

# KnowHow

the materials and specifications advisor

Journal of Specifications Consultants in Independent Practice

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**More than 50 SCIP members attended our 2008 Annual Meeting in Las Vegas!**

## **Next Annual Meeting in Indianapolis!**

Mark your calendar now for the next **SCIP Annual Meeting in Indianapolis with CONSTRUCT 2009: Saturday, June 20, 8:00am-5:00pm** at the Westin Indianapolis, Grand 4 Room. Breakfast/lunch provided. The pre-convention **SCIP Board Meeting** is Tuesday, June 16 from 8:30-11:00am. All are welcome. The pre-convention **SCIP Dinner Reception** is Tuesday, June 16, and hosted by Arkema. See you there!

.... and we promise never to send out another 25-pound box of manufacturer's product literature and SCIP m&m's as we did with last year's newsletter. ((There are still a few left if you want one - MK.))

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For over 40 years, Specifications Consultants in Independent Practice has been an organization of specification writers that assist architectural firms, engineering firms, agencies, facility managers, and manufacturers in acquiring specifications from qualified writers. SCIP provides specifiers with the opportunity of enhancing their professionalism by sharing techniques and industry developments.

KnowHow is the annual publication of SCIP, intended to provide technical and membership information of interest to members. Opinions expressed in KnowHow are viewpoints of the individual authors and should not be attributed to SCIP. Mention of manufacturer's names or trade practices is not intended as an endorsement of firms, products or construction techniques. Copyright 2008 SCIP. All rights reserved.

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## What's Happening ....

### SCIP Sponsors FedSpec in December

Over 80 people attended the technical sessions at FedSpec, held in conjunction with Ecobuild America on December 10 at the Convention Center in Washington DC. The day-long program included sessions on:

#### Specifying for Federal Government Projects

Mark Kalin FAIA FCSI SCIP, President, Specifications Consultants in Independent Practice (SCIP)

Michael J. King FCSI CCS, Vice President of Engineering Specifications, ARCOM

Tim Woerner, Vice President, Senior Mechanical Engineer, Setty Engineers

#### The Specifier as Knowledge Manager

Dianne Davis IAI CSI, President, AEC Infosystems

#### Federal Green Specs and the Whole-Building Design Guide

Alison Kinn Bennett, Co-Chair EPA Green Building Workgroup, US EPA Office of Pollution Prevention

#### Carbon Neutral Construction Basics

Paul R. Bertram Jr. FCSI CDT LEED AP, Director, Environment and Sustainability, NAIMA

#### Advances in Master Specification Systems

Mark Kalin FAIA FCSI CCS LEED AP, Kalin Associates, Specifications Consultants

Gilles Letourneau, Chief Technology Officer, InterSpec and e-SPECS

### SCIP Sponsors Meetings at BuildBoston and GreenBuild in November

SCIP and the Boston Chapter of CSI held a joint meeting at BuildBoston / GreenBuild on November 17 in Boston MA. Roger Grant, Technical Director of CSI, made a presentation on green efforts at CSI, including the introduction of GreenFormat ([www.greenformat.com](http://www.greenformat.com)), a green forum on the CSI website, and the formation of the new CSI Sustainable Facilities Practice Group (which will have their first meeting at the CONSTRUCT 2009 in Indianapolis on June 19 from 8:00-9:30 am).

### SCIP Purchases Subscription for All Members To Use LegalLine

For over a decade the AIA Trust has sponsored LegalLine. In 2009, SCIP purchased an annual subscription for all of its members! At no cost to you as a SCIP member, your inquiries will be answered by Charles R. Heuer, FAIA, Esq., or a member of his staff. Mr. Heuer is an architect, attorney, professional liability consultant, arbitrator and mediator. In their words, they deliver information which will help you: negotiate and interpret contracts; manage risks and prevent lawsuits; improve communication with clients; determine whether you actually need a lawyer in a specific situation; resolve or mitigate disputes with clients, employees, and contractors; recognize the traps and pitfalls to be avoided or mitigated; Increase profits by keeping you focused and doing what you do best. Or you might want to know about: ways to structure profitable joint ventures; the benefits of incorporating your practice; considerations when hiring or firing an employee; options for collecting past due or disputed fees; factors in transferring ownership of your firm. Don't hesitate to call Chuck at 434-973-0733 or [heuerlaw@aol.com](mailto:heuerlaw@aol.com).

### Sustainable Design CEUs Now Mandatory for AIA Members

Beginning in 2009, of the total 18 CES Learning Units required in a given calendar year for AIA members, 4 will be required to focus on sustainable design and meet the established guidelines for sustainable design continuing education. The Sustainable Design CEUs do not replace the original requirement for 18 total hours, eight of which must be in Health, Safety and Welfare (HSW) subjects, as HSW is a subset of Learning Units, and Sustainable Design may be a subset of HSW. The AIA Board of Directors approved this change to be implemented on January 1, 2009 and it will apply to membership renewal beginning January 1, 2010.

## **AIA A312 Payment Bond Amendment**

Major sureties now require modifications to control their risk when an AIA A312 Payment Bond is required for a project. Courts in Maryland, Virginia and Florida have held that a surety's failure to deny a claim within 45 days as required by in the bond form constituted a waiver of the surety's defenses to the claim. If you reference AIA A312 in your specs, perhaps revise your reference to AIA A312 - Payment Bond with surety amendments acceptable.

## **Info on Drawings or Specs Incorporated as if in Both for Federal Projects**

In case you were wondering where to find the federal regulation regarding the relationship of information in the drawings and specifications, courts have referenced the Federal Acquisition Regulation FAR 52.236-21(a): In the event that either a contract's specifications or drawing details are missing information contained in the other, that missing information is incorporated into both documents.

## **USGBC List of Innovation and Design Credits - Master Catalog**

The USGBC has made available a 15-page Innovation and Design Credit Catalog for items which have earned LEED I&D credits. A great guide to make sure your LEED project has a chance at the 4 innovation and design credits. <http://www.usgbc.org/ShowFile.aspx?DocumentID=3569>

## **ACI Updates 530-08 for Masonry Structures**

The American Concrete Institute has published ACI 530-08: Building Code Requirements and Specification for Masonry Structures and Related Commentaries. This publication covers the design and construction of masonry structures, and is written in a format that may be adopted by reference in a legally-adopted building code. Highlights and updates to the 2008 edition include: quality, inspection, testing, and placement of materials; the placing, bonding, and anchoring of masonry; and the placement of grout and reinforcement. This specification is intended to be referenced in the project specifications. Available online at [www.concrete.org](http://www.concrete.org).

## **Free Advanced Energy Design Guides**

Free downloads of the ASHRAE Advanced Energy Design Guide series for school buildings, small retail buildings and small office buildings at <http://www.ashrae.org/publications/page/1604>

## **New Website for Adhesives**

A new website on adhesives has been launched by The Adhesive and Sealant Council, the leading North American trade association representing the adhesives and sealants industry. Terrific information whether you're using adhered structural glazing, or just caulking a bathroom mirror. The site contains industry standards, info on structural design, a newsletter, cost model comparisons, even regulations and green building info on adhesives from USGBC and NAHB. Visit [www.adhesives.org](http://www.adhesives.org).

## **Ever Heard of AIBD, NCBDC, SCIP.org**

AIBD: American Institute of Building Design, <http://www.aibd.org>

NCBDC: The National Council of Building Designer Certification, <http://www.ncbdc.com/about.htm>

Try their free on-line examination if you want to see some interesting questions

[http://www.ncbdc.com/sample\\_test.htm](http://www.ncbdc.com/sample_test.htm)

SCIP.org, The Society of Competitive Intelligence Professionals (find our members at [scip.com](http://scip.com))

## Webs and Blogs

Adobe offers free Seminar on More Efficient Intelligent Document Workflows for the Architecture, Engineering, and Construction Industry

[http://www.adobe.com/cfusion/event/index.cfm?event=detail&id=853063&loc=en\\_us](http://www.adobe.com/cfusion/event/index.cfm?event=detail&id=853063&loc=en_us)

Contractor could not recover from sub who installs a non-functioning system

<http://blawg.midwestconstructionlaw.com/2008/02/contractor-coul.html>

British government issues tech specs for UK Building Schools for the Future

[http://www.qsweek.com/nav?page=qsweek.gen\\_obj\\_redirects.news&fixture\\_news=7103601&resource=7103601&view\\_resource=7103601](http://www.qsweek.com/nav?page=qsweek.gen_obj_redirects.news&fixture_news=7103601&resource=7103601&view_resource=7103601)

Mackintosh's architectural designs often included extensive specifications

<http://peircearts.blogspot.com/2008/02/february-master-of-month-charles-rennie.html>

Apparently, the cost of vegetable biodegradable oil for a hydraulic elevator is nearly 3 times the cost of traditional standard hydraulic oil. On a recent project, standard oil was \$ 1,600, biodegradable oil \$ 4,600.

## ISO 21930

The Geneva-based International Organization for Standardization, the universal standards group responsible for introducing ISO 9000 and ISO 14000, covering quality assurance and environmental management systems, has added ISO 21930 for sustainability in building construction. According to Jacques Lair, who headed the team behind the document, the organization hopes the environmental declaration for building products will be a helpful tool for building designers, manufacturers of building products, and users and owners of buildings who are increasingly demanding information that enables them address the environmental impact of buildings and other construction works.

[http://www.iso.org/iso/catalogue\\_detail?csnumber=40435](http://www.iso.org/iso/catalogue_detail?csnumber=40435)

## Printing 3-D Models

Amazing that you can now print out a detailed 3-D model much the way you print out a fax ....

[http://www.quickarc.com/english\\_Quickparts\\_1.aspx?Page=/index.aspx](http://www.quickarc.com/english_Quickparts_1.aspx?Page=/index.aspx)

## Master Specs in the UK

The US preference for office masters over national (commercial) master specification systems is not reflected in the UK, at least among architects (it is an issue for services engineers). National Building Specifications (NBS) specification products ([www.thenebs.com](http://www.thenebs.com)) are used relatively widely (over 7,500 subscriptions). However there are plenty of smaller practices not using these products, but most of these don't have an office master either. Reportedly they tend to recycle recent project specs.

## Teaching Specs Worldwide

Worldwide, spec training is provided by quite a few national master specification providers, including CSC in Canada, STABU and BNB in the Netherlands, NATSPEC in Australia, and NBS Educator in the UK.

## Dates on Standards

Eliminating dates on standards in specifications is recommended by NBS in the UK. They don't include dates in their technical sections, but do include a clause on the matter in the Preliminaries A31/250  
Currency of Documents: References to published documents are to the editions, including amendments and revisions, current on the date of the Invitation to Tender.

## Proprietary Products for Public Projects

The European Parliament has set regulations directing the use of non-proprietary specifications for public-bid projects. The European regulations are controlled by an EC Directive, 2004/18/EC - See Par. 29 and others in the following. <http://www.dkom.si/util/bin.php?id=2004121408020465>

## British Terminology

Careful if you are writing specs using UK english. Aluminium is, of course, the official IUPAC term, and is used worldwide except in the US. Sulfur is also an IUPAC term, used in NBS and in the US, but everyone else calls it sulphur (they think sulfur is an Americanism). NBS uses 'lumber' sparingly, but we use both 'wood' (the material) and 'timber' (the product). NBS uses 'hardware', as well as 'ironmongery' (preferred, though); 'standing seam' roofs as well as welted roofs; and 'render' as well as 'external plaster'. 'Mild steel' is widely used, but so is 'steel', 'stainless steel' and other variants. 'Turf' is 'sod', 'kerb' is 'curb', brick 'leaf' is brick 'wythe', 'tender' is 'bid', 'fall' is 'autumn', and they don't use the term 'project manual'. Officially, terminology is covered in BS 6100 Glossary of building and civil engineering terms, currently under review.

## Greener Path

PATHnet.org is the central information source for the Partnership for Advancing Technology in Housing (PATH), a program supported by the U.S. Department of Housing and Urban Development (HUD). PATHnet offers a extensive tools and information to help you to integrate advanced housing technologies into your project. Dozens of informational manuals on foundations, exterior wall, roofs, moisture are available. My personal favorite site on the subject of building science as the path to green are the building science digests, building science primers, research reports and commentary available from Building Science Corp. at [www.buildingscience.com/index\\_html](http://www.buildingscience.com/index_html)

## Green Info From Harvard LEED Projects

The Harvard Green Campus Initiative for Harvard University in Cambridge, MA has just launched an extensive Green Building Resource to support the implementation of Harvard's Green Building Guidelines and Harvard's Sustainability Principles. According their Director, "The Resource is the result of seven years of work, and includes the experience and knowledge gained from several dozen Harvard LEED projects. It has been designed to foster continuous improvement in cost-effective green building design, using LEED as the accountability tool. The Resource will be continuously updated and expanded to reflect the frontier of best practice across the university. It is our hope that by creating and sharing this Resource, we can both support and learn from others as we all strive to meet the profound challenge of becoming an environmentally sustainable society." Excellent sustainable design and LEED info at <http://www.greencampus.harvard.edu/theresource>

## Specifying Ramp Tolerances

Major lawsuits are pending in the US based on in-place construction intended to comply with the ADAAG/ABAAG regulations for ramps. (ADAAG is the Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities and has been adopted by the US Dept. of Transportation and many codes. ABAAG is the Architectural Barriers Act Accessibility Guidelines, adopted by agencies such as the GSA and Postal Service.)

The requirement is that ramps must not exceed a 1:12 slope (8.3 percent) with a maximum cross slope requirement of 1:48 (1/4 inch per foot or about 2 percent). The cross slope requirement allows for drainage of exterior surfaces while limiting the cross slope that people with disabilities have problems negotiating. However, these are maximums with no tolerance for exceeding the maximum. Since construction is put in place by mortals under all kinds of weather conditions, many accessibility consultants recommend designers use a slope of 7.5 percent with a cross slope of 1.5 percent to avoid exceeding the regulations. Another issue arises when measuring slope, as many contractors use a 10 foot straightedge while many inspectors are now using electronic straightedges which are only 2 feet long.

It may be nearly impossible for every portion of a ramp to meet the slope requirements when a 2 foot straightedge is used. Decide what's right for your office, but remember that ripping out a ramp for being out of tolerance is a time-consuming and expensive problem for non-compliance. Perhaps the best a specifier can do is to call for the contractor to remove and replace ramps which do not meet accessibility tolerances at no additional expense to the owner.

## CSI Masterformat continues to evolve

CSI issued their last update to Masterformat in 2004. Many are familiar with the major changes, such as expanding the numbering from 5 digits to 6 digits, and 16 Divisions to 49 Divisions. Some firms changed to the new system immediately, others still have no plan to change. You can find the latest version on-line at [www.masterformat.com](http://www.masterformat.com), which includes a transition guide and a way to propose revisions. In the past two years, over 200 revisions have been proposed, and many have been accepted by the CSI Masterformat Maintenance Task Team. The accepted revisions have been minor in the architectural divisions, and major in some of the process industry divisions. CSI plans to have the most current version available on-line, and we are told to look for such an announcement in the coming months.

## Twelve Things Product Manufacturers Really Need to Know About Specs

1. Design firms and specifiers prefer specs in CSI format and in Microsoft Word.
2. Having to register on your website before downloading a spec will lose you projects.
3. Your spec needs to include what you really manufacture, with editing by deletion.
4. Include specifiers notes in the spec to make it easier for the specifier to get it right.
5. Get the marketing language out of the body of the spec. That's for the website.
6. If your product line is vast, your spec should include your most popular products.
7. It doesn't matter whether your spec is in 5-digit or 6-digit format.
8. Teaching your sales reps to edit your spec for a project helps specifiers enormously.
9. Skip the 'or equal' language in your guide spec; sole source is a terrific advantage.
10. If you don't have a spec, the specifier will use your competitor's spec.
11. If you mention LEED, remember products contribute to points, not earn them.
12. Review your existing guide specs every six months; they'll get better each time.

## Six Things Product Manufacturer's Really Need to Know About BIM

1. What is Building Information Modeling? From wikipedia: Building information modeling covers geometry, spatial relationships, geographic information, quantities and properties of building components (for example manufacturers' details). BIM can be used to demonstrate the entire building life cycle including the processes of construction and facility operation. Quantities and shared properties of materials can easily be extracted. Scopes of work can be isolated and defined. Systems, assemblies, and sequences are able to be shown in a relative scale with the entire facility or group of facilities. BIM is able to achieve such improvements by modeling representations of the actual parts and pieces being used to build a building. This is a substantial shift from the traditional computer aided drafting method of drawing with vector file based lines that combine to represent objects. BIM is a process which goes far beyond switching to a new software. It requires changes to the definition of traditional architectural phases and requires more data sharing than most architects and engineers are used to.
2. Why have Autodesk and Bentley sold more than 400,000 copies of BIM software? All members of the building team are faced with accelerating pressures on cost, time and quality. The 2D drafting was a mimic of hand drawing. BIM is information and modeling, allowing error checking, quick revisions, extensive analysis and reduced design time. Designers are spending twice as much time in schematic design phase, with hopes of saving 40 percent of their budget in the construction documents phase. The 30 percent waste (of money) in the construction process is no longer tolerable to owners.
3. What are AIA, CSI, BOMA, AGC and SCIP telling their members about BIM? BIM is the future of an integrated profession in which owners designers, contractors, and manufacturers all play a vital interrelated role. It's a competitive advantage to be able to model your building before its built. It's a competitive advantage to own the model. The model can stay with the building for its entire life, and keep the team that manages it involved forever.
4. What are the lawyers and risk managers saying about BIM? The lawyers are saying it matters who owns what and who did what and who is liable for what (but the advent of BIM didn't change any existing laws). Designers don't want to lose their design copyrights and want to make sure they are paid for the extra data that's entered into the model compared with 2D drawings. Some owners are saying it doesn't matter and are entering into integrated contracts like those issued by the AIA, as the cost and time savings of BIM used effectively save more than the change orders and lawsuits would cost. It is really a reduction of an owner's risk when the design team works together, already engineers and subcontractors are coming into the designer's office and working on the model directly.
5. How should a product manufacturer react? You need to be BIM-ready. If it isn't the architects asking for details and product attributes, it will be the specifiers, cost estimators, or the energy modelers, or the sustainable design programs, or the contractors. Locking your data into the model will likely lock your product into a sale. Its about the suitability of your product for a particular application, and the money you make on the sale. BIM is rupturing the learning curve into ever-faster forward.
6. What happens if you do nothing? There are still designers drawing by hand. There will always be small one-of-a-kind projects that use simple automation and construction techniques. Your product literature and binders will always look attractive in a library gathering dust. But the six percent of design firms that design 80 percent of the projects in the country (by dollar volume) are all moving to BIM. You should go with them. Its simply about the data you already have, reorganized in a format they'll all desperately need.

## Staying in Touch with BIM

Very active BIM resource sites:

1. Whole Building Design Guide from NIBS <http://www.wbdg.org/resources/bim.php>
2. AIA Building Connections <http://www.building-connections.info/>
3. Wikipedia BIM entry [http://en.wikipedia.org/wiki/Building\\_Information\\_Modeling](http://en.wikipedia.org/wiki/Building_Information_Modeling)
4. IFC-BIM Forum at <http://www.buildersnet.org/IFC-BIM/>
5. Industry Evolution, <http://www.bimstorm.com/>
6. BIM Resources at Georgia Tech <http://bim.arch.gatech.edu/>
7. Fact checker and BIM <http://refdesk.com>

New BIM Periodical: The two 2008 issues of the Journal of Building Information Modeling is now available (free) at <http://www.wbdg.org/references/jbim.php>. A new BIM Handbook is available, written by Chuck Eastman, Paul Teicholz, Rafael Sacks, and Kathleen Liston. It includes background on the technology, discusses how this approach differs from using existing design, fabrication and construction methods, and offers case studies. <http://www.wiley.com/WileyCDA/WileyTitle/productCd-0470185287.html>

NIBS' BuildingSmart Alliance may become the BIM Expedia (courtesy of O): There is a model on the web that works for distributed databases, the same direction BIM is heading in. The web is about distributed databases, not one central database managed by one group. For example, if you log into Expedia, you have one interface, but you are touching many databases, from each airline's reservation and cost system. Expedia does not copy each airlines schedules and seat availability and then manage it, they just create an interface to it, and through distributed databases, they access Delta, American etc. to get the latest data. The owners of each set of data, ie, Delta, American, manage their data which is then shared through the open standards of the Internet to Expedia. As a consumer you have a choice to use Expedia, Orbitz, go direct to Delta.com or walk up to a ticket counter, and get the same seat at a different price. In the background there may be consolidated systems that manage the reservations, but ultimately each airline decides how many seats they have and what to charge based on their own business strategies. In the BIM world, I think it would be great if buildingSMART was that Expedia, and had pointers to relevant data that was maintained by each "owner" of that data, just like Expedia. That does not keep other interfaces from developing links. There is no reason for many different systems to manage the same data, as it becomes obsolete the minute it is created. On the other hand it is ok for many different systems to point to the same data.

## My Courier Called

The company that delivers our courier packages called and asked if we had switched to another carrier. The answer was no, but in fact our use of their service had dropped by over 75 percent over the summer. The real answer: Many copy centers are now offer a discount for printing from electronic files rather than the traditional printed copy. The architects embrace the idea, as they no longer have to physically collate hundreds of sheets of drawings and specs. Nor do they have piles of fedex packages to get out, as the printers do that as well. Our industry has rapidly moved to pdf file delivery to the copy centers. As specifiers, we receive files from the engineers and specialty consultants, make sure they sequence properly in an electronic directory, make a zip file of the pdf files and email to the architect for printing.

## LEED Consultants

Unfortunately, many LEED consultants have little experience as specifiers. The best approach seems to be to ask the LEED consultant to review the draft specs, and provide a file in Word with any language they would like added. For credits like recycled content and regional materials, it seems best to ask the LEED consultant to take a pass at the LEED scorecard on-line for that credit and the specifier know which materials in which sections should comply. For example, it only makes sense to include the recycled content requirements in the sections that will be used to comply with the credit.

## Getting to Green

How do you get to green? Many suggest simply copying a previous exemplar project, others promote general education, others suggest incentives or channeling investment. My suggestion is regulation, and getting to regulation by specification. Some projects seek USGBC LEED certification, others seek LEED certifiability. Our experience with over 120 LEED projects is that the real results come with real documentation for certification.

Getting to green by sustainable standards and certifications:

Green California [www.green.ca.gov/EPP](http://www.green.ca.gov/EPP)  
Massachusetts Initiatives [www.mass.gov/envir](http://www.mass.gov/envir)  
Energy Star [www.energystar.gov](http://www.energystar.gov)  
EPA Water Sense [www.epa.gov/watersense](http://www.epa.gov/watersense)  
USDA BioPreferred [www.biobased.ocs.usda.gov](http://www.biobased.ocs.usda.gov)  
Greenguard [www.greenguard.org](http://www.greenguard.org)  
Green Seal [www.greenseal.org](http://www.greenseal.org)  
CRI Green Label Plus [www.carpet-rug.org](http://www.carpet-rug.org)  
MBDC [www.mbdc.com/certified](http://www.mbdc.com/certified)  
SCS Floorscore [www.scs-certified.com](http://www.scs-certified.com)  
SCS Indoor Advantage [www.scs-certified.com](http://www.scs-certified.com)  
SCS Sustainable Choice [www.scs-certified.com](http://www.scs-certified.com)  
IDA Dark Sky Approved [www.darksky.org](http://www.darksky.org)  
Bird Safe [www.birdsandbuildings.com](http://www.birdsandbuildings.com)

Getting to green following governmental examples from around the world:

Energy Modeling/Statistics [www.eia.doe.gov](http://www.eia.doe.gov)  
BREEAM - United Kingdom [www.breem.org](http://www.breem.org)  
EU Flower [ec.europa.eu/environment/ecolabel](http://ec.europa.eu/environment/ecolabel)  
Nordic Swan – Scandanavia [www.svanen.nu](http://www.svanen.nu)  
Blue Angel - Germany [ecolabelling.org/ecolabel/blue-angel](http://ecolabelling.org/ecolabel/blue-angel)  
Environmental Choice / Ecologo – Canada [www.environmentalchoice.com](http://www.environmentalchoice.com)

Getting to green using resources available to all:

US Green Building Council [www.usgbc.org](http://www.usgbc.org)  
Environmental Building News [www.buildinggreen.com](http://www.buildinggreen.com)  
Whole Building Design Guide [www.wbdg.org](http://www.wbdg.org)  
Harvard [www.greencampus.harvard.edu/theresource](http://www.greencampus.harvard.edu/theresource)  
RS Means Costs [www.rsmeans.com](http://www.rsmeans.com)  
Institution Recycling Network [www.wastemiser.com](http://www.wastemiser.com)  
Building Detailing [www.pacerepresentatives.com](http://www.pacerepresentatives.com)  
Building Science [www.buildingscience.com](http://www.buildingscience.com)  
Air Barrier Association [www.airbarrier.org](http://www.airbarrier.org)  
ARCAT Green [www.arcat.com](http://www.arcat.com)  
CSI GreenFormat [www.greenformat.com](http://www.greenformat.com)

## **New Version of Uniformalt may Revolutionize Link between BIM and Specs**

Uniformalt is an elemental system of classification for buildings used primarily by cost estimators. Elements are described by system (exterior closure, interior construction) rather than by CSI Masterformat numbers. The system has been in place for decades, and numerous versions are currently in use and promoted by ASTM, CSI and government agencies. Last year, CSI appointed Robert Johnson to lead a CSI Task Team and invite industry stakeholders to review the existing systems and propose a consolidated system. Over 20 industry representatives attended several meetings during 2008 and a new version is likely by mid 2009. Not all the participants in the review process have agreed to harmonize, but the four major versions have been consolidated to two, and discrepancies between the two minimized. CSI has promised a conversion table between Uniformalt and Masterformat, and the CSI Practice Resource Manual will have the chapter on Preliminary Project Descriptions and Uniformalt revised concurrently.

The benefits of a new Uniformalt are substantial. During schematic design, building systems can be compared by cost and benefit more easily than by using a traditional outline specification using Masterformat. Building Information Models can analyze systems more easily than individual components, and energy and sustainable project goals can be reviewed at the earliest stages. It has always been easier to conceptualize the building by its' Uniformalt structure than by CSI numbers.

In this writer's opinion, Uniformalt will become the backbone of the connection between the design concept, specifications, cost and construction logistics for a project. All copies of the BIM software by Autodesk already include a version of Uniformalt and Masterformat in anticipation of such a link.

Interested in a discussion of BIM and specs? Hop on the forums at CSI or contact CSI's national chair of the new BIM Practice Group - Robert Weygant at [rweygant@sumexdesign.com](mailto:rweygant@sumexdesign.com). The current list of Specifiers' Property Sets in BIMspec can be downloaded from [www.kalinassociates.com/resources.html](http://www.kalinassociates.com/resources.html)

## **Writing Specifications Backward**

Drawkcab Snotacificeps Gnitirw? Seems that's been happening a lot lately. Typically the designer will develop a concept, select a basis-of-design product, develop details and prepare specifications. If a particular building system in the project is complex, a subcontractor/manufacturer team will be asked to help on a design-assist basis. And then the specifications get written backward. A recent scenario:

A local curtainwall subcontractor is asked to work with a European design firm on a large science project in the U.S. The size of the project and schedule will require nearly the entire workforce of the subcontractor for over a year. The designer prepares concept drawings, and a scope and price are developed. No spec is written, other than a scoping letter from the subcontractor. As more details are developed, the price is refined and constructability and schedule details are worked out. The product manufacturer reserves time in their production line to accommodate the project. Contracts are signed. Still no spec.

The European designer has also engaged a local architect to interface with the local building and regulatory community, and the architect suggests a specification be written for the curtainwall for the permit submission. As a specification consultant, we prepare the spec for the review of all concerned. The subcontractor responds to the specification with a line-by-line review, and cost discussions ensue regarding items in the spec but not in the original contract such as the responsibility for shop drawings coordinated with the adjacent construction, payment for testing, LEED documentation of the source of the materials, electronic record documents and several other items. The total cost is adjusted and the spec rewritten to reflect the signed contract.

Is there a problem? Contracts signed before details and specifications are prepared put the subcontractor/manufacturer team in charge. As the designer refines the concept during the design development phase of the project, every change is a cost concern. In our experience, the designer will frequently need to compromise their concept to stay on budget and schedule. The owner will need to carry a cost contingency as overruns are likely. In fairness to the subcontractor and product manufacturer, delivering the project on time and close to budget is of great value to the owner.

### **Specs Backward in BIM**

An architectural client of a specification consultant has a staff of 90, with Autodesk Revit used for BIM modeling. The firm has converted to BIM completely, and even gave up their licenses for the previous 2D CAD system. The spec consultant waits in eager anticipation for reports from the BIM model on building systems, material selections and attributes, even door and hardware schedules. To no avail. The project is drawn in 3D in a BIM program, but without material intelligence, or the ability to measure the amount of wall space requiring painting. The architect meets their goals to evaluate design alternatives, but there is no concern for product selection or specifications.

The spec consultant offers to help the process, downloads a few BIM objects from ARCAT and emails them to the design team. Even a slow start implementing information on door systems and fire extinguisher cabinets in the model will help the specifier and show the value of information in the model. The next time reports are issued from the model the spec writer looks for the information they provided but it is still not there. The design team reports they are under deadline pressure and can only take the time to develop the physical form of the project. Maybe next time.

The spec consultant still wants to help, develops a complete spec around the BIM objects in the model and presents attributes which the designer can put into the model associated with the object. Unfortunately the results are the same, with no information being added to the model.

The message is simple. Until the design firm sees the downstream benefits of putting product information in the model, the BIM analysis tools may be of little use, and the long-awaited generation of specs and cost from the model will have to wait. Its quite clear to the building product manufacturers that putting attributes and product names in the model will be of enormous advantage, and as specification consultants we will patiently wait. Always an optimist, I hope you will share you experience with BIM and specs for future discussion and publication to [mkalin@kalinassociates.com](mailto:mkalin@kalinassociates.com).

### **Dear Rep,**

Thank you for the sales call earlier today. I'm glad your car's GPS system was able to find us, and I'm sorry about that \$35 parking ticket you got. If you hadn't gone to our old address first, I am sure you would have made it here on time. You'll be glad to know that your product binder is still where you left it, right next to the permanent scratch that your sample made on our wooden conference table. Thank you for taking the time to come back to our office to put your business card in the binder, because I hope to be able to reach you if I have a question.

Actually, I really appreciate the time you took to explain to me the features and benefits of your products and to show me the product selector in your binder. I learned long ago that I can't really ever hope to know more than you do about your product. Usually it's late in the evening and I'm frantically trying to make good decisions. On the other hand, if your company had given you training on your own website, you probably could have shown me the selector online. When I sat you down at my computer, at least the person you called at your home office was able to tell you where to find the right section of the website. Don't worry, I'm happy to absorb the long distance phone charges, but I hope they give you a new password so next time you can skip the mandatory registration for your site.

The green leaves on your binder remind me of how environmentally responsible your company is and that using your product will get us 12 LEEDS points. Actually, 50,000 of us are already LEED-certified, and I'm pretty sure that projects can only contribute to points, not earn them. By the way, it's LEED credits, not LEEDS, and there is no such thing as a LEED-certified product. If your company ever decides to print up a chart with the real credits you contribute to, that would be a big help.

I suppose I could have told you that the other architect you complained about was one of my best friends, but it's always good to get a new perspective. I agree that it's ridiculous that he didn't delete all your competitors from his office master specification once you told him about the scandalous problems with all of their products. Are your competitors really that close to Chapter 11?

I'm planning on recycling the paper from your outdated binder, which you left in the trash basket, and giving the binder itself, which is perfectly good, to a grade school so that it can be reused. Maybe next time you'll take it with you and pretend it has some value, especially considering that I've had it in my library for three years, protecting it from all harm and dusting it religiously. You probably would have been able to find it on our shelf more quickly if you had noticed our product binders are arranged alphabetically. With all this fuss about 5-digit and 6-digit CSI numbers, it was our only option.

Thank you for not embarrassing me by asking for a copy of our master specification for your product. I just haven't had time to keep it up-to-date. Good thing we had a copy of one of our recent specs around, so at least we could find out if you were in our office master. Sorry, I don't know why your company wasn't listed, but I'll put you in soon, as I'm sure I'll have time to update our master shortly.

Since everyone in our office is working on many projects at the same time, I probably could have introduced you to some of the other people in our office if you asked. Maybe next time. Oh, and I'd probably feel better if you hadn't told me that this is only your third week on the job, and that your territory is the eastern United States. Will we ever see you again?

Again, thanks for the advice. The product you described really works well for this project. If you have time in the next 24 hours, could you please email me a copy of your spec in Microsoft Word, and edit out all those choices that I don't need for this job? If so, I'll actually use it in my project manual because you've helped me out with both the product selection and specification writing issues. I know it's your job to do marketing, and I hope sales will be able to close the deal with the construction manager, who's probably already talking to subcontractors about pricing. If you wait to send me the spec next year, I'll send you a picture of your competitor's product, which will already be installed by then.

Thank you for your patience while sitting in our waiting area. I meant to come out sooner, but I thought I should take one more phone call before seeing you. I think I saw a marketing study that showed how it costs your company over \$250 to make a sales call, but unfortunately I missed the sensitivity training session my firm did last month. Next time, come for lunch and I'll buy. Really! I appreciate your help, and you know we'll both be in this industry 10 years from now, chuckling about how we're getting a little older and a little wiser.

Yours truly,  
Mark

P.S. If you would mail me back my favorite fountain pen which you inadvertently took, I'll mail you back the Blackberry you left behind.