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Dear Jeffrey,

The impact of energy efficient design on rehabilitated buildings cannot be ignored. That brings up the question of how to address the many buildings that were designed with stone, brick and rubble cladding systems without creating moisture problems. Solve that problem and you are one step closer to reusing these beautiful structures.

Our first seminar of the year is fast approaching. The one-day Advanced Hygrothermal Modeling event on March 26 still has some seats available. See the link below the featured article for registration.

To view a list of past newsletters, click here for our archives.

Happy reading!

Jeff Melvin
Editor, buildingscience.com e-news

Forward buildingscience.com e-news to a friend!

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

Face Lift for Old Buildings

Building Science Insight No. 13

So what do you do when you have an old building and the walls aren't doing their job? What do you do when the walls look bad, leak and are falling apart? You give them a face-lift. We've been doing this to buildings for centuries.

Old mass walls were typically built with really, really good corners, and really, really good openings, but not so good sections in between. You need really good corners or the buildings tend to fall down. Holes in walls also need to be built carefully. You can't just poke a hole in a wall and expect the wall not to be affected. Builders learned this early on. Large square stones or rocks ("ashlar" blocks or "dressed stone") were used to make the "corner true and strong." The corner stones were referred to as "quoins." Nicely, carefully cut stones were also used to line openings. The tops of openings tended to be a big deal. Builders learned to use "arches" to span openings and arches were finicky things that needed carefully cut stones. This "arch" thing turned out to be something pretty important-but that story is for another day.

But builders being builders, didn't matter what the century, cheapened the rest of the wall when they could get away with it. Roman and Greek owners were just as annoyed at their contractors as some of us are at ours today. Of course the other side of the "quoin" was also true, Roman and Greek owners didn't want to spend much money either. Sound familiar? [article continues]

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

Photograph above: "Got Stucco"-In Europe stucco has a wonderful reputation and is associated with addressing problem buildings experiencing rain leakage. Over time most of Europe got "stuccoed."

FINAL REMINDER

Advanced Hygrothermal Modeling Workshop - Westford, MA

Chris Schumacher and John Straube will host a one-day seminar on advanced hygrothermal modeling in Westford, MA on March 26.

The seminar will address issues such as material property and weather data sources, selecting interior temperature and moisture conditions, and the role of 2-D and 3-D effects on results of lower dimension. Recommendations for successful and useful hygrothermal modelling will be made.

More information about this seminar and online registration can be found here.

New on buildingscience.com . . .

BSD-012: Moisture Control for New Residential Buildings
by Joseph Lstiburek, Ph.D., P.Eng., Fellow ASHRAE
Moisture accumulates when the rate of moisture entry into an assembly exceeds the rate of moisture removal. When moisture accumulation exceeds the ability of the assembly materials to store the moisture

without significantly degrading performance or long-term service life, moisture problems result. Click here to read this article.

BSI-014: Deciding on Energy Priorities When Building New
by John Straube, Ph.D., P.Eng.
The future is uncertain. This is a truism, and yet, when we design and construct a new building, we need to make decisions in the present or very near future. In fact, this is one of the critical distinctions about designing buildings: they are expected and likely to last 50 to 100 years, but we build them now. The challenge of designing for the future is no more acute than in the current choices facing the designer of an environmentally friendly building. Click here to read this article.

BSI-016: Top 10 Issues in Residential Ventilation Design
by Armin Rudd
This Insight is an excerpt from Armin Rudd's "Ventilation Guide." This publication can be ordered online from www.buildingsciencepress.com. Experience is a great teacher, but much bad experience can be avoided through education. That is the goal of this Insight. Following some basic, uncomplicated design guidelines can go a long way to avoiding most trouble spots. Click here to read this article.

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About BSC

Building Science Corporation is a Boston, MA and Waterloo, Ontario 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.

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