Program Information
Friday, July 15, 2011

Orange County CSI Chapter
July Meeting

Program:  Aloha! It's time for a LUAU on a Friday night!
E komo mai, e noho mai, e 'ai a e, wala'au!
(Come in, come sit, come eat and talk story!)

This summer, the Irvine offices of Advanced Moisture Control, Inc. may not be the Islands, but the islands will be felt there! You are invited to come and enjoy an evening of pure social enjoyment, island style. We will enjoy island music, videos of paradise, eat ono delicious food and take some time to talk story together and make some new friends.

Advanced Moisture Control, Inc.'s new 5,000 square foot facility is roomy enough to invite Orange County Chapter CSI members and their guests to a LUAU that will feature the best Polynesian entertainment ever seen on the Big Island of Orange County, California. The entertainment will be provided by Tupua Productions (www.tupuaproductions.com).

Advanced Moisture Control, Inc. and their affiliate 2S2G Contracting, Inc. are proud to sponsor this luau event as our way of saying mahalo to all the CSI members with whom we have done business for all these years. Advanced Moisture Control, Inc. specializes in sealing concrete slab surfaces to protect floors from moisture damage. Please visit them at www.vaporsafe.com and bring them your toughest questions.

Time:  5:30 - 6:30 PM Social
      6:30 - 7:30 PM Luau Dinner
      7:30 - ??? PM Luau Program Entertainment by Tupua Productions

Location:  Advanced Moisture Control, Inc.
           17865 Sky Park Circle, Suite H
           Irvine, California 92614

Directions:  Orange County Thomas Guide page 859. The offices face Red Hill Avenue between MacArthur and Main Street. Enter Sky Park Circle off of Red Hill Avenue.

Parking:  Plenty of free parking - enter lot off Sky Park Circle.

Dinner Cost:  *$20.00 for CSI members and member's guests with reservations.
             *$30.00 non-CSI member or without reservations at the door.
             *Donation to the OCCCSI Student Fund (Check or Cash only).
             (No-show reservations will be billed)

Reservations required by July 8, 2011.  Call the OCCCSI hotline at 714-434-9909.
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July 2011

Greetings to My Fellow CSI Members:

Good Times, now and in the future.

Hope that you are enjoying the beginning of Spring / Summer (sometimes it is hard to tell the difference between them).

I’m glad many of you attended the Annual Installation & Awards Banquet. We did have a wonderful time. Good food and fellowship. The highlight of the evening was Sam’s Girls -- Deborah, Denise, and Diane -- accepting our Chapter’s newly created “Sam Drucker Award of Dedication”. This honor will be bestowed to only those recipients who have provided not only long term but truly outstanding service and dedication to the chapter. Such service was rendered to the Orange County Chapter and exemplified by Sam throughout his more than 20 years of commitment, hard work and dedication to the organization. It is in his spirit and honor that this award will forever bear his name.

TWO GREAT FUN TIMES AHEAD!

SOON: As July and August are busy times with many of us on vacation and otherwise occupied, this year, we are including a FUN time for ALL on a Friday night. Members, their significant others, and guests are invited to a LUAU. No need to schelp to Hawaii, Advanced Moisture Control, located in Irvine, is hosting this event. Polynesian food and entertainment will be there for your enjoyment. Only $20 for CSI members and their guests. Please come and celebrate with us.

FUTURE (Because we had a problem with last month’s mailing with the U.S. Postal Service, I am including this in my article, hoping to get a greater response this time.) If you note the cover, you will see that this is the 47th year of our chapter’s founding. We will be celebrating our 50th Anniversary in 2014. As this will be a major event in our Chapter’s existence, we would like to make it a very special gala event. I am asking for volunteers to help plan and participate in this activity. We need to select a location, food, theme and so on. It will be a major effort, but with helping hands, hearts, and minds I am sure it will be an event memorable for all. Please contact me and let me know how you would like to participate.

We continue to look for members to participate in our Chapter’s growth and advancement of ideas. Please feel free to call me with ideas and leadership of the group.

Have a safe and sane Fourth.

Steve
As the California politicians continue to push their Cap and Trade “green” programs forward, we will continue to see an exodus of businesses leaving the state. Last one out, do not turn out the lights. Let the state burn itself out! As a native Californian, the previous words were difficult to express. Unfortunately, this state is in big trouble.

The California State legislators with their partners in the entertainment industry and the investors in the Silicon Valley want a clean environment state. They really believe that they can create a bubble over the entire state so that bad air from other states, the Pacific Ocean and Mexico cannot penetrate their space. Smugly, they will proceed no matter what the cost - financial or social.

What shocks me is that the legislators and their cohorts from the lower income areas are totally complicit. Where will their residents work? There is a statement in a community organizer type book that the movement with unions and the green environment is not about “jobs” - it is about “controlling labor”. How sick!

What are these legislators thinking? The legislators from East Los Angeles in particular are placating their voters with words. What about jobs for their community? We have the cleanest environment in terms of manufacturing facilities in the country. Their voters are not being exposed to horrible working conditions. These legislators are simply selling out their souls for their own ego gratification. They are rubbing elbows with the stars and being wined and dined for their votes. At present, California Assembly Bill 46 will endanger 55,000 jobs in Vernon. The anti-manufacturing politicians do not worry about their voters’ ability to support their families. They will verbally tell them what is good for them. That worked really well in Bell for awhile!

Cap and Trade in California reminds me of the plant closing of one of our affiliated companies back east years ago. The plant was moved to a business friendly state. The last disgruntled person out did more than “turn off the lights”. The last one out threw a match. The evening news highlighted the fire that burned the building down to the ground. We may be able to watch the California business environment do the same.

All the “green” people will be happy because they will have only “clean” businesses in the state. All those manufacturing facilities that employed millions will be gone. The movie industry will thrive in the “clean” environment that they paid for in their advocacy. And the other advocates, the Silicon Valley survivors (offices only no manufacturing plants), will be happy, too. And in their utopian thinking, all of the California residents will have “clean” jobs. Roughly interpreted, some Ph.D.s will be cleaning houses for a living!

© 2011 Annette Wren, FCSI, CDT
Annette Wren is a Business Management Consultant assisting privately held companies.
WOLFE’S HOWL

By Sheldon Wolfe, RA, FCSI, CCS, CCCA, CSC

What is the value of a signature? More to the point, what is the value of a "wet" signature? Although some states have taken steps to modernize the requirements for certification of construction documents and other legal documents, others are mired in practices that haven’t made sense for a long time.

Of those states that allow something other than a manual signature to certify documents, some allow only software encryption, while others allow a facsimile of a signature. The result is a mix of methods, requiring design professionals to verify requirements for each state. To make things more interesting, states and local agencies are inconsistent in the way they interpret or use state statutes.

What really makes sense? Is a wet signature necessary? What does it prove?

The history of wet signatures is nearly as old as writing. Centuries ago, when few people could read or write, laws allowed a person to sign a contract merely by making an "X" or other mark. I wouldn’t be surprised to learn that many documents were explained in terms not used in the documents, then used against those who “signed” them, the argument being that they agreed to the terms, even though they could not read them. Those laws are still with us, and remain subject to abuse.

Despite what is permitted by statutes, many architects and engineers refuse to make use of alternative methods of certification, and insist on manually signing documents. If wet-signed documents are required by statute there is no point in arguing, but when facsimile signatures are acceptable, there is no reason to continue using wet signatures.

With today’s technology, I can go to the builders’ exchange, get a certification page, create an image of a signature, and put that signature into another document. After copying or printing, it will be virtually impossible to tell if copies of the new documents were produced from an original with a wet signature. Heck, I could have done the same thing years ago with old-fashioned cut-and-paste.

Consider a document that has a wet signature. Unless you were present when the document was signed, you can’t tell if it had been signed by the person whose signature you see, or by someone else. So what does it prove? Should we take it a step further, and require notarization? Then we would have a signature, and a notary seal. But does that really prove anything? Not really; all it would prove is that a person with proper credentials - which might have been forged - signed the document.

It reminds me of a M*A*S*H episode, when Radar asked the colonel to sign a document, then initial his signature to show that he signed it.

Electronic and digital signatures

The terms electronic signature and digital signature often are used interchangeably, but there is a difference. To make it interesting, each state has its own definitions, and rules for how they are used, while the federal government has definitions and rules that
Sherwin Williams/General Polymers: For over 140 years, architects and specifiers have relied on Sherwin Williams to provide high quality paints, coatings and technical support that they can trust. Technologies include low and zero VOC architectural coatings, high performance epoxy and urethane coatings, SV General Polymers Brand Resinous Floor Systems and Epoxy Terrazzo, concrete stains, concrete waterproofing systems, caulks and sealants, and roofing products. Your Southern California contacts are: Penny Balogh - 310 999-9396, penny.m.balogh@sherwin.com and John Dumesnil - 619 665-9341, john.t.dumesnil@sherwin.com for paints and coatings. For General Polymers, contact Brett Buffington - 424 219-2352, swrep7964@sherwin.com or Bonnie Harper - 949 933-6088, bonnie.r.harper@sherwin.com.

BMI PRODUCTS: Silos: Not Just for Grain Anymore - Rustic silos are an American farmland tradition. However in today construction marketplace, we see silos being used to house premixed and engineered dry products like portland cement plaster, stucco finishes, and tile mortars. BMI Products brought this European delivery system to America in 1996, and it has become a popular and common sight on urban jobites. The US market is recognizing and embracing this significant delivery system. The system: eliminates field-mixing, wasteful bags, wrappers, banding, jugs, and pallets, worker errors, increases worker productivity, lessens injury and liability to the contractor, safer material storage with no damage due to weather to name a few pluses. This system fits nicely into LEED Accreditation and prevents jobsite mess, and prevents pollutants from entering storm drains. Today’s construction industry professionals feel that premixed products and silo/mixer delivery system will be a “big part” of construction’s future. For more information, please call Jerry Pozo, BS, CSI, CDT, Architectural/Technical Consultant with BMI Products at (408) 595-2031, or jpozo@bmi-products.com.

Hafele America Company is a worldwide architectural hardware company with subsidiaries in 40 locations spanning the globe. Hafele’s unique 8 digit numbering system assures USA architects their project will receive the specified Hafele product anywhere in the world. Hafele offers complete design services for all its products. Last year Hafele announced to the architectural community Hafele’s architectural door hardware program. This year Hafele continues to innovate and create additional architectural products to add to its product mix. The 2011 additions are Moov-it and Loox. Moov-it is doubled wall steel drawer system and Loox is a complete line of LED lighting products for interior design. Hafele has become the “one stop shop” for your architectural building needs. Hafele is planning a major Hafele products event at the Torrance facility June 16, 2011. Two sessions will include luncheon and late afternoon CES sessions including dinner. Plant tours are included in the agenda. Hafele welcomes professional organizations to utilize the Torrance facility for planned events, meetings and CES presentations. Contact Ernie Lauria, CSI, CDT, Architectural Sales Manager, Hafele America Co in Southern California regarding Hafele planned June event and Hafele architectural product catalogs. Cell: 562-673-7211.

MAPEI: During more than 70 years in business, the MAPEI name has become synonymous with quality. Starting as a small company in Italy in 1937, MAPEI has grown into a global manufacturer of adhesives, sealants and chemical products. Our corporate mission focuses on making technologically superior products for our customers that are easy to use, competitively priced, and are ecologically friendly. Our trained sales force, supported by a technical service team and customer service are all dedicated to providing the right product for your flooring installation needs. Contact: Mike Granatowski, National Manager, Architectural & Commercial Projects; phone:949-212-2363; e-mail: mgranatowski@mapei.com; website: www.mapei.com.
THE ORANGE COUNTY CHAPTER OF THE CONSTRUCTION SPECIFICATIONS INSTITUTE WISHES TO THANK THE FOLLOWING COMPANIES THAT WILL BE EXHIBITORS (PARTIAL LIST AS OF JUNE 8, 2011):

**BOOTHs:**
- C.R. LAURENCE COMPANY, INC.

**MINI-BOOTHs:**
- ARCADIA, INC.
- PARTITION SPECIALTIES, INC.
- SPECIFIED TECHNOLOGIES INC.- FIREPROOFING

**TABLETOPs:**
- AMERICAN BUILDING SUPPLY - HARDWARE DIVISION
- ANGELUS BLOCK CO. INC.
- 4SPECS.com
- ASSA ABLOY – DOOR SECURITY SOLUTIONS OF SOUTHERN CALIFORNIA & SECURITY HARDWARE
- CENTRIA
- CPI DAYLIGHTING, INC.
- CUSTOM BUILDING PRODUCTS
- FLANNERY, INC.
- FOAM CONCEPTS INC.
- FORTIFIBER BUILDING SYSTEMS GROUP
- FRAZEE PAINT COMPANY
- INTEGRATED MARKETING CONCEPTS, INC.
- ISEC, INCORPORATED
- MAPEI CORPORATION
- MCElROY METAL, INC.
- MERLEX STUCCO, INC/VERO
- OMEGA PRODUCTS INTERNATIONAL CORPORATION
- ORANGE EMPIRE SMACNA, INC.
- ORCO BLOCK COMPANY
- PACIFIC POLYMERS INTERNATIONAL
- RAY-BAR ENGINEERING CORPORATION
- SHERWIN WILLIAMS COMPANY
- SMALLEY & COMPANY/DOW CORNING
- THOMPSON BUILDING MATERIALS
- TNEMEC - TPC CONSULTANTS, INC.
- URETHANE POLYMERS INTERNATIONAL, INC.
- VISTA PAINT
- WESTERN WALL & CEILING
- W. R. MEADOWS OF SOUTHERN CALIFORNIA CONTRACTORS ASSOCIATION
- WOODWORK INSTITUTE
Architects and engineers are required to meet the appropriate standard of care for their work on a construction project. Such a simple phrase is actually a very loaded statement. What, exactly, is the “standard of care” that the design professional is required to meet? This is one of the “terms of art” that lawyers love and everyone else tends to hate.

Basically, the “standard of care” is a shorthand description that states the designer owes a duty to perform reasonably well on the project. How is “reasonably well” defined? It is not perfection. It is, however, the showing of “reasonable care” and performing the “level of skill and diligence those in engaged in the same profession would ordinarily exercise under similar circumstances.” Again, what? If you are an architect practicing in, for example, Santa Ana, you will be presumed to:

- possess the required degree of learning, skills, and experience that is ordinarily possessed by similarly situated professionals in the community (that is, perform as well as other architects practicing in the Santa Ana area);
- use reasonable and ordinary care and diligence in the exercise of your skill to accomplish your professional tasks; and
- use your best judgment in performing your professional tasks.

Notice that nowhere did we say that the architect's plans had to be perfect. However, the plans do need to meet a “typical” standard. They must meet the applicable Codes. They must generally be sound. But they do not have to be perfect. (Question: Is there ever a perfect set of plans?)

September’s panel of discussion will be three different perspectives on “Standard of Care” from the design professional, the installer/contractor and the lawyer who may have to prove or defend the design professional’s “standard of care” in a court of law. Relevant topics will include moisture intrusion, mold and other construction defect issues.
Event: **Construction Products & Services Exposition 2011**
**Marconi Automotive Museum & Foundation for Kids**
1302 Industrial Drive
Tustin, California

**SEPTEMBER 27, 2011**

**Sponsor:** Orange County Chapter Construction Specifications Institute

**Invitation:**
- You are invited to participate as an exhibitor.
- Architectural seminars with AIA/CES credit prior to exhibits.
- Display your products for local design professionals, owners, contractors, facilities managers and others.
- Exhibit hours are 4:30 p.m. to 7:30 p.m.
- Gourmet hors d’oeuvres passed during exhibit hours.

**Reservation:** Please make your check payable to the Orange County CSI Chapter. Upon our receipt of your check, you will then receive set-up details and location confirmation. No verbal, fax or credit card reservations will be accepted. For questions, please call Bryan Stanley (714) 221-5520 or Gary Kehrier (949) 589-0997

**Price of Exhibits:**

**BEFORE, June 10, 2011 (Postmarked)**

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**Mail to:** Orange County CSI Chapter
Post Office Box 8899
Anaheim, CA 92812

RETURN THIS PORTION WITH YOUR CHECK

**Event:** Construction Products & Services Exposition 2011
**September 27, 2011 - Marconi Automotive Museum & Foundation for Kids**

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What you need to know about Water Testing and Walls

By Keith Soltner AIA

No designer or contractor wants a leaky wall assembly. Water intrusion into a wall cavity has created billions of dollars in damage, struck fear in the hearts of Architects and led to some drastic design alterations. In the city of Seattle, we are not immune to the leaky condo crisis or defect litigation. Due to our wet weather; we could be considered ground zero. The city of Seattle formed a Code Advisory Council to research the causes, the extent of damage and the optimum solutions. City codes were changed to meet the crisis head on, unfortunately, the new 2009 International Code, in an attempt to address the past concerns of water intrusion has inadvertently created some confusion among Architects and building owners. The code and all the related standards for claddings and components can be a maze to decipher. Our firm specializes in construction defect redesign, the resulting litigation, and construction administration of the repairs. Due to our type of work we have reviewed and discussed with the IBC their intent. The following is an attempt to simplify a somewhat complex and certainly misunderstood issue, which is the requirement in chapter 14 for water tests, and chapter 17, section 1715.5 for window requirements. There are appropriate water tests for exterior walls. While seemingly complex, the rules actually make sense, when you understand the intent.

The Code

Chapter 14 is entitled Exterior Walls, and has the performance requirements including weather protection in Section 1403. This section provides a general guideline for installation of various siding types, water resistive barriers, and flashing. The intent is to control and discharge water; with particular concerns at penetrations.

Section 1403.2 requires exterior walls to be weather-resistant. The envelope shall include flashing, per section 1405.4 and water resistive barrier to allow for drainage of water per section 1404.2. The generic three coat cement plaster over building paper fully complies with 1403.2, by incorporating both sections 1404.2 and 1403.2, and as such, does not require water testing. Cement plaster over masonry or concrete is not required to have a water resistant barrier. The code added a special item to clarify that testing is not required:

• Masonry and concrete walls as identified in section 1404.4 do not require a water-resistant barrier per section 1402.2. The exclusion is as stated in 1403.2.1.

Exterior walls that are designed and constructed without flashings or a water-resistant barrier require testing. Walls constructed not conforming to provisions in sections 1404.2 & 1405.4 may be built if the design passes water resistance tests as stated in section 1403.2, exceptions. The testing is established to allow innovation of new products and systems. For example, barrier EIFS over framed walls would require water testing per ASTM E 331. The design pressure differential is established at a minimum 6.24 psf. This is fairly high water resistive pressure, and insures the wall functions as intended by the code.

Exterior Walls that are designed and constructed with flashings (1404.5) and drainage provisions (1404.2) do not require water testing per ASTM E 331.

Walls with flashings and a water resistant (concealed barrier) under the exterior are not required to be tested. Many believe that water testing all walls is code required. Although testing every constructed wall type is not code required, it is at the least a very good idea for added insurance. There is no specific test designed for
By Edmond Buch, AIA, CSI, CCS

“Colossus, Hoover Dam and the Making of the American Century”

The next time you’re in Las Vegas, take a detour to the Hoover Dam. You’ll notice the similarity in the appearance of the Dam’s architectural features with the design of the LA Times Building on 1st St. in downtown Los Angeles. Understandable since the architect for the Dam was Gordon B. Kaufmann who was also Harry Chandler’s architect for the LA Times headquarters building. This is just one of the insights into the history of the Dam’s construction we learn in Michael Hiltzik’s book, “Colossus, Hoover Dam and the Making of the American Century”. The book’s bigger story is the historical and political events leading up to the Dam’s construction and the effects the Dam has had on the region. Indeed, without the Dam, the American Southwest, and especially Southern California we know today, would be very different. The irrigation water the dam delivers to the Imperial Valley and, more importantly the electricity and drinking water it provides, spurred the growth and development of the entire region. But it’s also true that the decreasing amount of water in Lake Mead behind the Dam, has also placed limits on our growth due to historically low rainfall and snow runoff experienced in recent years in the Colorado River watershed.

When President Franklin Roosevelt dedicated the Dam in September 1935, he characterized it as a tangible symbol of the New Deal even though construction planning was well underway in the administration of Herbert Hoover. The history of the Dam goes back even further, to the 1850s when California developers first had dreams of controlling flooding from the Colorado River and using its water for irrigation in the Imperial Valley. The disastrous winter flooding in 1905 that destroyed Imperial Valley agriculture, created the Salton Sea, and took 18 months to stop, (by repairing dikes along the river at a cost of $3 Million to the Southern Pacific Railroad), put the whole issue of control of the river on the national stage. In 1907 President Theodore Roosevelt proposed legislation to construct flood control dams on the Colorado River and to construct the All American Canal, from the River to the Imperial Valley. Twenty three years later the construction of the Hoover Dam began. It would be the largest American public works project since the construction of the Panama Canal.

The Dam is enormous in every way: 726 ft. high, (two times higher than any previous dam), 660 ft. thick at its base, it contains 3.5 million cu. yds. of concrete in its combination of gravity and arch designs, and, at its peak in 1934 employed over 5,200 men working around the clock, seven days a week. The project cost $98 Million. As it turned out, the pouring of concrete for the dam was the most straightforward part of the project. There was so much work necessary before that could begin. Construction of roads and a railway to the site, construction of an electric power line from Victorville, CA, and construction of Boulder City for 4,000 workers and their families had to be completed. The construction of the four diversion tunnels and the cofferdams, to keep the dam site dry, took nearly two years to complete. The diversion tunnels were enormous: each was 56’ diameter and 4,000 ft. long, drilled and blasted through the rock along both sides of Boulder Canyon. Work in the tunnels was very dangerous, taking the lives of 33 men

(continued on page 15)
OTHER PERSPECTIVES, OPINIONS, EXPRESSIONS, IMPRESSIONS, THOUGHTS AND IDEAS ABOUT THE NOBLE PROFESSION OF SPECIFICATIONS WRITING - OPEN FOR, AND SEEKING DISCUSSION

He laid the slightly crumpled sheet of paper on the counter and smoothed it out, “There’s what I wanna do,” he said, “I need to get a permit!”. Yes, the paper was close to the old “butcher paper, slightly waxed, hard to draw or write on and certainly not meant for the floor plans and elevations for construction drafting.

What were walls, turned out to be single lines; windows were a set of brackets; doors were a dot. The dimensions seemed to appear to just hang out in space with no extension lines or other definition. Not a drawing, really, but just assorted notes with no thought to overall coordination or relationship - but what's wrong with that? [the man knew what he wanted to do, he just couldn't communicate!].

You see a lot of this in a building code agency - work people want to do but have no idea of how they will do it or what guidelines or rules they need follow. So the code and agency become the bad guys, in their simple task of trying to ensure that others follow the rules - what’s wrong with that?

The deeply entrenched, wide-ranging and firmly-grounded concepts [or really lack of information] has continued for years and remain ever strong even together. But what is wrong with that?

Now why do we, in Specland, persist in precise, convoluted and rather complex specs-are we doing too much - are we still relevant and necessary - what is wrong with “letting up a little”? In many cases, this volume of work is required by the client, a manufacturer or government agency. But is it necessary, all the time? Need we use voluminous performance specs? Is there somewhere or some way in which we can simplify our specs - fewer words, more direct language? Oh, I know of our past and the wonderful folks who created the system and developed the streamlining, correct wordage, etc., but why do we not have the efforts to reduce specs like we have for drawings?

Why not? What’s wrong with that? A LOT!! - but that is a tale for other days [hopefully!]. We need to take hold of the values of new and revised! We cannot just keep piling information and changes on a document over a long period of years. Eventually we will need a creative approach; formatting, preened data, test of relevance; adjustment to conditions. We can’t [successfully] re-sell information previously purchased simply because a “smidgeon” of new data is added. Building code agencies tried this and got blown out of the water - there has to be a period of time for things to settle in and become routine, before we adjust and revise. Times are tough for us all, so creativity must be maximized, and new things developed. Purchase of standing entities is not progress if it is an attempt to look better but not being better.

We need to be aggressively creative - far-sighted; problem-solving; attuned to member voices; looking to provide things not
OC NEWS
FLASH

New & Renewing OCCCSI Members

Thank you to the following Orange County Chapter CSI members who have chosen to join or renew their membership (reports received from March to April 2011):

- Baker, Webster
- Balogh, Penny
- Block, Hal
- DeGraw, Supranee
- Dodd, Phillip
- Domenici, Thomas
- Etheridge, Kevin
- Farinsky, Greg
- Greenway, Kathy
- Harper, Bonnie
- Hill, Claudia
- Howe, Bert
- Joseph, Phyllis
- Killam, Brian
- Kroeze, Philip
- Kovacevich, Mark
- Lindmuir, Eric
- Lundberg, Kevin
- Marquez, Mo
- McAloney, Greg
- McClure, Jeff
- Overmyer, Vince
- Quattrocchi, Pamela
- Reed, Lonnie
- Regener, John
- Riley, Michael
- Stephens, R. Matthew
- Varner, Bryan
- Wensel, Kevin
- Wiseman, Jonathan
- Zahorchak, Christopher
- Zanrosso, Dennis

Mock-Up Testing

Should a mock-up be tested it is important to test a full wall assembly, which is a completed wall assembly; having both interior and exterior finishes in place. Some designers and or consultants believe it is a code requirement to test drainage type wall assemblies that are compliant with section 1403.2. We have established it is not required, as it is also not prohibited. If mock-up testing is desired, the differential pressure should be what the Components and Claddings section of the code requires for that specific project. There are four criteria needed to determine the correct differential pressure:

1. Height of the Building (average of the roof eave and the highest point of the roof) to the lowest grade
2. Importance Factor of the Building (Building Categories I-IV)
3. Wind Stagnation Pressure of the building (3-second wind gust from the code Wind Speed Map)
4. Exposure (the determination of building exposure B-D)

Test Caveat: Water penetration testing of exterior walls with drainage and flashings done under negative pressure are not required, but if so desired, they should be done with the exterior finish in place, the insulation in the wall cavity and the gypsum wallboard installed and taped on the inside. This will replicate the actual wall scenario. The interior finish should only be removed after the test to verify if an uncontrolled water leak has occurred. While ASTM E 1105 states the interior finish should be removed to view for leaks, this is intended for windows and doors only, and meant to view window leaks and leaks between the window frame and adjacent exterior sidings. Removal of interior finish for window testing is appropriate for visual review of conditions and to apply pressure to the backside of the window/siding transition. The reason for testing the window is it’s a “stand alone” component and is an item that penetrates a wall assembly. Exterior claddings are designed and meant to provide a weather resistive barrier and function as an integral part of a wall assembly. The assembly is from the outside face of the cladding to the interior face of the inside wall finish. Elimination of one or both of these components will greatly affect the wall performance. Testing exterior wall assemblies with the veneer cladding missing or the interior finish missing is testing an incomplete wall. The total wall assembly is designed and meant to provide weather resistance. Elimination of one or both of the finishes will greatly affect the wall performance. The information garnered from testing an incomplete wall mockup is pointless, false and useless. It would be similar to test driving a car with...
apply to interstate commerce.

In general, an electronic signature is any electronic thing that is used to show that the intent the person who uses it is to sign a document. In common definitions, it can be a symbol, a process, or even a sound. In many cases, the symbol is a facsimile of the person’s signature, reproduced as an electronic image, typically a jpg image or an electronically reproduced document bearing a "real" signature. Most of us use a form of electronic signature without thinking about it; any time you use an ATM or pay a bill online, you are using a process that indicates you agree to making that particular transaction.

In contrast, a digital signature is a form of encryption that can be used not only to verify the origin of a document, but also to indicate if the contents have been changed. In practice, it is more "real" than a wet signature. For example, someone could alter the content of a fifty page paper document without much trouble, and with little chance of detection, as long as the page with the signature was left intact. Although technically possible, it is extremely difficult to break the encryption and alter a digital document. Digital signatures would appear to be the best certification method, but I doubt that many firms have the necessary software. Even if encryption were used, it is likely that many recipients would be unfamiliar with it, and would insist on "real" signatures.

Use of both electronic and digital signatures is essential for today's commerce. If we still relied on wet signatures, there would be no ATMs, eBay, or credit cards. We would be required either to appear in person, or to send paper documents with wet signatures (which are easily forged) for every purchase and bank deposit. Not quite what we've become accustomed to!

Federal and state governments not only approve, but encourage the use of both electronic and digital signatures. The Electronic Signatures in Global and National Commerce Act (ESIGN) states that "electronic" means form, and that a contract or signature "may not be denied legal effect, validity, or enforceability solely because it is in electronic form".

The Government Paperwork Elimination Act (GPEA) required federal agencies to use electronic forms, electronic filing, and electronic signatures to conduct official business with the public whenever possible. A practical result many of us enjoy is electronic filing of our income tax returns, if anything related to the IRS can be considered enjoyable.

Certification of construction documents

Given the widespread acceptance of electronic signatures, requiring wet signatures for construction documents simply doesn't make sense. Beyond that, the statutes that govern certification of construction documents vary widely from one state to another.

Of the states I have worked in, most have a single licensing board for all design professionals, but one has one board for architects and another for engineers and surveyors. In that state, the governing statutes are similar, but not identical.

Some states require the use of a seal, while others allow an electronic image of the seal. Some require wet signatures, others do not. Some require that all drawings be signed, while others allow signatures to appear on only the cover page. All accept a single certification page for project manuals. When wet signatures are required, the number of copies required, and the purposes for which they are required vary. As if that weren’t confusing enough, interpretation can vary within a state.

I think we’re making progress, but until you know what is required, find the applicable statutes, and then ask the agencies you’re working with what they require.

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CPSE 2010 EXHIBITORS

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DuPont Tyvek/Weatherization Partners, Ltd.: Weatherization Partners, Ltd., started in 1949 as a millwork manufacturing and distributing company in Lubbock, TX, servicing the Texas Panhandle only. Now, it’s a sole distributor of DuPont™ Tyvek® construction products for the entire Southwest. "We sell everything to seal a commercial building," says Brett Lubsen, DuPont™ Tyvek® Senior Certified Specialist of Garden Grove. Lubsen attributes the company’s growth to maintaining a single-focus line and providing a high level of education to the industry. "Most building material distributors are multi-line. We specialize in one product line which enables us to provide the expertise the industry deserves." Lubsen said DuPont just launched DuPont™ Tyvek® Fluid Applied. "It is ideally suited for CMU and high-rise buildings with complex designs." You can reach Brett Lubsen at 714-737-0716.

Woodwork Institute: The Woodwork Institute (WI) introduces the SAW program (Sustainable Architectural Woodwork). Our mission is to encourage the use of environmentally sustainable materials and processes within the architectural woodwork industry. Why are we rolling out this program? 1. It is the right thing to do for the planet, good for the people, good for business. 2. Demand from our customers for green products and practices is increasing. 3. The importance of presenting a united and comprehensive initiative for our industry. If you would like more information on the SAW program contact: SUSTAINABLE ARCHITECTURAL WOODWORK, PO BOX 980248, WEST SACRAMENTO, CA 95798-0248 TEL: 916.372.8242 FAX: 916.372.9950 or visit the website at http://www.sawcertified.org. Local contact: Bradley Roa, Director of Architectural Services; Cell 916.214.9334; Office/Fax 562.496.4560.

Duro-Last Roofing / Triton Building Products: The Duro-Last Roofing family is celebrating its 33rd year of manufacturing high performance single ply membrane roofs. Duro-Last is unique in the industry because of their commitment to quality and to manufacturing all of their roof membranes, reinforcement scrim, metal edge components, screws, plates, and termination details. The Southern California market has exhibited very strong growth over the past 2 years, with over 2,500 roofs installed locally. The team of 90+ authorized roofing contractors, 2 technical inspectors, and 2 manufacturers reps welcome the opportunity to work with the OCSSI group. Contact: Matt Stephens, LEED AP, CDT; www.triton-ca.com; 310-344-9923; Triton Building Products - Proudly Representing: Duro-Last Roofing, Kalzip, NorthClad Rainscreens, Acralight Skylights, Formica, & Cetco.

CEMCO: CEMCO - California Expanded Metal Company - is the premier manufacturer of cold-formed steel-framing and metal lath products in the Western United States. Founded in 1974, CEMCO is the leader in quality, service, and product development, always striving to deliver the cutting-edge solutions that save both time and money during the entire construction process. Its commitment to quality control and the use of mill-certified prime steel ensures stellar product performance long after the project is finished. CEMCO is proud to offer one of the most broad product lines available in cold-formed steel framing for both commercial and residential markets. With over state-of-the-art roll formers, CEMCO is able to handle any small and large construction projects. CEMCO distributes our products throughout the Western United States, Canada, Mexico, and the Pacific Rim. All of CEMCO’s products are manufactured here in the USA. Visit our website at:
About the Author:

Keith Soltner, AIA - Mr. Soltner is the Principle Architect of the Soltner Group Architects based in Seattle, WA, with over 32 years experience, 26 years with his own firm. Mr. Soltner was an integral part of the Seattle Construction Code Advisory Council that reviewed the water intrusion problems that plagued the Emerald city in the 1990's with millions of dollars in water damage. Soltner Group Architects is a full service architectural firm with a strong history of building analysis, investigation, litigation support and subsequent re-design and repair; with well over 400 buildings completed in the soggy Pacific Northwest. Mr. Soltner brings a wealth of knowledge to Southern California. Mr. Soltner will also be a panelist during the Orange County CSI product show on September 27, 2011.

WHAT YOU NEED TO KNOW

Wall Design:

No designer or contractor can be found guilty of neglect for following the code, standards and industry recommendations. Designers and contractors MAY be found guilty for experimental designs that could lead to unintended consequences. Such an example would be using sealant around fastener penetrations through building paper to secure lath to framed walls. This is not code required or typically recommended by the plaster industry. Medium and long term detrimental effects of the sealant against the asphaltic building paper, or felt paper is unknown. Most sealants will leach the bitumen's out of the building paper possibly resulting in premature failure of the water-resistant barrier. Clear evidence is the brown stains around the edge of the white sealant applied to seal a fastener penetration. Further concerns include:

1. Sealant stops the water from draining down the wall. It dams the water, allowing it to saturate through the paper at the point of penetration. 2. The thickness of the sealant reduces the scratch coat thickness which weakens stucco in these locations. What is the long term effect of this action? We don't know but this condition through time may result in spider web cracking. In Seattle, we do not apply sealant around fastener penetrations and have never found the common fastener penetration to be problematic, even on walls exposed to frequent wind-driven rains.

Designers and contractors best practice is to follow the code, using established standards as well as the best known and proven practices of the industry. Experimental ideas/designs are just that, experimental and they can carry liability. We know that fasteners have been penetrating asphaltic building paper for decades on tens of thousands of buildings in all types of weather with no issue. We have lots of real constructability issues to solve, we do not need to fabricate additional ones.

WHAT YOU NEED TO KNOW (continued from page 13)

in one 14 month period. Jobsite safety was of secondary importance to the progress of the work.

Frank, “Hurry Up” Crowe was the project manager for the construction contractor, Six Companies, a consortium whose bid was the lowest of the three bids received. (Bechtel is the only construction company of the six member companies that still exists.) Crowe had completed 14 dams for the Bureau of Reclamation prior to the Hoover Dam. His experience in the construction of diversion tunnels and his innovative overhead cable system, spanning the canyon for transport of material and men to the dam site, were two of the reasons why the project was completed nearly a year ahead of schedule.

The Bureau of Reclamation conducted research on various concrete mixes, making over 15,000 test samples with 96 different mix designs using aggregates varying in size up to 9” diameter. The 30,000 concrete pours, each with a specific mix design, were planned to minimize heat buildup. The pours were made in interlocking blocks 50’ x 50’ x 5’ high, staggered, and interlaced with a system of piping in which 45 degree water was circulated to keep the curing concrete from overheating and cracking.

One aspect of the Dam’s construction that could have been better understood was its foundation geology. After 10 months of round the clock excavation, down to bedrock at 104 ft. below the riverbed, a series of 400 holes were bored into the rock for grout injection. These were planned to form a continuous concrete curtain below the Dam to prevent water from seeping beneath the Dam and causing uplift. Unfortunately, only a fraction of the holes were grouted successfully. As a result, following completion of the Dam, seepage into the Dam’s service galleries accompanied by a startling amount of uplift was recorded on the strain gages cast into the Dam’s structure. This necessitated the drilling of nearly 800 additional holes, some to a depth of over 300’, to complete the grout curtain. This process wasn’t completed until 1947, taking nearly 9 years, twice as long as it took to build the Dam.

“Colossus” was published by the Free Press in 2010. It has 496 pages including an extensive bibliography and notes section. The innovative and incredibly difficult construction process is presented in portions of five of the books 20 chapters. There are only three construction drawings included among several pages of photographs. Nevertheless, the book is an excellent and unique way to view the history of Southern California, and the Hoover Dam.

Buch Notes

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### Meeting Schedule and Information

Make reservations by the Friday preceding the meeting. Call the Chapter Hotline at (714) 434-9909.

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| **July 12**       | **OCCCSI Board Meeting (5:30 p.m.)**  
|                   | Thompson’s Design Center  
|                   | 1716 Case Road  
|                   | Orange, California |
| **July 15**       | **OCCCSI Tour/Luau/Meeting**  
|                   | Advanced Moisture Control, Inc.  
|                   | 17865 Sky Park Circle, Suite H  
|                   | Irvine, California |
| **August 1**      | **Newsletter Deadline** |
| **August 9**      | **OCCCSI Board Meeting (5:30 p.m.)**  
|                   | Thompson’s Design Center  
|                   | 1716 Case Road  
|                   | Orange, California |
| **No Membership Meeting in August** |
| **September 27**  | **Construction Products & Services Expo**  
|                   | Marconi Automotive Museum & Foundation for Kids  
|                   | 1302 Industrial Drive  
|                   | Tustin, California |