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Volume XIII, Number 4 June 1995

Interface

Journal of The Roof Consultants Institute

10th International Convention and Exhibition

Convention Report

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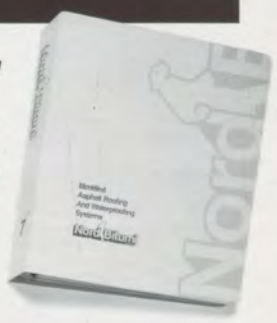

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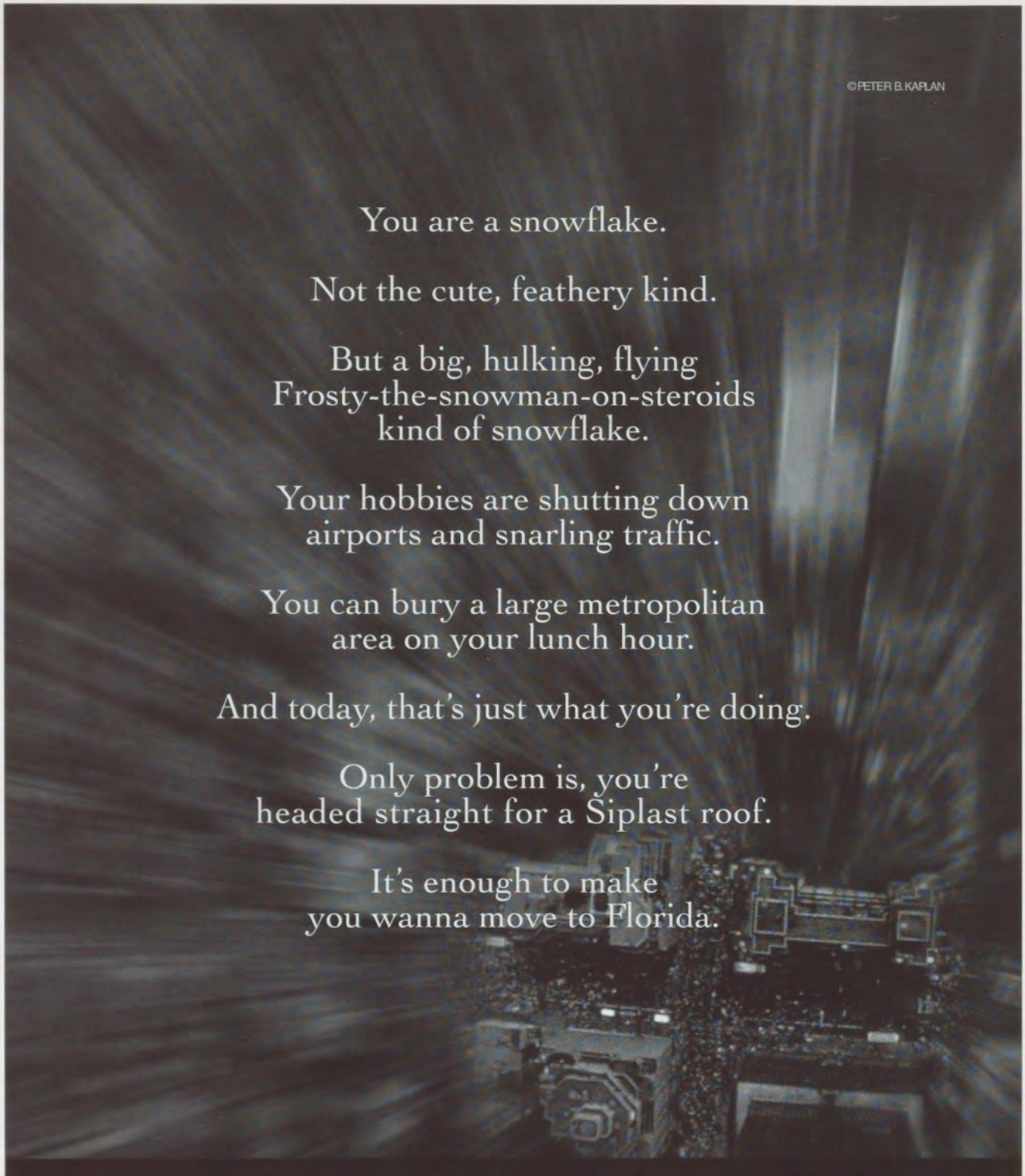

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In This Issue

RCI was chartered, in part, to bridge the gap between the seemingly disparate elements of the roofing profession. It is the intent of *Interface* to connect with these elements, educate and inform them about roofing-related topics, establish a common ground for discussion, promote Institute programs, and branch out toward ever more people. *Interface* is circulated monthly to over 3,000 people (nationwide and overseas) including RCI members, specifiers, facilities owners, industry contacts, and a growing number of highly placed professionals. *Interface* is frequently distributed at various trade shows, as well as educational and institutional functions.

Sponsorship for and advertisements in RCI's *Interface* are available on a first-come, first-served basis. Call RCI Headquarters, 800-828-1902 • 919-859-0742, for additional information and for available openings.

Lyle Hogan, FRCI

Hostile Environments

Roofing failures have been traced, in some instances, to moisture trapped within the assembly. Entrapped water may have originated during construction and remained undetected or it may have accumulated from any of a number of post-construction influences. Regardless of origin, the occurrence may set the stage for unpleasant events.

Mechanically-attached roofs are secured to structural decks by means of various devices and stress plates designed to provide resistance to anticipated uplift forces. Major wind events may produce various roof securement distresses including:

1. fastener withdrawal from substrate (pull-out; see Figure 1)
2. fastener shank breakage
3. screw heads pulled through stress plate
4. stress plates pulled through uplifted insulation
5. delamination of insulation facers (under fully-adhered membranes)
6. failure of interfacial adhesives
7. loosening of threaded fastening devices (back-out; see Figure 2).

Free water trapped within a roof assembly can accelerate any of these failure modes. Although there is one doctrine to the contrary,[1] it is commonly recommended to remove any moisture in excess of the insulation material's equilibrium moisture content.

Certain roof assemblies can create particularly hostile environments for ferrous fastening devices.[2] Consider an old built-up roof, later topped with a recover board insulation and a lap-attached, one-ply, polymeric membrane. The substrate is lightweight, vermiculite concrete placed atop a corrugated metal formboard. Assume that this deck contains moisture in excess of its equilibrium value. This is a reasonable assumption since it is likely that some type of leak activity prompted the decision to reroof. Several considerations now come into focus.

The metallic fastener engaging the metal formboard provides an electrical ground. The damp cementitious deck would register as alkaline on the pH scale. The old bituminous roof membrane left in place provides a carbon mass. Roofing over wet material was risky enough, but connecting the new materials to the old with screw fasteners ensured failure by setting up the mechanism for corrosion (See Figure 3).

The new roof insulation may have been isocyanurate, phenolic, perlite, or other board type. These materials are capable of registering on the acidic side of the pH scale when wetted. Wetting of new insulation may occur when:

1. the new membrane is puncture and moisture enters from above,
2. moisture trapped within the old roof migrates upward.

The components in this roof assembly embody the elements of a crude battery. The reader may also remember a propensity for corrosion in such a setting. Well stratified corrosion of ferrous fasteners (Figures 3 and 4) has been observed in numerous forensic studies.

Some analysts will be quick to respond that a number of available coatings on screw fasteners will be capable of enduring such environmental conditions as suggested by their performance in the widely-used Kesternich cabinet. (This testing apparatus, subjecting fasteners to acid spray cycles for subsequent observation, was first used to evaluate corrosion resistance of Volkswagen mufflers).[3] Moreover, stainless steel screws are available. But the hole in the carbon steel formboard (whether galvanized or painted) is still exposed by the piercing fasteners. Hole enlargement immediately surrounding the screw is to be expected in this aggressive environment. Fasteners

may be in fine condition when they ultimately pull through the deck during repeated oscillations of the membrane or severe wind events.

Stainless steel, discovered at the beginning of the century, has a quality called surface passivity and is very resistant to ordinary corrosion failure;[4] however, this alloyed metal may experience other difficulties. Crevice corrosion, stress corrosion cracking, and hydrogen embrittlement are terms associated with behaviors of certain alloys of stainless steel.[5]

While the scenario stated above describes an over-roof profile, building moisture into new construction may be similarly irresponsible, as other assemblies are capable of producing damage to fasteners.

The term "galvanic action" is tossed about loosely on occasion to warn against joining dissimilar metals. But galvanic action cannot take place in the absence of an electrolyte (acid, base, or salt solution). Additionally, some paired metals are safer than others owing to their relative nobilities[6] and the strength of any electrolytes present. The root issue about dissimilar metals should be to keep moisture out.

Those who permit construction with wet components might well be held accountable for premature failure. This may include architects, consultants, owners, contractors, and/or sales representatives. Since the most litigated component of present-day construction is the roof, more (not less) thought is appropriate.[7]

Figure 1

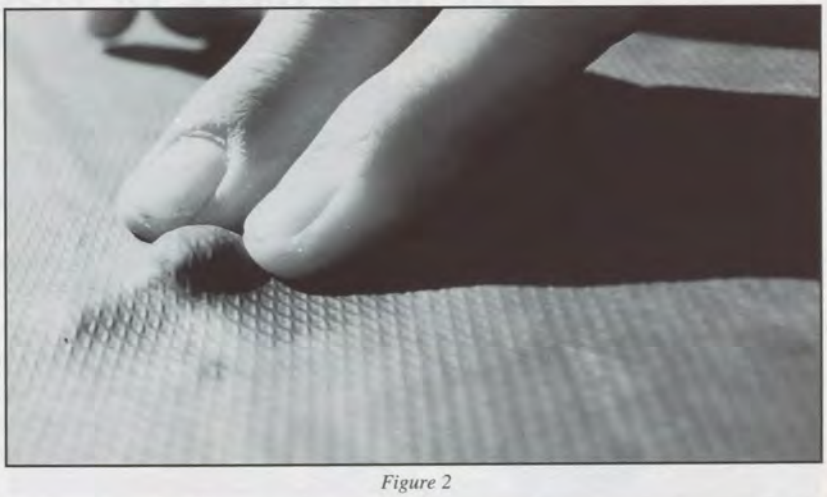

Figure 2

Figure 3

Figure 4

1. Griffin, C.W., *Manual of Built-up Roof Systems, Second Edition*, "Time-to-Dry Calculations for Self-drying Roof Concept", 1982, pp. 108-116.

2. Baxter, Richard, "1001 Reasons

Not To Roof Over Wet Insulation", *Roofing Spec*, August 1986.

3. Hasan, S. Riaz, "Fastener Coatings: Which Ones Are Best?", *Roofing Spec*, July 1986.

4. Lamm, John, *De Lorean: Stainless Steel Illusion*, 1983, pg. 98.

5. Rossiter, Jr., Walter J., Streicher, Michael A., and Roberts, Willard E., *Corrosion of Metallic Fasteners in Low-sloped Roofs: A Review of Available Information and Research Needs*, NISTIR 88-4008 Appendix page A-1 (Glossary from ASTM G 15).

6. *Stainless Steel Fasteners: A Systematic Approach To Their Selection* (Figure 9, Galvanic Series of Metals and Their Alloys, pg. 23). Available from Specialty Steel Industry of the United States, Washington, D.C.

7. Canon, Richard, "Meet the Code, Bear the Load, and Other Guidelines for Roof Projects", *Engineer's Digest*, January 1988, pg. 20.

Executive Notes

This is the first of regular columns from RCI's Executive Manager updating members about Institute policies, programs, and events.

I have always been impressed by this Institute's philosophy regarding the inclusion of individuals from all facets of the roofing industry. RCI welcomes and indeed encourages anyone with an interest in the industry to join and contribute. This visionary philosophy is one of the fundamental reasons for RCI's continued growth as an association.

This philosophy is also one of the main strengths of RCI. The diversity of opinion and vision within the membership has given the Institute the courage to go in a direction all its own. As our organization is unique, so are our endeavors and goals. While we acknowledge (and often admire) the efforts and achievements of other organizations, RCI does not follow the paths of others. Our path, bumpy though it may be, is our own.

We are stronger for our willingness to try the untried and do what others will not. It was no doubt a great leap of faith for the original organizers (to whom we are all indebted) to open the doors to anyone with an interest in the profession of roofing. These men were

John Newark
Executive Manager

all professional roof consultants who were trying to promote their new and generally unacknowledged profession, yet they saw the inherent benefit of including contractors, manufacturers, facility managers and others in their new organization. RCI's continued existence is testament to the wisdom of this decision. The sage advice and divergent insights contributed by our steadfast supporters from outside the roof consulting profession have served us well.

RCI took another leap of faith when the Registered Roof Consultant program was opened up to all interested individuals without requiring membership in RCI. This change exemplifies the concept of inclusion. The decision to share this program with the entire industry was a clear statement of the Institute's commitment to advance the profession and to serve the greater good of the public.

Now, we've made yet another move toward inclusion. The Board of Directors has created a separate avenue for employees of manufacturers or contractors to participate in the Registered Roof Observer program. While this program has been similar to the Registered Roof Consultant program in many ways, it differed in one primary area: Industry members (contractors, manufacturers) were deemed to have a potential conflict of interest as defined in RCI's bylaws and were excluded from participation. During a teleconference held April 11, 1995, the Board of Directors created a new designation RRO-I (Registered Roof Observer-Industry) which will allow such participation. The "I" designation indicates that the individual is employed by a firm or company involved in the application or manufacture of materials.

What will this change bring? Hopefully, growth and increased interest in the program. And, if we're lucky, an even more diverse membership to guide us forward on our path.

Where Did All the Binders Go?

By Jon F. Drake, CCS, CSI

Many manufacturer or business catalogs end up as bookends on the shelf — nice to look at but seldom read. How can you ensure that your binders will achieve their true goal to be a valuable resource? There are some simple rules, writes Jon Drake in a recent issue of SpecTechular, *the newsletter of the Las Vegas chapter of the Construction Specifications Institute (CSI).*

Ever wonder what happens to that catalog or binder you eagerly bestowed on an architect or engineer during a recent office visit? You know, the catalog with the full-color photographs, page after page of charts and graphs, eloquent descriptions of the full product line, a complete chronological history of the company, pictures of the company president's kids, and samples of every shape and size.

Some catalogs are carefully positioned in a virtual place of honor, available for quick and frequent referencing. Unfortunately, many others go out the back door faster than you went out the front. Others linger awhile before being round-filed during an office's annual "let's clean up this mess" ritual or become relegated to an obscure corner to make room for something else. The sad part about this is that often a catalog's demise has nothing to do with the product, the manufacturer, the distributor or the representative; it's because of the "#@&#$?/" catalog itself.

If I only had a couple of catalogs to deal with, I could handle just about any variation your marketing department could dream up. However, at last count, I have 450 catalogs (in space designed for 300) and I've little appreciation for a creative marketing department's innovations and delivery techniques.

As a reluctant connoisseur of product catalogs, I offer some insight into how to keep your catalog on the shelf and not in the dumpster.

1. If it doesn't fit on the shelf, it's history, no questions asked.
2. If it's a soft-cover binder, it won't be seen again until someone takes all the other catalogs off the shelf for cleaning and throws out all the ones that have slipped behind the rest.
3. If it has loose samples or pamphlets that fall out when you pull it off the shelf, the loose material becomes the property of the janitorial staff.
4. If the binder won't stay closed, the scenario is:

   A. Whatever falls out gets put back in random order (first offense).

   B. Whatever falls out stays out (second offense).

   C. Catalog is tossed because it is incomplete or the material is out of order (third and final offense).

I don't mean to sound dictatorial; after all, product catalogs are a vital part of my profession. However, my space is limited, my schedule is tight, and my patience occasionally wears thin — so let's make a deal. You make it easy for me to store and retrieve your catalog and I'll keep and use your catalog. Who knows, if your business card is in the catalog, I might even give you a call.

Executive Package Advertisers

RCI wishes to acknowledge and thank participants in its executive marketing package. These companies have reaffirmed their commitment to the profession of roof consulting. They have made possible the monthly publication of *Interface*.

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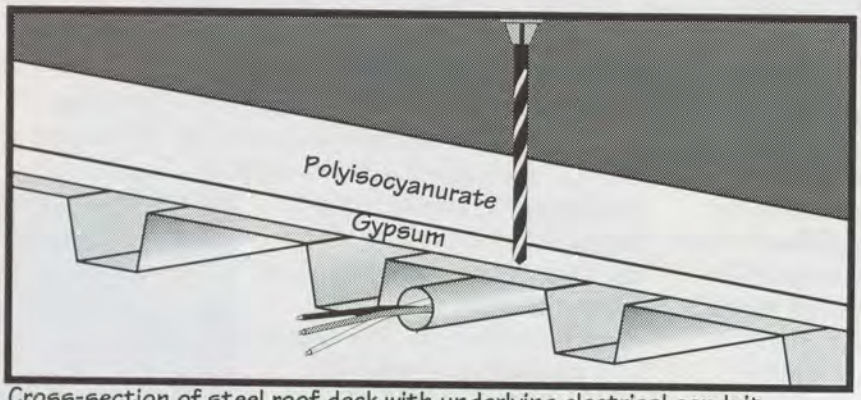
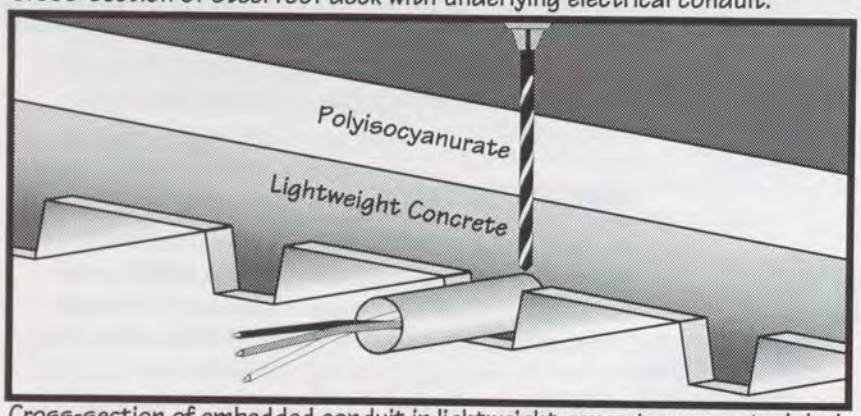


Cross-section of steel roof deck with underlying electrical conduit.



Cross-section of embedded conduit in lightweight concrete over a steel deck.

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COMMITTEE UPDATE

Building Codes and Standards Committee, No. 105.0

By Patty Wood-Shields, Chairperson

The members of the Building Codes and Standards Committee met on Sunday, March 26, 1995, during RCI's 10th Annual International Convention and Exhibition in Reno, Nevada.

Prior to the meeting, the Standing Committee members (representing regions two, three, four and six) were reconfirmed via correspondence and telephone calls. A representative from Region One joined the committee at the annual conference. To the right is a photograph of the members present, indicating their respective regions. A list of the absentees is also included.

The meeting opened with past president Joe Hale addressing the members. He commented on the committee's project and asked the group to consider submitting monthly articles for publication in *Interface*. The committee members subsequently agreed, although the articles will initially be submitted bimonthly.

The meeting focused on reviewing the draft of the preliminary sections of the *Building Codes and Standards Reference Guide*. This will be the second in a series of educational development texts (*Glossary of Terms* is the first and the *Manual of Practice* is also underway). The purpose of the guide is to provide RCI members with a resource center for roofing information and technology as it relates to building codes and standards, both in the U.S. and Canada. The guide will include the following information:

- separate sections for each of the model code groups,
- the purpose, structure and code promulgation process of the model codes,
- public hearing procedures,
- applying for Evaluation Reports (by code group and nationally),
- development and updating of standards,
- information on testing facilities
- section listing acronyms and definitions.

Pictured left to right: Luther Mock, Fort Wayne, IN (Region Three); Patty Wood-Shields, Conyers, GA (Region Two); Rich Allen, San Antonio, FL (Region Two); Paul Lundquist, Oklahoma City, OK (Region Four); Ken Sutton, San Rafael, CA (Region Six); Gene Lawrence, Mesa, AZ (Region Six); Marty Obando, Elizabeth City, NC (Region Two).

Photo was taken by Region One committee member John Gerber, Frederick, MD.

Committee members absent: Jim Garman, Sebastopol, CA (Region Six); Dean Larsen Jr., Fresno, CA (Region Six); Darrell Smith, Iowa City, IA (Region Three); Scott Vanderslice, Salisbury, NC (Region Two).

Jan Bottitta will be the committee's RCI staff liaison and will help put the manual into a format that is consistent with both the published and planned document series. The committee is targeting the end of the year for completion.

It is also the committee's intent to keep the membership apprised of the major roofing code changes (see "Standard Building Code Changes", pg. 22, September 1994, *Interface*). The committee will be communicating with the Code Monitoring

Committee of RICOWI (Roofing Industry Committee on Wind Issues). This will ensure that the optimum code change information is gleaned from all possible sources and disseminated to RCI members.

Further updates will be published in *Interface* and any RCI member is encouraged to submit code related articles to the committee. For additional information, please feel free to contact any of the following:

- Patty Wood-Shields, Committee Chair, (404-922-8774)
- Martin Obando, Secretary (919-771-5187)
- Any member of the Building Codes and Standards Committee

Code of Ethics Committee, No. 007.0

Richard Canon, PE, RRC, FRCI
RCI President, 1985-1987
Fellow of the Institute, 1987

RCI is pleased to announce Richard Canon as the new interim chairman of the Code of Ethics Committee. In this role, Mr. Canon replaces Rick Bohan who resigned in February of 1994. Richard Canon is president of Canon Consulting & Engineering Co., located in Spartanburg, South Carolina. He graduated from Auburn University and is a registered Professional Structural Engineer, a charter member of RCI, an RCI Fellow of the Institute, and a Registered Roof Consultant. He has presented numerous lectures on roofing and has been published in Interface *and other publications. Mr. Canon is a forensic engineer and investigator specializing in moisture, wind, and corrosion-related issues associated with construction and the building envelope.*

The following was co-authored by Richard Canon and RCI first vice-president Christopher English, RRC.

Sealing Your Fate

(They Hang Cowboys for Branding the Wrong Calf!)

Recently, a nonmember roof consultant requested help from the Institute regarding a problem he had with his client, a public school district located in Texas. It seems Texas, like other states, has a statute requiring a licensed design professional (in this case, a structural engineer) to prepare and seal bidding documents for construction work on school buildings. The consultant, who is not an engineer, produced bidding documents and affixed a seal reading "Roof Consultant" to the drawings. The consultant's seal bears a striking similarity to the state's Structural Engineer seal, right down to the beloved "Lone Star".

Unfortunately for the consultant, the state's Engineers Licensing Board notified his client that the project appeared to violate a state statute, whereby the consultant appealed to RCI for help.

The Institute's position on such matters is clearly defined in the RCI *Standards of Ethical Practice*. The issues raised in this instance are specifically addressed in these standards. The "Statement of Compliance" paragraph states in part:

> Members of the Roof Consultants Institute should realize that a member's profession and practice may be governed by various laws and regulations regarding professional registration and the conduct of trade. It is the member's responsibility to be familiar with those laws and regulations and to govern his conduct accordingly.

Where certain types of projects are governed by states requiring licensed design professionals — and a consultant himself does not possess such a license — the required professional must also be on the project team.

On the matter of seals, other than those permitted to licensed design professionals, the *Standards of Ethical Practice* further states in the section "Obligations to the Public":

> A member should not make misleading, deceptive, or false statements or claims about his professional qualifications, experience, or performance.

A seal that is too close in appearance to a professional seal could be construed as misleading (RCI members have been known to use such seals, too). Registered Roof Consultants are privileged to use an RCI seal below purposely designed as an elipse so as not to be confused with professional seals, which are generally circular. Homemade seals are not endorsed by RCI.

RCI members are encouraged to familiarize themselves with the *Standards of Ethical Practice* to ensure that their professional practice is above reproach. Copies of this document can be obtained by calling RCI Headquarters.

Educational Services Committee, No. 902.0

By Richard M. Horowitz, AIA, RRC Chairperson

Sixteen members of the committee met at the convention on Sunday, March 26, 1995. The committee has been charged with the task of reviewing Level II (Basic Roof Consulting) and Level III (Advanced Roof Consulting), providing lesson plans for these courses, codifying visual aids therefore, and finally, writing Level IV (Beyond Roofing).

It was soon decided to 1) integrate Level I (The Basics of Roofing), presently a stand-alone, one- day seminar, into the remainder of the educational program, and 2) determine which subjects should be added, which deleted, and which modified or shifted into a different level. The freshmen members were quite active during the discussion, contributing many new ideas.

Some proposed new subjects for inclusion into the program were: ventilation, forensics/legal considerations, and problem solving.

Headquarters has indicated that there will be a positive response to the chairman's request that each committee member who volunteers for this project be provided with a loose-leaf manual for each course level. Upon notification by Headquarters that this distribution of manuals has been made, the chairman will call a telephone conference to commence activity, to discuss alternative methods of approach, to set a time schedule, and to assign first tasks.

Standards and Practices Committee, No. 100.0

Manual of Practice Task Force

By John J. Serke, Chairman and Tony Loden

The Standards and Practices Committee met on Monday, March 27, 1995, in Reno, Nevada. Development of the *Manual of Practice* is currently the primary goal of this committee. The handbook will be divided into four categories as follows:

Section 1: Operations of a consulting business.
Includes setting up and maintaining a roof consulting business, insurance requirements, contracts, RCI organization and services, and basic reference materials for roof consultants.

Section 2: Project development and documentation.
Includes the bulk of work we do as roof consultants from the time a survey is done to the point where a contractor is selected. Chapters in this section include detailed information about documentation of drawings and specifications.

Section 3: Construction administration, inspection, and testing.
Includes services provided during construction, and additional services that roof consultants provide.

Section 4: RCI Documents.
The purpose of this section is to identify certain information that is important to roof consultants regarding owner/consultant agreements, general conditions, and other legal documents that have an effect on the business of roof consulting. Certain AIA, EJCDC, AMAA, and other standard documents may be referenced in this section.

Seven of the eleven chapters have been prepared with text and Section Two is the most complete at this time. The committee is ready to begin editing this section. The proposed page format for the text includes a wide margin on one side of each page used for key headings and personal comments. This format is consistent with that used by the *Glossary of Terms* and will be coordinated with the Building Codes and Standards Committee before publication of its reference guide.

The committee plans for each section to undergo peer review by committee members as well as review by three persons from outside the committee representing different sections of the country, perhaps regional directors. Finally, the Board of Directors must approve each section and there may be a legal review of the document in order to limit RCI's liability.

The committee also discussed the possibility of producing an RCI document of general conditions for construction. Discussion centered around liability and any unneces-

sary work of reinventing the wheel. Chris English volunteered to produce a draft chapter on general conditions by June 1st.

The chairman introduced a "wish list" of items that seem to be lacking enough information. These include:

- Use of computers (CAD, word processing, graphics, isometric details, modem and fax opportunities) and computer management (i.e., the Roofer program),
- Roof surveys,
- Forensics and expert witness testimony,
- Field and lab analysis, moisture surveys, testing samples,
- Reference materials. This committee should research publications that are unique to our work. All reference material listed in the manual of practice should be available at RCI headquarters. The committee is interested in less obvious references. We already know about ASTM, NIST, NRCA, RIEI, etc.

A brief discussion was held on editorial items regarding table of contents, index and cross reference topics. The chairman suggested these items be tabled until we have final drafts. With current electronic data processing, we can implement a procedure to capture those items.

Anyone who would like more information about this committee's activities is welcome to call John Serke (610-649-7077) or Tony Loden (815-363-1133).

RICOWI 'Restles at Reno

By Philip Dregger, PE, RRC
RCI's representative to RICOWI
(Roofing Industry Committee on Wind Issues)

A closed, "Executive Members Only" session opened the recent RICOWI meeting held in conjunction with RCI's national convention in Reno, Nevada, on March 25, 1995. The closed session was called to address a question raised in the RICOWI task committee charged with planning a cooperative disaster investigation program for the next major wind storm event: Could a single Executive Committee member organization prevent publication of storm damage investigation information under the auspices of RICOWI? After some serious discussion, motions were made and passed confirming that RICOWI intended to serve as more than a clearinghouse for previously published information but that reports, white papers, and other such technical correspondence would require approval of two-thirds of the standing Executive Committee before publication.

Executive Committee Reports

Highlights of the Executive Committee reports include:

1. Tom Smith, National Roofing Contractors Assn. (NRCA): Further analysis of mechanically attached single-ply membranes in the wake of hurricanes Hugo and Andrew suggests that the "progressive tearing" previously reported in conjunction with missile damage may be associated primarily with the most extreme wind events (e.g., Category 3- 5 hurricanes). A paper was scheduled for presentation at the International Waterproofing Association Congress which was held in April.
2. Phil Dregger, RCI: Weather Stations are ready and waiting to be mounted on buildings just prior to the next major wind storm event. RCI is presently discussing preferred mounting locations with representatives of the Wind Engineering Research Council (WERC). Retiring RCI president, Mr. Sam Huff, is to head RCI's Hurricane Research Program.
3. Rick Olson, National Tile Roofing Manuf. Assn. (NTRMA; via letter): NTRMA recently completed wind tunnel testing and uplift testing for tile utilizing "Mechanical Fastening, Mortar and Adhesive (Polyfoam) Systems" as part of an ongoing process working toward SBCCI and South Florida Building Code approval.
4. André Desjarlais, Oak Ridge National Laboratory (ORNL): Anticipated congressional "belt tightening" may force severe cutbacks in research efforts, including the cooperative research program with RCI and SPRI on insulation drying rates on a building in Pembroke, Virginia.
5. Dick Fricklas, Roofing Industry Educational Institute (RIEI): The *Manual of Low- Sloped Roof Systems*, an updated version of the well known *Manual of Built-up Roof Systems*, is due out in August of 1995. The manual includes a concise section on

wind uplift considerations and is co-authored by C.W. Griffin and Dick Fricklas.

6. David Roodvoets, SPRI (Sheet Metal and Component Suppliers): The revised national standard ANSI/SPRI/RP-4-94 *Wind Design Standard for Ballasted Single-Ply Roofing Systems* is presently being canvassed by SPRI and is being proposed for approval as an American national standard. *(Editor's Note. Phil Dregger, RCI's representative to RICOWI, is on the ANSI canvass list and can be contacted with comments or question about the proposed standard by calling him at 510-603-1410.)*
7. John Miller, Steel Roofing Manuf. Assn. (SRMA): Dade County recently adopted a testing protocol for metal roofs including UL 580 amended to test to 135 psf. Since prior authorizations are believed to be "invalidated" with acceptance of the new protocol, metal roofs may not be allowed, strictly speaking, in Dade County until metal roof manufacturers have a chance to test to the new protocol.

Metal Edge Flashing Research

Dr. Wei Wang, of Texas Tech University, reported that wind tunnel testing and field testing was not complete for the Metal Edge Flashing Research Project sponsored by RCI and other industry organizations. Finite element analysis of the data is now in progress. A report of the research results is anticipated later in the year.

Fall 1995 Meeting

The next RICOWI meeting will be held on September 29-30, 1995 (Friday and Saturday) in Ottawa, Canada, and will include a tour of the National Roofing Committee's Wind Tunnel Test Facility.

Announcing ...
RCI Building Envelope Symposium

September 12-13, 1995
Ontario, California

Mark your calendars for the two-day Southern California Building Envelope Symposium to be held at the Ontario Airport Marriott Hotel Executive Conference Center. This conference is especially good for:

- Anyone Who Designs or Constructs Buildings,
- Anyone Who Owns or Maintains Buildings,
- Anyone Who Investigates or Repairs Leaks.

Learn More About:

- The elements of the building envelope and how they relate to each other.
- Why determining the source (or sources) of leaks is so difficult.
- The advantages and disadvantages of various systems and details. How to recognize and avoid design and construction pitfalls.
- How to reduce the damage caused by water, wind, aging, and corrosion.
- The difference between a lasting repair and a "band-aid", and how to determine which one to choose.

Vendors: for information on displaying your products or services at this symposium, call John Pohorsky, RRC, at (310) 426-3355, fax (310) 426-6424.

A New Arrival

RCI member Bill Stevenson and his wife Anita are pleased to announce the birth of their fourth child Erica Renee, born April 7, 1995. Erica weighed in at 9 lbs., 7 1/2 oz., and was 20 1/2 inches long. Bill Stevenson is the former director of Region Three and has been an RCI member since 1988.

Meet the roofer's best friend!

When it comes to quality products, technical support and on-site service...Soprema is simply supreme.

If you haven't already heard about Soprema, it is only a matter of time. Worldwide, word-of-mouth is proving to be our best advertising, with Soprema's reputation spreading as fast as the satisfaction experienced by designers, owners and roofers.

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Throughout the world, Soprema delivers what it promises: a product you can depend on, with the kind of support you expect from a partner! Soprema provides outstanding technical assistance to roofing and waterproofing specifiers, and trains approved roofers to ensure flawless installations. Unlike many manufacturers who claim routine on-site inspections, Soprema routinely follows through. In short, Soprema is a friend who stands by you (and its product) every step of the way, helping you give building owners what they expect – A SUPREME ROOF.

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Convention Report

Over 700 Attendees Gathered In Reno for RCI's Tenth International Convention and Exhibition, Held March 25-30, 1995

By Jeanette Bottitta

In its picturesque setting amid snow-capped mountain peaks and white misty clouds, Reno/Sparks was a welcome site for RCI's Tenth Annual Convention. A flurry of snow pelted down on early guests, but most arrived to find crisp, dry weather.

Over 700 people came from all parts of the United States, Canada, and Puerto Rico to tour the 126 booths lining our exhibit hall floor. As part of the trade show, artisans demonstrated how to handle and properly install slate, copper, and tile roofing. Presented for the first time this year were demonstrations of proper fastener pull-out testing techniques. The annual Document Competition showcased the work of RCI Professional members and the Display of Roofing Projects, Anomalies, and Curiosities offered a look at some interesting designs and practices.

Eight technical sessions, spanning three days, were interspersed with impromptu meetings, trade show events, a roundtable session, and lots of camaraderie. Several all-day seminars were given, including the new Rooftop Quality Assurance seminar and the informative FM Update seminar.

John Ascuaga, sole owner and operator of John Ascuaga's Nugget Hotel, entertained the crowd with his stories of wit and wisdom, accumulated over years of personal and professional growth. Mr. Ascuaga is renowned for his innovations in marketing and promotions and is a real inspiration to hear.

(Top photo) *Choose your own caption. (1) Arthur Sark, Dee and Sam Huff opened the tradeshow ceremoniously — and with great care. (2) A really big show requires really big scissors. (3) The growth in RCI's trade show can be seen in the size of the shears used to cut the ribbon. (4) Don't judge a man by the size of his shears. (5) Speak softly and carry big scissors. (6) If the scissors fit ...* ***(Middle photo)*** *Reno's weather preempted the golf tournament but made for outstanding skiing. (l-r) Bob Humbarger, Blair Baxter, Mike DeFrancesco, John Willers.* ***(Bottom photo)*** *Spouses enjoyed good company in their Hospitality Suite.*

Introduced last year and highly successful, the Consultant's Roundtable gave attendees the opportunity to meet with presenters, exchange ideas and ask questions.

In addition to the comfortable Hospitality Suite, festive President's Banquet, and informative seminars and exhibits, RCI offered spouses and guests a tour along pristine waters and breathtaking mountain cliffs as they explored the quaint towns and villages nestled in the Sierra Nevada Mountains. Later in the week, spouses toured historic Carson City and nearby Basque and German farmlands.

A note of appreciation goes to Elaine De'Leon, Gale Luce, Robb Smith, John Newark, and RCI's Board of Directors for many months of untiring work. The details of hosting a convention like this are myriad and exhausting. On behalf of all convention attendees: Thank you, you did a great job!

Saturday, March 25

The new, all-day Roof-top Quality Assurance Seminar focused on the diverse and challenging aspects of quality assurance observation. The course explored the topics and issues important to all quality assurance professionals: fundamentals of quality

assurance, built up roofing systems, and steep roofing systems. Those presenting this seminar were: Gene Lawrence; James Magowan, RRC, FRCI; William Marcum, RRC; Arthur Sark, RRC; and Robb Smith, RRC.

Nearby, those intent on becoming Registered Roof Consultants (RRCs) were found in the RRC Exam Review Seminar. Michael Blanchette, RRC, graciously agreed to fill in (with late notice) and teach this seminar. Mike drew from his experience and acquired knowledge in order to help other professionals achieve their goals.

Sunday, March 26

In a time-honored tradition, registration exams were administered to those whose application for registration had been approved. Twenty-two applicants showed up to take the RRC exam, 16 to take the RRO exam. Results should be in the mail by the time this issue is published.

The afternoon golf tournament was canceled due to the recent snow. However, thanks to the coordinating efforts of Robb Smith, attendees made the most of the situation later in the week to enjoy Reno's excellent skiing.

The morning General Meeting proceeded swiftly and provided a forum for announcements and exchange of information. The afternoon committee meetings produced solid progress toward achieving many of RCI's goals for this year.

Favorite attractions of the convention: trade show, informative technical sessions, live roofing display, and professional dialogue.

Exhibit Hall Opening

Sunday evening, President Sam Huff, his wife Dee, and President Elect Arthur Sark formally opened the trade show with a ribbon-cutting ceremony. Assorted cheeses and wines added to the cordial, relaxed atmosphere inside the hall. Exhibitors and attendees alike felt at home among the best products and services the roofing industry has to offer.

After the opening show, exhibitors joined RCI directors in the lovely Poolside Terrace to sign up for next year's show in Richmond, Virginia, April 13-18, 1996. As usual, booths went fast, but there are still choice locations available. Anyone interested in exhibiting should contact Elaine De'Leon at RCI Headquarters (800-828-1902).

Banquet and Awards Ceremony

The annual President's Banquet and Awards Ceremony took place on Tuesday, March 28, 1995.

Don Bush led the large group in prayer and a sumptuous feast was enjoyed by all. About 8:00 pm, master of ceremonies Arthur Sark announced the beginning of the awards presentation.

John Willers called forth the new Registered Roof Consultants — a total of 30 — and handed out certificates to those present. Following this, James Magowan distributed certificates to new Registered Roof Observers.

Live Roofing Demonstrations

Attendees learned about slate, copper, and tile roofing as artisans demonstrated correct handling and installation procedures. RCI wishes to thank the companies that made these popular and informative demonstrations possible.

Revere Copper Products, Rome, N.Y.
Copper Roofing Presentation

Monier, Irvine, Calif.
Tile Roofing Presentation

Evergreen Slate Co., Granville, N.Y.
Slate Roofing Presentation

Olympic Manufacturing Group, Agawam, Mass.
Pullout Testing Techniques

Outgoing President Sam Huff kept his parting speech brief; Sam has the unique ability to say much with very few words. He then presented certificates and plaques to outstanding volunteers, to those who earned the President's Award, and to our new Fellow of the Institute, John Willers. In keeping with tradition, Sam then received his President's Plaque from Arthur, along with a large CAD drawing of Sam on the witness stand. The drawing was made by John Bolt, of HDH Associates.

As the awards ceremony ended, the band warmed up and those present exchanged friendly words with people they hadn't seen since last year's convention. The President's Banquet is an annual coming together to celebrate, honor those who have earned our praise, and enjoy the company of fellow roofing professionals, spouses, and guests.

The following were honored at the President's Banquet for attaining registration titles during the year 1994-95 (since last year's convention).

New Registered Roof Consultants

Joseph Argenta, RRC	Gregory Gerdes, RRC	Michael Resch, RRC
Mike Barton, RRC	James Getty, RRC	John Robinson, RRC
Edward Betker, RRC	Claude Grosso, RRC	Richard Roe, RRC
Harry Coates, RRC	Joseph Heidt, RRC	James Russo, RRC
Michael Cornett, RRC	William Hope, RRC	Darran Sellers, RRC
Jeff Cramer, RRC	Chris J. Kneppers, RRC	Harold Sexton, RRC
M. Douglas Davidson, RRC	Garrie A. Mitchell, RRC	Rolf Snobeck, RRC
Mike DeFrancesco, RRC	Allen Nichelson, RRC	Gregory J. Thirnbeck, RRC
Albert Duwyn, RRC	John Pohorsky, RRC	Jack Wiecks, RRC
Duane Frederick, RRC	Richard Poole, RRC	Edwin Williams, RRC

Registered Roof Consultants (left photo) and Registered Roof Observers received their certificates at the awards ceremony.

New Registered Roof Observers

T. Douglas Benedict, RRO	Jack Forth, RRO	Gary Mitchell, RRO
Mark Breitner, RRO	Kurt Grosz, RRO	John Shepherd, RRO
Richard Cook, RRC, RRO	Joseph Hofstar, RRO	John Strasser, RRO
Brian Craig, RRO	Fred Holzman, RRO	Leroy Totman, RRO
Scott Dolan, RRO	Frank Largen, RRO	Daniel Winarski, RRC, RRO

President's Awards

Joe Hale, FRCI

Lyle Hogan, FRCI

William Marcum, RRC

John Willers, PE, RRC

• • •

Outstanding Volunteer Awards

Philip Dregger, PE, RRC

Richard Horowitz, AIA, RRC

Gene Lawrence

John Serke, AIA, RRC

Robb Smith, RRC

Fellow of the Institute

John Willers, PE, RRC, became RCI's 16th Fellow of the Institute on March 28, 1995. John has served as chairman of the RRC Examination Committee since 1989 and has seen the committee through significant changes. During his term, the noteworthy changes in the application process, examination, and administration have increased the credibility of RCI's registration program

Sam Huff presented John Willers as the newest Fellow of the Institute.

In addition to chairing this committee, John remains active in the Institute and has recently taught RCI educational courses. John is currently the director of Roof Engineering Services at S&ME Inc., located in Raleigh, North Carolina.

Exhibit Hall Contest Winners

This contest is designed to encourage maximum attendance and participation by RCI members in the exhibit hall. To be eligible to win, a contestant must have visited at least 75 exhibiting companies and be an RCI member in good standing. Each contestant proves attendance at every booth visited by turning in an attendance card containing initials from a representative in each booth. In order to obtain the proper initials, each contestant must review at least one product or service at every booth visited.

1st Prize: $1,000
Todd Culliton
Inspec, Inc.
Minneapolis, Minn.

2nd Prize: $500
Christopher English, RRC
Christopher English & Assoc.
Western Springs, Il.

3rd Prize: $250
Tom White, AIA, RRC
The Agans/White Group
Sykesville, Md.

RCI Would Like to Acknowledge and Thank Those Who Have Contributed Their Support to the Convention.

Sponsors

Dow Chemical Co.
Firestone Building Products Co.
Georgia Pacific Corp.
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Performance Roof Systems
T. Clear Corp.
Topcoat

Supporters

ITW Buildex
Ludowici Roof Tile
Marathon Roofing Products, Inc.
Olympic Fasteners

The annual President's Reception and Banquet offers attendees and guests a chance to mix with old friends, meet new people, and enjoy relaxed conversation.

Technical Seminars

The technical sessions held Monday through Wednesday had standing-room-only attendance. Speakers provided relevant information on important topics and participants benefited from the exchange of ideas. Following is a brief description of the seminars; each was provided by the presenter.

"Roof Edge Design for Low-slope Roofing"

John B. Hickman, MSE, CSI
W.P. Hickman Company

This seminar covered principles for designing edge details with low-slope roofing. Mr. Hickman presented and distributed the new SPRI "Roof Edge Design Guide for Low Slope Roofing", a section of the publication *Flexible Membrane Roofing: A Professional's Guide to Specifications*. Examples of roof edge failures were shown and the causes of failures were discussed.

The roof edge is the first line of defense for a low-slope roof. Here, at the edge, is where the roof is most likely to develop leaks and where wind is likely to get its grip on the roof and tear it off. Because the edge is such a critical region, SPRI has recently published the above-mentioned guideline. The design guide stresses the need for well secured nailers and for roof edge devices that have been tested to meet design criteria developed at SPRI. Methods are given in the guide for calculating wind loads at the roof perimeter. The guide also addresses materials selection to minimize corrosion and suggests metal thicknesses appropriate for a range of face heights.

Flexible Membrane Roofing: A Professional's Guide to Specifications is available from SPRI Headquarters at 20 Walnut Street, Wellesley Hills, MA 02181; tel. (617) 237-7879.

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"Today's Asphalt Roofing Shingle"

Ray L. Corbin
Better Understanding of Roofing Systems (BURSI)

Of the steep roofing shingle products used today, asphalt shingles are approximately 80 percent of the market. Of this, more than 75 percent is made with fibrous glass felt. While any type of roofing system can present a problem, studies show that less than one percent of these roofs develops a condition known as cracking or splitting. Mr. Corbin's seminar (an article of the same name appeared in the Jan/Feb 1995 issue of *Interface*) covered how this phenomenon occurs. He described the usual process, starting as a weathering of the surface and, in some cases, resulting in splitting of the shingle.

Mr. Corbin covered both product- and nonproduct-related problems. Nonproduct failures have resulted from deck movement, lack of proper ventilation, and various improper application techniques. Mr. Corbin covered the mechanism of cracking and referenced field and laboratory testing presented at ASTM D-8 during its meeting held in Montreal, in June of 1994. This data was also published in ASTM's publication STP 1224 *Roofing Research and Standards Development, 3rd Volume*.

THE OLYMPIC NTB FASTENER

ENGINEERED FOR GYPSUM, TECTUM® AND LIGHTWEIGHT CONCRETE

THE OLYMPIC NTB FASTENER

ENGINEERED FOR GYPSUM, TECTUM® AND LIGHTWEIGHT CONCRETE

WITH LOCKING WIRE BARBS TO PREVENT THE FASTENER FROM BACKING OUT

THREE REASONS TO SPECIFY THE OLYMPIC NTB:

- Factory Mutual Approved – The Olympic NTB has received FM approval for virtually all lightweight applications including mechanically attached single-ply membranes.
- Increased Pullout Resistance – The oversized thread design of the NTB offers a measurably higher level of pullout resistance in lightweight decks.
- NTB Means Non-Thermal Bridging – The NTB is made of glass-filled nylon, an extremely durable material, which increases tensile strength and eliminates corrosion, condensation and thermal bridging.

ONE MORE REASON –THE LOCKING WIRE BARBS:

- No Fastener Back Out – When the wire barbs are set into the deck, fastener back out is virtually eliminated.
- Increased Hold In Marginal Decks – For marginal decks, the locking wires of the NTB will increase the holding power and back out resistance.

OLYMPIC TECHNICAL FIELD SERVICE: MAKING SURE THE CORRECT FASTENER IS INSTALLED CORRECTLY

When working with lightweight decks, it is not enough to simply specify a quality fastener. You must also specify that it be manufactured by a quality company – one that is committed to technical field service...to making sure the correct fastener is installed correctly. That is the role of Olympic's nationwide team of field technicians. They are up on the roofs and at your service:

800•633•3800

- Performing pullout tests
- Demonstrating installation procedures

CALL US FOR PULL TESTS AND TO RECEIVE YOUR FREE OLYMPIC ROOF FASTENING REFERENCE BOOK:

For additional fastener information, or to set up your pull tests, please contact any of our inside technical people. And while you're on the phone, ask for your free Olympic Roof Fastening Reference Book. You won't believe how much fastening information we've packed into it.

A FASTENER FOR EVERY APPLICATION & FIELD SERVICE FOR EVERY FASTENER

OLYMPIC FASTENERS

THE OLYMPIC NTB FASTENER

PRODUCT DESCRIPTION

The Olympic NTB-1H is a glass-filled nylon fastener with a 1" head and locking wire barbs. It is designed to secure insulation and single-ply membrane to gypsum, all cementitious wood fiber decks (Permadeck, Insulrock, Tectum®, etc.) and lightweight concrete decks. Wire barbs prevent back out and increase pullout resistance in marginal decks.

The NTB-1H may be used with a 3" steel plate for insulation attachment. For single-ply membrane attachment, use a 2" barbed plastic plate, 2" steel plate (with or without barbs), or batten bar. The NTB-1H is available in 2 1/2" to 10" lengths.

The NTB-1H is Factory Mutual and Dade County approved.

APPLICATION

The Olympic NTB-1H can be installed into Tectum® decks without predrilling. A pilot hole is required for gypsum, lightweight concrete and some cementitious wood fiber. Use a 7/16", 1/2" or 9/16" carbide tip drill bit. Diameter of drill bit is determined by pullout test results. Hole depth must be 1/2" deeper than minimum embedment.

Minimum fastener embedment into the deck should be 1 1/2" (2" recommended). NTB fastener should never penetrate the underside of the deck.

The most effective method of engaging the wire barbs during installation is with the NTB Eliminator drill attachment.

The use of a 3" plate is recommended when securing insulation.

Note: Prior to job bid, contact Olympic to perform a pullout test to determine drill bit size and the pullout values. Also, care must be taken not to overdrive the fastener causing subsequent damage to the insulation facer.

PHYSICAL DATA	Cat. No.	Length	Packaging	Weight
The data below is constant for each Olympic NTB-1H	NTB1025WW	2 1/2"	500	15 lb
	NTB1030WW	3"	500	18 lb
	NTB1035WW	3 1/2"	500	19 lb
	NTB1040WW	4"	500	21 lb
Head Size: 1" Diameter	NTB1045WW	4 1/2"	500	23 lb
Head Style: Double Internal Hex Drive	NTB1050WW	5"	500	26 lb
	NTB1055WW	5 1/2"	500	28 lb
Major Thread Diameter: .750	NTB1060WW	6"	500	30 lb
	NTB1065WW	6 1/2"	500	31 lb
	NTB1070WW	7"	500	32 lb
Thread: 3.5 T.P.I. Buttress	NTB1075WW	7 1/2"	500	34 lb
Material: Glass-Filled Nylon	NTB1080WW	8"	250	18 lb
	NTB1085WW	8 1/2"	250	19 lb
	NTB1090WW	9"	250	20 lb
	NTB1095WW	9 1/2"	250	21 lb
	NTB1100WW	10"	250	22 lb

NTB LENGTH SELECTION PROCEDURE

1. If applicable, determine thickness of existing roofing material
2. Add thickness of new insulation.
3. Add 1 1/2" minimum NTB embedment.
4. NOTE: When predrilling, allow an extra 1/2".
5. If odd size requirement, always size up in length, not down. See example.

EXAMPLE

Existing Roofing:	1 3/4"
New Insulation:	1/2"
Min. Embedment:	1 1/2"
Total Fastening Range:	3 3/4"

The proper NTB for this example is 4".

153 BOWLES ROAD P.O. BOX 508 AGAWAM, MA 01001 413-789-0252 800-633-3800 413-789-1069 (FAX)

"RCI Manual of Practice"

John Serke, AIA, RRC
JDS Design Associates

This presentation focused on the development of RCI's *Manual of Practice*, its organization and philosophy. Mr. Serke discussed the various categories of consultants and emphasized how the manual will relate closely to the practice of roof consulting. He provided an outline of the handbook, but reminded us that the manual must be free to evolve with the practice of roof consulting. Topic highlights included the impact of the manual on roof consultants, its use as a reference guide, types of roof consulting firms, guidelines, surveys, reports, design and documentation, and the responsibilities associated with them.

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"Hail Damage to Low-slope Commercial Roofing"

Jim D. Koontz, PE
Jim D. Koontz & Associates, Inc.

This seminar involved a general discussion of various technical factors relating to threshold of hail damage to roof assemblies. The presentation covered two general areas: 1) the overall characteristics of hail and, 2) the effects of hail on three general types of roofing systems, including conventional built-up roof assemblies, polyurethane foams, and single-ply roofs.

Mr. Koontz discussed the roles played by the size of hail, its shape, free fall velocity, and the associated wind speed. Numerous slides were presented showing the characteristics of hail damage as applied to different types of roof assemblies. This included the effects of substrate, membrane types, coatings, surfacing, interply adhesives, age, workmanship, and the effect of roof surface temperature at the time of a hail incident.

Particular emphasis was given to the threshold of hail damage. The low threshold damage to polyurethane foam roofing and thermoplastic roofing systems was discussed in detail.

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"Atlantic City Convention Center Reroofing Project"

John Willers, PE, RRC

John L. Willers, PE, RRC
Jeffrey L. Spady, RRC
S & M E
(Reviewed the project from the roof consultant's viewpoint.)

Jeffrey L. Spady, RRC

Joseph M. Dolan, PE, LS
Atlantic City Convention Center
(Addressed the project from the owner's viewpoint.)

James M. Mersich
Overly Manufacturing Company
(Addressed the project from the viewpoint of the metal roof manufacturer.)

The technical session reviewed the reroofing of the Atlantic City Convention Center, home of the Miss America pageant and the initial playing of the Liberty Bowl.

The barrel roof is supported by 10 pairs of 3-hinged arches, spanning 340 feet and rising 144 feet to form a

roof 450-foot-long having an area of approximately 170,000 sf. A new ASTM A-316, stainless steel, sheet metal roof system was selected and installed on this 67-year-old structure at a cost of approximately $33.00 per sf. The seven million dollar project included removing the existing EPDM membrane, securing a composite OSB/insulation board, the stainless steel metal roof system, replacing all drains and piping, and reconstructing 27 louvered HVAC structures. Also included was the reroofing of five small flat roofs adjacent to the barrel roof and tuckpointing the facade of the entire building.

Topics presented included selection of the roof consultant, roof system selection, history of the structure, performance of the previous roof systems, design, bidding, and construction. The design discussion addressed such considerations as wind, drainage, vapor control, the corrosive coastal environment, sea shells dropped by sea gulls, and maintaining the historic character of the building. The discussion also addressed the information gained during a meeting of interested contractors that was held during the final stages of the design.

The discussion of the bidding addressed an unsigned low bid and legal challenges from the high bidder. The final construction cost resulted in increased costs due to unanticipated work of less than $50,000 (less than one percent of the bid price). Both the contractor and owner attribute this to the thoroughness of the plans and specifications which were prepared by S&ME, Inc.

A slide show of shots taken by the full-time inspector during all phases of construction was a real treat to see.

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WSRCA Technical Seminar

Participants:

Pat Large, WSRCA Senior Vice President

Quality Tile Roofing, Boise, Idaho

Donald Summers, WSRCA Past President

Specialty Roofing, Peoria, Arizona

Donald Bosnick, WSRCA Chairman, Asphalt Shingle Task Force

Bosnick Roofing, Tacoma, Washington

Walter N. Crow, WSRCA President

Crow Roofing & Sheetmetal, Seattle, Washington

Walter Crow moderated this seminar which was presented by Western States Roofing Contractors Association (WSRCA). Don Bosnick began with a report on the past results of asphalt shingle testing and the current testing of shingles collected from virtually every manufacturing plant. The results from this final testing will be announced June 12, 1995, at WSRCA's convention in Las Vegas, Nevada. Don also reported that the second part of this seminar, with on-site testing of modifieds (APP and SBS), will be given on Wednesday, June 14. Pat Large followed with a background review of the tile problems observed in the western region of the country. He reported that, because of the magnitude of these problems and the lawsuits that followed, WSRCA contacted the National Tile Manufacturers Association to work jointly on developing standard tile details for this region. Don Summers used a slide presentation to enhance his discussion of the tile details currently used by the manufacturers. He indicated the areas which were being revised and explained the changes agreed upon by the Tile Committee. The newly revised details will be completed in time for the WSRCA convention and presented in their entirety at the "Roof it Right for the Region" seminar. Copies of these details and the revised built-up roofing details will be available to attendees. For information about the WSRCA convention, please call (415) 548-0112.

The quality of the seminars was matched by the high rate of attendance.

"FM Update"

George Smith, PE • Manager, Materials Section
Phillip Smith, PE • Senior Engineer, Standards Division
Factory Mutual Research

George and Phil Smith, of Factory Mutual Research Corporation (FMRC), presented an all-day auxiliary seminar which provided an overview of Factory Mutual's testing process and highlighted its roof design recommendations.

The presentation included an outline of the basis and applications of FMRC's roof design recommendations. Items such as internal/external fire performance, wind uplift ratings, hail, leakage, and corrosion resistance were addressed. Several examples of construction failures were presented and analyzed to show the consequences of poor or inadequate assemblies. A brief outline of the upcoming reorganization of the *Approval Guide* and roofing data sheets was presented as well.

This seminar was well attended and received. RCI extends its thanks to George and Phil Smith for the quality and amount of information provided.

Report of Regional Meetings Held in Reno

The convention provided an excellent venue for regional members to meet and discuss relevant topics. Following are reports of meetings held during convention week.

Region Two Plans OSHA Update Seminar, Convention

By Nelson Hall, RRC Director, Region Two

Twenty three people attended the meeting held on March 27, 1995. The first item discussed was the April 4th meeting in Raleigh, N.C., with the OSHA, DEHNR, and EPA representatives to discuss how the current asbestos laws will affect consultants and contractors in the roofing industry in North Carolina. Everyone who would be affected by the current laws and the proposed changes was urged to attend this meeting.

Our next meeting will be on September 15, 1995, in Raleigh, and will deal with the new asbestos laws, fall protection, and safety issues in general. This meeting will be similar to the "Focus on Regulations" seminar recently held in Maryland. There will be a golf outing the next morning.

Next year's convention in Richmond will be held in Region Two. Anyone with mailing lists (CSI, AIA, engineering or contractor groups) should forward this information to Headquarters to help with marketing. Let's make this one the biggest and best yet!

It was noted that Region Two membership is growing at the fastest rate of any RCI region. I personally want to thank everyone for his and her efforts and urge all of you to keep bringing in new members.

Region Seven Members Enjoy Plant Tour

By William Cypher, RRC Director, Region Seven

The tours to the Polyglass plant and the R-Max plant during the Reno convention were a success. Over 35 persons attended the tours which were hosted by R-Max and Polyglass, who provided transportation and beverages. The tours were very informative and provided valuable insight into the manufacturing processes involved in the production of both modified asphalt roof membranes and polyisocyanurate insulations. We wish to extend our thanks to Polyglass and R-Max for their support in making these tours available.

Winners of the 1995 Document Competition

All RCI Professional Members are invited to submit entries to the annual Document Competition which takes place at the convention. Entries can be made in any or all of three categories: small roofing/waterproofing projects (under $100,000 construction cost), large roofing/waterproofing projects (over $100,000), and roof reports. Each year, a panel of RCI volunteers judges the entries for excellence in regard to organization, format, clarity and appearance. A first place and second place certificate for each category is presented and displayed in the Exhibit Hall. Following are the winners of this year's Document Competition.

1st First Place Winners 1st

LARGE ROOFING PROJECT: Professional Service Industries, Inc.

SMALL ROOFING PROJECT: Inspec, Inc.

ROOF REPORT: Martin Riley Mock Architects/Engineers
Luther Mock, RRC

2nd Second Place Winners 2nd

LARGE ROOFING PROJECT: Construction Technology Laboratories, Inc.

SMALL ROOFING PROJECT: Canon Consulting & Engineering

ROOF REPORT: Wiecks Associates, Inc.

RCI wishes to thank all of those who entered the Document Competition. Every year, it seems harder for the judges to pick the first and second place winners.

Austin•Dillon•Cook Engineering, Inc.
Large Roofing Project

Austin•Dillon•Cook Engineering, Inc.
Small Roofing Project

Austin•Dillon•Cook Engineering, Inc.
Roof Report

Richard P. Canon and R. Shane Canon
Large Roofing Project

Canon Consulting & Engineering Co.
Small Roofing Project

Richard P. Canon and Brian R. Ullery
Roof Report

Construction Technology Laboratories, Inc.
Large Roofing Project

Inspec, Inc.
Large Roofing Project

Inspec, Inc.
Small Roofing Project

Martin Riley Mock Architects/Consultants
Luther C. Mock, RRC
Roof Report

Peter J. Monterose, RCI, CCS, FCSI
Large Roofing Project

NTH Consultants Ltd.
Large Roofing Project

Professional Service Industries, Inc.
Large Roofing Project

Wiecks Associates, Inc.
Large Roofing Project

Wiecks Associates, Inc.
Roof Report

Participants of the Anomalies Display

The following contributed to the Display of Roofing Projects, Anomalies and Curiosities. This tasteful, non-competitive display often reveals the lighter side of our profession and features interesting designs and practices.

HDH Associates **The Meridian Group** **Advanced Roof Technologies** **Agans/White Group, Inc.**

1995 Exhibitors

2001 Company
ACCU-R EPS Program
Allied Signal, Inc.
American Cemwood
American Hydrotech, Inc.
Amoco Foam Products Co.
Apace Products Co.
ATAS Aluminum Corp.
Bakor, Inc.
Barrett Co.
Bitec, Inc.
BITUFA
Bond Cote Roofing Systems
Butler Roof Division
Cal-Shake, Inc.
Carlisle Syntec Systems
Cedar Shake & Shingle Bureau
Center For Applied Engineering, Inc.
Cemfort
Comten Industries
Conklin Co., Inc.
Construction Fasteners, Inc.
Construction Publications, Inc.
Continental Roof Systems, Inc.
Contractors's Guide
Copper Development Assoc., Inc.
Custom Curb, Inc.
Davis Aviation & Advanced Infrared Services
Direct Decks
Dow Corning Corporation
Dow Chemical Co.
Duro-Last Roofing, Inc.
Elastizell Corp. of America
Elk Corporation
Envirospec, Inc.
ES Products, Inc.
Fire Free Roofing Materials
Firestone Building Products Co.
FRY Reglet Corp.
GAF Materials Corp.
GenFlex Roofing Systems
Georgia-Pacific Corp.
Grease Guard, Inc.
GS Roofing Products Co., Inc.
Henry Company
HPG Roofing Systems
Humane Manufacturing
Insta-Foam Products, Inc.
Jim D. Koontz & Assoc., Inc.
JPS Elastomerics Corporation
Karnak Corporation
Kemper Systems, Inc.
Koppers Industries, Inc.
Lead Industries Association, Inc.
Loadmaster Systems, Inc.
Ludowici Roof Tile, Inc.
Malarkey Roofing Company
Marathon Roofing Products, Inc.
Metal Construction News
Metal Era, Inc.
MM Systems
Monier
Mule-Hide Products Co., Inc.
National Coatings Corporation
National Roof Deck Contractors Assoc.
Naturalite / EPI Skylight Systems
Neogard
Newport Fasteners
Nicolon/Mirafi Moisture Protection Products
Nord Bitumi
North American Roofing Systems
North Carolina Foam Industries
NRG Barriers, Inc.
Olympic Manufacturing Group, Inc.
Overly Manufacturing Co.
Performance Roof Systems, Inc.
Pittsburgh Corning Corporation
Plasteco, Inc.
Polyglass USA, Inc.
Polythane Systems/GE Silicone
Portable Pipe Hangers
Prospex Roofing Products, Inc.
Protecto Wrap Co.
RAC Drain Systems
Rawlplug Company, Inc.
R.K. Hydro-Vac
R-Max, Inc.
Roof Products and Systems
Roofbond Systems
Royal Roofing Co., Inc.
S.B.C. Industries
Santa Rosa Lead Products, Inc.
Sarnafil, Inc.
Schuller International Roofing Systems
Seal-Dry/USA, Inc.
Seaman Corporation
Seyforth Roofing Co., Inc.
SFS Stadler, Inc.
Single Source Roofing Corporation
Siplast
Soprema Roofing & Waterproofing
SPI/PFCD, Inc.
SPRI
Subcon Products Corp.
Sunlife Systems International, Inc.
T. Clear Corp.
Tamko Roofing Products, Inc.
Thaler Roofing Products, Inc.
The Pate Company
Topcoat
U.S. Intec, Inc.
U-Flow Roof Drain Systems, Inc.
UC Industries
Unistrut Corporation
United Coatings
Versico Incorporated
W.P. Hickman Company
Wausau Tile, Inc.
Western Roofing Magazine
Western States Roofing Contr. Association

Sponsors

Dow Chemical Co.
Firestone Building Products Co.
Georgia-Pacific Corp.
HPG Roofing Systems
Performance Roof Systems
T. Clear Corporation
Topcoat

Supporters

ITW Buildex Roof Fastening Systems
Ludowici Roof Tile, Inc.
Marathon Roofing Products, Inc.
Olympic Manufacturing Group, Inc.

Ten Year Exhibitors

At the convention, the following companies were recognized for exhibiting with RCI for ten consecutive years.

Bond Cote
Firestone Building Products
JPS Elastomerics
Schuller International
Siplast
HPG Roofing Systems
U.S. Intec

Five Year Exhitibors

The following have exhibited with RCI for five consecutive years or more.

Barrett Co.
Butler Roof Division
Carlisle Syntec Systems
Dow Chemical Co.
Duro-Last Roofing Inc.
Envirospec, Inc.
GAF Materials Corp.
Genflex Roofing Products
GS Roofing Products
ITW Buildex Roof Fastg. Sys.
Koppers Industries Inc.
Metal Era Inc.
Mule-Hide Products Co. Inc.
National Coatings
Nord Bitumi
North American Roofing Sys.
NRG Barriers
Olympic Fasteners
Pittsburgh Corning Corp.
Rawlplug Company
RK Hydrovac Systems, Inc.
Sarnafil Inc.
Seal-Dry/USA, Inc.
Seaman Corporation
SPI/PFCD
Tamko Roofing Products Inc.
Topcoat
U-FLOW Roof Drain Sys. Inc.
UC Industries
United Coatings
W.P. Hickman Co.

Annual Meeting

The annual membership meeting was held on Wednesday, March 29, 1995. Following are highlights of this meeting.

As of the above date, RCI had a total of 942 members.

New Officers Elected for 1995-1996

President
Arthur Sark, RRC

First Vice President
Christopher English, RRC

Second Vice President
William Marcum, RRC

Secretary
Robb Smith, RRC

Treasurer
Michael Blanchette, RRC

Immediate Past President
Sam Huff, RRC, FRCI

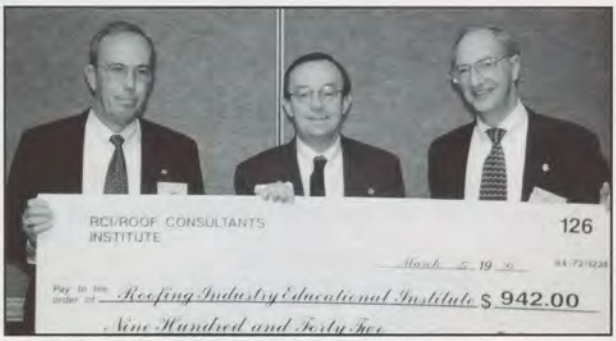
Following the election, Arthur Sark presented his "State of the Institute" speech. Read this issue's President's Message for a summary of that speech.

Other highlights of this meeting include:

- Honorary membership was bestowed upon Richard Fricklas, Wayne Tobiasson, and Dr. Peter Sparks.
- An educational grant was given to the Roofing Industry Educational Institute, one dollar for each RCI member.
- Dennis Knoll, of U-Flow Roof Drains, was honored with a plaque

for U-Flow's involvement with RCI's recent educational courses in Toronto, Canada.

- A Canadian Chapter has been established and will be electing officers. (Read more about this on page 38.)
- John Willers, RRC Examination Committee Chairman, presented outgoing committee members with plaques for their years of service. Those members rotating off the committee were: T. Freeman, RRC; John Gimple, RRC; Curtis Liscum, RRC; Sam Huff, RRC, FRCI.
- The Crisis Intervention Committee is now called the Past President's Council.



(Left photo) Sam Huff acknowledges U-Flow's contributions to RCI and awards a plaque to Dennis Knoll. (Right photo) George Kanz (middle) and Dick Fricklas (right) receive an educational grant for RIEI.

RCI Honorary Members

At the annual meeting held March 29, 1995, RCI acknowledged the achievements of three individuals and made them honorary members of the Institute.

Richard Fricklas

Richard (Dick) Fricklas is technical director of the Roofing Industry Educational Institute (RIEI). He holds degrees in chemistry from Hofstra and Rutgers universities and began his roofing career as a research chemist for the old Johns-Manville Corporation. Dick served as director of Manville's BURSI school for architects and consultants from 1974 to 1979, when he became the first director of RIEI. Dick is a prolific writer and has authored the "On the Roof" column for *RSI* magazine since 1979. He has additionally participated in industry symposia. Dick will join Bill Griffin in coauthoring the *Manual of Low-Sloped Roof Systems*, a McGraw-Hill book due out in August of 1995. Dick received the Walter A. Voss award from ASTM "for pioneering, through education, the conversion of roofing technology from an art to disciplined science". In 1991, MRCA awarded Dick its highest honor, the James Q. McCawley award for service to the roofing industry.

Wayne Tobiasson

Wayne Tobiasson is a research civil engineer with the Cold Regions Research and Engineering Laboratory (CRREL) in Hanover, New Hampshire. He is a registered Professional Engineer in New Hampshire and has a Master of Engineering degree from Dartmouth College. His research focuses on design, construction, operation and maintenance of facilities in cold regions. Much of that relates to roofs and to moisture. He pioneered the use of hand-held, infrared scanners to find wet roof insulation, determined the effect of moisture on the insulating ability of roof insulations, and developed design criteria for use of vapor retarders in roofs. He has prepared numerous reports on his findings and recently summarized much of that in the chapter on roofing in ASTM's *Moisture Control in Buildings*. He chairs the task committee responsible for the snow and rain load provisions of the national design load standard (ASCE-7) and feels that he has learned a great deal about roofing by teaching at Roofing Industry Educational Institute (RIEI) seminars.

Peter Sparks, Ph. D.

Dr. Sparks is currently Professor of Civil Engineering and Engineering Mechanics at Clemson University. He has a Bachelor of Science degree from the University of Bristol and a doctorate from the University of London. Before joining Clemson University, he was a staff member of the Building Research Establishment in England (1986-1977) and served on the faculty at Virginia Tech (1977-1982). Dr. Spark's primary research interest is the performance of buildings in severe storms. Recent studies have included the effects of hurricanes Gilbert, Hugo, and Andrew.

FROM THE DESK OF ELAINE

Elaine De'Leon • Meeting Planner & Convention Coordinator

Convention '95

Mark Your Calendars
Join us in 1996 for our Eleventh International Convention
April 13-18, 1996 • Richmond, Virginia

"Not only were the topics of great interest and well presented, but the hospitality extended and the set-up of the entire show was great. . . To have the leading gurus of roofing knowledge available for questions was a most excellent plus."

Wally Jones, Project Coordinator
Longs Drug Stores California, Inc.

Sparks, Nevada, as seen from the John Ascuaga's Nugget.

"Schuller recognizes the importance to the industry of the consultant and specifier. We also realize the value of an organization like RCI and are pleased to have supported the show every year since its beginning in 1986."

Ray L. Corbin, Director
BURSI

It was truly gratifying to be in Reno and see the fruition of months of work by so many people. I enjoyed strolling through the various gathering places and hearing the enthusiastic exchange of ideas that are often sparked by RCI conventions. Best of all, though, was talking in person to vendors and attendees who spent time, money and effort preparing for this event. The fact that I was not able to meet with all of you just gives me something more to look forward to next year in Richmond.

Those of you who attended may have noticed the large numbers crowding our seminars and the exhibit hall. (We even required a special inspection by the fire chief to make sure safety precautions were in place.) The total number of attendees in Reno was 712 — making this our biggest convention to date.

At the annual Exhibitor Reception, we sold over half of our booths for next year's show, but there's lots of space for more vendors. The *Exhibitor Brochure* is scheduled for publication in June, so look for this in your mail. It will include highlights of the convention and everything you need to know about exhibiting at our show.

I will provide regular updates in *Interface* and am always available to answer your questions when you call me at 800-828-1902.

Impressions of the Tenth Convention

By George Kanz, PE, RRC, FRCI
RCI President, 1989-90
Fellow of the Institute, 1990

Since I had not attended an RCI convention since 1990, I eagerly awaited the recent convention in Reno, and was amazed. Not only has the RCI membership doubled, but the attendance at the convention has also increased tremendously. The members present obviously have a fire in their gut about RCI. You could see it in their interest to learn more about their profession. The large number of people there, the questions asked, and the interest to move forward with RCI's *Manual of Practice* are all indicative of the fire to learn and improve the roof consulting profession. The fire is also evident in the attendance and discussion at the technical sessions. RCI members want to learn how to do their jobs better. In the exhibitor area, many conversations I overheard involved improvements to specifications and materials.

There were at least two revolutionary improvements at the convention which I was able to observe. The first involved partnering — something I heard discussed everywhere. Members spoke in terms of teamwork including the manufacturer, contractor, owner, and themselves. They placed importance on having a completed project at the least cost, on schedule, and of the highest quality.

The second change that I noticed was in the Board of Directors meeting (which I was invited to attend). The board followed its agenda, opened discussion on an item, took action, and moved on. In addition, the meeting adjourned on time. In the past, boards would typically open an item for discussion, then open another item and maybe a third. As a result, board meetings usually lasted through the night and into the next day. Clearly, this change in agenda is for the better.

There are, however, some things that do not change. It is obvious to me the criteria for the success of RCI has not changed. Each one of us must continue to contribute his and her individual time and effort. We each should identify our area of interest for our contribution of time and effort. Make your decision known and then follow through. Another important ingredient of RCI's success is the professionalism of all its members. We need to go about our daily work with this in mind.

Over the years, we have often speculated about RCI's place in the roofing industry. If the industry were a car traveling down the path of time, I believe we started out standing along the side of the road trying to hitch a ride. In my timeline, five years ago we succeeded in getting a lift, but had to be content with riding in the trunk. There we huddled, sometimes in the dark, but all the time pounding on the trunk lid trying to get out. Now, In 1995, I can safely say that RCI has moved into the front seat, has one hand on the shifting lever, and is reaching for the steering wheel. All members of RCI should be patting themselves on the back for a fine convention, and now let's continue to improve our profession.

ALLIEDSIGNAL HAS COMMERCIAL ROOFING COVERED

Traditional BUR or the newest state-of-the-art systems.

Whether you're the building owner, architect, consultant or contractor, choosing a roof gives you plenty to think about. Product quality is critical, but it's not the only consideration. You also want professional specification assistance, on-time delivery, technical and warranty backup. If the manufacturer or representative drop the ball on any one of these issues, you're not covered.

At AlliedSignal Commercial Roofing Systems, we're in the business of covering more than just roofs. We cover our customers, too, with the best and most versatile line of coal tar-based roofing products, the most comprehensive warranties, the fastest, most complete technical backup and top professional roofing experts in the field.

Here are 6 good reasons you should talk to us first . . .

New Millennium™ our polymer-modified system brings coal tar's advantages to ***any-sloped roof.*** Millennium carries the UL Class A rating for application over combustible decks. It can be ***torch or mop applied or cold applied in our own modified coal tar adhesive.*** Millennium retains its cold-flex to 25° F. below zero!

AlliedSignal's Technical Service Center offering in-depth technical backup, specification assistance and computer-generated details. A toll-free call away and the service is free, too!

Complete BUR Systems based on AlliedSignal coal tar pitch . . . the toughest, most-waterproof, longest-lasting roof known to man.

The Best NDL Warranties in the industry. Coverage up to 25 years with no exclusion for ponding water.

A Nationwide Network of fully-authorized professional contractors providing support where you need it.

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AlliedSignal
CHEMICALS

Experimental Drying Rate Project Update

By James Sheahan, RRC, and John Newark, RCI Executive Manager

James Sheahan, RRC

John Newark

James Sheahan formed his company, J.P. Sheahan Associates, Inc., in 1979, and has seen it grow into a mature roofing and insulation consulting organization. He has published numerous papers concerning insulation and roofing systems, served on many panels, and given presentations to members of the construction industry at meetings sponsored by MRCA, NRCA, SPI, CAPC, CSI, and AIA. Mr. Sheahan has developed and performed laboratory and field test procedures for roofing systems, has made many hundreds of inspections of problem roofs and jobs during construction, and has served as qualified witness in dozens of legal cases. He holds 10 patents related to roofing, with an emphasis on early leak detection. He graduated from the University of Toledo in 1953 with a B.S. in Chemical Engineering.

On April 3, 1995, the Town of Pembroke, Virginia, got a new roof; actually, it got four new roofs. The Experimental Drying Rate research project created by RCI, Oak Ridge National Laboratories, SPRI, and the Town of Pembroke became a reality that day.

As described by John Patten in the Jan/Feb 1995 issue of *Interface*, the basic design concept is a division of the roof into four areas, each having a unique membrane and insulation configuration. These four areas will be monitored to develop the specific drying rates for each of these configurations.

As designed, the four configurations are:

A-1: Three inches of extruded polystyrene insulation covered with a black membrane,

A-2: Three inches of extruded polystyrene insulation covered with a white membrane,

B-1: One half-inch of extruded polystyrene insulation covered with a black membrane,

B-2: One half-inch of extruded polystyrene insulation covered with a white membrane.

Figure 1. shows the layout of these configurations on the building.

This project promises to provide valuable information to roofing professionals from all segments of the industry. Field data gathered from Pembroke will allow designers to evaluate some of the complex issues associated with retrofit roofing.

The sponsoring organizations of the project (RCI, SPRI, and ORNL) are indebted to the many individuals and companies that helped make the project a reality. We tip our hats to:

- **The Town of Pembroke, its mayor, council, employees, and citizens.** In particular, we want to express our gratitude to Mayor C.B. Andrews, Jr., Town Manager Randi Lemmon and maintenance men Allie Shue and Stanley Lucas. A special thanks to Councilman Thorn and his wife for the fine food!
- **James P. Sheahan, RRC, and Joe Hale, FRCI.** These two men were the prime movers on this project. Without their time and effort, none of this research would have been possible.
- **HDH Associates, PC, of Salem, Virginia.** HDH provided drafting services, design support, and just about everything else that was needed at the last minute. Special thanks to John Patten, Mike Cornett, PE, RRC, Robin Nixon and John Bolt.
- **André Desjarlais, of Oak Ridge National Laboratories and Martin Marietta.** André is responsible for the data acquisition and modeling for the

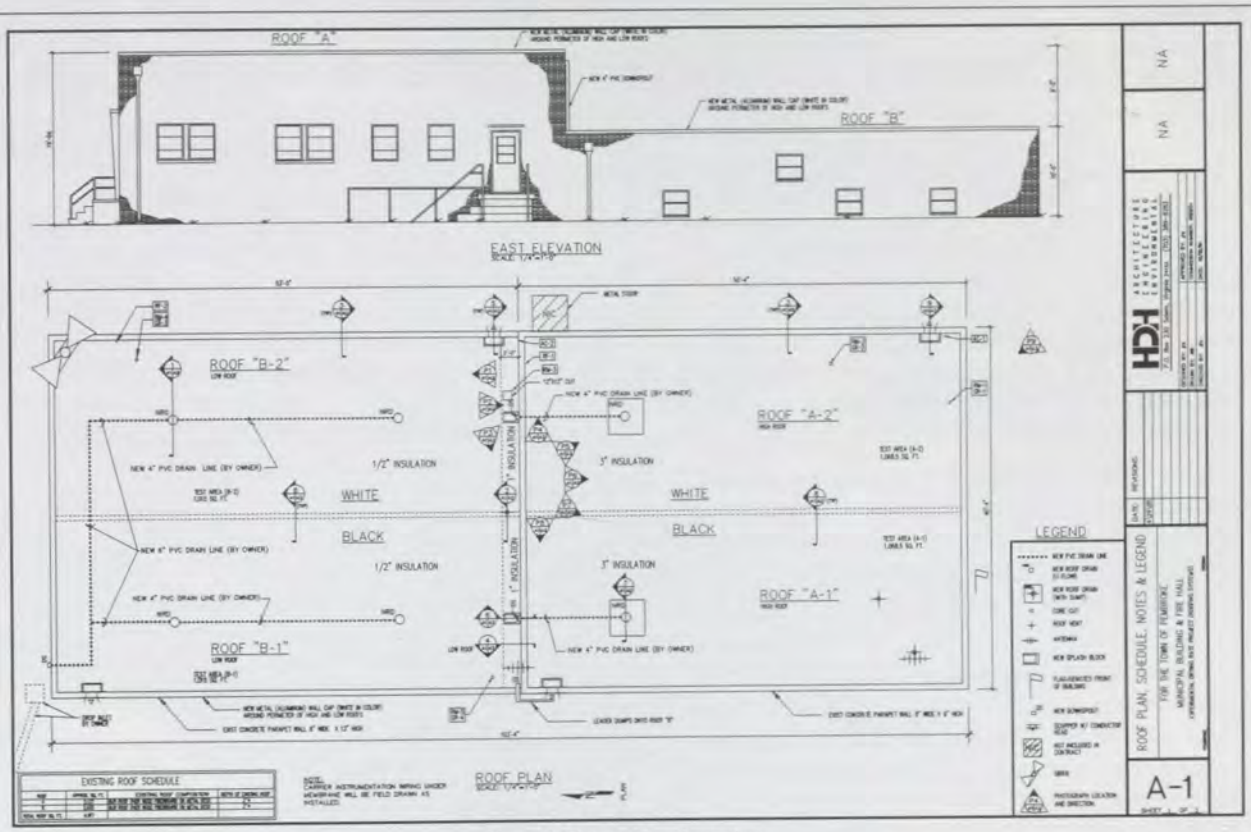


Figure 1. Four roof configurations.

project.

All the necessary labor, installation support, and equipment were provided free of charge by three contracting firms:

Consolidated Industrial Roofing, Inc. of Reannex, Va. On-site personnel: Gary Moss and Robert Robertson

Karl H. Frye, Inc. of Bluefield, W. Va. On-site personnel: Mark Alves, Al Lares and Hobert Parnell

Shen Valley Roofing of Reannex, Va. On-site personnel: Sithat Phetsarath, Jerry Rohrer and Keovilay Syharath

Materials were provided free of charge by:

JPS Elastomerics of Holyoke, Mass.: Single Ply Membrane; On-site personnel: Peter Garrigus and Steven Moskowitz

Drainage installation revealed the damp insulation of the old roof.

The new roof has two membranes: one black and one white.

Metal Era of Naukesha, Wis.: Copings and finish metals

Olympic Manufacturing of Agawam, Mass.: Fasteners; On-site personnel: Stan Choiniere and Mike Merrigan

UC Industries of Tallmadge, Ohio: Insulation; On-site personnel: David Beatty and Herb Slone

U-Flow Roof Drain Systems, Inc. of Buffalo, N.Y.: Retrofit Drains; On-site personnel: Dennis Knoll

In crediting individuals and companies, we made every effort to be thorough and hope we haven't left anyone out. We ask our readers to take time and thank these individuals when next you see them (most of them will be in Richmond at RCI's 1996 convention). They have all contributed significantly to a project that will serve in the best interest of everyone associated

RCI Establishes Canadian Chapter of the Institute

"Oh Canada"

By Albert J. Duwyn, RRC

Monday, March 27, 1995, will go on record as an historic event in the evolution of the Roof Consultants Institute. It was on that cold but sunny day at RCI's Tenth Annual International Convention in Reno, Nevada, that the Board of Directors unanimously voted in favor of chartering the first international chapter to a group representing Canadian roof consultants.

The charter of the Canadian Chapter comes after almost a year of meetings, correspondences, bylaw reviews, amendments, more reviews, more amendments, more meetings, and numerous pledges from Canadian members and potential members of RCI.

Presently, the Canadian Chapter of RCI will fall under the auspices of Region One and its director Joe Heidt, RRC. Joe has pledged his support for the chapter and looks forward to coming to Canada upon the establishment of chapter officers. Joe is also very supportive of the Board of Director's interest in establishing a Canadian region later this year at the summer workshop in Richmond, Virginia. In the meantime, nominations and election of officers to fill the executive positions of the Canadian Chapter will soon be in progress. A list of the executives will be published in the July issue of *Interface*.

Any persons interested in becoming members of RCI and/or RCI's Canadian Chapter or wishing to volunteer time to the Canadian Chapter are urged to contact:

"Oh Canada"

Préparé par Jean-Guy Levaque, RCI

Le Lundi 27 mars, 1995, marque une occasion historique dans le développement de l'Institut des Conseillers en Toitures, "Roof Consultants Institute, RCI". C'est à la 10 ème assemblée annuelle de RCI a Reno, Nevada, un jour plutôt froid mais ensoleillé, que les membres du Conseil d'administration de RCI ont votés à l'unanimité leur appui pour établir la première association régionale internationale représentant les Conseillers en Toitures du Canada.

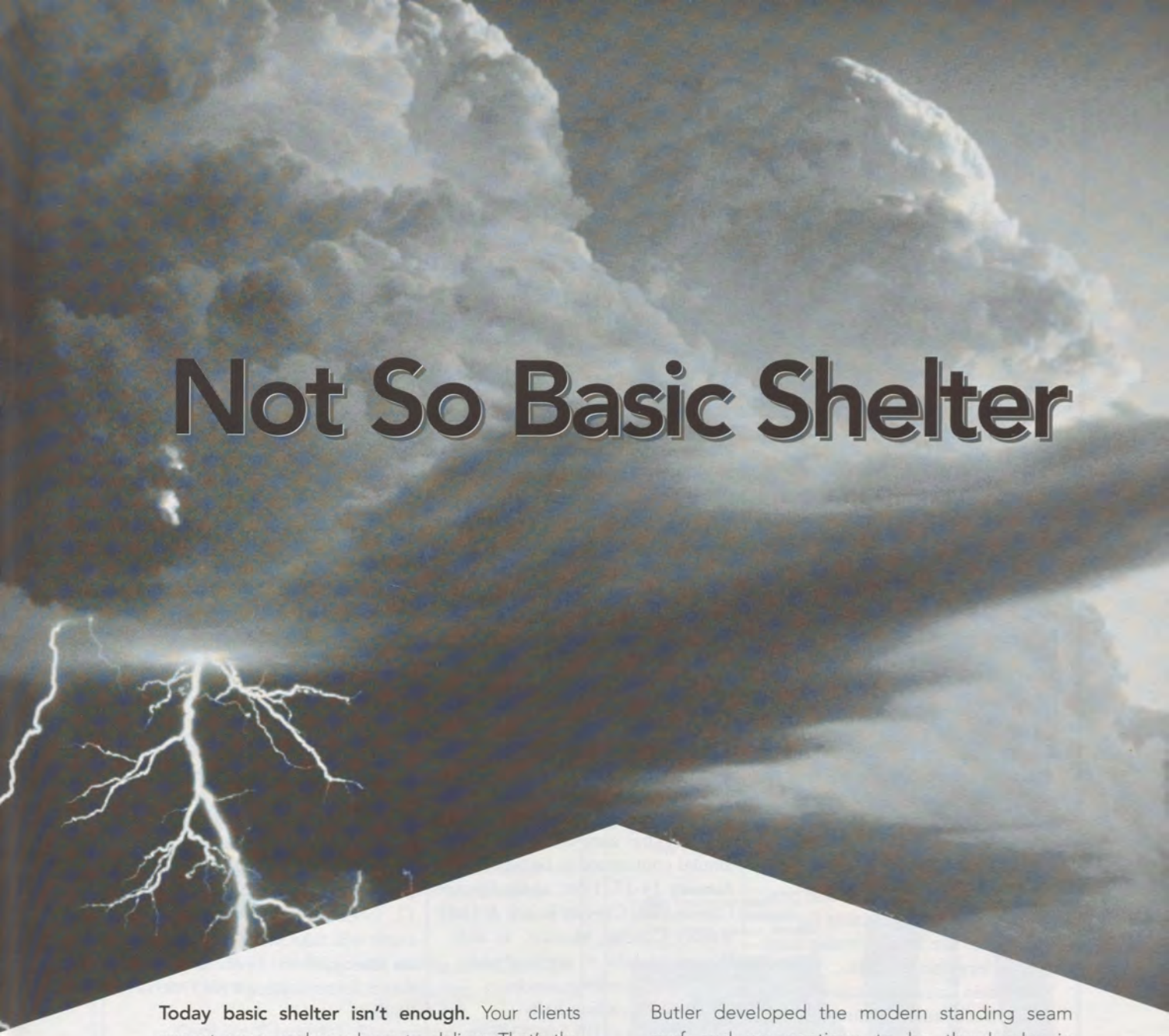
Cette association canadienne ce forme après presque un an de réunions, de correspondance continue, de révisions aux règlements administratifs, d'autres réunions et enfin grâce à un appui énorme de membres canadiens et de membres futurs de RCI, àpres une campagne dirigée à travers le Canada.

A present, l'association canadienne fera partie de la Region Une et de son Directeur Mr. Joe Heidt, RRC. Joe appui grandement cette association régionale et sera présent à la reunion officièlle marquant la formation du conseil d'administration de l'association canadienne. Joe est aussi en faveur d'établir une Région canadienne, qui sera presentée à la réunion d'été du Conseil d'administration à Richmond en Virginie.

Entre temps, l'élection des administrateurs pour les postes créés par la formation de l'association régionale canadienne procedera d'ici peu. Une liste des élus sera publiée dans l'issue de juillet de l'*Interface*. Toute personne intéressée à devenir membre de RCI et/ou RCI Canada ou volant donner de leur temps à l'association régionale canadienne sont priés d'entrer en communication avec:

CANADIAN CHAPTER STEERING COMMITTEE
c/o Jean-Guy Levaque
86 Main Street, Suite 603
Dundas, Ontario L9H 2R1
Phone/Fax (905) 628-5115

Steering Committee (l-r):
Jean-Guy Levaque, Secretary/Treasurer;
Douglas Fishburn, Chairman;
Albert Duwyn, RRC, RCI Liaison



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Butler roof systems cover more building area than any other metal roof system, and they're not limited to pre-engineered buildings. In fact, Butler roof systems are growing in popularity for re-roof and retrofit jobs because of their weathertightness, low maintenance requirements and proven longevity. And they've become an attractive and functional design option for new conventional construction.

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Industry Briefs

ISO Building Code Effectiveness Grading Program Approved

Insurance regulators in Florida, North Carolina, and South Carolina have approved insurer use of the Insurance Services Office (ISO) Building Code Effectiveness Grading Schedule. The building code schedule lays out criteria for grading how well a community enforces its building code requirements. The grading is based on resources a municipality applies to building-code enforcement, with special emphasis on reducing losses from natural hazards common to the above three states. That information will provide an additional variable for insurers to use in developing rates and underwriting criteria. The three main activities examined by code-effectiveness grading are administration of codes, building-plan review, and field inspection. For more information, contact ISO at (212) 898-6609.

SPI/PFCD Seminars

A seminar for buyers and specifiers of roofing projects that examines ways to reduce risks and costs while increasing the performance of facility systems will be sponsored this year by the Polyurethane Foam Contractor's Division of the Society of the Plastics Industry, Inc. The seminar, entitled "Performance Based Procurement: Buying and Maintaining Roofs in the 21st Century", will be presented by Dean Kashiwagi, Ph.D., PE, of Arizona State University, and is planned for various dates and locations during the fall of 1995. Call PFCD at 800-523-6154 for more seminar information.

RCMA Conference Planned

The Roof Coatings Manufacturers Association (RCMA) has announced its 1996 annual conference to be held January 14-17, 1996, at the Westin Caesar Park Cancun Beach & Golf Resort, Cancun, Mexico. In addition, a calendar of regional and committee meetings can be obtained by calling Sally Choquette at (410) 546-3338 or Joe Hobson at (301) 230-2501.

RIEI Seminar

The Roofing Industry Educational Institute will conduct its four-day seminar "Roofing Technology" in Denver, CO, August 15-18, 1995. The fee for this seminar has been reduced from the usual cost of $895.00 to $750.00. Details are available by calling Susan Kaminski at (303) 790-7200.

GenFlex Product Designed for Wind Uplift

GenFlex FRM, an EPDM reinforced membrane, is designed to provide exceptional performance in situations that require superior tensile strength because of strong wind uplift conditions. Call 800-443-4272 for information about GenFlex products.

Restoration Show

Restoration, the largest preservation exhibition and conference in North America, will take place in San Francisco on December 10-12, 1995. The next winter/spring event will take place in Baltimore on March 17-19, 1996. For further information, call (617) 933-9699.

Skylight Screens Available

Saf-T-Screens Inc. has announced the opening of its new galvanizing and production facility for the Skyscreen Fall Protection Systems. Increased demand for these systems was due both to the new OSHA-mandated fall protection, as outlined in the Federal Register last August, and to the ease of application in both new and retrofit construction.

Call John Kovacs at (210) 530-0202 or Roy Schauffele at 800-524-2722 for more information about skyscreen systems.

Wind-Rite Demo Disk

A demonstration disk that shows how the Wind-Rite software program is used to grade structure's wind resistance is available from the Insurance Institute for Property Loss Reduction (IIPLR). Wind-Rite was developed by IIPLR in cooperation with Texas Tech University to assist in evaluating a property's loss potential from wind peril. For information about either the demo disk or Wind-Rite, call IIPLR at (617) 722-0200.

Carlisle SynTec Systems

"The Leader in Single-Ply Roofing Systems"

Only Carlisle can provide the level of expertise and commitment that comes with 30 plus years of experience in single-ply roofing. Carlisle is dedicated to serving the needs of roofing consultants, architects, specifiers and, ultimately, the authorized applicators.

"Experience is the Carlisle Difference"

When you specify the Leader, you can rely on the experience and support of the best team. Every Carlisle roof is backed by first class workmanship, from start to finish. Carlisle people lead the way in research and development, marketing, manufacturing, design assistance, distribution, application and inspections.

Over the years, Carlisle has met industry's needs with 4 billion square feet of membrane sold and nearly 150,000 projects warranted world wide.

Carlisle - "First in Training"

Carlisle believes better-informed roofers install better roofs. Training seminars are conducted at the main headquarters and at regional locations throughout the country for the authorized applicator. In addition to applicator training, Carlisle hosts Roofing Design Conferences for architects, specifiers and roofing consultants. These training programs include an exceptional exchange of information and ideas among roofing professionals at every level.

"The Carlisle Difference"

State-of-the-Art Roofing Systems

- Fully-Adhered
- Ballasted
- Mechanically-Fastened
- Metal Retrofit
- Heat Welded Systems
- Architectural Metal Roofing

Highest Quality EPDM Membrane

- .045 and .060 inch thick
- Reinforced and Non-Reinforced
- Black and White-on-Black
- 10 foot wide seamless membranes available for Adhered and Mechanically-Fastened Roofing Systems to reduce field splice intersections
- 20' and 25', .060 inch thick non-reinforced EPDM for Adhered Systems to reduce field splices

Complete Line of Accessories to Offer Optimum Protection by a Single Source

- Fasteners with excellent backout resistance
- FM Approved Edging/Coping designed for winds up to 120 MPH
- SecurSeam® technology with In-Seam Sealant™ and contact adhesive or splice tape
- Adhesives, sealants, primers and cleaners that meet new low V.O.C. regulations
- Full line of insulation available for Total System Warranties

System Warranties

- Availability of 5, 10 and 15 year with no-dollar limit
- A 20 year Membrane Material Warranty is also available.
- Wind speed coverage from 55 up to 120 MPH

The Quality Difference

- Full line of UL and FM Code Approvals
- Dedicated Research and Development Facility
- Professional Design and Technical Staff
- Best Trained Roofing Applicators
- Toll Free Access to Computerized Design Database

FOR FURTHER INFORMATION CONTACT:
P. O. Box 7000
Carlisle, Pennsylvania 17013 USA
In USA: 1-800-4-SYNTEC extension 7148
FAX In USA: 717-245-7053
In Canada: 1-416-564-5557

CARLISLE
Carlisle SynTec Systems

Education Update

RCI Summer/Fall Educational Courses

Course Dates and Locations

Basic Roof Consulting Course
July 13-15, 1995
Chicago, IL
Baltimore/Washington area

Oct. 19-21, 1995
Baton Rouge, LA
Seattle, WA

Advanced Roof Consulting Course
Sept. 14-17, 1995
Chicago, IL
Baltimore/Washington area

Dec. 7-10, 1995
Baton Rouge, LA
Seattle, WA

In addition, the above courses will be given during summer in Birmingham, Alabama, and at Virginia Polytechnical Institute. Call RCI for more information.

Course Fees

The following fees apply for early registration (at least two weeks prior to beginning of course). Later registrants please add $50.00 to fee.

Basic Roof Consulting
$500 for RCI members
$550 for nonmembers

Advanced Roof Consulting
$600 for RCI members
$650 for nonmembers

Course Information

Basic Roof Consulting: This course offers three days and two nights tackling such problems as wind, drainage requirements, and thermal and moisture migration detection. Also included are topics on moisture testing, low-slope roofing, chemistry, fire containment, inspections, product and system testing, asbestos and ACRM issues, ethics, and accepted practices. Course concludes with an exam intended to provide immediate feedback to the student. Offers 2.0 CEUs (80 learning units to AIA members).

Advanced Roof Consulting: For further development and exploration, this course offers four days and three nights of instruction and problem solving in the following areas: wind, drainage requirements, thermal and moisture migration and detection, structural decks, flashing details, below-grade waterproofing, plans and specifications, warranties, roof systems, practical considerations, and steep roofing. The course concludes with an exam intended to provide immediate feedback to the student. Offers 3.0 CEUs (114 learning units to AIA members).

RCI is an approved AIA Registered Provider of Continuing Education System Credits. AIA members should bring their membership number to all courses.

Textbooks for all three courses may be purchased separately. Call RCI for more information about either the courses or the texts.

Registration Update

Registered Roof Consultant Exams

The Registered Roof Consultant (RRC) exam will be administered on the following days:
September 17, 1995, in Chicago, IL; Baltimore/Washington area.
December 10, 1995, in Baton Rouge, LA; Seattle, WA

This exam is offered only to those whose RRC applications have been submitted to RCI and approved. Please call RCI Headquarters to receive an application form or for more information regarding eligibility and fees. Allow about eight weeks for processing of your application. The Advanced Roof Consulting course is not preparatory to the RRC exam nor is it part of the registration process.

Some people were born to lead nations.
Others, to lead sports teams.
We were born to blaze a trail in heat-weldable roofing.

Call it destiny, but while the competition was experimenting with glues, tapes and other seaming methods, we at Stevens were busy pioneering only heat-weldable, reinforced rubber roofing. Why? Because heat welding is, quite simply, the most reliable seaming method there is. Which helps explain why over the last 15 years, nearly one billion square feet of Hi-TUFF® have been installed worldwide. For more on **Hi-TUFF/EP** or Hi-TUFF/Hypalon, call us at **800-621-ROOF.** Besides, when you can go with the undisputed leader, why risk it with anyone else?

STEVENS Roofing Systems™

We Need Roof Consultants!

Martin Riley Mock architects/consultants in Fort Wayne and Indianapolis, Indiana, is looking for roof consultants to join our progressive and growing staff. RRC and 5-10 years of experience preferred. Contact John Riley at:

(219) 422-7994

Roof Consultant Wanted

Allana-Lippert, Inc., Northern California's leading architectural-engineering firm, specializing in building envelope technology, is seeking an experienced individual. Person must be technically knowledgeable in roofing and waterproofing systems with the commercial, multi-family residential, or industrial sectors. Architectural license, professional engineering license, Registered Roof Consultant or Registered Roof Observer is a plus.Excellent pay and benefit package, commensurate with experience.

Please call Barbara Davis at:

(800) 378-3405

or fax resume to:

(408) 955-9054

Wanted: Used Roofing Slate

Vermont and/or Pennsylvania. In good condition. Contact Leeland's Slate Roof Repair at:

(717) 627-4884

Don't Throw it Away!

That old magazine, textbook, research paper, code book, manufacturer's manual, or newspaper clipping may have outlived its usefulness for you, but it might be golden to RCI.

Our Information Central library provides an important service to the roofing industry by acting as a clearinghouse of roof-related information, by cataloguing reference material, and by offering assistance to the public on a wide variety of related topics.

Help Us Fill the Gap

We routinely receive inquiries and requests for roofing-related information, both old and new. We always try to answer these requests . . . but sometimes we don't have the resources. That's where you can help. Send us any catalogs, photos, slides, books, or magazines that you're cleaning off your shelves. If it's information, we can use it!

Interface Editorial Guidelines

General Guidelines

Interface is a monthly journal which features technical articles on a wide variety of roofing- related topics. All articles submitted are subject to a peer review process. This process gives an author several advantages and provides an initial reader reaction. Rebuttals desired by the author can then be integrated into the text prior to actual publication. *Interface* seeks technically meritorious articles rather than those which would serve commercial interests.

- Submissions should be typed, double-spaced, and one-sided.
- There are no length restrictions; however, typical articles range between 500 and 2,000 words.
- Photos should be black and white glossy prints, clearly labeled. Color photos or slides will be accepted. Photos will be returned upon request.
- Illustrations should be camera-ready or print quality originals.
- Peer-reviewed manuscripts may be submitted on computer diskette using IBM compatible MS-DOS format usable or convertible by Word Perfect 6.0.
- Footnote references serve to enhance a manuscript's professionalism and credibility. Footnotes should follow accepted documentation practice.
- The published article will include a byline, a short biographical sketch, and the author's photo if one is available.

Additional Categories

All of the following are subject to editorial review for length, style and content.

- Project descriptions for unique or challenging roofing projects will be considered for publication.
- Articles on topics such as finance, legal issues, environmental concerns, and business management are routinely published.
- *Interface* carries a "Contractor's Column" which features timely and relevant topics from the contractor's point of view.
- Press releases about events, services, and products are published as space allows in an "Industry News" column.
- *Interface* welcomes letters to the editor about any issue of concern to the Institute or the roofing industry. Letters must be signed and include a return address and telephone number.
- *Interface* is always looking for quality front cover photos and illustrations. All submissions will be considered and, depending on space, a brief description of the photo will be published inside the magazine.
- Additional feature columns may be developed based on readers' interests and needs. *Interface* welcomes all ideas and suggestions.

Interface is written by, for, and about those interested in roofing technology. *Interface* eagerly seeks innovative ideas, topics for articles, and suggestions for improvement. The cutoff date for text (peer-reviewed and otherwise) is approximately eight weeks prior to the month of issue. Send your inquiries, ideas, suggestions and manuscripts to RCI, attn: Editor, 7424 Chapel Hill Road, Raleigh, NC 27607 • Tel 800-828- 1902 • 919-859-0742 • Fax 919-859-1328

RCI Publications ✦ Order Form
Education • Technology • Professional Development

GLOSSARY OF TERMS
Contains over 100 pages of easy-to-understand definitions for approximately 500 of the most common architectural, engineering, and technical terms found in the roofing industry. Illustrations are used alongside terms to clarify and elaborate the definitions. Contains six full- page illustrations detailing roof components and assemblies. Includes hard copy of RCI's "Standard Symbols for Roof Conditions and Components". Member price: $40; nonmember price: $50 (Reduced rates for multiple order. Call RCI for more information.)

STANDARD SYMBOLS (FOR ROOF CONDITIONS AND COMPONENTS)
Created in response to the need for standard identifying marks that allow quick reading of roof plans, RCI's symbols communicate conditions and components with ease and clarity. The document contains 98 symbols comprising 14 categories. Examples of categories are "Roof Conditions", "Cores/Moisture", "Penetrations", "Perimeters", and "Air Handling Equipment Ducts". Symbols are available on diskette as an AutoCad file. Member price for AutoCad file: $30; nonmember price: $40. Also available in hard copy on one 8 1/2 x 11 size page (also contained in the Glossary of Terms). Member price for page: $10; nonmember price: $15.

TEXTBOOKS
Each of the following three texts is distributed at the respective RCI course. Anyone who purchases a textbook and then later attends the corresponding course may receive a discount off the cost of that course at a rate determined by RCI.

1. Basics of Roofing
The text is designed for those with little or no prior roofing knowledge and covers the following topics: history of roofing; roof design principles; non-roof leaks; roof inspections; testing for moisture; and choosing the best roof. The topics presented are particularly helpful to building owners and managers, government employees, insurers, general contractors and engineers, and anyone who wants to learn about roofing technology. Contains a glossary of terms and a directory of relevant organizations and associations. Member price: $75; nonmember price: $90

2. Basic Roof Consulting
The text contains up-to-date study materials for roof consultants, designers, specifiers, and professional contractors. Covers topics such as low-slope roofing, wind problems, drainage requirements and recommendations, asbestos and ACRM, testing and inspection, and other relevant topics. Contains a glossary of terms and a directory of relevant organizations and associations. Member price: $125; nonmember price: $140.

3. Advanced Roof Consulting
This text reviews and expands on several topics covered in Basic Roof Consulting, but also includes new topics such as flashings, warranties, core cuts, and below grade waterproofing. The material is designed for the serious professional and represents a substantial commitment of time and effort. Member price: $125; nonmember price: $140.

INTERFACE
This journal is intended primarily to educate and inform interested persons about the roof consulting profession. Interface establishes a common ground for discussion; promotes Institute programs; features technical papers; provides current industry and institutional news and announcements; and includes helpful financial, business, and legal columns. The cost of Interface is included with the price of RCI membership. Gift subscriptions or subscriptions for nonmembers cost $35/year.

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Above prices reflect cost plus domestic shipping & handling via UPS ground. North Carolina residents add 6% sales tax. Shipping charges for international orders will be invoiced. Make checks payable to **Roof Consultants Institute (RCI)**; *return completed form to . . .*. 7424 CHAPEL HILL ROAD, RALEIGH, NC 27607 • 800-828-1902 • 919-859-0742 • Fax 919-859-1328

CALENDAR

May 1995

25

Region 4 Meeting
Call Chris Clarke - 214-980-3733
Dallas, TX

June 1995

12-14

WSRCA Annual Convention and Tradeshow
Call Western States Roofing Contractors Assn - 415-548-0112
Las Vegas, NV

22

Region 5 Meeting
Ethylene/Propylene Single-Ply Systems with Panel Discussion
Call Nick Lovato - 303-741-6020
Denver, CO

23-25

CSI Convention and Exhibition
Call Construction Specifications Institute - 703-684-0300
Minneapolis, MN

July 1995

13-15

Basic Roof Consulting Course
Chicago, IL • Baltimore/Washington area

September 1995

12-13

RCI Building Envelope Symposium
Ontario, CA

14-17

Advanced Roof Consulting Course
(RRC exam offered to those whose RRC application has been submitted and approved.)
Chicago, IL • Baltimore/Washington area

15

OSHA Regulatory Update
Call Nelson Hall, RRC - 704-282-0826
Raleigh, NC

Date TBA

Region 4 Meeting
Oklahoma City, OK

Mark Your Calendar

April 13-18, 1996
RCI 11th International Convention
Richmond, VA

1995 EXHIBITORS

THANK YOU!

RCI has its exhibitors to thank for an exceptionally good trade show.

2001 Company
ACCU-R EPS Program
Allied Signal, Inc.
American Cemwood
American Hydrotech, Inc.
Amoco Foam Products Co.
Apace Products Co.
ATAS Aluminum Corp.
Bakor, Inc.
Barrett Co.
Bitec, Inc.
BITUFA
Bond Cote Roofing Systems
Butler Roof Division
Cal-Shake, Inc.
Carlisle Syntec Systems
Cedar Shake & Shingle Bureau
Center For Applied Engineering, Inc.
Cemfort
Comten Industries
Conklin Co., Inc.
Construction Fasteners, Inc.
Construction Publications, Inc.
Continental Roof Systems, Inc.
Contractors's Guide
Copper Development Assoc., Inc.
Custom Curb, Inc.
Davis Aviation & Advanced Infrared Services
Direct Decks
Dow Corning Corporation
Dow Chemical Co.
Duro-Last Roofing, Inc.
Elastizell Corp. of America
Elk Corporation
Envirospec, Inc.
ES Products, Inc.
Fire Free Roofing Materials
Firestone Building Products Co.
FRY Reglet Corp.
GAF Materials Corp.
GenFlex Roofing Systems
Georgia-Pacific Corp.
Grease Guard, Inc.
GS Roofing Products Co., Inc.
Henry Company
HPG Roofing Systems
Humane Manufacturing
Insta-Foam Products, Inc.
Jim D. Koontz & Assoc., Inc.
JPS Elastomerics Corporation
Karnak Corporation
Kemper Systems, Inc.
Koppers Industries, Inc.
Lead Industries Association, Inc.
Loadmaster Systems, Inc.
Ludowici Roof Tile, Inc.
Malarkey Roofing Company
Marathon Roofing Products, Inc.
Metal Construction News
Metal Era, Inc.
MM Systems
Monier
Mule-Hide Products Co., Inc.
National Coatings Corporation
National Roof Deck Contractors Assoc.
Naturalite / EPI Skylight Systems
Neogard
Newport Fasteners
Nicolon/Mirafi Moisture Protection Products
Nord Bitumi
North American Roofing Systems
North Carolina Foam Industries
NRG Barriers, Inc.
Olympic Manufacturing Group, Inc.
Overly Manufacturing Co.
Performance Roof Systems, Inc.
Pittsburgh Corning Corporation
Plasteco, Inc.
Polyglass USA, Inc.
Polythane Systems/GE Silicone
Portable Pipe Hangers
Prospex Roofing Products, Inc.
Protecto Wrap Co.
RAC Drain Systems
Rawlplug Company, Inc.
R.K. Hydro-Vac
R-Max, Inc.
Roof Products and Systems
Roofbond Systems
Royal Roofing Co., Inc.
S.B.C. Industries
Santa Rosa Lead Products, Inc.
Sarnafil, Inc.
Schuller International Roofing Systems
Seal-Dry/USA, Inc.
Seaman Corporation
Seyforth Roofing Co., Inc.
SFS Stadler, Inc.
Single Source Roofing Corporation
Siplast
Soprema Roofing & Waterproofing
SPI/PFCD, Inc.
SPRI
Subcon Products Corp.
Sunlife Systems International, Inc.
T. Clear Corp.
Tamko Roofing Products, Inc.
Thaler Roofing Products, Inc.
The Pate Company
Topcoat
U.S. Intec, Inc.
U-Flow Roof Drain Systems, Inc.
UC Industries
Unistrut Corporation
United Coatings
Versico Incorporated
W.P. Hickman Company
Wausau Tile, Inc.
Western Roofing Magazine
Western States Roofing Contr. Association

RCI Seminars and Educational Courses

Basic Roof Consulting — 20 hrs.	
Offers 2.0 CEUs. This course meets AIA/CES Quality Level 3 criteria. AIA members will receive 84 learning units.	
July 13-15, 1995	• Chicago, IL • Baltimore/Wash. D.C.
Oct. 19-21, 1995	• Baton Rouge, LA • Seattle, WA
Covers topics such as low-slope roofing, wind issues, drainage requirements and recommendations, asbestos and ACRM, and other relevant subjects. This course concludes with an examination. Fee is $500 for RCI members; $550 for nonmembers, early registration (two weeks prior to first day of class). Add $50.00 for later registration.	

Advanced Roof Consulting — 30 hrs.	
Offers 3.0 CEUs. This course meets AIA/CES Quality Level 3 criteria. AIA members will receive 114 learning units.	
Sep. 14-17, 1995	• Chicago, IL • Baltimore/Wash. D.C.
Dec. 7-10, 1995	• Baton Rouge, LA • Seattle, WA
Reviews and expands upon topics covered in Basic Roof Consulting. Additional topics are flashings, warranties, core cuts, and below-grade waterproofing. This course also concludes with an examination. Fee is $600 for RCI members; $650 for nonmembers, early registration (two weeks prior to first day of class). Add $50.00 for later registration.	

Building Envelope Symposium — 10 hrs.	
Offers 1.0 CEU. This course meets AIA/CES Quality Level 2 criteria. AIA members will receive 20 learning units.	
Sep. 12-13, 1995	• Ontario, CA
Lectures, slides, and interactive discussion on topics related to the building exterior: leak detection, systems analysis, budgeting repairs, and others. Cost is $350.00 on or before Sept. 1; add $25 for later registration.	

OSHA Regulatory Update — 7 hrs.	
Offers 0.7 CEU.	
Sep. 15, 1995	• Raleigh, NC
OSHA enforcers review the new regulations on asbestos, fall protection, and other safety matters. Cost is $150.00 on or before Sept. 1; add $25 for later registration.	

Registration

Please make checks payable to RCI.
Complete and return to RCI .

Event	
Date	City
Name	
Street	
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Fax ( )	
Total cost US $	❍ Enclosed
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Acct #	
Signature	

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