SPRI
Board of Directors Meeting
Sheraton Suites
Rosemont, IL
April 16, 2025

Minutes

Call to Order

President Scott Carpenter called the meeting to order at 8:00 a.m. CT. The SPRI Antitrust Statement was read.*

Roll Call

Those present were:
Scott Carpenter, Anchor Products
Warren Barber, National Gypsum
Brian Chamberlain, Carlisle Construction Materials
Mike Darsch, Sika Sarnafil
Mike Giangiacomo, Flex Membrane Intl Corp
Frank Greco, IKO
Colin Griswold, OMG Roofing Products
David Hawn, Dedicated Roof & Hydro-Solutions
Matthew Hollingsworth, G-P Gypsum
Al Janni, Duro-Last
Jim Kirby, Siplast
Chris Mader, Better Built Systems
Walter McIntosh, Holcim
Matt Mitchell, The Garland Company
Caroline Showers, Tremco
Ryan Van Wert, Seaman Corporation
Steve Wadding, Polyglass USA Inc.
Ted Young, GAF

Guests present were:
Brandon Carrasco, Unirac
Stephen Childs, GAF, SPRI Tech. Comm. Chair
George Howell, Martin Marietta
Mario Ibanez, Seaman Corporation
Dylan Langer, Tremco CPG Inc.
Bob LeClare, ATAS International
Chris Meyer, VaproShield
Bob Reel, H.B. Fuller
Michelle Sluga, UL

Staff present
Chadwick Collins, SPRI Technical Director
Linda King, SPRI Managing Director
Michelle Miller, Creativate
Carl Silverman, SPRI Legal Counsel
Cindy Tulimieri, Association Manager

Welcome

President Carpenter reported that there were 80 SPRI Members in attendance for the quarterly meetings including 7 new participants. He thanked Chadwick Collins for the Task Force Training session held on April 15 and the participants of the Strategic Planning session held Monday, April 14. As the Strategic Planning Committee begins its forecasting process, those present were encouraged to share their suggestions of future goals.

SPRI had a strong presence at Roofing Day in D.C with 47 Members participating. He noted that the next Quarterly Meeting will be held on October 21-23 in Cleveland, OH.

***SPRI Antitrust Statement:** SPRI complies with antitrust laws and requires participants in its programs to comply with antitrust laws. Discussions which could affect competitive pricing decisions or other competitive factors are forbidden. There may be no discussions of pricing policies or future prices, production capacity, profit margins or other factors which may tend to influence prices. In discussing technical issues, care should be taken to avoid discussing potential or planned competitive activities. Members and participants should be familiar with the SPRI Antitrust Policy and act in conformity with it.

The Impact of Internal Building Pressurization on Commercial Roofing Systems

Proper internal building pressurization is not only crucial for managing indoor air quality, maintaining occupant comfort and well-being, and maximizing the building's energy efficiency, but also for managing the performance and life-expectancy of the commercial roofing system. Understanding how internal building pressure affects roofing is essential for ensuring long-term and efficient roofing performance.

Building Pressurization and How it Works

Building pressure refers to the difference in air pressure between the inside and outside of a commercial structure. Building pressurization can be intentionally designed as part of the building envelope or can be the unintentional result of environmental or design issues. In some cases, building designers intentionally design for slight positive or negative pressure to achieve a desired internal environment. Cleanrooms, for example, can be designed with either positive or negative pressure, depending on the applications. Cleanrooms with high positive pressure inside are designed to keep air and contaminants from migrating to the inside.

In a positive internal pressure environment, fresh air is forced or brought into the structure with fans or mechanical means, and allowed to exit the building through louvers, doors, windows, or vents. Since the pressure inside is greater than the pressure outside the building, air is 'pushed out,' through openings (i.e., windows, doors, vents,) as well as through openings and separations in the envelope. This prevents outside air or particles from coming into the building and potentially impacting occupants, products, or processes. In short, positively internally pressured buildings 'push' air out of the structure to prevent outside contaminants from coming in.

The opposite is true in a negative internal pressure environment, where the inside pressure is less than the outside pressure. In this scenario, fans or mechanical equipment are used to evacuate air from the building that is coming in through doors, windows, vents, or louvers. This process to exhaust air from the building or from specific areas of the building to remove odors, chemicals, dust, etc., creates a reduced internal pressure within the structure that essentially 'pulls' air into the structure through openings in the building envelope.

It's important to note that many commercial buildings require both positive and negative pressure areas to address various processes and applications and must have mechanical systems designed specifically for the application. However, it is also possible that the building envelope is not properly designed for the building pressures it experiences in service.

There are four primary elements that impact the pressure differential in buildings: the stack effect, temperature, wind, and mechanical pressurization.

Stack Effect

The stack effect occurs when warm internal air rises inside a building. The warm air in the upper portions of the building increases the internal pressure in those areas, and simultaneously the internal pressure is decreased in the lower portions of the building. Typically, the stack effect is more prominent in high-rise buildings.

When warm air inside a building rises within the structure, a low-pressure area is created in the lower portion of the building. The low pressure in the lower portion of the building draws in external air. The higher pressure area inside the upper portion of the building pushes air to the exterior effectively pushing the warmer air, up and out of the upper floors of the building, through leaks or cracks in the envelope such as at the deck to wall joints, and penetrations through the roof.

The opposite happens in the lower portions of a building, as the cooler air creates a low-pressure area on the lower flows, which draws air from outside into the structure.

Buildings can have several different areas that act as chimneys and are affected by this type of air movement, including elevator shafts, stairwells, mechanical chases, garbage chutes, as well as space behind various types of cladding.

Addressing vertical air movement is primarily a design challenge. Owners and facility managers should work with a design professional to address this issue and ensure that stairwells, elevator shafts, and other floor openings are properly sealed to minimize air movement through the structure, and ultimately into the roofing assembly.

Moisture laden air can travel into the roofing assembly through deck-to-wall joints, gaps around penetrations into or through the roofing assembly, as well as through voids in the deck. Once in the assembly, the moist air can become trapped due to the impermeable roof membrane or cover. When this happens, condensation may occur, and if temperatures are below the freezing point, ice may form under the roof membrane within the roof assembly. If ice forms from condensation, when the ice melts, it can drip into the building and may create detrimental effects to components within the roofing assembly, and/or on the inside of the structure. The higher the level of interior relative humidity and the greater the temperature differential between the interior and the exterior of the building, the more moisture will collect, and the bigger the problem. In addition, biological growth can occur, causing other issues and

potentially even long-term health problems for the building occupants. The use of air barriers at the roof deck can be effective at reducing the potential for warm, moist air to move from the interior into the roof assembly. Air barriers, to be effective, need to be well sealed at perimeters and penetrations.

In addition, well-designed roofing systems should incorporate air barriers and/or vapor retarders and adequate insulation materials; and well-designed structures should be properly ventilated to regulate temperature and moisture within a building in order to reduce the strain on the roofing structure, and minimize the risk of developing moisture from condensation in the roofing assembly.

Temperature

Warm air moves to areas of colder air. During cooling months, warm exterior air wants to move through the building enclosure into the interior where the air is cooler. The opposite is true during heating months where the warm internal air wants to move through the building enclosure to the exterior where the air is cooler. When warm air moves into a building, the building can be positively internally pressurized, and when warm air moves out of a building, the building can be negatively internally pressurized.

The effects of temperature are relatively small compared to stack effect, wind, and mechanical pressurization.

Wind

It may be obvious, but wind can be a significant contributor to pressures the building will experience in service. This includes both internal and external pressures, which are well known and understood by the design community and are generally not a major issue. Both types of pressure are included in building design practices when designing in accordance with model building codes and generally do not create many issues unless the building has very unique design characteristics.

Mechanical Pressurization

Controlling air-infiltration may be adequately addressed by proper design of mechanical equipment such as HVAC and air handling units, calibrated to provide a larger quantity of incoming outside air than the amount of internal air being evacuated from the building. This will result in a positively internally pressurized building. Improper or ineffective maintenance of mechanical equipment can also cause issues, in terms of air volume.

Pressurization Sources Not Accounted for in Basic Wind Design

Properly designed and installed HVAC systems are calibrated specifically for the building in which they operate. The past few years have reinforced that wherever groups of people spend time together in enclosed and dedicated spaces, airborne germs and particulate matter can spread diseases such as COVID-19. As a result, many building owners and facility managers have adjusted HVAC systems to increase filtration of internal air and bring in larger quantities of external air, in an attempt to remove 'dirty' air from the facility. This has resulted in an increase in internal building pressurization, which has been shown to have negative effects on roofing system performance and longevity in some cases.

SPRI recommends building owners and facility managers work closely with qualified HVAC engineers to follow industry guidelines and best practices from reputable sources, such as ASHRAE, when adjusting HVAC systems looking to increase internal air turnover and filtration.

Designing for Building Pressurization

Commercial roof assemblies, which typically include the deck, insulation, coverboard and waterproofing layer, play an important role when it comes to internal building pressure. Unfortunately, all too often, roofing membrane manufacturers are called in after the fact to identify and address problems caused by improper ventilation and condensation in the assembly.

Vapor retarders and air barriers used in the roofing assembly – particularly in cooler climates -- are designed to prevent moisture and air, respectively, from moving freely from the interior of a building to the roofing system. Reducing air and moisture intrusion into a roof will reduce the possibility of condensation in the roofing assembly. The roofing industry uses the term "vapor retarder" colloquially to mean the membrane that reduces or prevents moisture and air movement. The term "air barrier," by contrast, is typically used by the wall industry to mean the membrane that is used to reduce or prevent moisture and air movement.

To be effective, the location of the 'vapor retarder' within the roofing assembly is an important consideration. For most commercial applications, vapor retarders are typically installed under the roofing insulation, where it is 'warmer' than the outside air temperature and dew point. Preventing warm, moist interior air from reaching the dew point location means condensation will not occur within the roofing assembly.

Roof system vapor retarders should also be connected to the air barriers in the walls to prevent air movement through the roof-to-wall transitions. Roof system vapor retarders should also be sealed around roofing penetrations to prevent air movement. This type of detailing can help to

regulate the indoor climate by preventing air and related moisture from transferring from the interior to the exterior of the building or from the exterior to the interior.

Exterior air barriers are available in several configurations including sheet membranes that are either mechanically attached, fully adhered, or self-adhered. They can also be liquid applied membranes, sheets of polyethylene, foil covered products, or bituminous in nature.

In addition, some roofing materials can manage moisture and air-infiltration better than others. It's always best to work with the roof system manufacturer and a qualified roof system designer to select the proper products and design the roof assembly that best meets the specific needs of the facility.

When addressing pressure issues and the roof assembly, it's particularly important that the system details, particularly at the air and vapor control layer, are handled properly and with care. Furthermore, it is imperative to ensure that the vapor retarder is properly sealed at all penetrations and openings to avoid creating an open pathway for moisture and air migration. Air movement in any areas not detailed properly can result in poor roof performance and a shorter life expectancy.

Change is Inevitable

In a report published by Statista.com, the size of the commercial property remodeling market in the United States reached $51 billion in 2022. With this continued expansion of building re-use and adaptation it is important that building owners and facility managers recognize the potential impact that changing a building's use can have on the facility's internal air pressure and the roofing system. Buildings repurposed to include industrial processes for which they were not originally designed, such as processing food, distilling liquor and, housing industrial painting processes, etc., can increase internal building pressures and potentially change internal moisture conditions that impact internal air quality. All of which can negatively impact the performance of the roofing system.

On motion duly made, the Board approved, without objection, the minutes of the January 18 meeting of the SPRI Board of Directors as distributed.

Membership

Legal Counsel Carl Silverman reported that SRS Distribution did not respond to his request for confirmation that the SPRI Membership for SRS was for its corporation overall, or merely for the one branch listed on SRS's application. Another request for confirmation will be sent.

Clavos Nacionales (CN) responded to the SPRI request for clarification of its corporate structure with multiple documents, some in English and others in Spanish. The known information was discussed at length, noting that it appears that the company is a manufacturer of roofing fasteners and is not affiliated with an installation company. On motion duly made, with fourteen (14) votes in favor, four (4) opposed, and zero abstentions, the SPRI Board approved the Associate Member application of CN contingent upon the clarification of the relationship between CN and Chris Szymanski at Ace Screws.

Membership Committee Chair Ryan Van Wert reported that there was discussion of the SPRI membership dues structure at the Strategic Planning session on how SPRI might mitigate the risks of industry consolidation. Those present were invited to join the Membership Committee to share additional ideas on the future SPRI Membership structure.

Financial Report

Treasurer Mike Darsch reviewed the February year end finance report. He noted that the SPRI investments have been moved from Vanguard to American Funds and are now being managed to provide income through low-risk investments.

Legal Update

SPRI Legal Counsel Carl Silverman reported that during the last quarter there have been no legal actions against SPRI, nor has SPRI initiated any legal actions against any other entities. His activities during the past quarter included: attending various meetings, reviewing minutes; drafting correspondence for various SPRI membership applications; preparing and participating in the Strategic Planning session, and the preparation of the SPRI tariff letters.

Technical Director Update

SPRI Technical Director Chadwick Collins reported that during the last quarter he has represented SPRI at several industry events and presented at the LPI conference and to the Tennessee Roofing Contractors. He has spent time building various tools and platforms to assist SPRI in its decision-making process. He continues to participate in various industry meetings with RICOWI, IIBEC, CRRC and Roofing Day. He participated in the development of the SPRI tariff letters, gathering and analyzing the appropriate data to support the relief requests. He, along with Michelle Miller, are developing various branding projects and considering the options for the replacement of the SPRI wind design calculator.

Technical Committee

On motion duly, with no objection made, the BPT-1 Task Force was created. Chris Mader has agreed to serve as Task Force Chair.

On motion duly made, with no objection made, theFX-1 Task Force was created. Dan Allen has agreed to serve as Task Force Chair.

On motion duly made, with no objection made, IA-1 TF was created. Colin Griswold has agreed to serve as Task Force Chair.

On motion duly made, with no objection made, the Mental Health in the Industry Task Force was created. Joel Stanley agreed to serve as Chair with Lynsey Hull as Co-chair.

On motion duly made, with no objection, the Bulletin 1-13 (PV Ready) Review Task Force was created. Brandon Carrasco agreed to serve as Chair.

On motion duly made, the following objective statement for the BPT-1 Task Force was accepted: The ANSI/SPRI 2021 BPT-1 Standard will be reviewed, revised if necessary, and recanvased for approval as an ANSI standard.

On motion duly made, with no objection, the following objective statement for the BPT-1 Task Force was accepted: The ANSI/SPRI 2021 BPT-1 Standard will be reviewed, revised if necessary, and recanvased for approval as an ANSI standard.

On motion duly made, with no objection, the following objective statement for the FX-1 Task Force was accepted: The ANSI/SPRI 2021 FX-1 Standard will be reviewed, revised if necessary, and recanvased for approval as an ANSI standard.

On motion duly made, with no objection, the following objective statement for the IA-1 Task Force was accepted: The ANSI/SPRI 2021 IA1 Standard will be reviewed, revised if necessary, and recanvased for approval as an ANSI standard.

On motion duly made, with no objection, the following objective statement for the Rooftop Equipment Task Force was accepted: Develop a consensus standard to evaluate physical capabilities of attachments for securing rooftop equipment, using the SPRI template for standards & using the FM 4481 as the starting point.

On motion duly made, with ten (10) votes in favor, five (5) votes opposed, and one (1) abstention, the following definition of resiliency was accepted as presented:

> Roof system resilience anticipates a level of adverse climatic conditions exceeding minimum code requirements and is provided by designing and planning a roof system, including proper maintenance during operational use, that to have capabilities above current code requirements.
>
> Resiliency (noun), as it relates to low-slope roofing systems, is defined as: the capability/ability to absorb and continue to perform after adverse climatic conditions occur, including but not limited to rain, wind, hail, fire, and/or unanticipated climatic phenomena, or any otherwise disruptive event above what the commonly intended purpose is or above what is reasonably expected to withstand, as defined by code minimums.
>
> A resilient roof system will continue to be functional for the purpose of protecting human life and well-being, protect and maintain building contents, and allow a reasonable level of uninterrupted use of a building or facility with little or no repairs to the roof system.

On motion duly made, the Spri Board unanimously accepted the Internal Pressure document with three editorial changes (removal of the noted to the Chairs, removal of the graphic on the last page, and changing the term vapor barrier to vapor retarder throughout the document.

Technical Committee Chair Stephen Childs reported that several Task Forces have completed their objectives.

- On motion duly made, with no objection heard, the WD-1 Task Force was disbanded.
- On motion duly made, with no objection heard, the resiliency Task Force was disbanded.

Member Services Update
Chair Al Janni, reported that the presentation by Matt Dupuis received had mixed reviews by SPRI Members. Suggestions for a July speaker are being sought.

Annual Conference
Bob Reel reported that the 2026 IRE has been rescheduled to the week immediately following the SPRI Annual Conference. Staff are contacting the Lowes Ventana Canyon to determine if there is a chance of rescheduling SPRI's conference to February. The speakers for 2026 have all been secured and the golf tournament will be on-site.

Education
Brian Chamberlain reported that Matt Hollingsworth has volunteered to be Co-Chair and Jason Stanley has also joined the Committee. Planning for the 2026 Wind Design Seminar is progressing with plans to develop a workbook to provide more hands-on work.

PVC Document
Chadwick Collins reported that the PVC document distributed prior to the meeting was the document that had been previously approved by the SPRI Board with the addition of the requested 3 changes. The document will be posted to the SPRI website under the White Paper Resources section and a Linkedin post announcing its availability is being prepared. Additional promotion of the document is being considered. On motion duly made, with sixteen (16) votes in favor and zero objections or abstentions, heard, the PVC document was approved as presented pending review by SPRI Legal Counsel.

Promotion/Digital
Michelle Miller reported that the Committee has created a roster of blogs for the coming year. The Marketing Program, held last October, may be included in the October 2025 schedule.

Statistics
Scott Carpenter reminded those present that the SPRI Statistics reports are confidential and are not to be shared outside of the SPRI Member Company under any circumstances. He noted that recent delays were the result of the change in management of ARI to Industry Insights, the implementation of a new reporting portal and the change to monthly reporting by state. Ms. King will contact Industry Insights on the status of the Annual report by region and application method as well as the roof board report. Mr. Collins reported that he will meet with ARMA to ensure that the modified bitumen reporting categories are in agreement.

Concern was expressed over the continued delay in the roof board reporting. Ms. King noted that if she is notified of a delay, she can work with Industry Insights and contact the tardy Member Company's Board representative.

Promotion/Digital
Michelle Miller reported that the Committee is working to maximize the use of all promotion channels. The Roofing Day infographic is being posted to the SPRI website and will be included in the next What You Need to Know newsletter. The Marketing Session will be held at the October meetings. A new SPRI Member Spotlight is being implemented.

New Business
Chadwick Collins reported that he is developing a tool to capture historic shipment data that will allow SPRI to use the data better.

Jim Kirby requested clarification on the approval process for SPRI- sponsored code changes, particularly in regard to the recent WD-1 proposal. In the absence of Amanda Hickman, further information will be gathered and reported back to Mr. Kirby and to be available for other Board members.

Clarification was provided on how the Task Force attendance reports are used to prepare the attendance lists for the minutes as well as the development of the Task Force lists.

It was noted that meeting agendas, minutes and documents for review or approval should be provided to the SPRI Members prior to the meetings with enough time for review. The challenges of getting material in advance were noted but it was agreed that there should be more awareness of the responsibility of timely submission of documents. Mr. Collins noted that he will create a PowerPoint Template for the Task Force Chairs to use in preparing for the meetings.

Adjournment
There being no further business, the meeting adjourned at 10:30 a.m. CT.

Submitted by: Linda King, Managing Director

This document has been reviewed by SPRI Legal Counsel.