

Having trouble viewing this email? [Click here](#)

You're receiving this email because of your relationship with Building Science Corporation. Please [confirm](#) your continued interest in receiving email from us.

You may [unsubscribe](#) if you no longer wish to receive our emails.

information consulting bookstore seminars

building science.com e-news

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

November 17, 2009 Issue # 19

Dear Jeffrey,

Timbers
Board lumber
Plywood
OSB
Hardboard
Particleboard
Paper-faced gypsum board

Where are we going with this evolution of cellulose-based derivatives? Onward. Carefully onward. Joe explains why rather than pine away for the hardwoods of yesterday we need to accept that the new stuff is here to stay with open arms. Read "Material View Of Mold" in Building Science Insight #27 below.

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

Material View Of Mold

Building Science Insight No. 027

Mold is pretty easy to understand. No water no mold. Any questions? Well, there are a few. For one we have more mold today, but we don't have more water. What's with that? We've always built outside out of wet stuff. Concrete comes in a big truck and we "pour it." We put "mud" in the joints of gypsum board. That hasn't changed. The problem is that the same amount of water we've always had to deal with is hanging around longer and longer in building materials that can't take it. We have more insulation today and that reduces drying potentials because it reduces energy exchange. That is one reason we have more problems with mold today. The "more insulation" is responsible for the water "hanging around longer" part. But there is another reason-the building materials "that can't take it" part. We used to build out of

rocks and 1,000 year-old trees. Not any more and that is a big deal, as we will see. From an engineering perspective all that mold needs is carbon-to boldly go where no mold has gone before and seek out and find carbon. But it wants the carbon in a very special form-it wants it in the form of sugar. So, all the mold wants is the carbon in sugar. Now, we don't talk that way because we don't want civilians to catch on. We say that mold wants the carbon in a glucose polymer called cellulose-it makes us sound smarter. So where is all the cellulose? It's in the plant kingdom. So, all the mold wants is the carbon in the cellulose in the plant kingdom. Pretty easy so far. But there are certain rules that the mold has to follow-one of which is that the plant has to be dead first. So what do we build out of? Naturally, dead plants.

We go out and kill the tree, butcher the tree - commit tree genocide. [article continues]

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



Photograph 1: OSB versus Plywood-At the University of Waterloo "skunkworks" an OSB panel and plywood panel are exposed to identical temperature and humidity conditions over the same time period-the panels were side by side in a climate chamber. The OSB is covered with mold-the plywood is pristine. Now don't everyone run out and stop using OSB-we have to use OSB-get with the program-just learn to protect the OSB better.

2009 Building Science Seminars

The agenda for the Experts' Session is posted at the link below. In brief:

John Straube will present "Deep Energy Retrofits - Tools, Techniques and Technologies". John will address windows, roofs, walls, HVAC, lighting, and interior loads for large and small commercial and residential buildings.

Joseph Lstiburek will present "Where Buildings Meet the Ground". Dr. Lstiburek will examine slabs, basements, crawlspaces and slab on grade foundation problems and design solutions.

Our [Building Science Experts' Session](#) is intended to provide thought provoking professional development for experienced building industry professionals who are interested in healthy, durable and energy efficient new and old buildings.

Other Seminars Rounding up 2009

[Designing Low Energy Buildings -December 16- in Toronto](#)

[Figuring Stuff Out -December 17- in Toronto](#)

For the complete list of seminars, click [here](#).

New on buildingscience.com . . .

BSD-018: The Building Enclosure 2009/10/11

by John Straube

That part of any building that physically separates the exterior environment from the interior environment(s) is called the building enclosure or building envelope. The article can be found [here](#).

BSI-026: PassivHaus Becomes Active-Further Commentary on PassivHaus 2009/10/05

by John Straube

I have recently written about some aspects of the German Passiv Haus housing standard (see BSI-025: The Passive House Standard and the GreenBuildingAdvisor.com) as it applies to cold climates (that is DOE Climate Zones 5 and higher) housing. The response to these ideas has been startling in its intensity and anger. I have received literally hundreds of emails and online forum postings. The article can be found [here](#).

Info-408: Critical Seal (Spray Foam at Rim Joist) 2009/09/17

by BSC Staff

The rim joist or band joist is a particularly troublesome detail. This BSC Information Sheet can be found [here](#).

Info-001: Residential Best Practices Criteria 2009/09/16

by BSC Staff

Simply a basic list of essential criteria for energy performance, durability, thermal comfort, and indoor air quality. The list of basic requirements can be found [here](#).

Sign Up For This Newsletter!

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.

Read More About Us: www.buildingscience.com



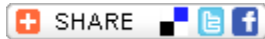
You are receiving this newsletter either because you have requested it or because of your relationship with Building Science Corporation.

To opt out any time from receiving this newsletter, click on the "unsubscribe" link below. Otherwise, to ensure that you continue to receive this newsletter, please add newsletter@buildingscience.com to your address book now.

Your privacy matters to us.
We are not going to sell, rent, lend or share your information with others.

Copyright © 2009 Building Science Corporation, All rights reserved

You may reproduce this article by including this copyright.



[Forward email](#)

 **SafeUnsubscribe®**

This email was sent to jeff@buildingscience.com by newsletter@buildingscience.com.
[Update Profile/Email Address](#) | Instant removal with [SafeUnsubscribe™](#) | [Privacy Policy](#).

Email Marketing by



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