information consulting bookstore seminars

buildingscience.com e-news

Changing the way the world builds. People. Ideas. Integrity.

July 14, 2008 Issue # 4

Dear Jeffrey,

This month's edition of buildingscience.com e-news features Joe Lstiburek's article on drainage and pressure moderation. To view a list of past newsletters, click here for our archives.
The new book by Andrew C. Äsk, P.E. is available for pre-order. Click here for more information on H2NØ: Mechanical Systems and Moisture Control.

Happy reading!

Jeff Melvin
Editor, buildingscience.com e-news

Forward buildingscience.com e-news to a friend!

Featured Article by Joseph Lstiburek, Ph.D., P.Eng., Fellow ASHRAE

Drainage, Holes and Moderation

Building Science Insight No. 4

Ever wonder how we can build a 50 story glass tower that doesn't leak, but we can't seem to build a two-story house that doesn't leak? The answer is a little bit of counter intuitive thinking.

We have learned to add holes and drainage in tall buildings in order for them to work. The lesson learned in tall buildings is that we can't keep the rain out so we drain it out after it has entered. We can reduce the amount that enters but we can never completely keep it all out. Drainage and holes are key. These are regularly installed in tall buildings but not in short buildings. Until we add holes and drainage to small buildings they will continue to leak. This is so counter-intuitive that it borders on magic.

This story all begins with a cup in the rain. It is a plain ordinary cup, nothing magical about it yet. It is oriented parallel to the ground. Rain falls out of the sky due to something called gravity. The raindrops have momentum ("kinetic energy") associated with them. There is no wind in this simple story of a cup in the rain so far. Sometimes the raindrops don't fall completely straight down* and so they will occasionally fall into the cup. But lo and behold, even though some raindrops enter the cup the rainwater can drain out of the cup due to the slope of the cup with a little help from gravity. Drainage at work.

Let's make it a bit more complicated...

To read the entire feature article and find a downloadable pdf version, click here to visit our web page.

Click here to read more about Andy Ask's new book at buildingsciencepress.com

Come Learn From Dr. Joe and Dr. John!

Joe's Building Science Insight on drainage and pressure moderation is part of the handout material for Building Science Fundamentals 2008.

Building Science Fundamentals 2008 is an advanced two-day seminar taught by Dr. Joe Lstiburek and Dr. John Straube about optimizing building performance. That is, designing buildings that perform as they should: efficiently and without assemblies that spall, decay, corrode, peel, blister, mold, condense water, leak air and water and otherwise annoy occupants, clients and authorities with jurisdiction. You will learn how to correct these problems in existing buildings and how to avoid them in new buildings.

You will learn fundamental building science principles (such as the control of heat, air and moisture and IAQ) as well as applications in disaster management, building investigations and sustainability.

Here is a list of remaining seminars for 2008:

Vancouver - October 1, 2

Chicago - October 15, 16

Toronto - November 12, 13

Minneapolis - Dec. 3, 4

Click on the link below for more information:

Westford Expert's Session Dec. 17, 18

Sign Up For This Newsletter!

About BSC

Building Science Corporation is a Boston based architecture and building science consulting firm with clients throughout North America.

Building Science Corporation specializes in building technology consulting. Our focus is preventing and resolving problems related to building design, construction and operation.

We are internationally recognized for our expertise in moisture dynamics, indoor air quality, and forensic (building failure) investigations. We are also on the leading edge of the design of sustainable communities and buildings.

We believe in promoting energy efficiency and environmental responsibility within the constraints of marketable and affordable building technology.

Read More About Us: www.buildingscience.com

Building Science Corporation | 30 Forest St | Somerville | MA | 02143