

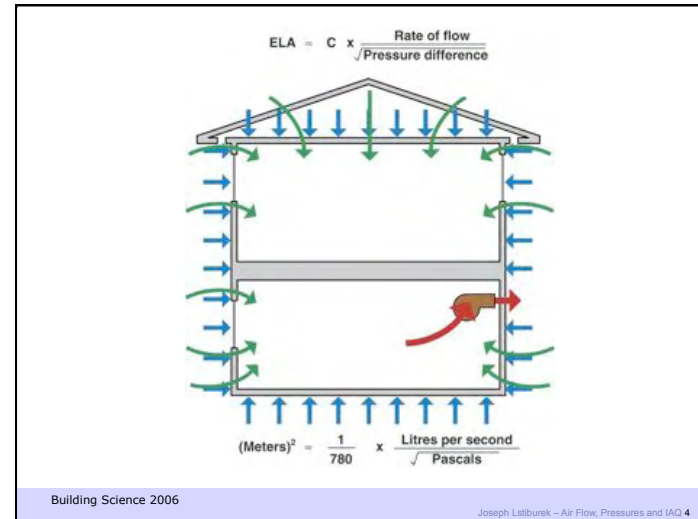
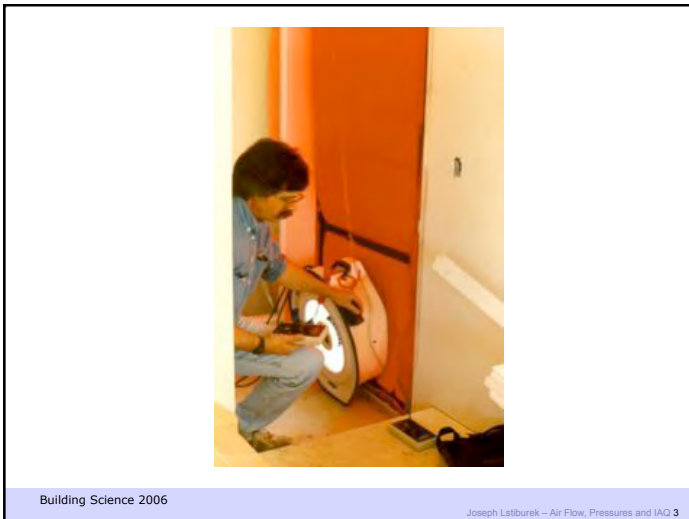
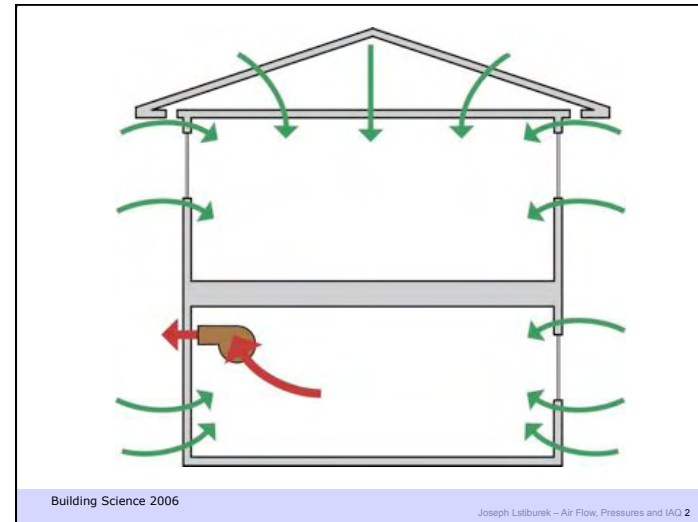


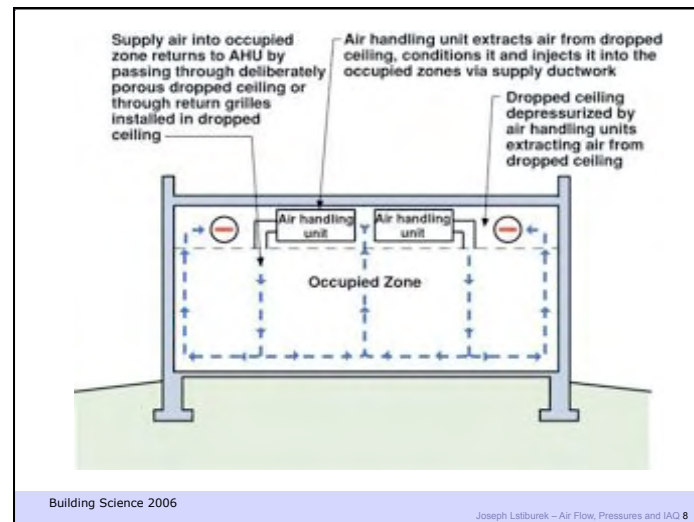
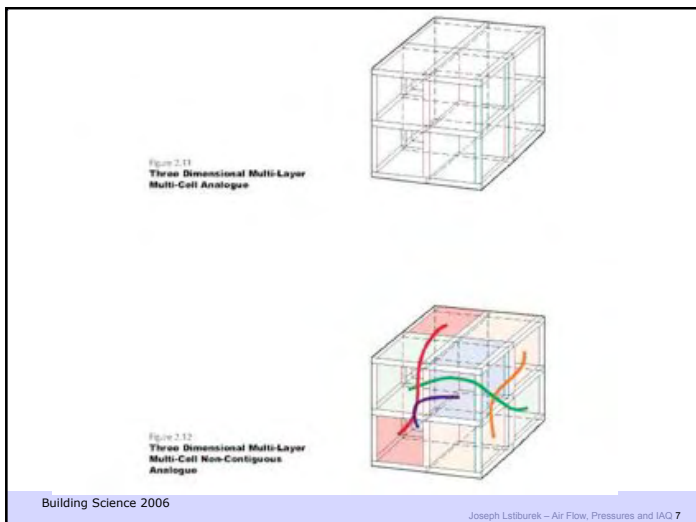
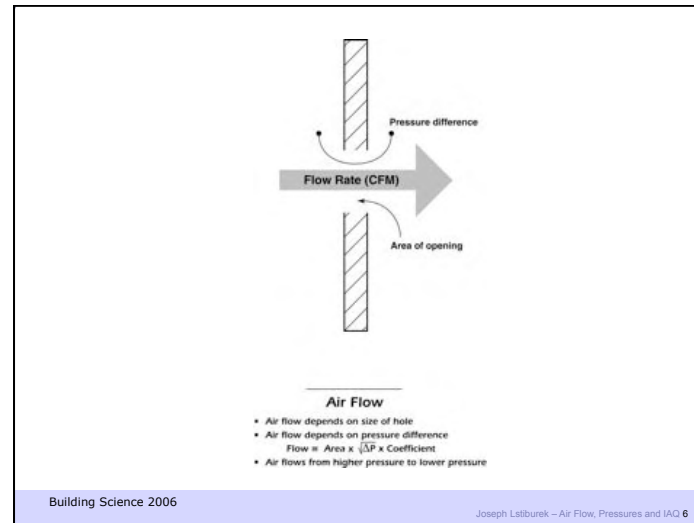
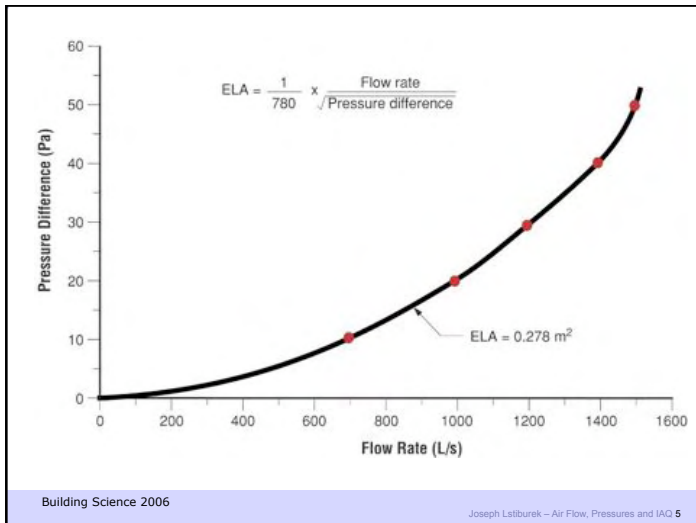
John Straube, Ph.D., P.Eng

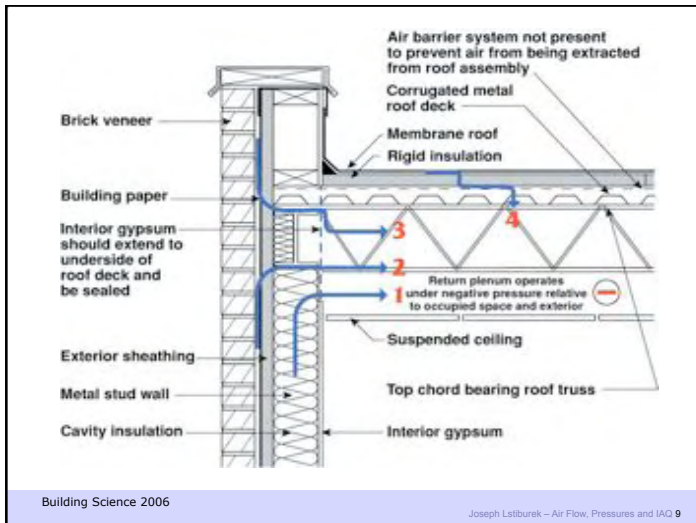
Big Air Barrier Failures

For Joe Lstiburek

presented by www.buildingscience.com









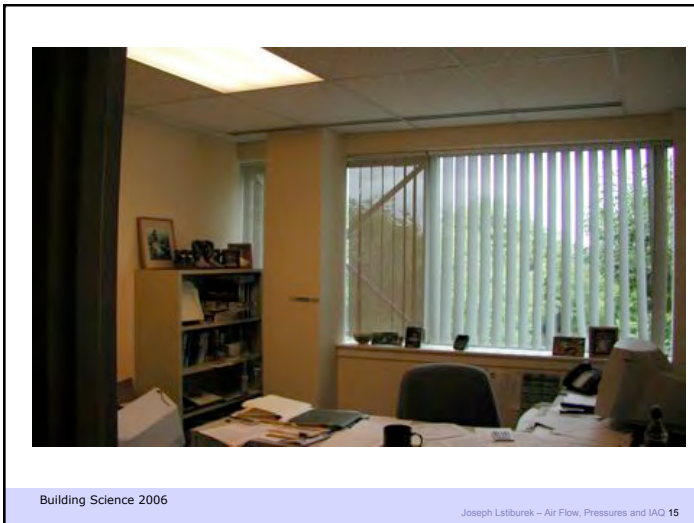
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Joseph Lstiburek – Air Flow, Pressures and IAQ 13



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Joseph Lstiburek – Air Flow, Pressures and IAQ 14



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Joseph Lstiburek – Air Flow, Pressures and IAQ 15



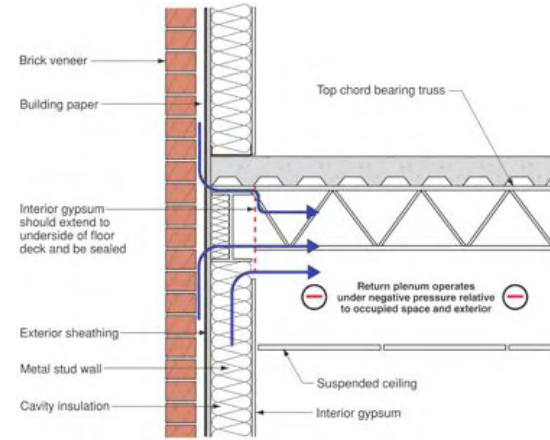
Building Science 2006

Joseph Lstiburek – Air Flow, Pressures and IAQ 16



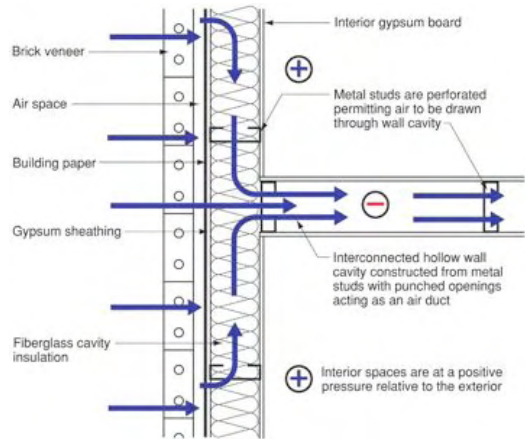
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Joseph Lstiburek – Air Flow, Pressures and IAQ 17



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Joseph Lstiburek – Air Flow, Pressures and IAQ 18



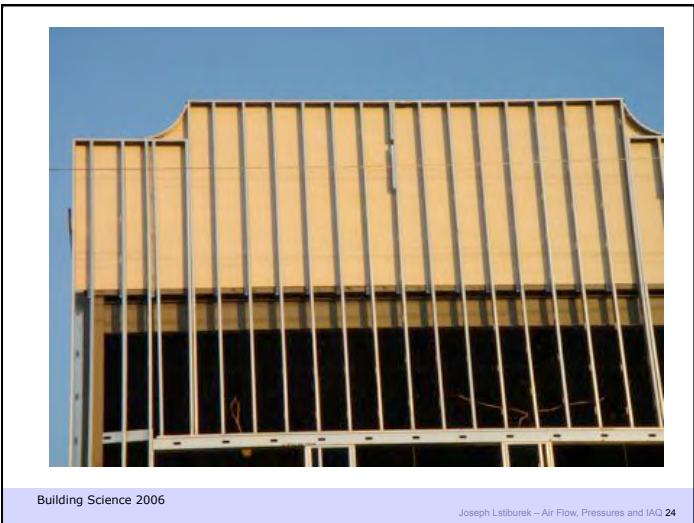
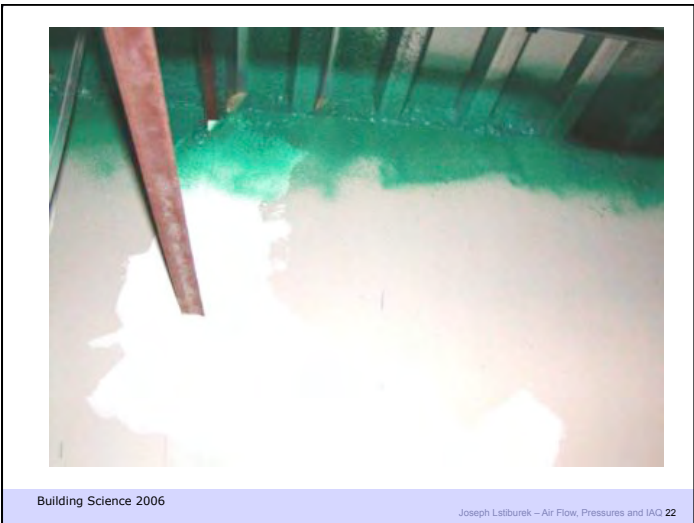
Building Science 2006

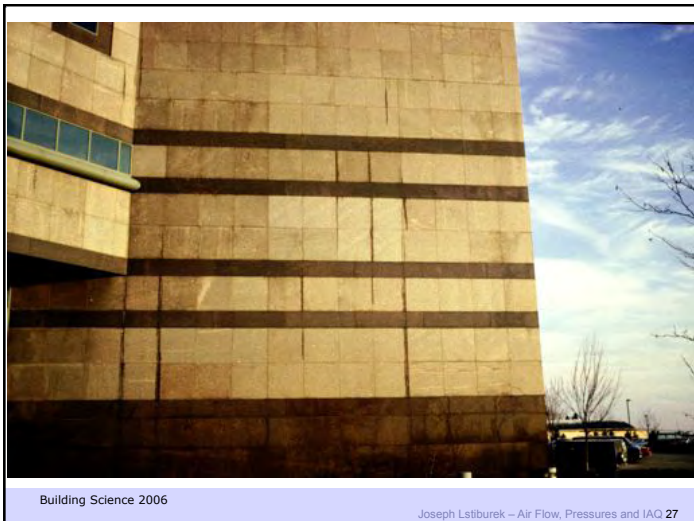
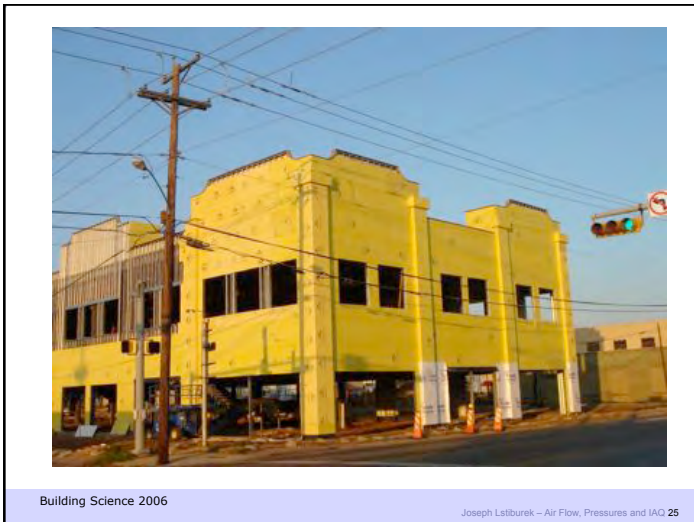
Joseph Lstiburek – Air Flow, Pressures and IAQ 19



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Joseph Lstiburek – Air Flow, Pressures and IAQ 20



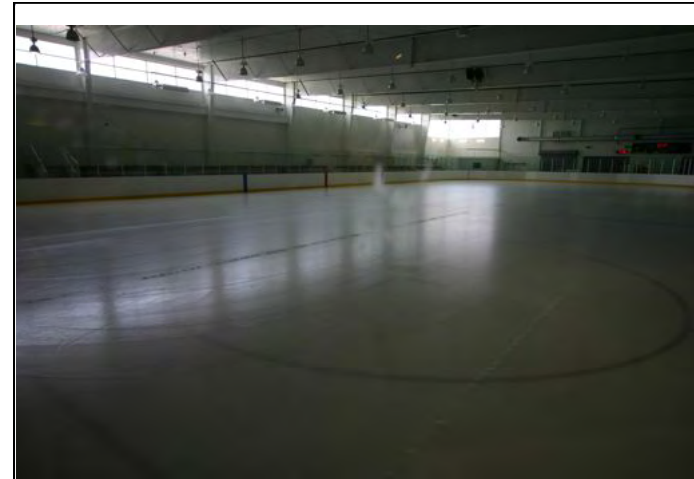


Recreation Center Arena

- Attach Ice Arena to banquet, pools, etc

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Joseph Lstiburek – Air Flow, Pressures and IAQ 29



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Joseph Lstiburek – Air Flow, Pressures and IAQ 30



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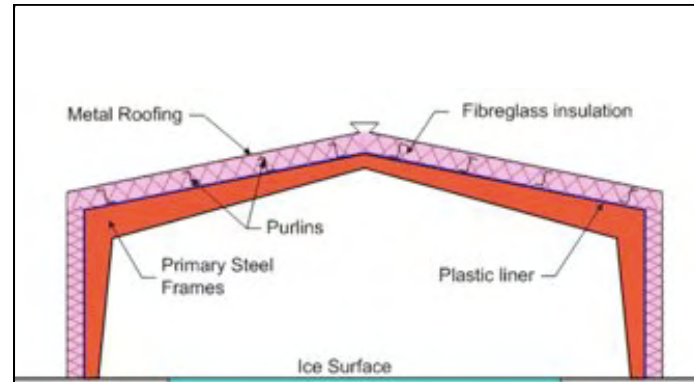
Joseph Lstiburek – Air Flow, Pressures and IAQ 31





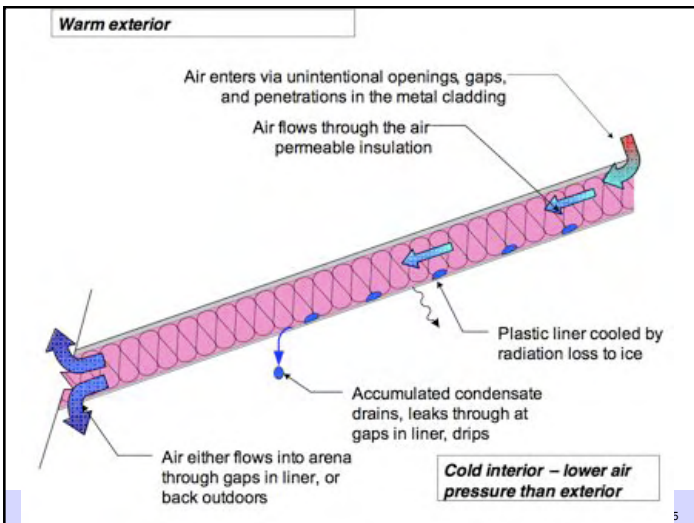
Building Science 2006

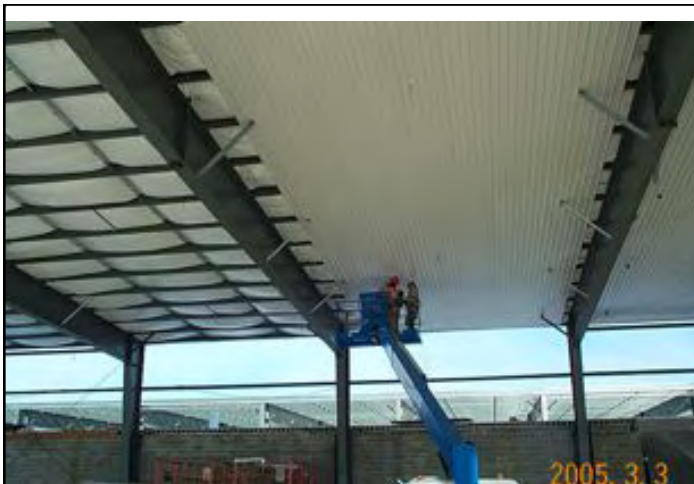
Joseph Lstiburek – Air Flow, Pressures and IAQ 33



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Joseph Lstiburek – Air Flow, Pressures and IAQ 34





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Joseph Lstiburek – Air Flow, Pressures and IAQ 37



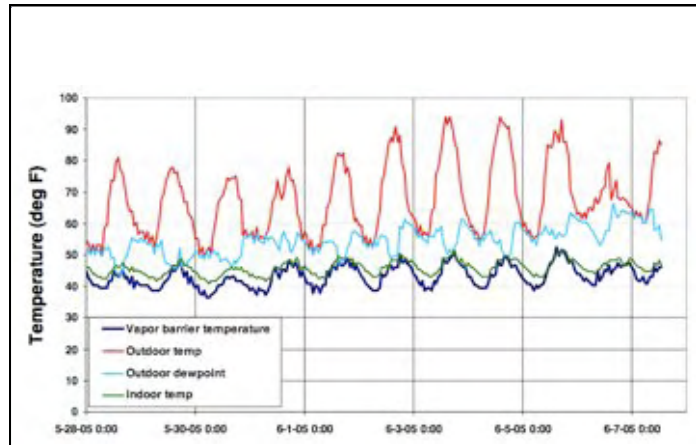
Building Science 2006

Joseph Lstiburek – Air Flow, Pressures and IAQ 38



Building Science 2006

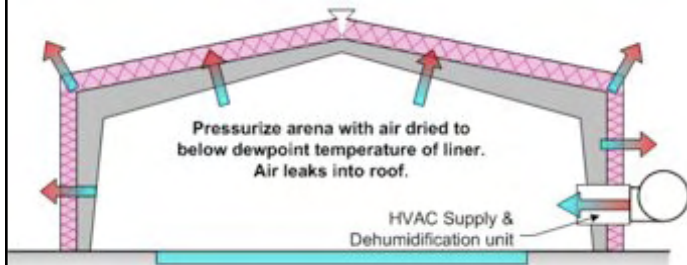
Joseph Lstiburek – Air Flow, Pressures and IAQ 39



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Joseph Lstiburek – Air Flow, Pressures and IAQ 40

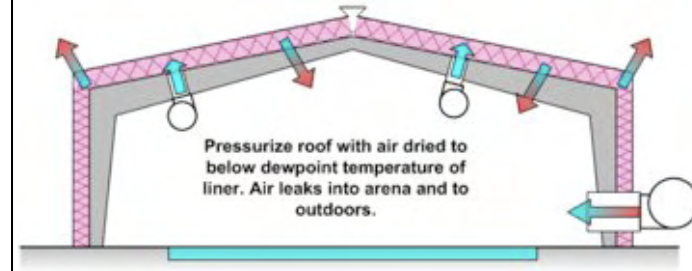
Control direction of flow



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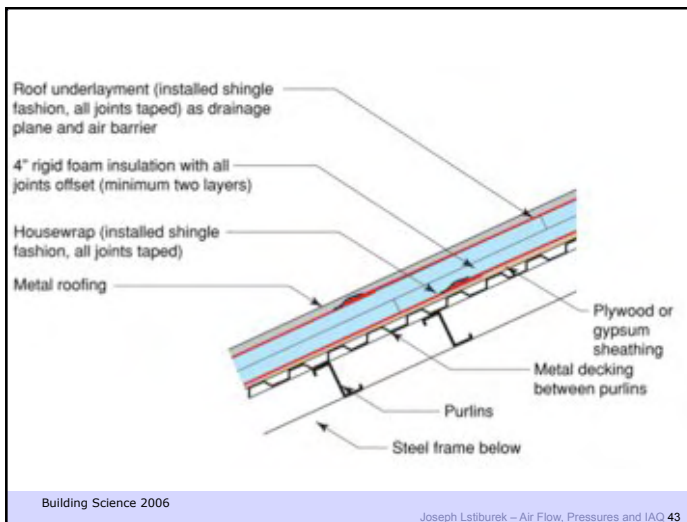
Joseph Lstiburek – Air Flow, Pressures and IAQ 41

Pressurize Interstitial Space



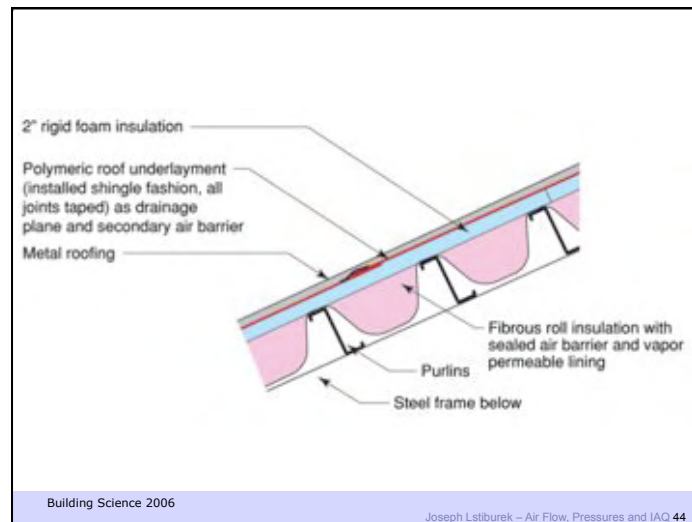
Building Science 2006

Joseph Lstiburek – Air Flow, Pressures and IAQ 42



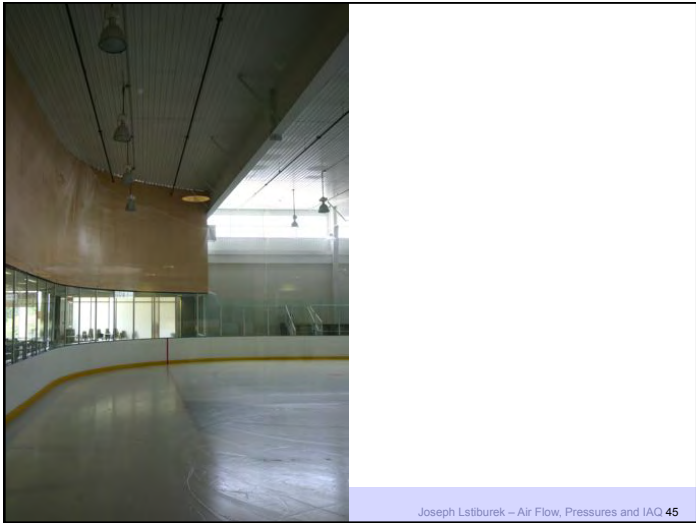
Building Science 2006

Joseph Lstiburek – Air Flow, Pressures and IAQ 43

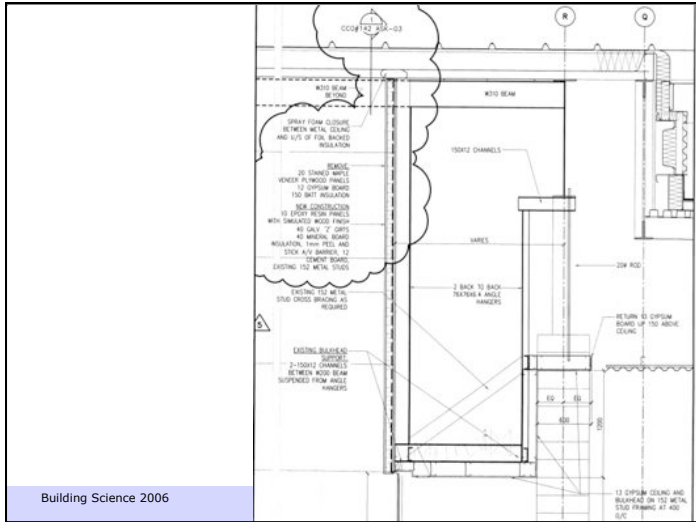


Building Science 2006

Joseph Lstiburek – Air Flow, Pressures and IAQ 44



Joseph Lstiburek – Air Flow, Pressures and IAQ 45





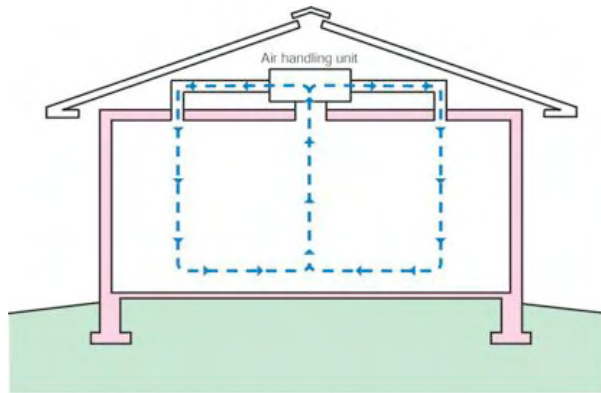
Building Science 2006

Joseph Lstiburek – Air Flow, Pressures and IAQ 49



Building Science 2006

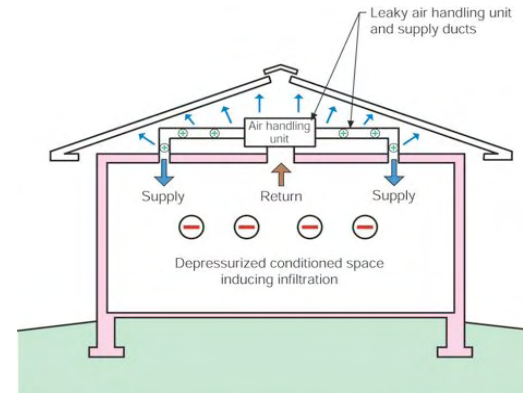
Joseph Lstiburek – Air Flow, Pressures and IAQ 50



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 – Air Flow, Pressures and IAQ 51



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 – Air Flow, Pressures and IAQ 52



Building Science 2006

Joseph Lstiburek – Air Flow, Pressures and IAQ 53



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Joseph Lstiburek – Air Flow, Pressures and IAQ 54

Conclusions

- Control air pressures as well as holes
- Air barriers needed between different occupancies and indoor/outdoor



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