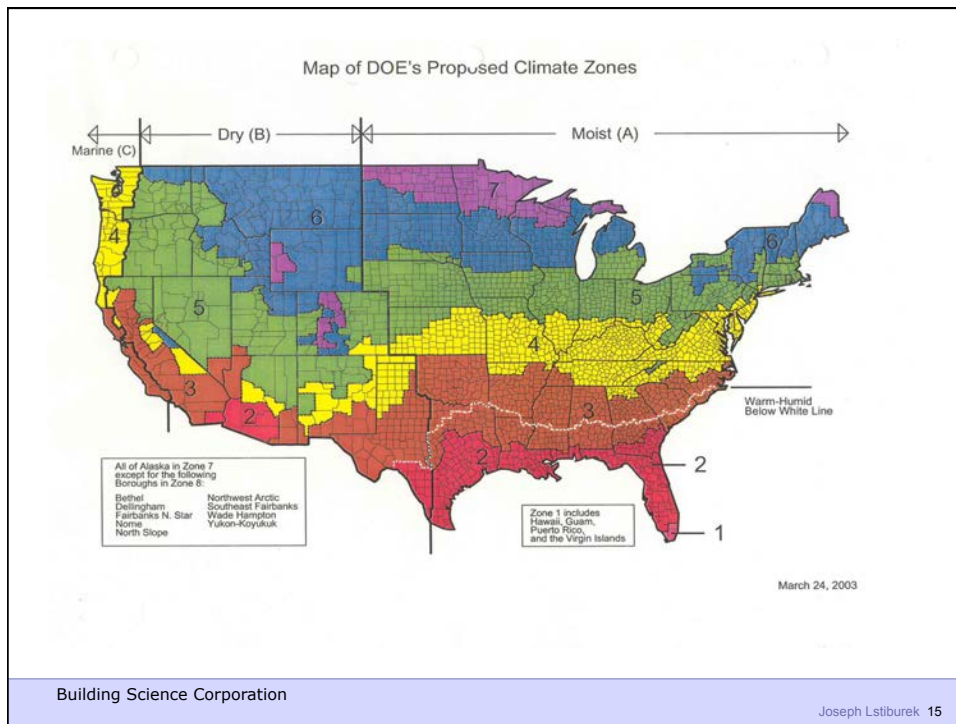
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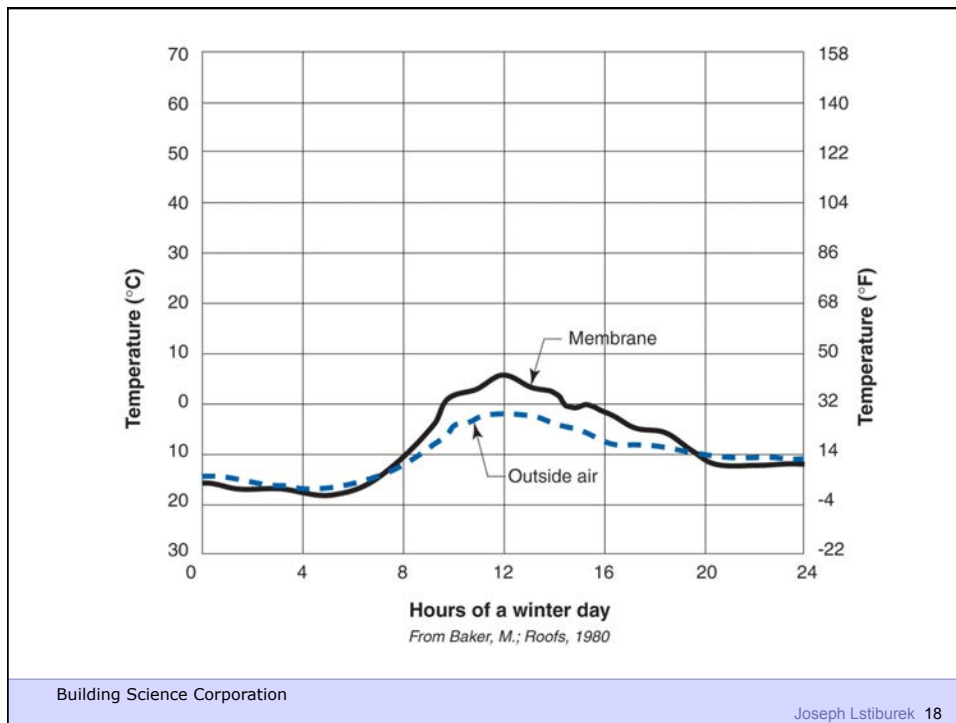
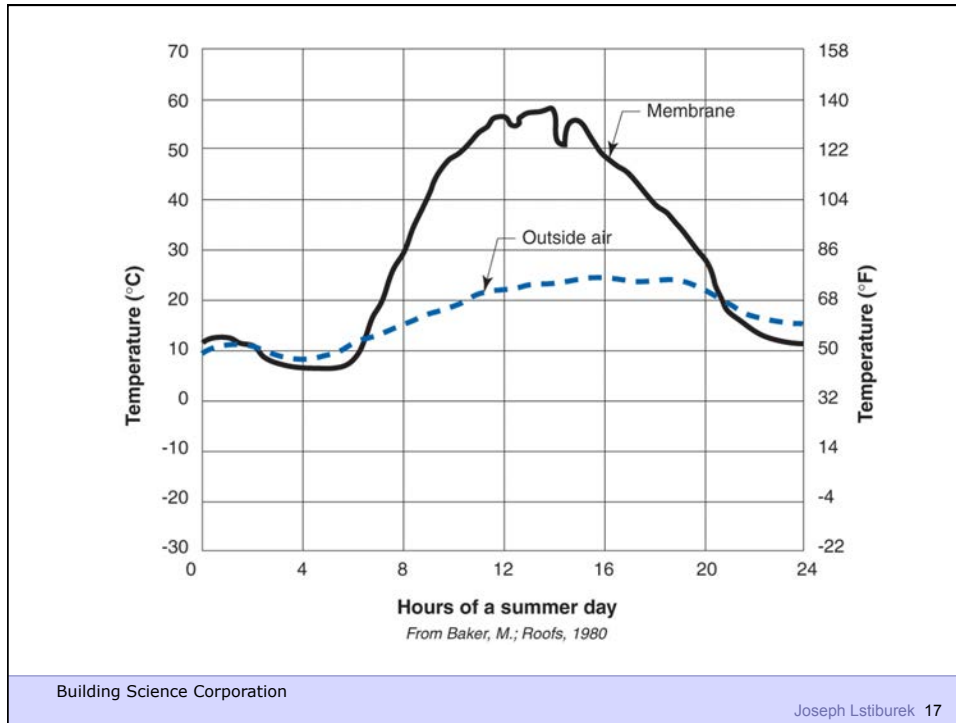
Joseph Lstiburek 8

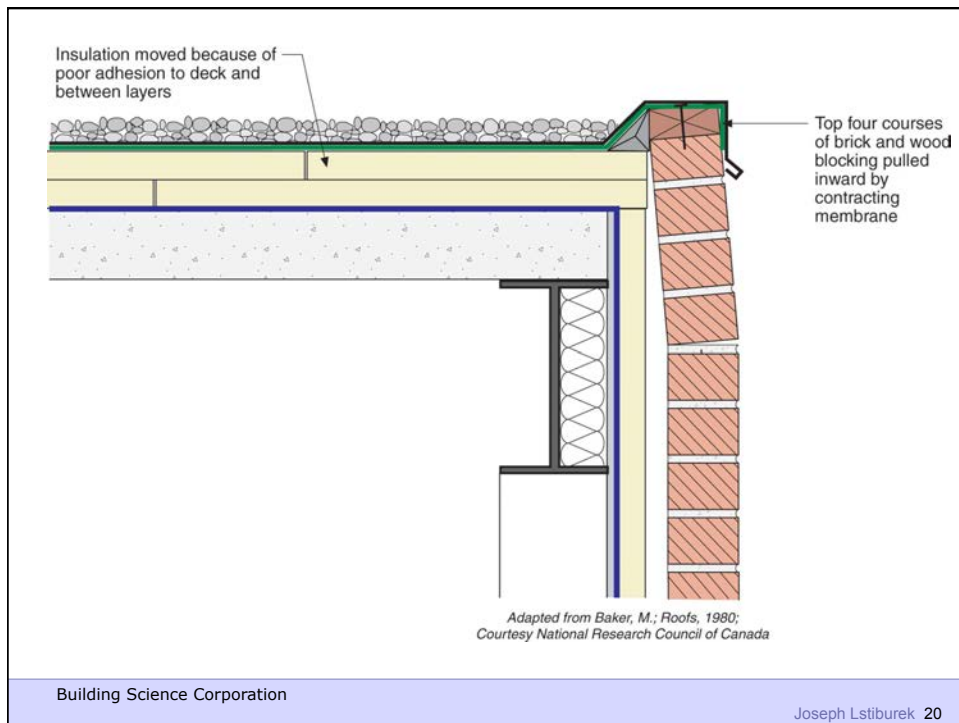
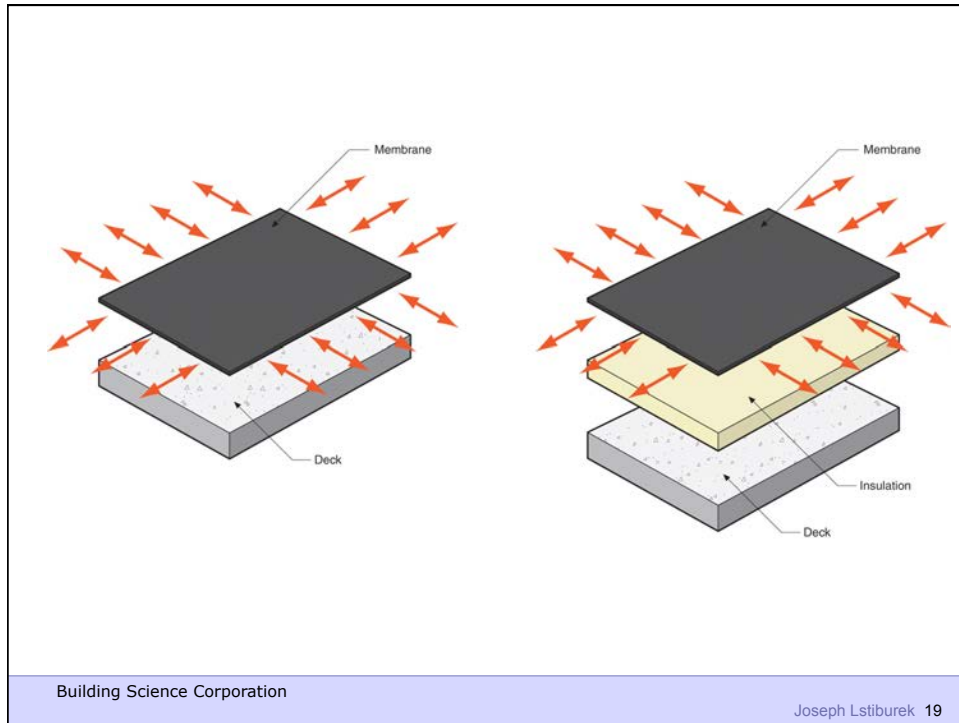


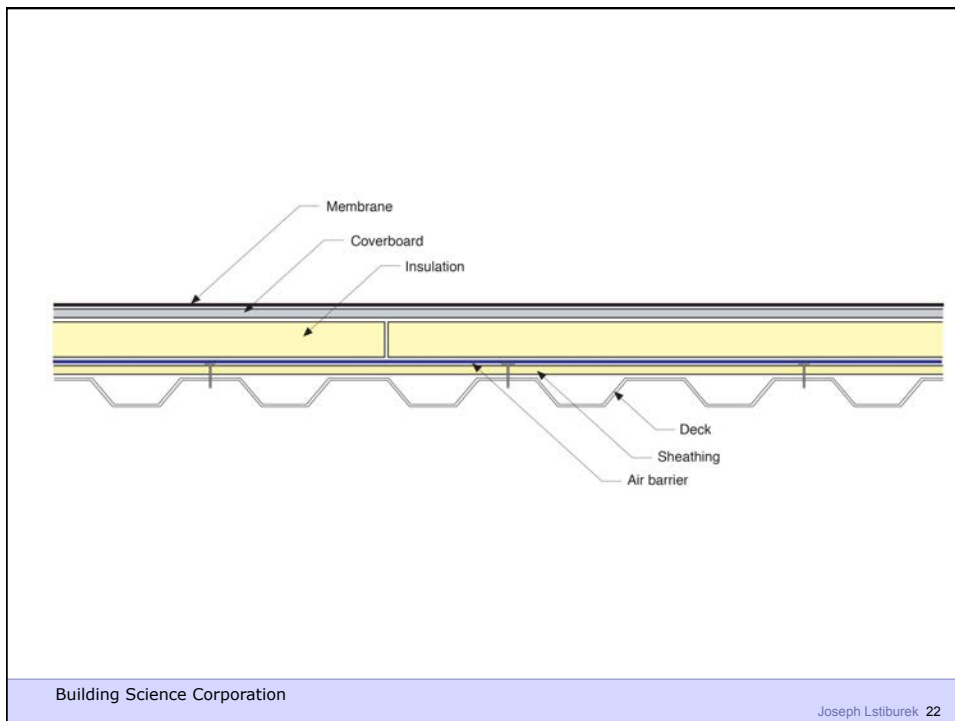
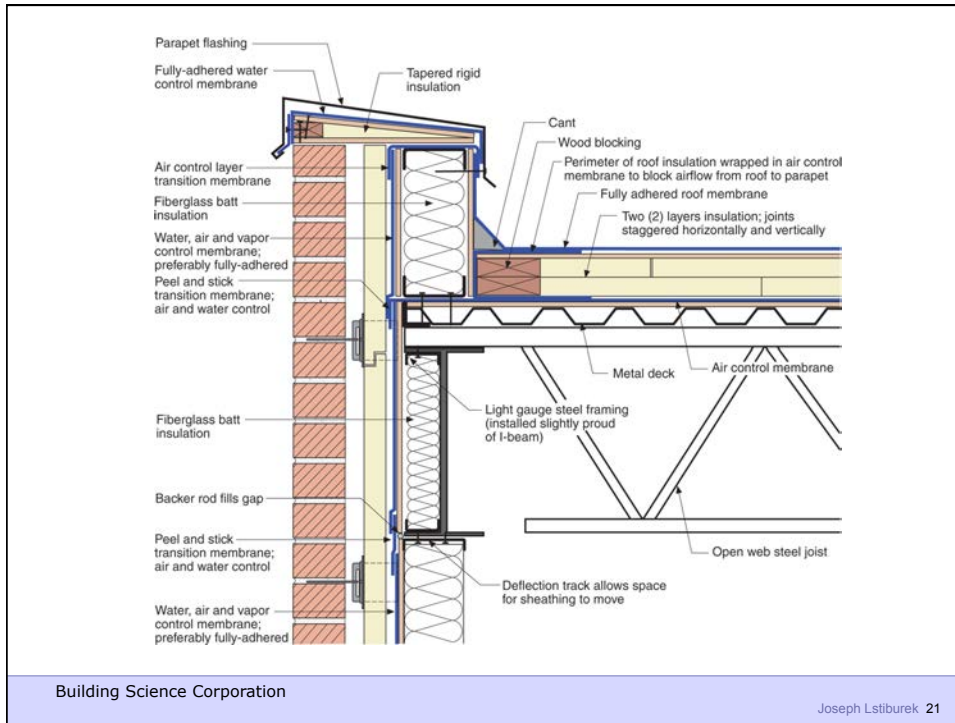


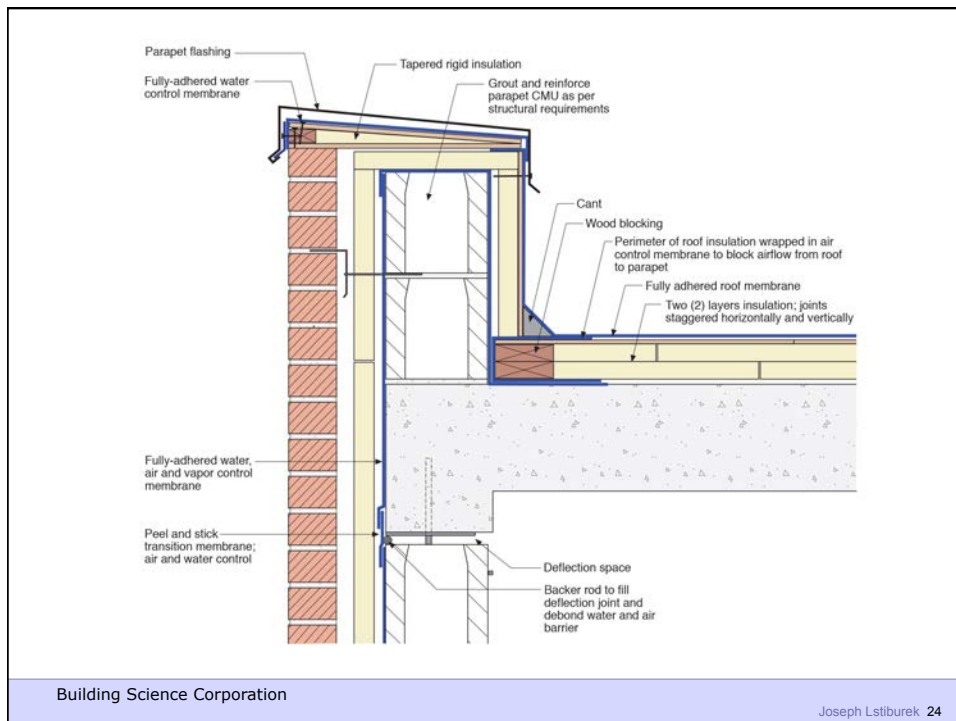
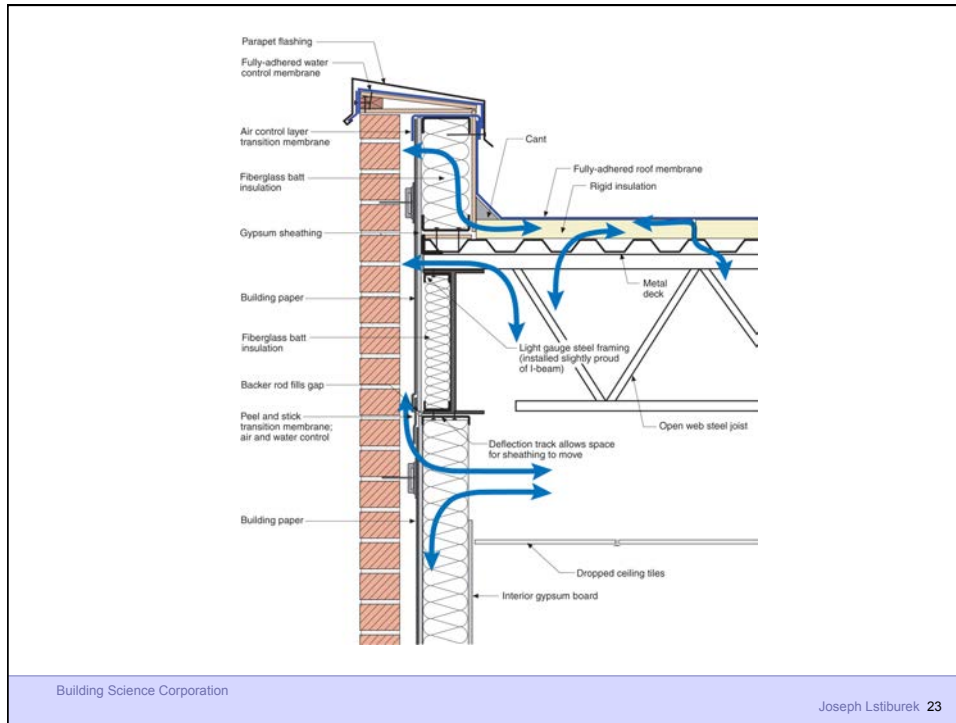


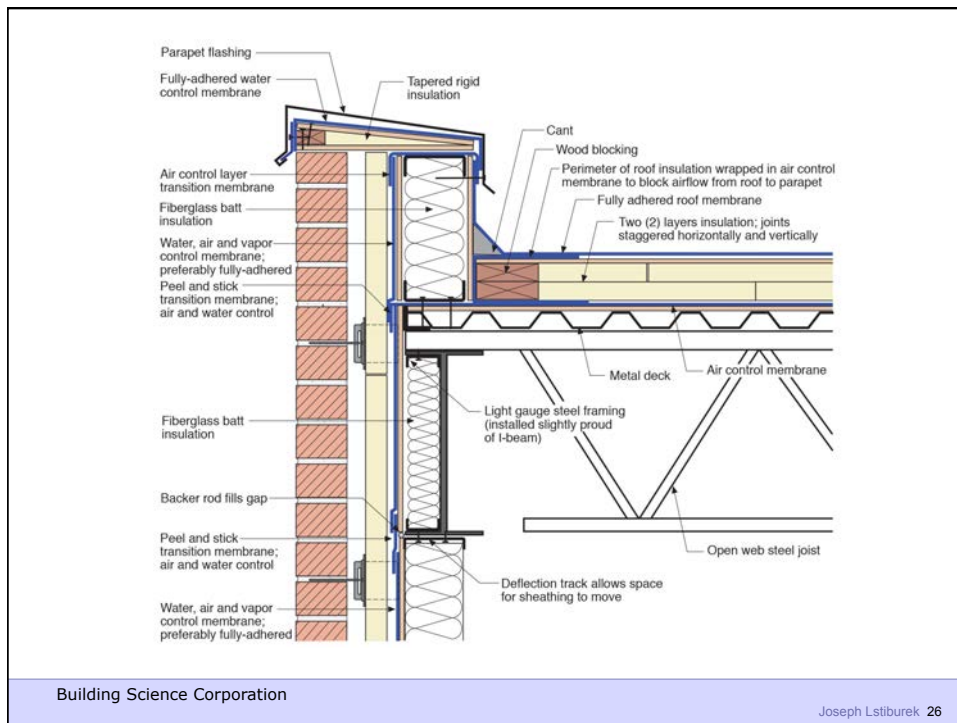
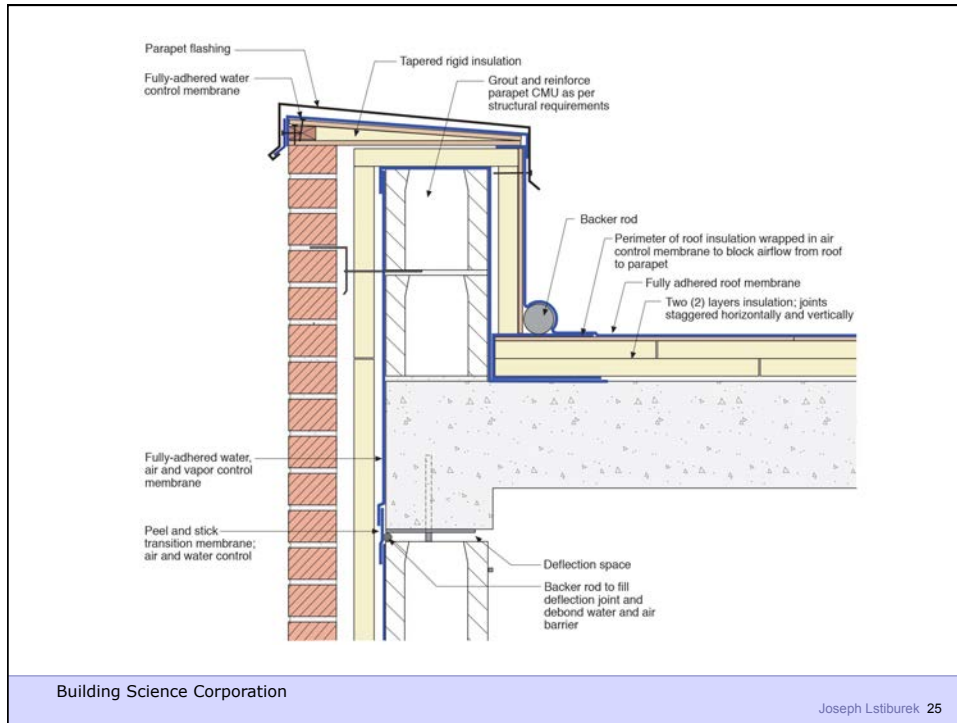


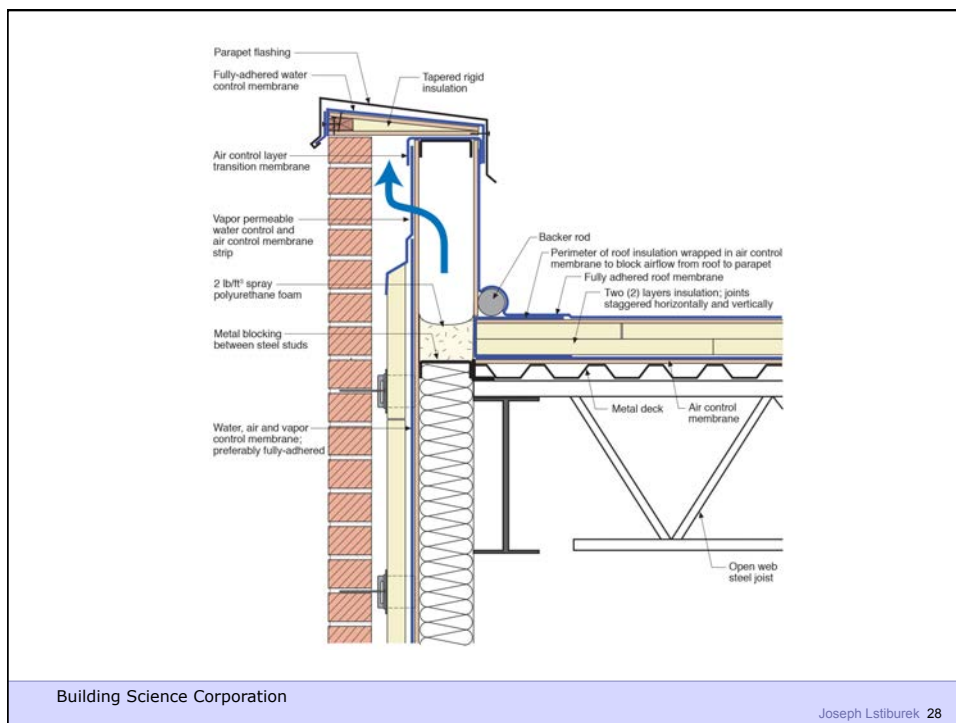
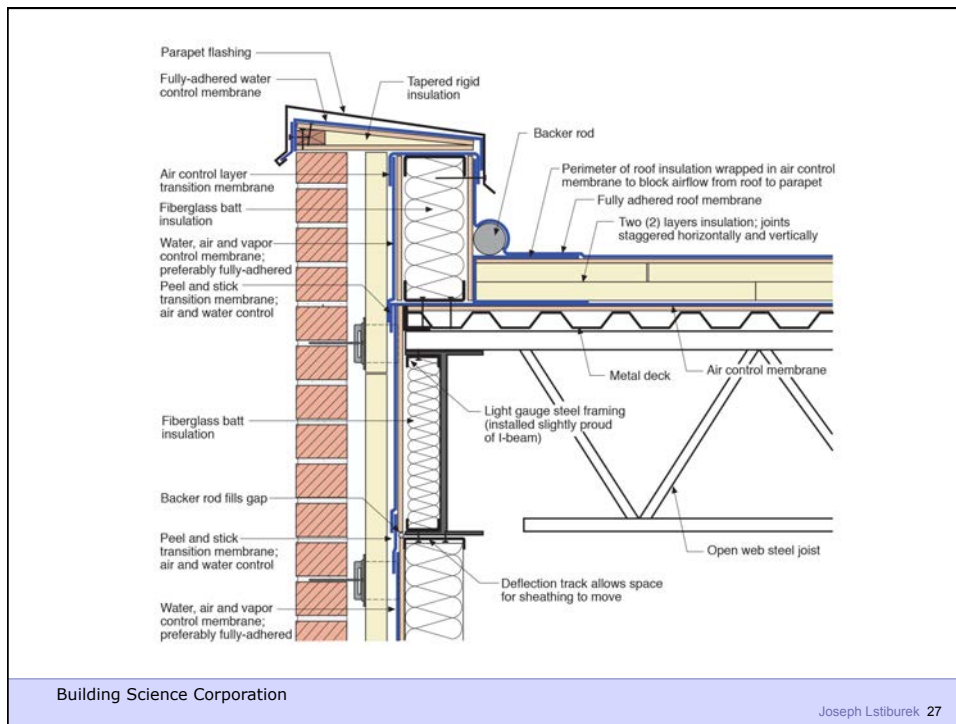


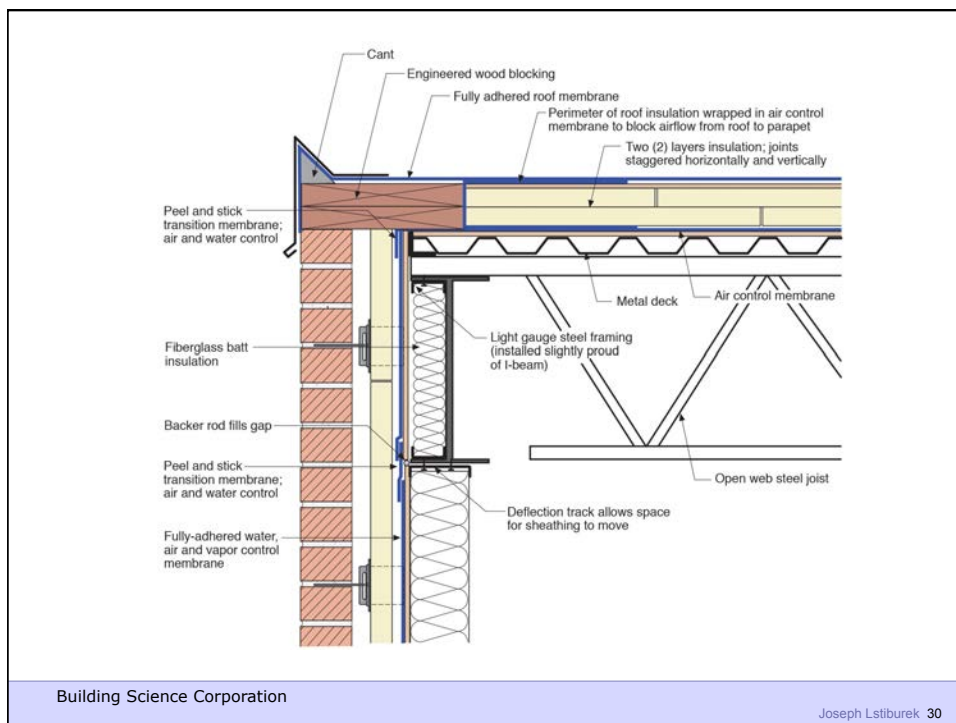
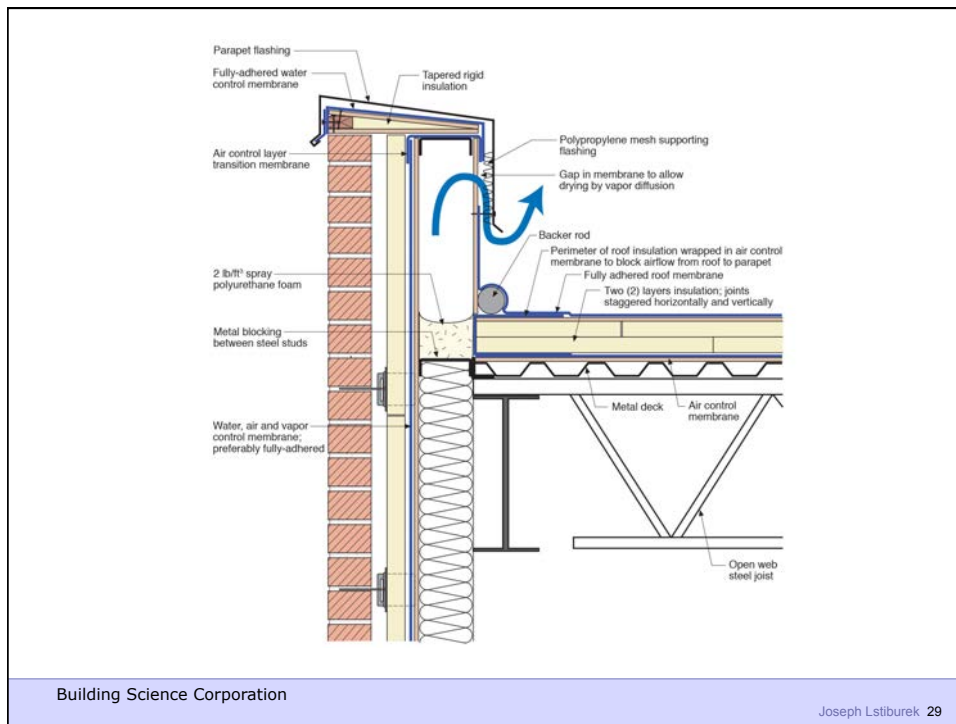


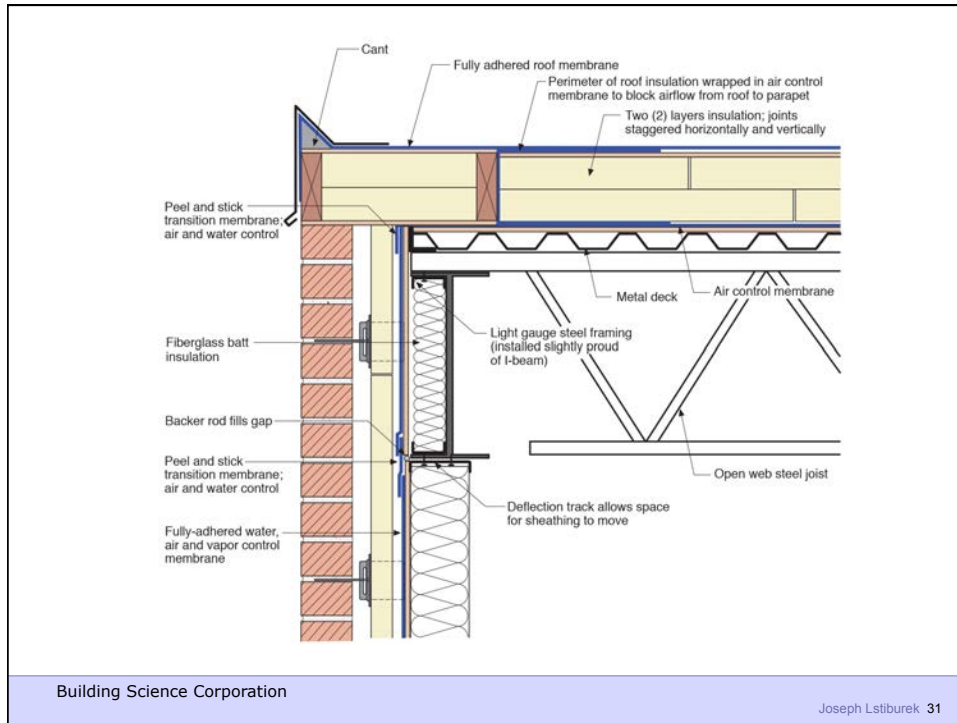












It's a Case of Black or White

It's a Case of Black or White
Arrhenius

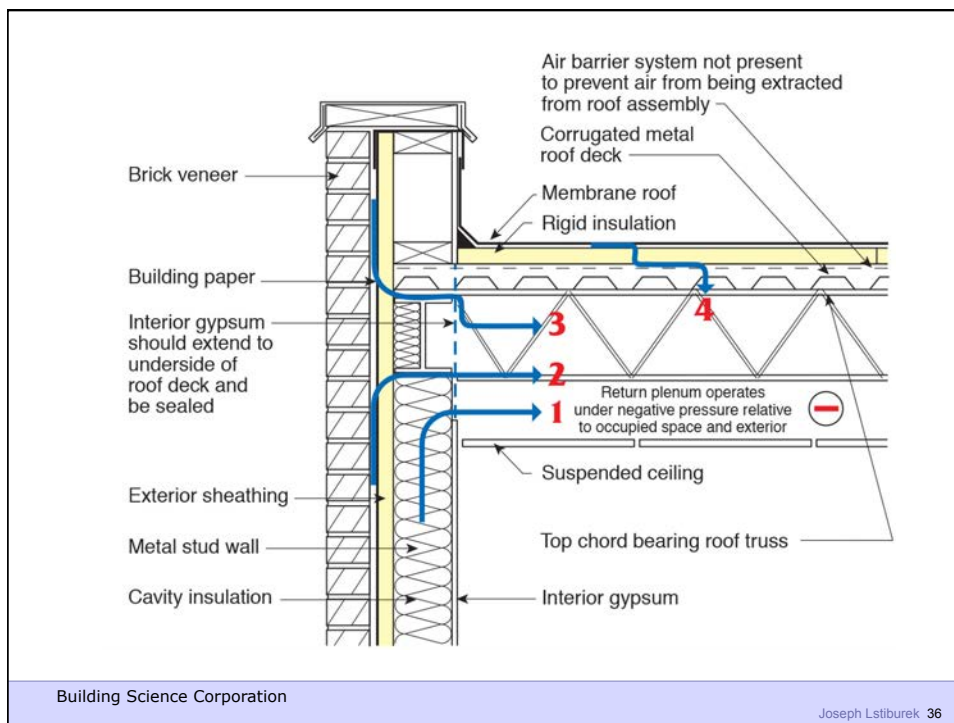
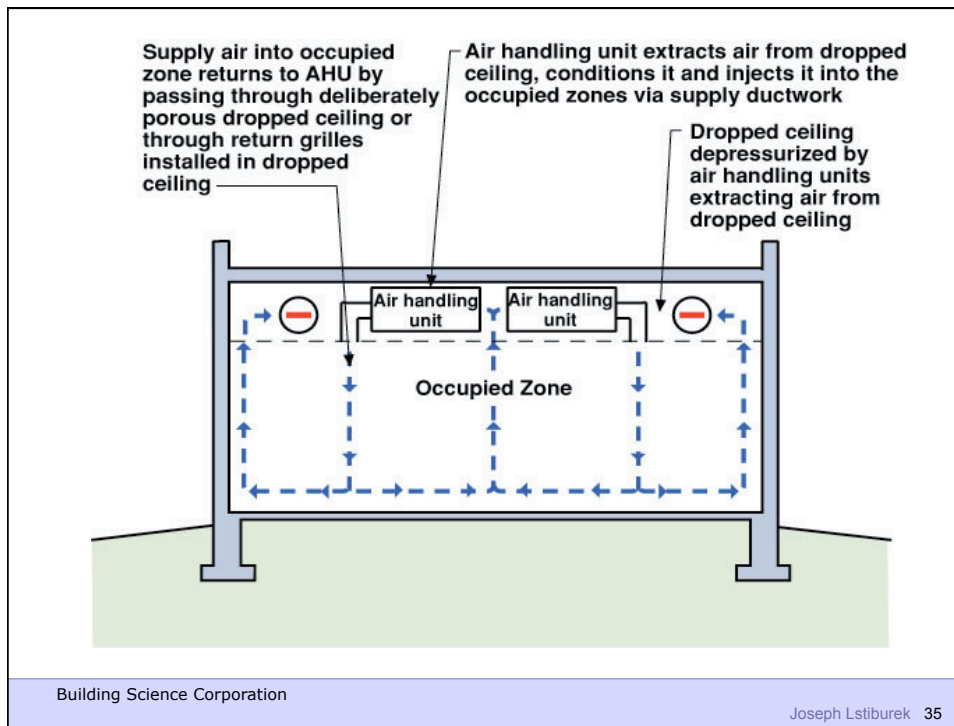
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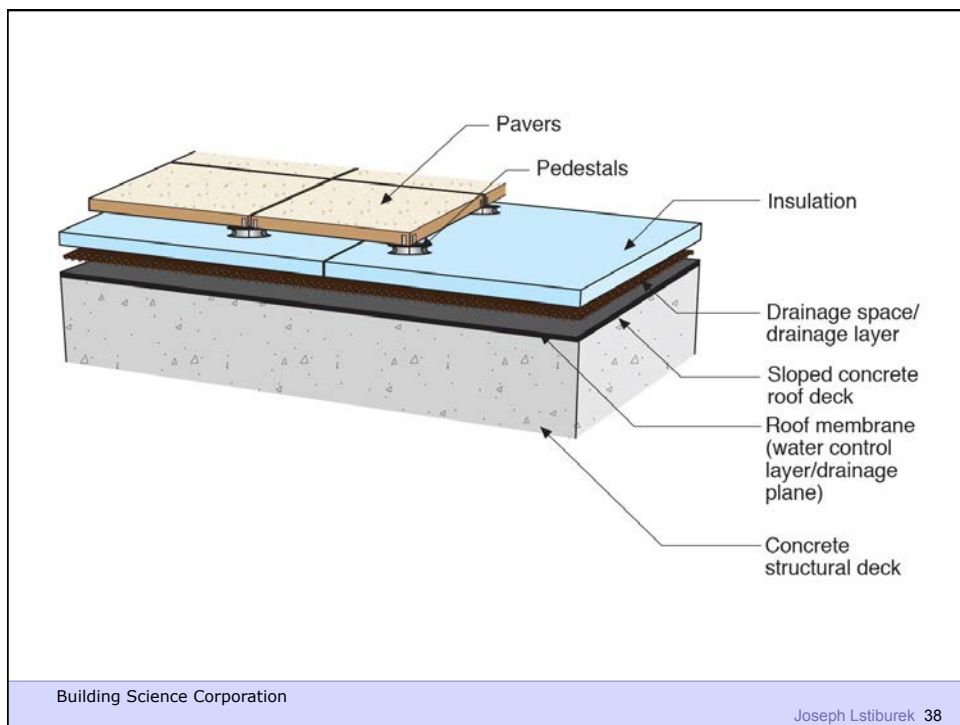
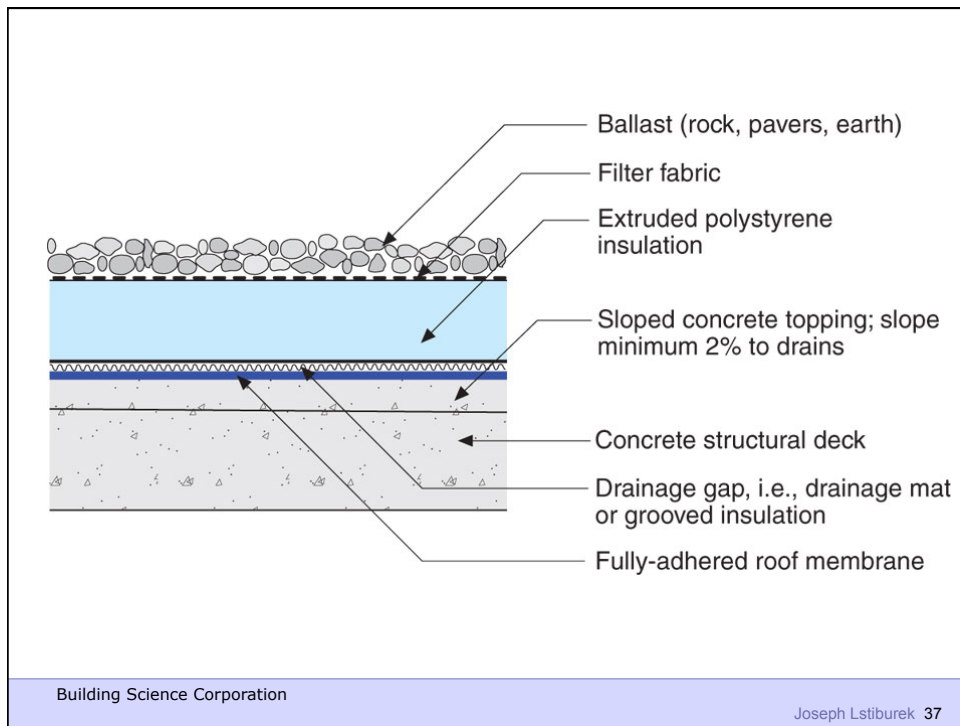
Joseph Lstiburek 33

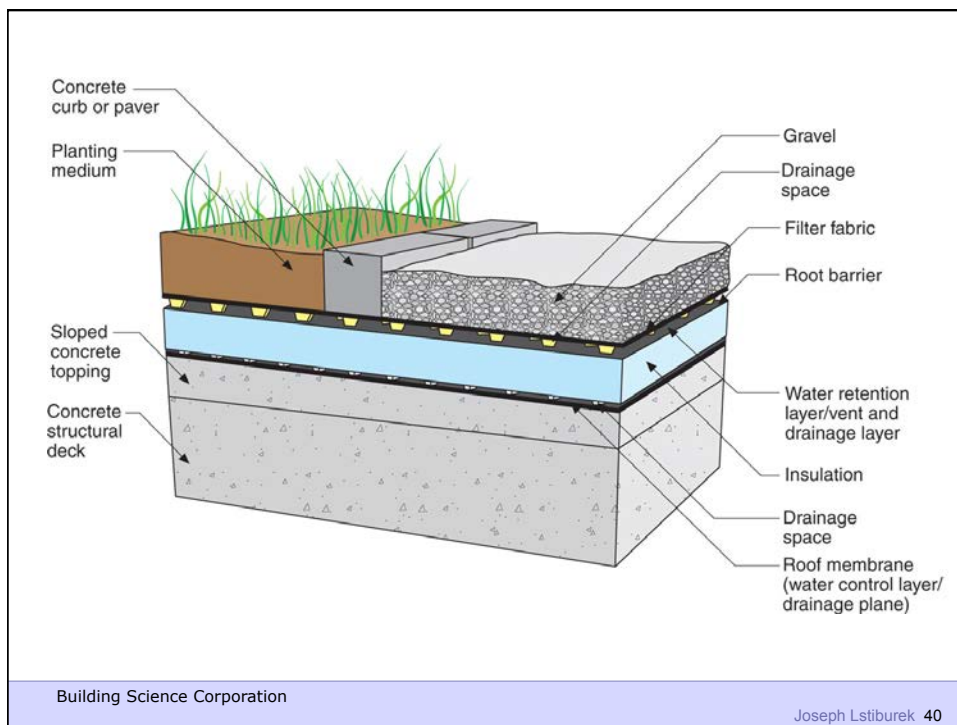
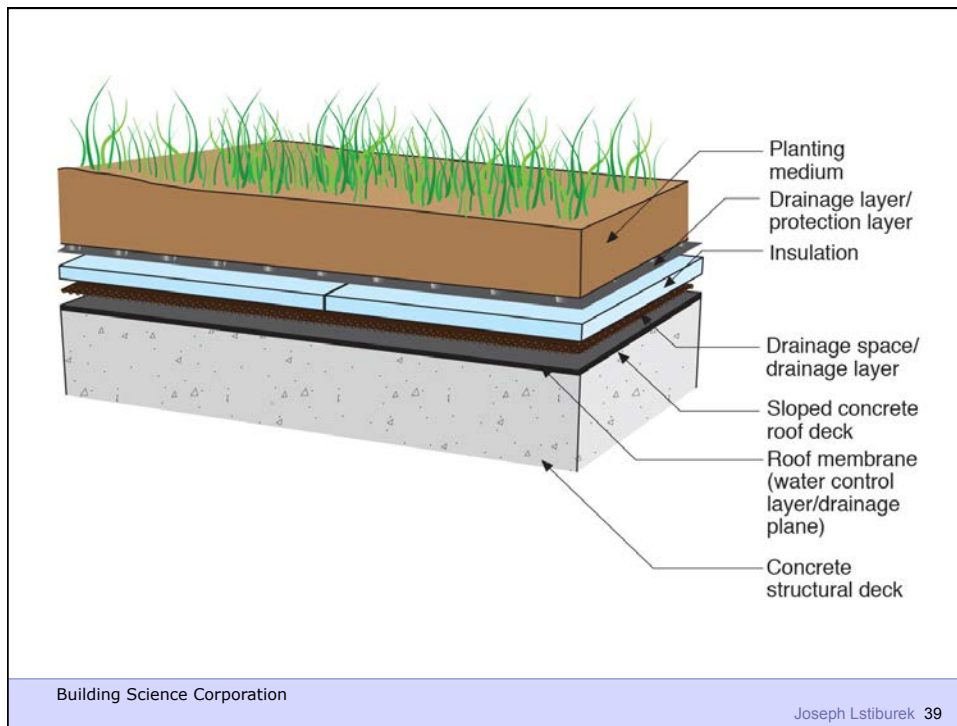
It's a Case of Black or White
Arrhenius
Every 10 degrees C – double the “badness”

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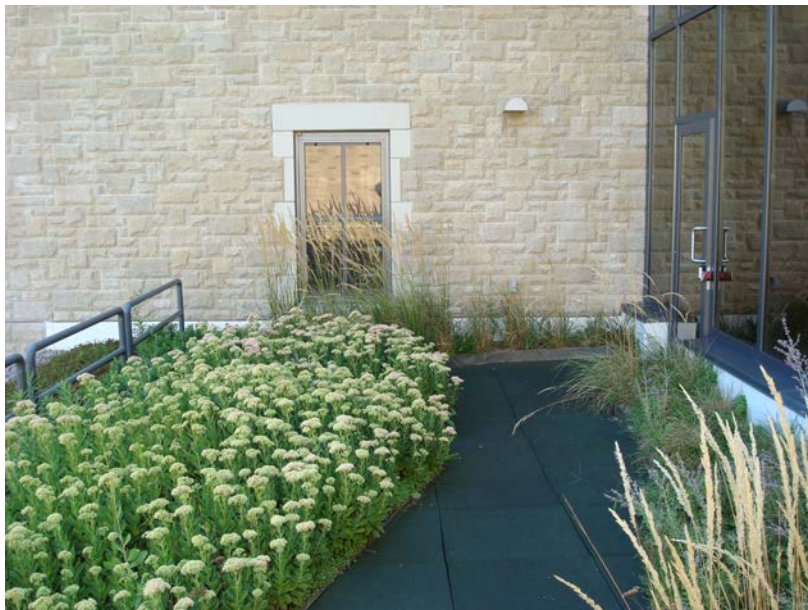






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Plaza Decks

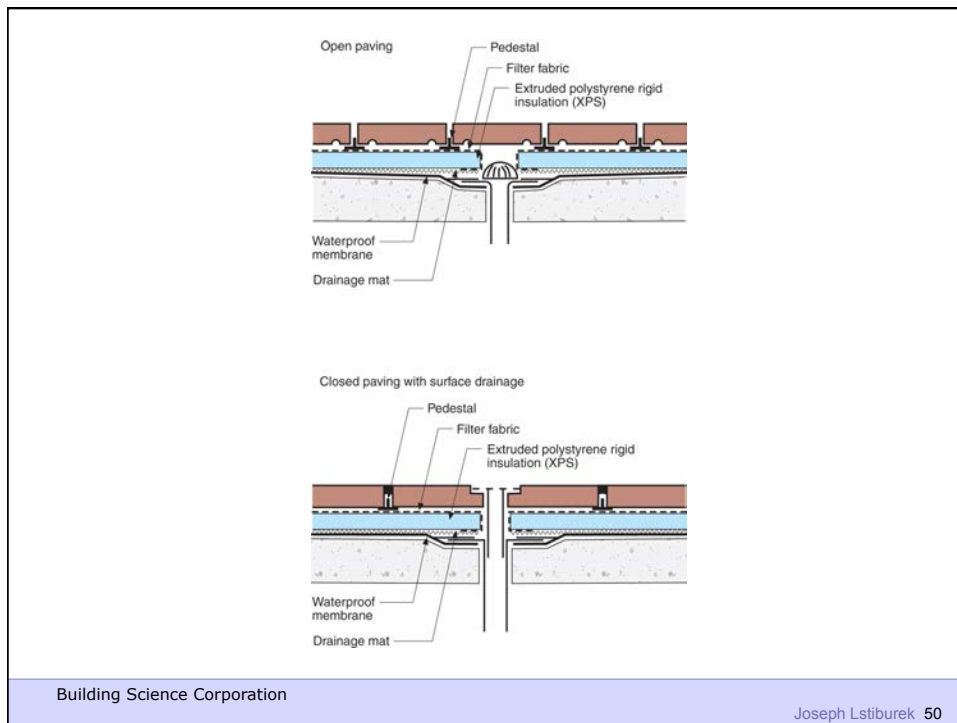
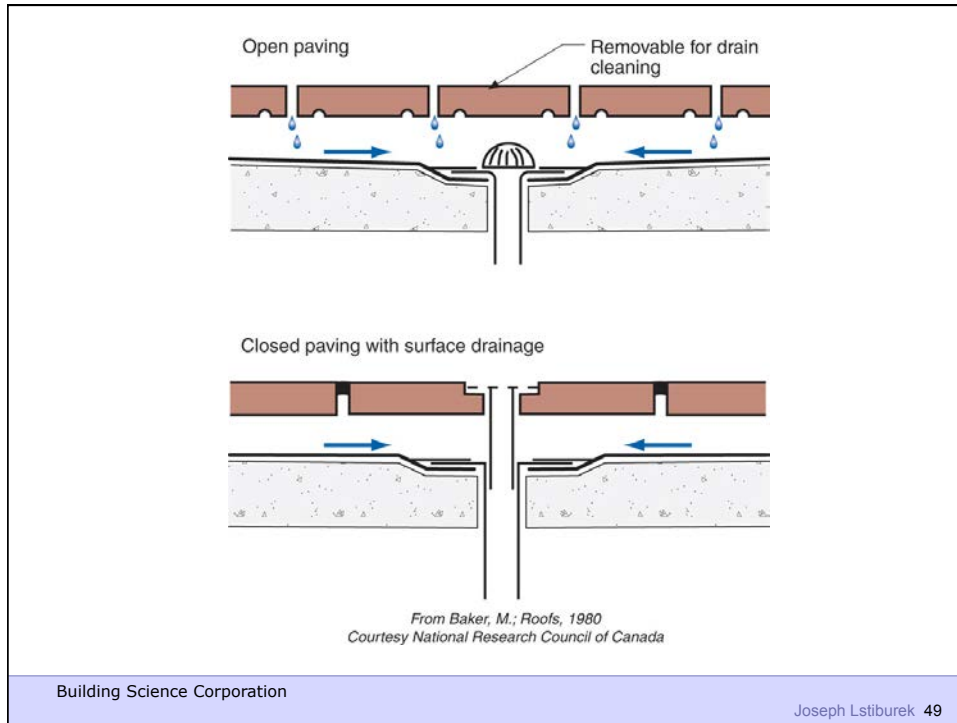
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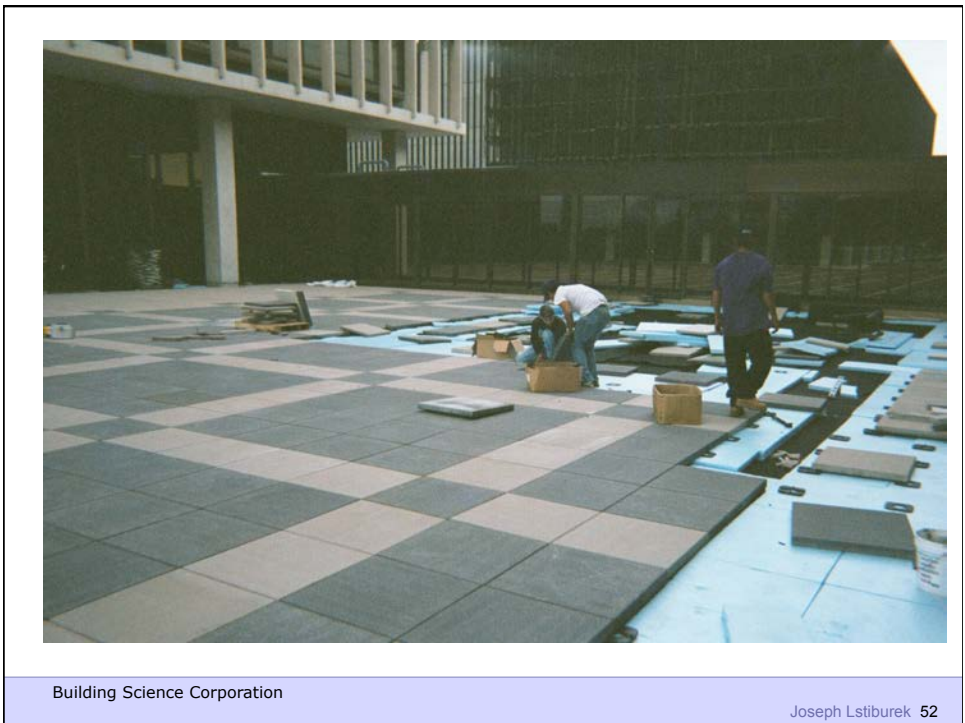
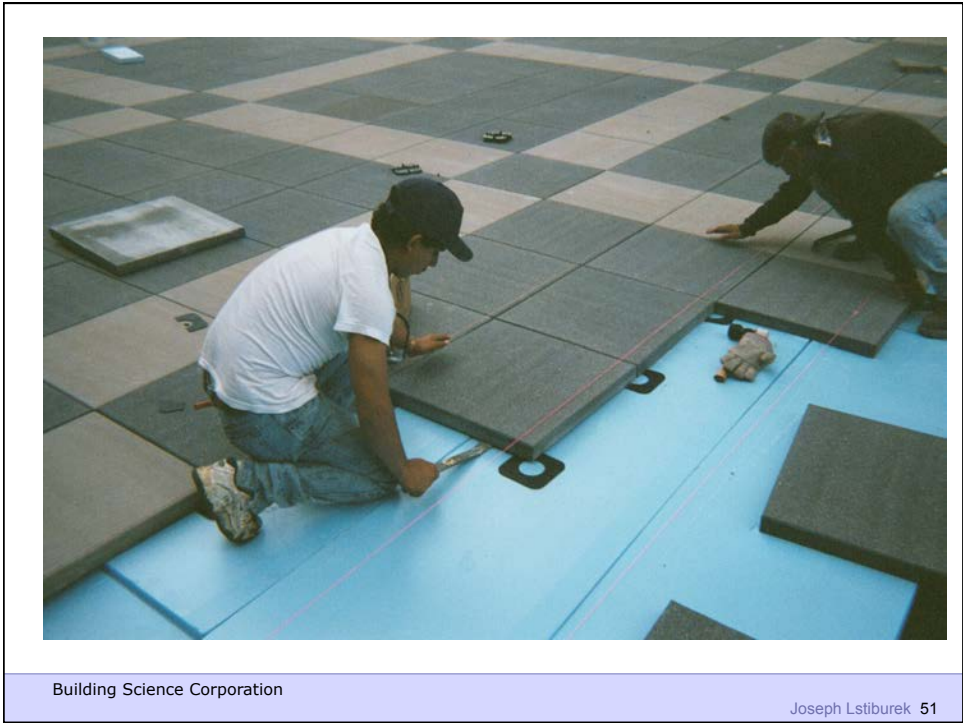
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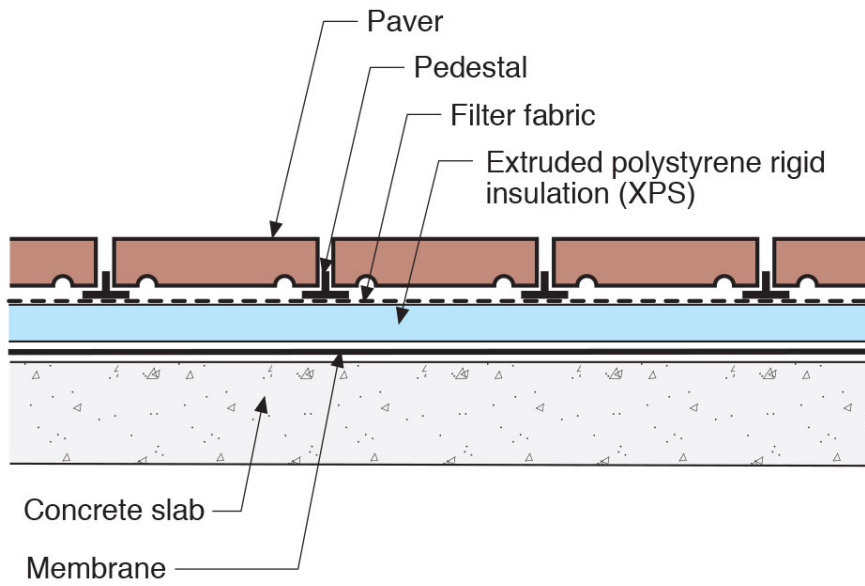




Osmosis

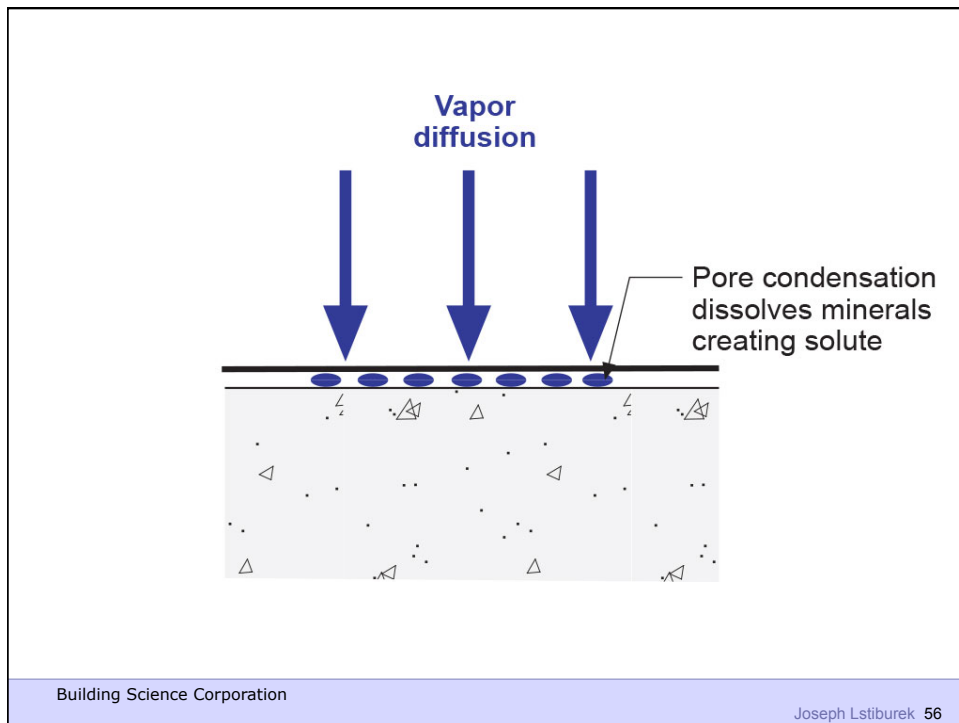
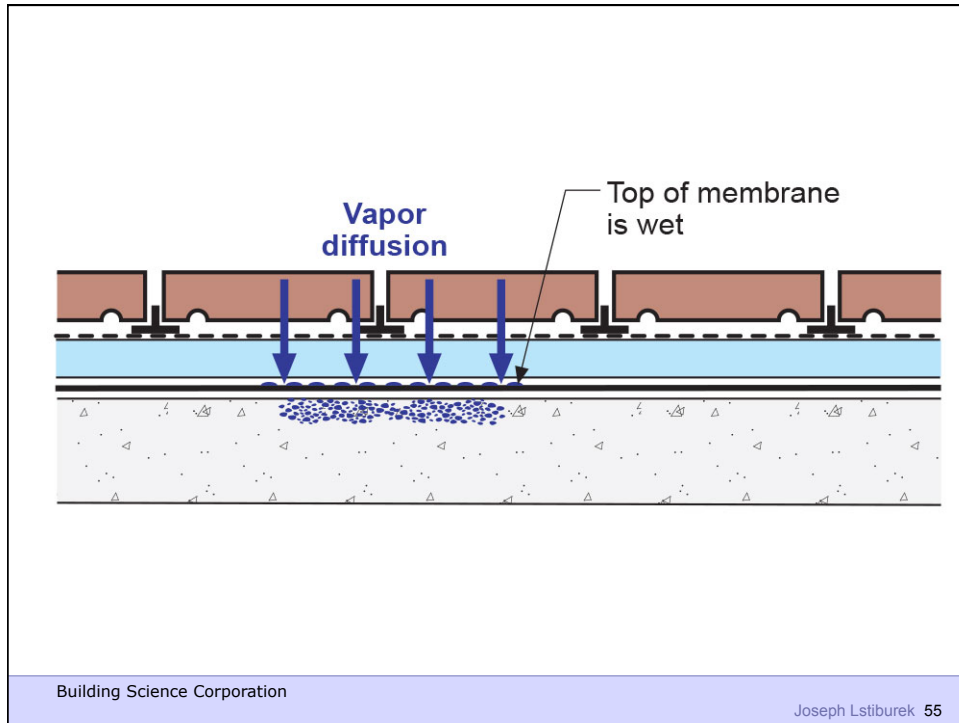
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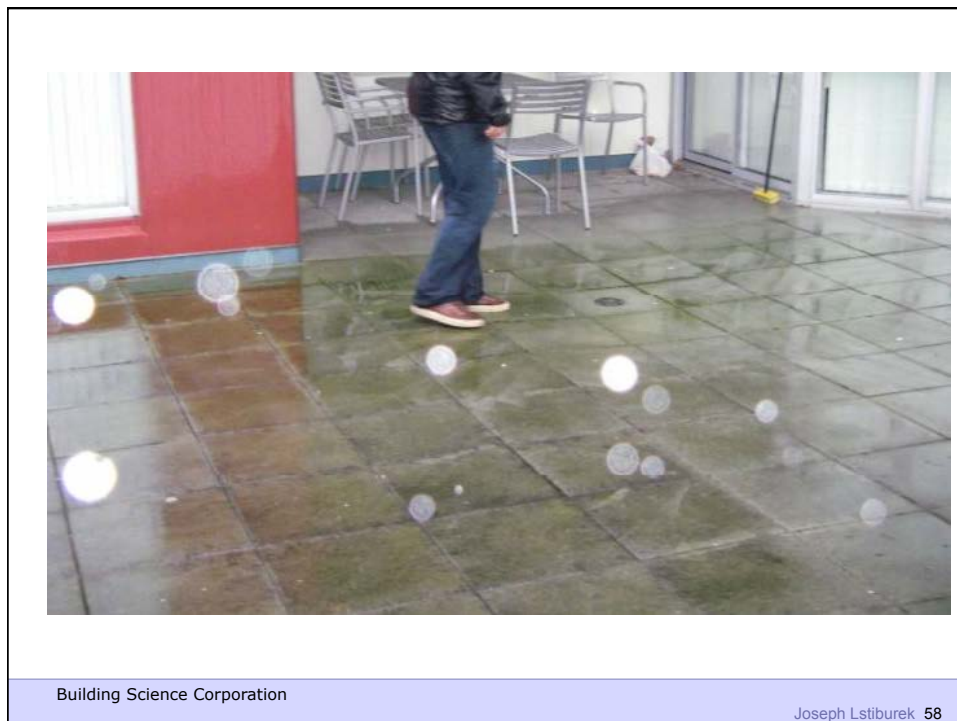
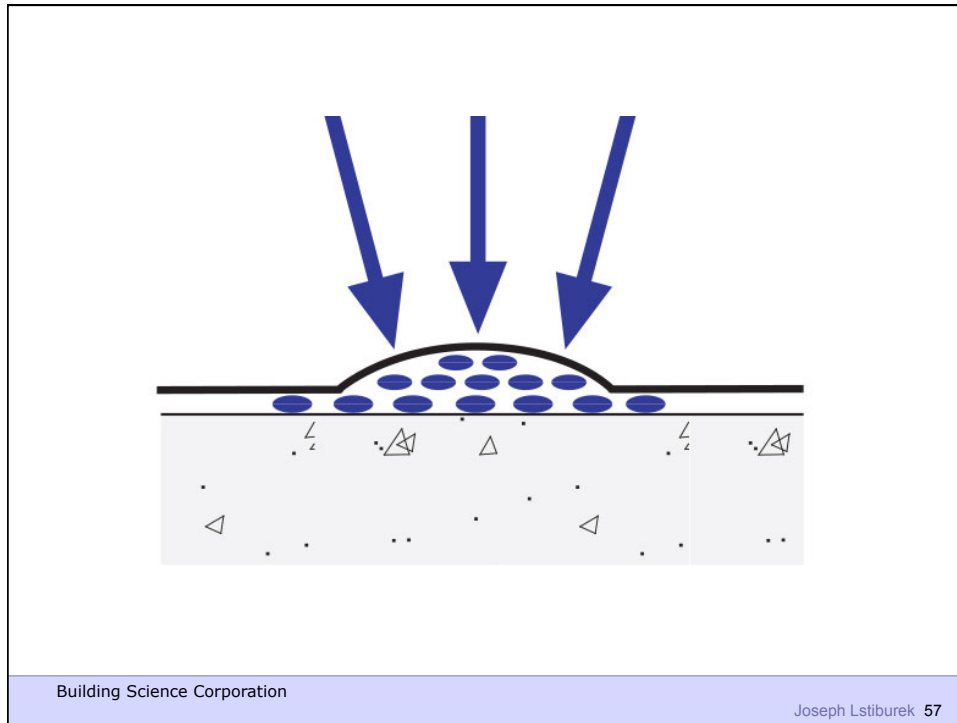
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Paver Water Beds!



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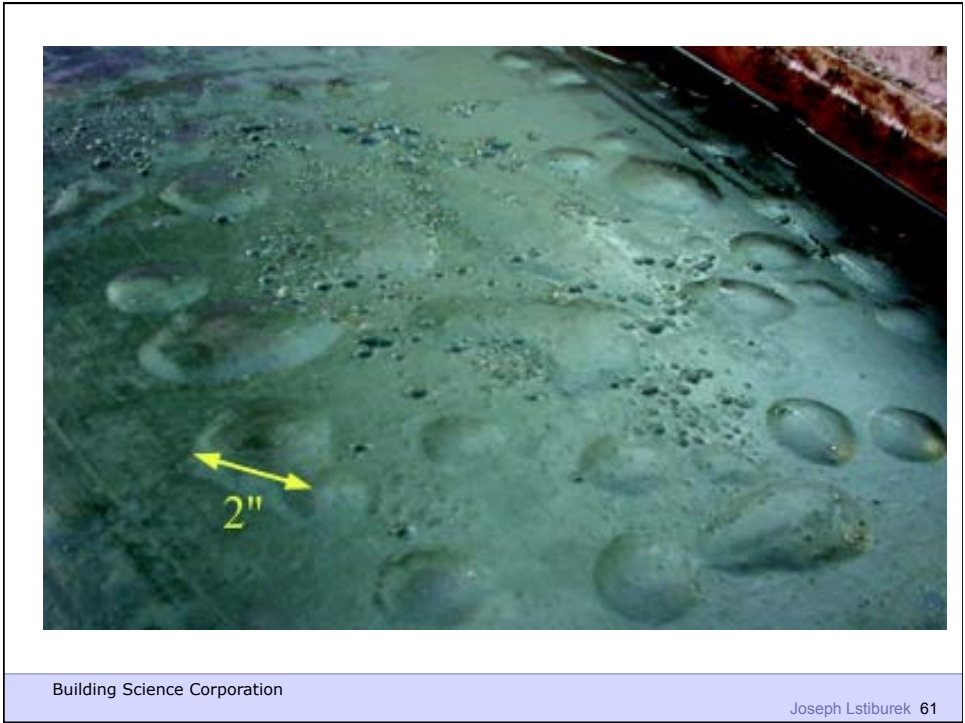


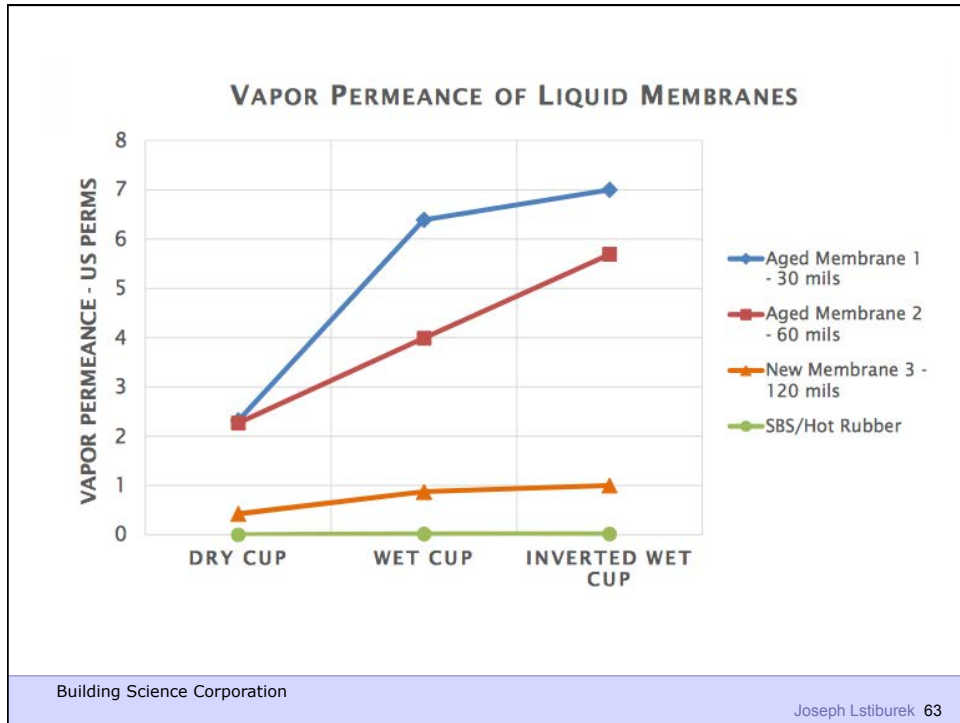
Really Heavy Pink Stuff

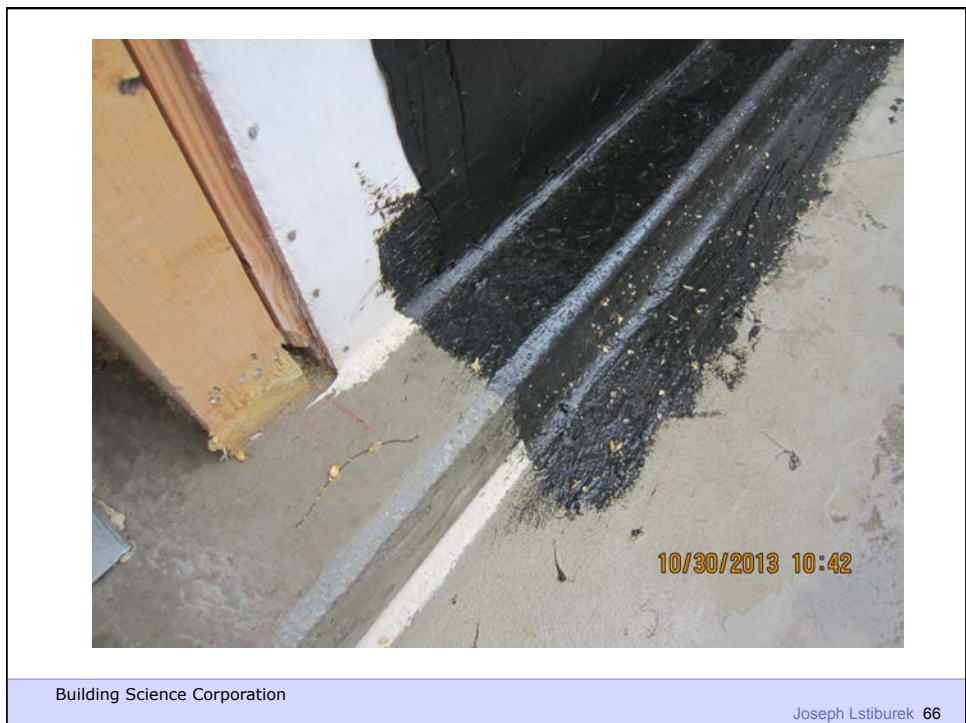
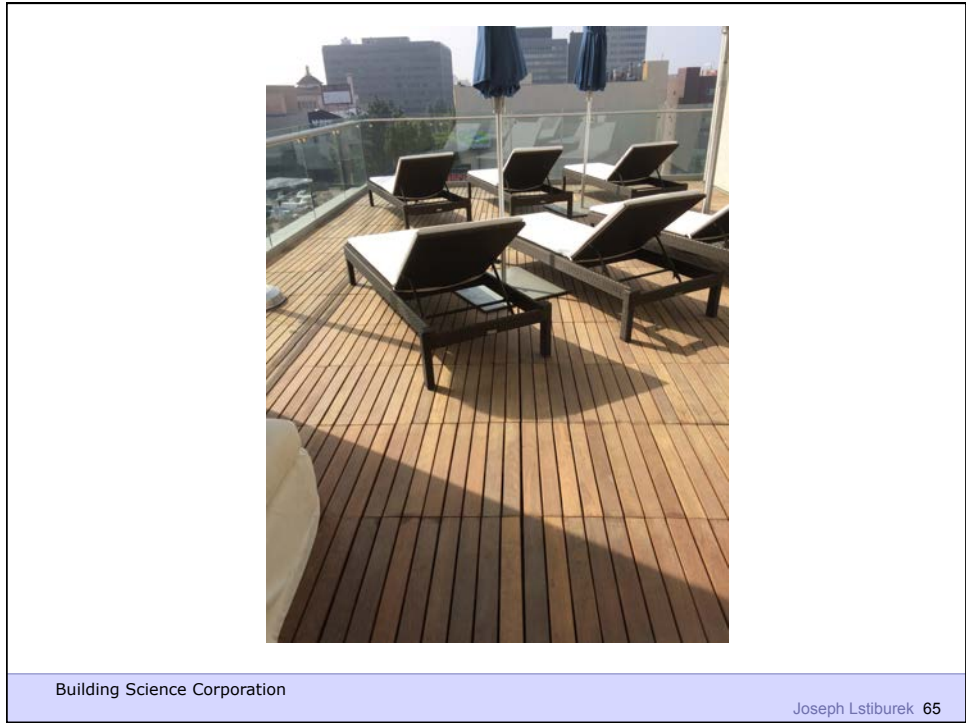
Liquid Waterproofing over Concrete Deck

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