

## Watching the Paint Dry Kent Kile, CSI, CCPR

months back about where solvents in paint are headed. This time around we will discuss different resins in paint and their importance. As you may remember, there are four basic components to paint- pigment, resin, solvent and additives. These four categories of ingredients are in about every type of liquid paint on the market today.

Resin is the glue that binds the pigments to the surface being coated. The solvent thins down the resin/ pigment mixture to a workable viscosity. This resin "glue" is normally how we refer to the paint product type. We classify paints as being either latex or oil. We further refer to them as acrylics, alkyds, epoxies or polyurethanes. Each one of these terms is a resin type. We can even get more specific with each of these resin types. We can subdivide these

categories into: 100% acrylic or co-polymer latex products, soya alkyd resin, polyurethane modified alkyds, polyamide epoxies, polyamine epoxies, 100% solids epoxies, aliphatic or moisture cured urethanes. There are various other subcategories, but this gives a brief selection of what types of resin combinations are available.

Each resin type has its specific strengths and weaknesses. These strengths and weaknesses need to be considered when selecting paint systems.

100% ACRYLIC COATINGS: 100% acrylic paints have very good fade resistance in an exterior environment. They are easy to apply and have excellent weathering properties. They stay flexible and allow water vapor to transmit through them. This breathable property is important. By allowing water vapor to transmit

through them, it allows the film to stay adhered to substrates when water vapor would disbond a vapor barrier type coating. 100% acrylic products can handle a higher Ph level that other coatings making them more suitable for masonry surfaces. Water thinning and clean up of these products is another advantage over other solvent based resin types. Last, but not least, 100% acrylic paints and primers adhere well to a wide variety of hard to bond to surfaces.

VINYL ACRYLIC COATINGS: Vinyl acrylic coatings are a good choice for interior usage. While there are some vinyl acrylic products that can be used for exterior exposure, for the cost difference versus 100% acrylic paints and in this Paint Guy's opinion, it is better to use 100% acrylic outside and vinyl acrylics inside. One of the biggest reasons for limit-

ing VA resins in exterior applications is that they are not very Ultra Violet light resistant or moisture resistant. There are several sub-groups of vinyl acrylic resins. For this discussion, we shall keep them all grouped under the broader classification of vinyl acrylic resins. Most interior paints are vinyl acrylics. They work very well for interior applications. It is easier to make a dead flat paint product with a VA resin than a 100% acrylic resin. A full range of gloss levels are available in VA products. They are quite durable and depending on how they are formulated, can be classified across all the quality levels from"Premium Grade" to "Commercial Good".

ALKYDS: Alkyd paint products have been a work horse product offering for years. Alkyds can be used both for interior and exterior paint proj-

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## November President's Message

nce again I get to start my message with congratulations and thank you's. First, I want to thank Bob Grummon

for his heroic efforts in planning this year's **Product** Show. Second to all of you who helped Bob in some way. Third, and most importantly, I want to thank our sponsors and our

exhibitors for your

participation.

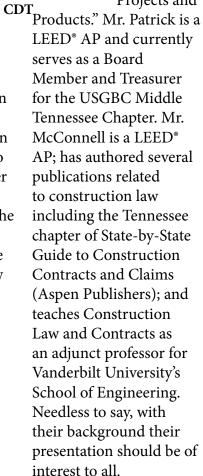
In my humble opinion it appeared as though the attendance was down from last year. (I want to attribute this to a smaller workforce due to the lingering slowdown in the construction industry.) Fortunately, many of the exhibitors said our show was one of the better attended events they participated in and that they got good contacts, and most importantly that they will be back. (Words I had hoped to hear.) Please mark your calendars now for the 2012 Product Show, which will again be

during the 3rd week of October.

For this month's chapter meeting we welcome Brent Patrick

Tim Yoko, RA, CSI,





Finally, in lieu of a

regular chapter meeting in December; we once again will be joining the Association of Builders & Contractors (ABC) for their Holiday Reception on Dec. 8th at Piedmont Natural Gas at 83 Century Blvd from 4:00 – 6:30 PM. Please make plans to be there. This function will be a great opportunity to meet with more individuals in our industry.

So, by the end of 2011, or the first half of our fiscal year, you've had the opportunity to meet

fellow CSI members from the other 15 chapters in the Gulf States Region, members of IIDA, IFMA, AIA and now ABC. Did you take advantage of these opportunities? I know many of you did. Hopefully more of you can in the future.

Finally, may you all have a Happy
Thanksgiving and, if traveling, may you do so safely to whereever your destination may be.... and please be careful with those turkey fryers!!!

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ects. They are hard films suitable for a wide range of surfaces. Unlike acrylics, they do not breathe and are a vapor barrier type of product. They also chalk in exterior exposure which allows them to fade and lose their gloss more quickly than 100% acrylic products. The biggest draw back to alkyds till recently is they are solvent based. Solvent clean up and disposal as well as the smell aspect of paint, which has been an issue for years, adds to the downside of alkyds. New water borne versions are appearing. Some are blends of alkyd resin and acrylic resin (acrylic alkyds) others are utilizing new water borne alkyd resin chemistry. Either way, the water borne aspect of alkyds is revitalizing this resin category especially for architectural finishes. Some of the benefits of this new technology are lower VOC content, water thinning, water clean up, low odor, the ability to get the same

gloss range as with solvent based alkyds and excellent hard finishes. These new water borne alkyds will most likely replace their solvent based brethren when the EPA updates the National AIM Rule.

EPOXIES: As with all the other resin categories we have discussed. epoxies are a broad and specialized group of products. Most epoxies are two component (2K). They require a catalyst to properly dry and cure. Once catalyzed, there is a "pot life" or open work time with these products. Applying these coatings in excess of the pot life can lead to the products not performing as specified. This 2K aspect of epoxies helps them to resist chemicals and moisture better than single component products. They also create a vapor barrier and don't easily allow moisture to pass through them. There are high solids epoxies that have a lower VOC content and there are 100% solids epoxies which have 0 VOC

content as well as water borne epoxies for those who might want a more environmentally friendly epoxy option. As with alkyds, the epoxy family has been strongly associated with solvents. There is still a large group of solvent borne epoxies. But for architectural use, the water borne 2K epoxies and 100% solids epoxies both give excellent durability and are low in odor. Epoxies are prone to chalking in an exterior environment. A nice red epoxy can become a pink epoxy if exposed to sunlight.

Acrylic epoxies are another sub-category of the epoxy family. Until recently, they too were 2K products. A new innovation in acrylic epoxy technology now allows for a single pack pre- catalyzed acrylic epoxy group of products to come to market. These single pack acrylic epoxies still give the same durability and toughness of the 2K acrylic epoxy versions, but without a pot life. Acrylic

epoxies do not perform to the same level as 2K polyamide epoxies however. Should you want a product that fits nicely performance wise between a 2K polyamide epoxy and an acrylic paint product, the acrylic epoxies are a good product to consider.

**URETHANES: Ure**thane products are excellent for exterior exposure. They hold their gloss and color extremely well when exposed to UV. They stay white and do not tend to amber as epoxies can. As with all the other resin types we've discussed, there are several sub-categories of urethanes. Acrylic aliphatic urethanes and moisture cured urethanes are two of the most common of these sub-groups. Aliphatic urethanes are a 2K type product. One of the biggest drawbacks to aliphatic urethanes is they contain hazardous isocyanates. When used properly and with the right safety equipment,

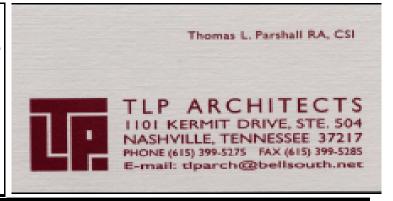
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these products can be applied safely and give excellent long term results. Moisture cured urethanes use moisture from the atmosphere as their catalyst. Moisture cured urethanes can be found from basketball court floors to amusement park rides. Water borne versions of the aliphatic urethanes are available as are urethane mastic products.

We have covered a lot of ground in this article, but by no means have covered all the different resin types currently available. To say we have drilled down and gotten into the meat of each of these product families would not be the truth. The space for an article like this at best gives room to hit the high spots and hopefully we have

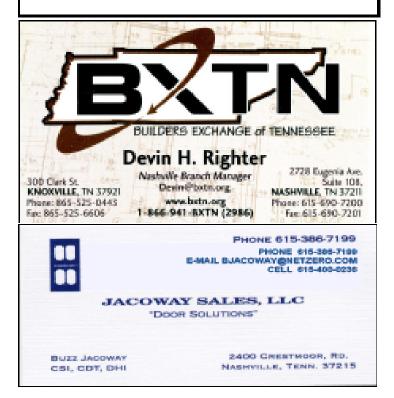
done that. Establishing a relationship with a paint professional in your area whose judgment and advice you trust is key in getting the right resin system on the right substrate for your project. No one resin system is the best in all situations and for all substrates. There are many questions to be asked and answered in deciding what coatings to use. A trusted paint advisor can be one of your best resources.

In future articles, we will touch on pigments in paints and what their value is, additives and their purpose in paint, volume solids and other paint terminology. We will also address surface preparation and paint application. Until then, take some time, kick back and watch the paint dry...

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## November Member Anniversaries

Mr. Stephen Rick, CSI 31 Years Street, Dixon, Rick

Ms. Harriet B. Jewell, CSI, CCS 26 Years

Mr. Rex Garton Jr., CSI, CCS, AIA 25 Years Hart, Freeland, Roberts Inc.

Mr. Gary A. Taylor, CSI 22 Years Earl Swensson Assoc. Mr. Kevin D. Russell, CSI 19 Years McElroy Metals

Mrs. Fawn Fenton, CSI, CDT, AIA, LEED AP 7 Years Adkisson Harrison Architects

Ms. Kathy A. Richards, CSI, CDT 5 Years Kaatz Binkley Jones Morris Architects

Christina Jean Moore, CSI-S 2 Years

# 2011 ABC HOLIDAY RECEPTION

Thursday, December 8, 2011—4:00 PM—6:30 PM Piedmont Natural Gas / 83 Century Blvd.

It's that time of year....come and spread some Holiday cheer! Enjoy light hors d'oeuvres, beer, wine and soft drinks.

There is NO CHARGE to attend but PLEASE register so there will be plenty of food and beverages.

Name:

Company:

PLEASE RSVP BY DECEMBER 1, 2011

Return to ABC @ fax # 615-399-7528 or email pburgart@abctennessee.com



We will once again be sponsoring Toys for Tots— If you are interested in participating, please bring new, unwrapped toys or books to the Reception.

## **SPONSORS:**

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Hosted by: Piedmont Natural Gas

## **November Membership Meeting**

Topic: "The TOP TEN RISKS ASSOCIATED WITH GREEN/SUSTAINABLE PROJECTS and PRODUCTS"

List is as follows:

- 1. Failure to deliver on features promised
  - 2. "Greenwashing"
- 3. Failure to achieve expected certification
  - 4. Performance risks
- 5. Faulty workmanship/Lack of training
  - 6. Supply chain risks

7. Documentation

8. Contract issues

a. contract clause

b. insurance

c. bonds

9. Client/Customer expectations

10. Construction administration

## About Our Speakers...

**H. Brent Patrick** is a partner with Smith Cashion & Orr, PLC and concentrates his practice on construction law and litigation. He obtained his undergraduate degree, cum laude, in architecture from the University of Tennessee, where he was a member of Tau Sigma Delta Honor Society in Architecture. Mr. Patrick earned his J.D. from the University of Memphis.

Mr. Patrick is a LEED® AP and currently serves as a Board Member and Treasurer for the USGBC Middle Tennessee Chapter. Mr. Patrick is a member of the Nashville, Tennessee and American Bar Associations. He is also a member of the ABA Construction Law Forum and a founding member of the Tennessee Association of Construction Counsel. Mr. Patrick lectures on construction law issues and serves as a guest lecturer for the "Construction Law and Contracts" graduate program course at Vanderbilt University's School of Engineering.

Mr. Patrick has co-authored several publications related to construction law including: Tennessee Construction Law; Construction Lien Law in Tennessee, and Change Orders in Tennessee, Lorman Education Services; Law of Payment Bonds, Chapter 5, Notice Requirements for Bond Claims, published by the American Bar Association, Tort & Insurance Practice Section; and State by State Analysis of Legal Issues Affecting Architects, Engineers, Contractors and Owners, Tennessee Chapter, Aspen Publishers.

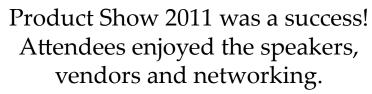
**Vic L. McConnell** is a partner with the law firm of Smith Cashion & Orr, PLC, where he concentrates his practice in the areas of design professional defense, construction contract law, and construction litigation.

Mr. McConnell received a Bachelor's degree in Civil Engineering from Auburn University and a Master of Science degree in Civil/Environmental Engineering from the University of Alabama at Birmingham. Mr. McConnell also received a Master of Science degree in Environmental Management from Samford University and a J.D. degree from Samford's Cumberland School of Law. Prior to obtaining his law degree, Mr. McConnell was employed as a design engineer/project manager with several engineering-consulting firms in the southeast. Mr. McConnell is a registered Professional Engineer (inactive) and a LEED® AP.

Mr. McConnell is a member of the American Society of Civil Engineers, the National and Tennessee Society of Professional Engineers and the U.S. Green Building Council (Middle Tennessee Chapter). He is also a member of the American, Tennessee and Nashville Bar Associations, as well as ABA's Forum on the Construction Industry and ABA's Section of Litigation Committee on Construction Litigation. Furthermore, he is currently the Education Committee Chair for the Tennessee Association of Construction Counsel.

Mr. McConnell has authored several publications related to construction law including the Tennessee chapter of State-by-State Guide to Construction Contracts and Claims (Aspen Publishers). Mr. McConnell often lectures on design professional liability and construction issues and teaches Construction Law and Contract as an adjunct professor for Vanderbilt University's School of Engineering.















# Construction Contract Documents Classes Offered by Nashville Chapter CSI

Nashville Chapter - Construction Specifications Institute

November 2011

## **Study Classes:**

The Nashville Chapter of CSI will again host **CDT** Study Classes for the Spring 2012 Exams. The classes will also include AIA document review, of interest for **CCS**, **CCCA** and **CCPR** exams as well as breakout sessions focused on the advanced exams in weeks 7, 8 and 9.

### Location:

The 2012 CSI classes for CDT will meet at:

The Tennessee Board of Regents – Board Room, 3<sup>rd</sup> Floor, Genesco Office Park, 1415 Murfreesboro Road, Nashville

CCS, CCCA and CCPR breakout sessions for weeks 8 & 9 will be scheduled at times and locations as appropriate.

You may park anywhere (except in the reserved spaces). Come in the main entrance (actually the second floor) and sign-in at the security desk. Your name should be on the list for CSI (if you have sent it in), if not just add your name to the list at the desk. Take the escalator to the third floor and turn right and right, the TBR Board Room is # 366.

#### Time:

The classes will be on Thursday's from 6:00 pm till 8:00 pm starting on January 12, 2012 and run for 10 weeks. (Note: The building entry will be closed at 6:30.) The classes are **FREE** and CEU's / PDH's / LU's will be offered. Classes are open to anyone with a desire to gain a better understanding of construction contract documents. You do not need to sign up for the National Exam or be a member of CSI to participate, all are welcome.

## **Study Materials:**

The classes and the exams will be based on the CSI Project Resource Manual which includes the 2004 Master Format. The class will cover UniFormat, GreenFormat SectionFormat and other standards of our industry. We will also use AIA documents, particularly the AIA A201 2007 General Conditions and Contracts. Having access to the CSI Resource Manual will be helpful.

If you sign up for the National Exam you should have received a study guide. These are also available (free) at <a href="https://www.csinet.org">www.csinet.org</a>. We will generally follow the CSI Study Guide. See class outline below.

## Nashville Study Class Sign Up:

Sign-up for our Nashville study class is requested, but not required. Anyone interested is encouraged to attend. Any questions or to sign-up send an email to: <a href="mailto:Carl.Manka@tbr.edu">Carl.Manka@tbr.edu</a> Please let me know which class / exam you intend to take.

## **National Exam Sign Up:**

The nationwide exams for CDT CCS, CCCA and CCPR will be a computerized test and will be offered April 2 – April 28, 2012. Check out the details of the certification program and register for the national exam at <a href="https://www.csinet.org">www.csinet.org</a> then click on **certification**. Early registration open until February 2, 2012, final registration for the national exams is open until March 2, 2012.

## **CSI CDT & Certification Study Classes**

Study classes will be held for 10 weeks by the Nashville Chapter of CSI. The focus in the first 3 sessions will be primarily toward the CDT exam and as a refresher for anyone taking other exams. Weeks 4, 5 & 6 will focus on the AIA General Conditions. The General Conditions play a significant role in all of the CSI Exams. Weeks 7, 8 & 9 will include breakout sessions for CCS, CCCA and CCPR exams and will be staffed and scheduled as appropriate. The final session will be a Mock Exam and review.

As the CDT exam is the basis for the subsequent certification exams and a significant part of the certification exam will depend on knowledge covered in the CDT - ALL candidates are encouraged to attend all classes.

Classes will be lead by: - Carl Manka CSI CCS Jerry Preston FCSI CCS Kevin D. Corkern FCSI CCS CCCA with help from: Cheryl Crosby CSI CDT CCCA and Rex Garton CSI, CCS, AIA, LEED AP

Course materials are: CSI - Project Resource Manual, AIA A201 - 2007 General Conditions, CSI study guide for the CDT exam and the study guides for the CCS, CCCA & CCPR certification exams. The Study Units listed are based on the CSI – CDT Study Guide.

### Week 1 - January 12, 2012

- CM Overview of Classes the CDT and the CCS, CCCA and CCPR Certification Exams
- CM Study Unit 1 Introduction
- кс Study Unit 2 Project Conception

### Week 2 - January 19, 2012

- CM CSI Principles & 2004 Master Format
- CM Study Unit 3 Project Delivery
- cc Study Unit 4 Design

### Week 3 - January 26, 2012

CM-RG Study Unit 5 - Construction Documents

### Week 4 - February 2, 2012

JP AIA A-201 General Conditions

#### Week 5 - February 9, 2012

JP AIA A-201 General Conditions

#### Week 6 - February 16, 2012

- JP AIA A-201 General Conditions
- CM Delivery Methods, Agreements, Change Orders, Bonds

#### Week 7 – February 23, 2012

- cc Study Unit 6 Bidding / Negotiating / Purchasing
- cc Study Unit 7 Construction
- CM Study Unit 8 Facilities Management

#### Week 8 - March 1, 2012

- CM RG CDT Division 1, Formats, Specification Language
- KC CC CCS, CCCA & CCPR to be scheduled as appropriate

### Week 9 - March 8, 2012

- CM CDT Review of Principles and Exam Overview
- KC CC CCS, CCCA & CCPR to be scheduled as appropriate

#### Week 10 - March 15, 2012

Mock Exam

All National CDT, CCS, CCCA & CCPR Exams will be at a Prometric Testing Center April 2 – April 28, 2012

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## About Us...

Founded in 1948, CSI is a non-profit technical organization dedicated to the advancement of construction technology through communication, research, education, and service. CSI serves the interests of architects, engineers, specifiers, contractors, product manufacturers, and others in the construction industry.

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