



Introduction to Spray Polyurethane Foam

This presentation will provide important background information on SPF, including history, product categories and delivery methods and applications. It will also address chemical concerns and include tips for a quality installation, and briefly cover environmental impacts of the product

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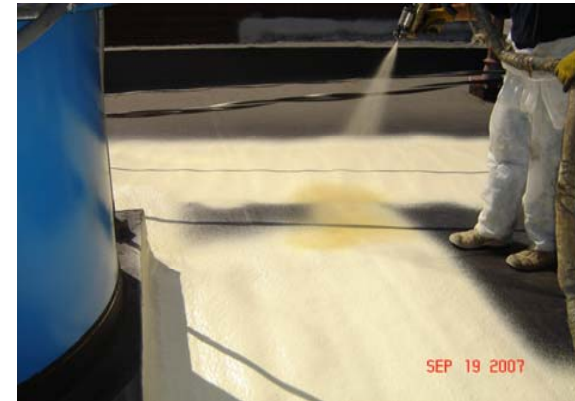
Presentation Content

1. History
2. Product Categories
3. Basic Chemistry
4. Delivery Methods
5. Chemical Concerns
6. Environmental Impact
7. Quality Installation
8. Summary



History of SPF in Buildings in construction for 50 years

- Late 60's - Medium Density (agricultural and industrial)
- Mid 70's - Roofing
 - Medium Density (general const.)
 - Sealants
- Mid 90's - Low Density (residential)





Product Category

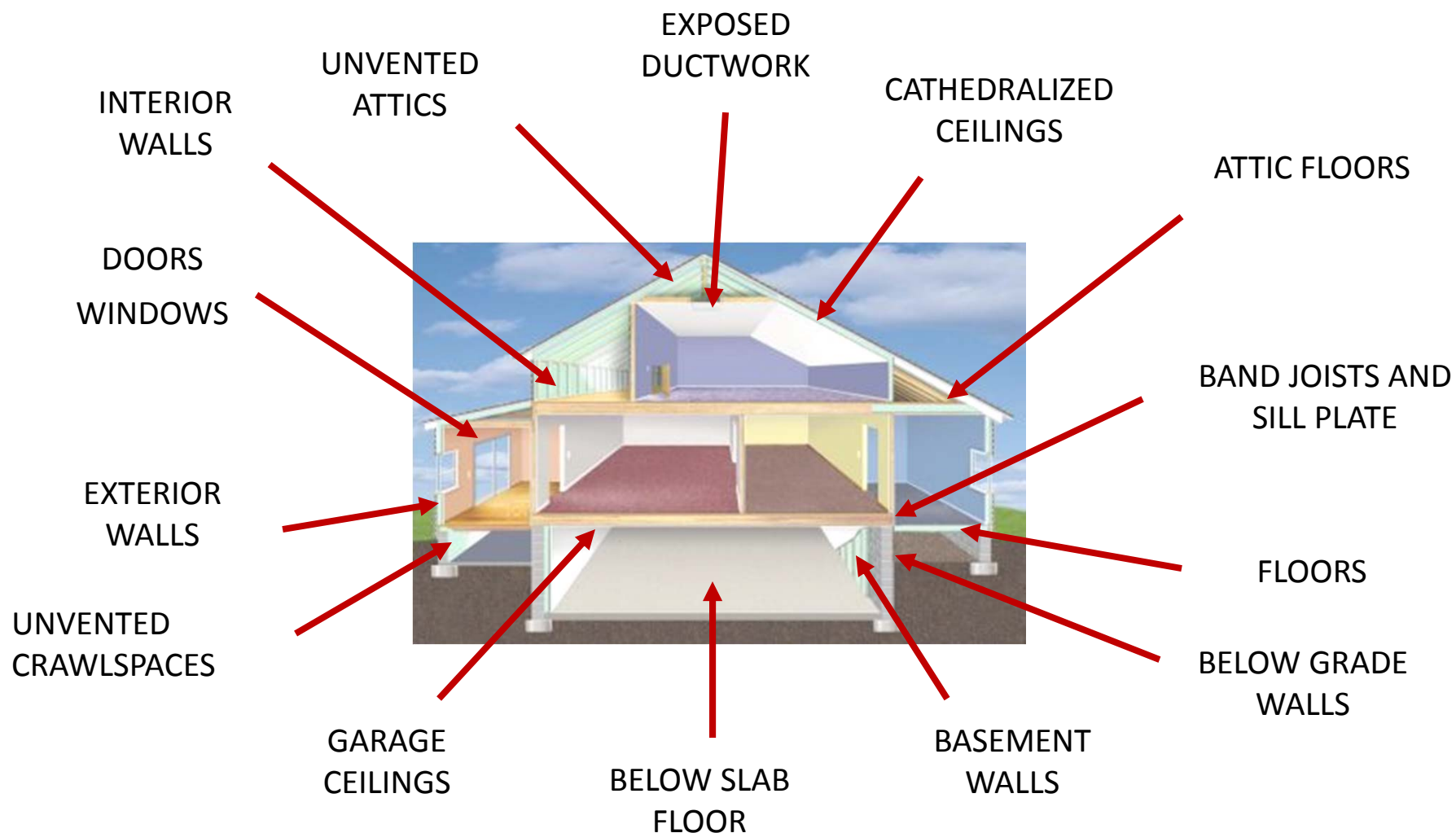
Four general categories of SPF

	Spray Foam Category			
	Sealant	LD	MD	Roof
Density (lb/ft ³)	0.6 – 1.8	0.5 - 1.4	1.5 - 2.3	2.5 - 3.5
Thermal Resistivity (R/in)	NR	3.6 - 4.5	6.2 - 6.8	6.2 - 6.8
Air Impermeable Material	*	> 3.5"	> 1.0"	> 1.0"
Integral Air Barrier System		✓	✓	✓
Integral Vapor Retarder			✓	✓
Water Resistant			✓	✓
Cavity Insulation		✓	✓	
Continuous Insulation		✓	✓	✓
Roofing				✓
Structural Improvement			✓	✓

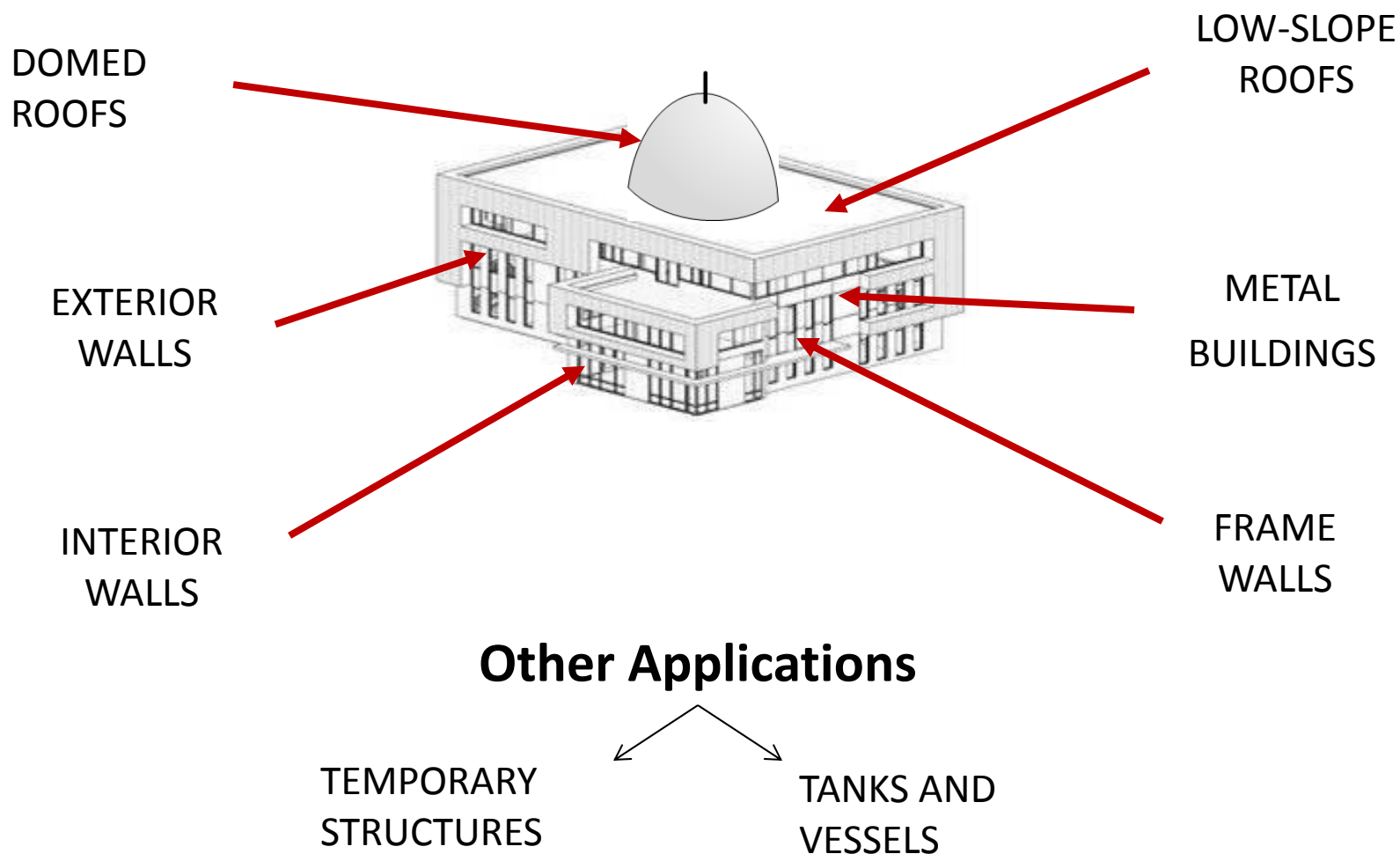
Product selection is application and climate dependent

SPF in Residential Buildings

Low-density and Medium-density Insulation



SPF in Commercial Buildings



Basic Chemistry

Reaction of 1:1 mixing of two liquids

- A-Side: Blend of monomeric and polymeric MDI

(Methylene diphenyl diisocyanate)

- B-Side or Polyol

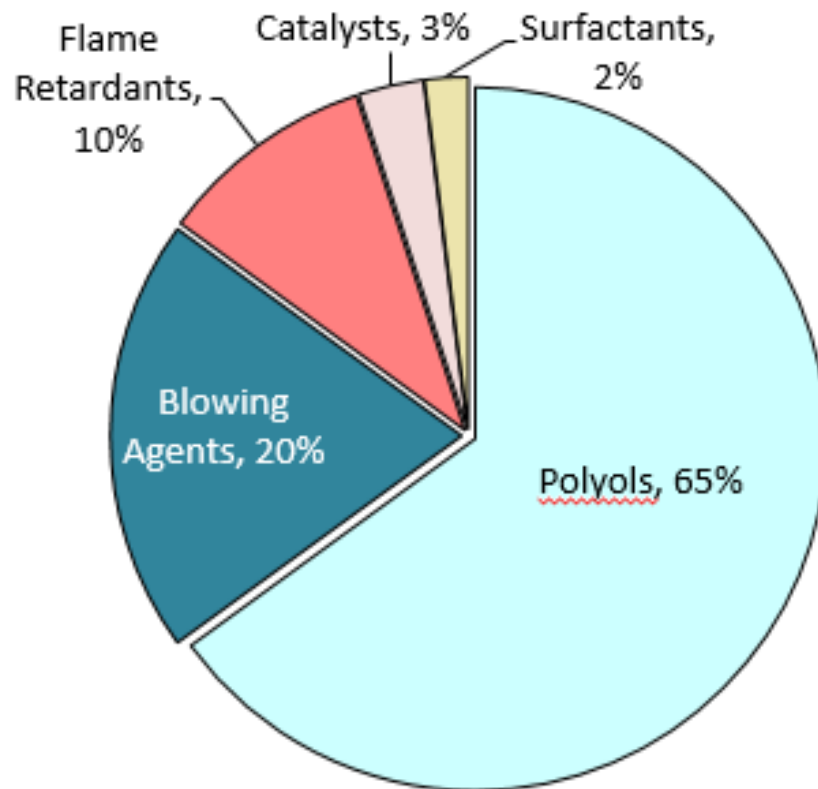
- polyols
- blowing agents
- flame retardants
- surfactants
- catalysts

Proprietary blend of additives affect cell formation and foam performance



Basic Chemistry

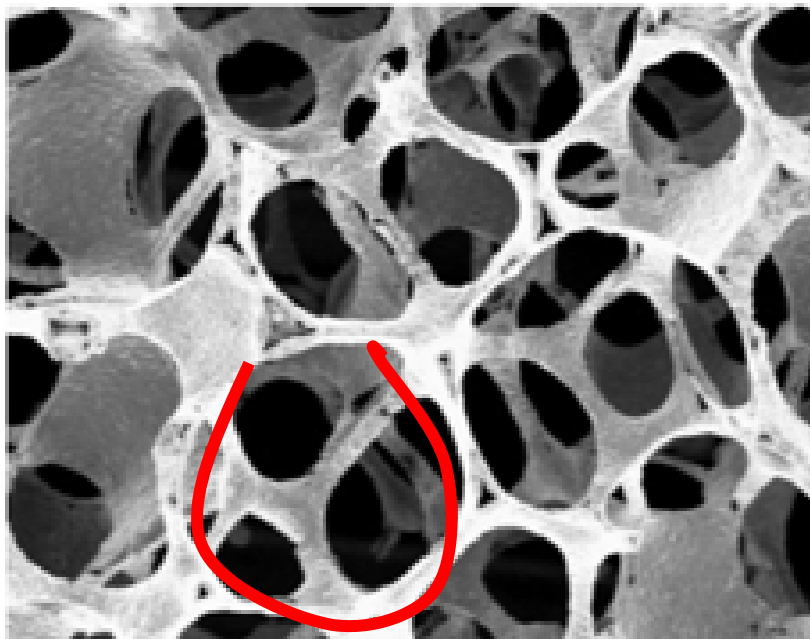
B-Side Formulation:



- These are the five basic categories of B-side chemicals.
- Percentages will vary based on foam type (oc vs cc) and manufacturer.
- Some foam formulations contain small amounts of additional additives for appearance and added function, such as colorants and anti-microbial chemicals.

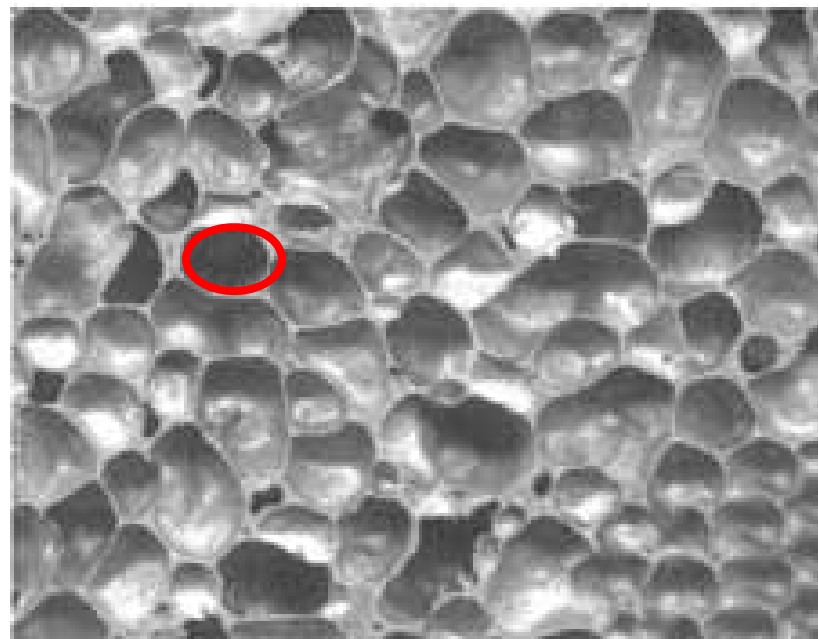
Basic Chemistry

Open and Closed Cell Foam Differences



OPEN CELL (ocSPF)

- ~100x expansion
- 0.5 to 0.8 lb/ft³ (soft)
- R-3.6 to R-4.5 per inch (air)
- Moisture permeable



CLOSED CELL (ccSPF)

- ~30x expansion
- 1.7-3.5 lb/ft³ (rigid)
- R-5.8 to R-6.8 per inch (low-k gas)
- Moisture semi-impermeable

Delivery Methods

One-Component Low-Pressure Sealants



- 6-15 BF/min froth
- A and B pre-mixed; cured by contact with ambient moisture
- Low/high expansion
- Air-sealing of small cracks, gaps and holes
- Non-insulating

*Retail DIY product for
air sealing only*



Delivery Methods

Two-Component Low-Pressure Foam



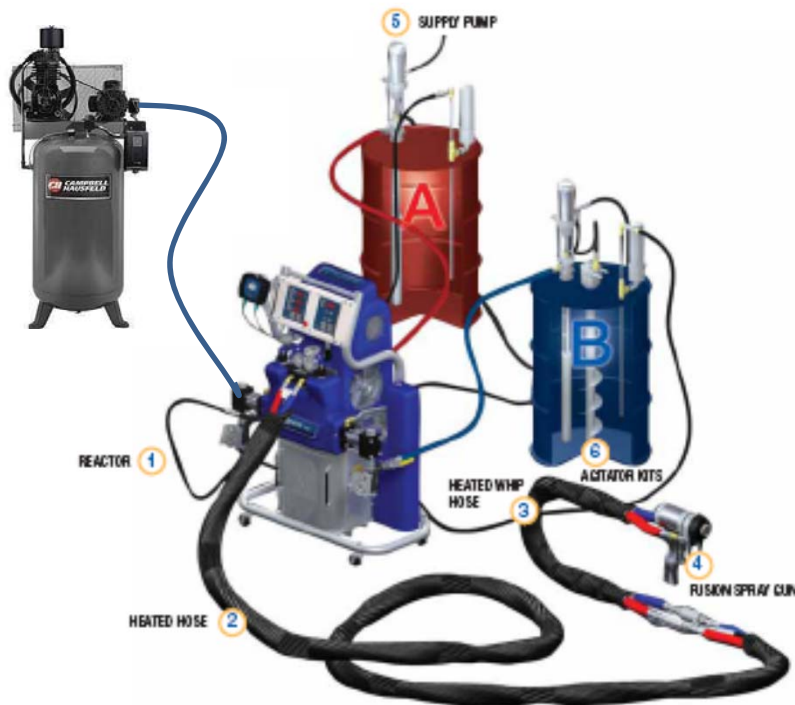
Professionally applied product used by weatherization contractors and by SPF contractors for small jobs or repair work

- 30-40 BF/minute froth
- A and B in separate pressurized cylinders
- Mechanical mixing
- Insulation and air sealing - small jobs



Delivery Methods

Two-Component High-Pressure SPF



- 100-500 BF/minute spray
- A and B in unpressurized drums or totes
- Chemicals heated and pressurized by proportioner
- Larger insulation jobs and all roofing applications
- Special training and capital investment

Professionally applied insulation and roofing SPF installed by trained contractors large jobs

Chemical Concerns

Known SPF Chemical Hazards

	Chemical	Known Hazard ^[1]	Effect	Exposure	Published Exposure Limits ^[3]	Likely Exposure
A-SIDE	MDI	YES	Short-Term eye and throat irritation and dermatitis choking, shortness of breath, tightness of chest dizziness and headaches abdominal pain; nausea and vomiting Long-Term Some people can become sensitized where repeated exposures at low levels can cause symptoms above as well as asthma-like symptoms	Dermal and Respiratory (odorless)	TLV ≥ 0.02 ppm (OSHA)	Airborne during and just after high-pressure SPF application. Users can be exposed by liquid chemical contact with skin (high and low pressure SPF)
	Polyols	NO				
B-SIDE	Fluorocarbon Blowing Agent	NO	Cardiac arrhythmia (irregular heartbeat) is a symptom of overexposure to certain blowing agents	Respiratory		Airborne during and just after high-pressure SPF application.
	Amine Catalysts	YES ^[2]	Short Term Irritation to the eyes, skin and respiratory system Reversible glaucoma (blue haze or halo-vision)	Dermal and Respiratory (Fishy Odor)	See note [2]	Airborne during and just after high-pressure SPF application. Improper application can result in excess airborne catalyst
	Flame Retardants	NO	Some concern about exotoxicity and CMR at high exposure levels			
	Silicone Surfactants	NO				
[1]	on levels and specific chemicals used in SPF					
[2]	Based on 9/2012 report for CPSC from Versar, Inc, one of the five amine catalysts has published exposure limits.					
[3]	exposure definitions					
TLV	threshold limit value					
STEL	short-term exposure limits					
TWA	8-hour time weighted average					



Chemical Concerns

Summary

- MDI – Known Chemical Sensitizer
- Polyols – no known issues
- Blowing Agents (closed-cell) – ODP and GWP
- Amine Catalysts – Odor Source, Irritant
- Flame Retardants – unconfirmed CMR-PBT concerns by some
- Silicone Surfactants – no known issues

Chemical Concerns

Exposure to SPF Chemicals

- Consider each phase of the product life-cycle
 - Raw Material Extraction
 - Raw Material Processing
 - Manufacturing and Blending
 - Packaging
 - Transportation
 - Installation
 - Use
 - Disposal and Recycling

Exposures can be mitigated by good chemical safety practices at each phase



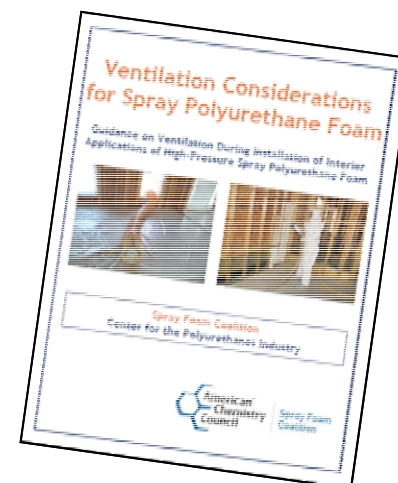
Chemical Concerns

Minimizing Exposure During Installation

Engineering Controls

Containment

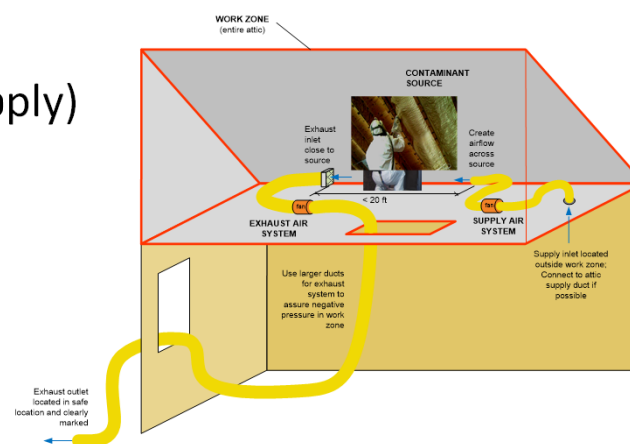
- Isolate work zone
- Plastic curtains
- Cover vent openings
- Shut down HVAC system



Ventilation

- Use one exhaust or one exhaust + one supply
- negative pressure in work zone (exhaust > supply)
- Cross-ventilation near applicator
- 40-50 ACH rate (?)

Keep non-essential personnel outside of contained work zone



Chemical Concerns

Minimizing Exposure During Installation

Personal Protective Equipment

Respiratory Protection

- SAR or APR

Skin Protection

- Cover all exposed skin



	One-component Cans	Low Pressure Two-Component Kits	Refillable Systems	High Pressure High Pressure Spray Systems
Routes of Exposure	PPE Safety Glasses	PPE Safety Glasses	PPE Safety Glasses	PPE Safety Glasses
Eyes	Safety Glasses	Safety Glasses or Goggles	Safety Glasses or Goggles	FF Mask/ Hood
Skin	Long Sleeves	Long Sleeves	Long Sleeves	Full Body Suits
Hands	Gloves	Gloves	Gloves	Gloves
Lungs	Avoid Breathing Vapors Provide Good Ventilation	Respirator S, or Air Purifying OV / Pre-filter Provide Good Ventilation	Respirator S, or Air Purifying OV / Pre-filter Provide Good Ventilation	Air Supply FF Mask/ Hood or FF Air Purifying Airline Provide Good Ventilation

For more available information see the Spray Polyurethane Foam Health & Safety Website at www.spraypolyurethane.com



For complete information on SPF Chemical Safety, visit
www.spraypolyurethane.com



Chemical Concerns

Exposure During Occupancy

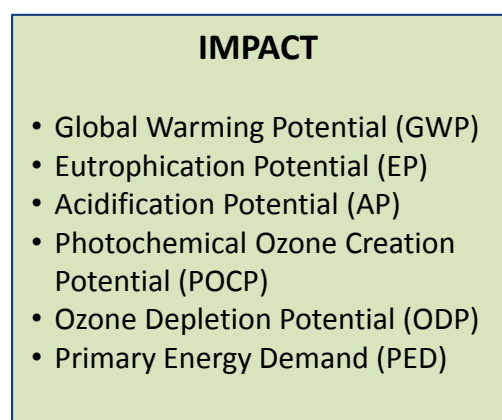
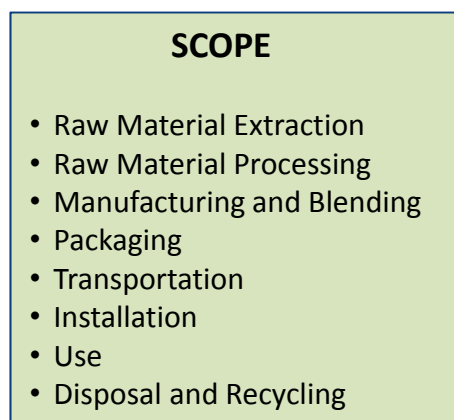
- No significant VOC emissions from SPF (ULe-GreenGuard)*
- No known chemical hazards from dust*
- Safe MDI levels within several hours by natural decomposition and forced ventilation just after installation*
- Residual SPF chemicals may be present (catalysts, BA, FR) and may require extended ventilation
- Exposure test methods and studies for specific foam chemicals currently in progress
- Residual chemicals most likely caused by incomplete reaction from improperly installed SPF
- Always follow re-occupancy guidelines
- Experienced, trained applicators are a must

*when properly installed

Occupant exposure to SPF chemicals can occur if SPF is not properly installed

Environmental Impact Life-Cycle Assessment

- ISO-Compliant Life-Cycle Assessment (LCA)
 - Industry-Level LCA completed November 2012 by SPFA using third-party consultant – ISO compliant
 - Environmental Product Declaration (EPD) completed November 2013 by UL Environment following Insulation Product Category Rules (PCR): <http://productguide.ulenvironment.com/SearchResults.aspx?includeWords=spfa>
 - Includes 'Cradle-to-Grave' Analysis



*Positive environmental impact achieved
a few within months of use*

Quality Installation

Factors that Affect Installation Quality

Ambient Conditions:

- Air Temperature
- Relative Humidity

Substrate:

- Temperature
- Moisture content
- Cleanliness

Application Technique:

- Maximum Thickness
- Geometry

Materials and Equipment:

- Chemical Storage
- Temperature setting
- Pressure setting

Gun:

- Cleanliness
- Impingement Mixing
- Tip Selection



SPF products are formulated to accommodate a wide range of installation variables. Experienced and trained applicators know how to manage them.



Quality Installation

What the Customer Can Do

- Select Proven SPF Chemicals
 - Know the brand and type of products being installed
 - Get copies of product data sheets, MII, MSDS from supplier or distributor
 - Confirm foam supplier provides training and technical support
- Follow Manufacturer's Installation Instructions (MII)
 - Ask for a copy of the MII
 - Include MII as part of contract

*Use SPF materials from a reputable source,
whose products are documented and well-
supported*



Quality Installation

What the Customer Can Do

- Hire Trained, Experienced Applicators
 - Assure one experienced applicator is on jobsite at all times
 - Applicator should have experience using the product installed as well as the equipment used
 - Reputable suppliers and distributors offer training. Confirm applicator has been properly trained
 - Request that applicator is enrolled in a SPF accreditation or certification program (e.g., SPFA Certification)

Hire SPF contractors with trained and experienced installers



SPFA Professional Certification Program Overview

Mass. State SPF Workshop

11 December 2013

Stow, Mass.



About SPFA

- About SPFA. The Spray Polyurethane Foam Alliance (SPFA) is the premiere organization representing contractors, manufacturers, and the complete value chain of SPF on safety, technical, educational, advocacy, promotional and other issues. SPFA is a 501(c)6 membership-based technical trade association comprised of the leading SPF companies in the United States and abroad. SPFA offers superior new professional certification opportunities to the industry's installers and contractors. SPFA delivers an annual convention and expo serving SPF professionals, maintains a variety of technical programs, utilizes its exceptional partnerships in industry to deliver various services for its members, and provides a unified voice for SPF on insulation, roofing and other installations.



SPFA PCP Program Objectives

- To provide an established set of criteria through which individuals and companies can demonstrate their commitment to professionalism in the spray polyurethane foam industry.
- To identify and recognize those individuals and companies whom, by fulfilling prescribed requirements of education, examination and experience, meet a high standard of professionalism.
- To encourage individuals and companies to support the professional development of their industry by taking personal responsibility for the value of their work through education and testing.

SPFA PCP Vision & Mission

Vision

- That the SPFA QAP professional certification is the most rigorous, extensive and defining program for SPF professionals in the world. That it be consistent with all industry standards, best practices and known building science, and accessible and affordable among our intended constituency. That it be the measure of personal and professional accomplishment in the industry, and a demonstration among professionals of the essential knowledge, skills and abilities inherent among the highest class of sprayfoam professional.

Mission

- To deliver and operate a focused, consistent and attentive, world-class professional sprayfoam certification program. Continuously raising, establishing, and raising again the bar on safety, performance, quality and professionalism among SPF industry professionals. For the benefit of their businesses, personal safety, safety and satisfaction among customers, and to create the most solid of foundations for future growth, personal and industry distinction.



SPFA PCP

- Establishes Clear Path to Professionalism
- Establishes Expectations
 - Industry of Its Own People
 - Among Customers
 - Among Partners (Arch / Design Build / GC / Etc)
- Standards-Driven (ANSI/ISO 17024)
- Uniform and Consistent Measures
- Consequences for Failure (Enforcement)
- Regular Continuing Education Required for Recertification
- Provides Further Market Differentiator for Company and Individuals
- Heavy Focus Upon H+S Throughout

Basis & Origins

Observations

- High performance industry and product, requires high performance field installation
- Exceptional SPF benefits and performance are impacted by quality of installation
- Paramount importance of Health & Safety for installation crews, adjacent trades, customer
- SPF goes on easy, comes off hard. Must be right.
- Changes behavior of the building it is in, building science implications

Basis & Origins

Observations

- Transportation and proper handling, including installation, of chemicals used in SPF require specialized KSAs
- SPFA historically maintained “Accreditation” program. Updated to “Certification” based upon decades of experience and lessons
- OSHA National Emphasis Program (NEP) highlighted need for proper training and proficiency
- Four years of close work with Federal Interagency Task Force on SPF (EPA, OSHA, NIOSH, CPSC, FTC)
- Customers, especially professional customers (builders, architects, designers, general contractors, etc) desire a level of comfort with, and verifiable credibility among, their professional SPF sub-contractors



PCP Development

- ISO 17024 Compliant
- Operated under a 17024-Accredited Provider (BP)
- Process
 - Thorough Job Task Analysis (JTA)
 - Establish Knowledge, Skills, Abilities (KSAs)
 - Translated to Learning Objectives
- Committees Firewalled
 - Quality Assurance Program Committee
 - Certification Scheme Committee
 - Training Committee
- Roofing AND Insulation Tracks

PCP Development

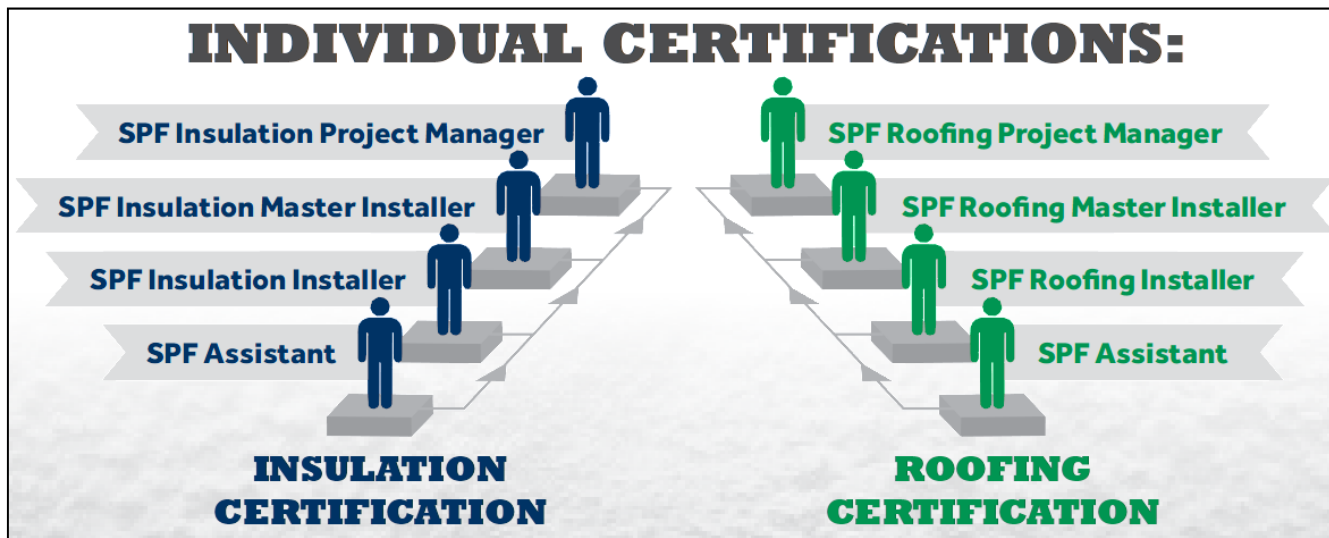


- Contractor – led
- Value chain direct involvement (Mfg | Contractors | Distributors)
- Ability to “test-out” of each level to accommodate long-time industry professionals
- Lower level completion requirement to move to higher levels
- Multiple certification levels accommodating various field positions
- Accessible, Affordable, Standards-Driven
- Wallet Cards + Mark Issued After Completion
- Annual renewal | 5 Year Recertification
- Developing CEU Requirements & Framework



Levels & Requirements of PCP Certification

Assistant | Installer | Master Installer | Project Manager



PCP - Handbook

- Ref Handbook @ www.sprayfoam.org
- Contains process, requirements, enrollment packages, etc.
- Checklists demonstrate compounding Knowledge, Skills & Abilities (KSAs)

Assistant KSA / LOs

Introduction to Spray Polyurethane Foam	
Task A.1 History of Spray Polyurethane Foam	
Task A.2 What is Spray Polyurethane Foam?	A-Iso / B--Resin
Task A.3 Types of SPF and Cell Content	Open / Closed Cell, Low / Med / High Density
Task A.4 Physical Properties	Compressive Strength
Task A.5 Reaction, Time Factors and Ratio	Chemistry of Materials & Reaction
Health and Safety - Chemicals	
Task B.1 Potential for Chemical Exposure	Inhalation / Sensitization
Task B.2 Hazard Communications (HMIS)	Labeling / MSDS / Training
Task B.3 Engineering Control/Site Isolation	Ventilation / Re-Occupancy / Signage
Task B.4 Work Practices	Chemical Storage / Handling / Clean Up / Spills / Disposal
Task B.5 Personal Protective Equipment (PPE)	Hand / Eyes / Skin / Respiratory
Health and Safety - General	
Task C.1 Reasons for Practicing Safety	
Task C.2 Understanding OSHA and Requirements	
Task C.3 Written Safety Management Program	
Jobsite Safety	
Task D.1 Electrical Hazards	
Task D.2 Hand and Power Tools	
Task D.3 Pressurized Equipment/Air Compressor	
Task D.4 Lock Out/Tag Out	
Task D.5 Confined Spaces	
Task D.6 Elevated Work Surfaces	Fall Protection / Ladders / Scaffold / Lifts
Task D.7 Fork Lifts and Cranes	
Task D.8 Lifting	
Task D.9 Vehicle and Transportation Safety (DOT)	
Task D.10 Fire Protection and Safety	
Task D.11 Occupational Noise	
Task D.12 Temperatures (Heat Stress)	
Task D.13 Slips and Trips	
Task D.14 Personal Protective Equipment (PPE) (Non-Chemical)	
Task D.15 Lighting	

Assistant Checklist



SPF ASSISTANT CHECKLIST

- ___ Successfully complete CPI on-line Health and Safety Course
- ___ Fill out and return the SPFA PCP Certification Registration Form and Fee
- ___ Sign and return the SPFA PCP Certification Agreement
- ___ Submit digital color photo of yourself for certification ID card
- ___ When ready to take the SPF Assistant written examination, submit the SPFA PCP Certification Examination Request Form and Fee
- ___ Successfully pass the SPF Assistant Written Examination



Installer KSA / LOs

Pre-Job Planning	Task E.1 Pre- Job Logistics	
	Task E.2 Safety Requirements – In the Pre-Planning Stage	
	Task E.3 Truck Loading/Equipment Check	
Jobsite Set-Up Procedures		
	Task F.1 Jobsite Arrival	
	Task F.2 Set-Up	
	Task F.3 Safety Procedures During Job-Site Set-Up	
Substrate Preparation		
	Task G.1 Preparation for Different Substrates	
	Task G.2 Priming	
	Task G.3 Masking	Overspray Control
Start-Up Procedures		
	Task H.1 Verify Conditions Before Spray Start-Up	
	Task H.2 Equipment/Material Start-up	
	Task H.3 Site Secure and Safe For Start-up	
	Task H.4 Spray Start-Up	
Installation Methodology		
	Task I.1 Equipment Set-Up	
	Task I.2 Application QC Check	Thickness / Cell Structure / Mix / Gaps / Voids
	Task I.3 Spray Techniques	Pattern / Distance / Picture Framing
	Task I.4 Communication with Assistant	
	Task I.5. Restaging and job progression	
	Task I.6 Ensuring continuous material supply	
	Task I.7 Spraying Breaks	
	Task I.8 Trimming Tools	
	Task I.9 Heat Break Requirements.	
Shut Down and Job End Procedures		
	Task J.1 Sort Term Shut Down	
	Task J.2. End of Day Shut Down	
	Task J.3 End of Job Shut Down	
	Task J.4 Air Management	Continued Ventilation / Re-Occupancy
	Task J.5 Trimming and Unmasking	
	Task J.6 Close Out Communication	Insulation Certificate / Checklist

Installer Checklist



SPF INSULATION INSTALLER CHECK LIST

- ___ Successfully complete CPI on-line Health and Safety Course
- ___ Fill out and return the SPFA PCP Certification Registration Form and Fee
- ___ Sign and return the SPFA PCP Certification Agreement
- ___ Submit digital color photo of yourself for certification ID card
- ___ Submit copy of current OSHA 10 hour card
- ___ Submit SPF Installer Experience Declaration & Project List (100,000 bf min.)
- ___ When ready to take the SPF Installer written examination, submit the SPFA PCP Certification Examination Request Form and Fee
- ___ Successfully pass the SPF Assistant Written Examination
- ___ Successfully pass the SPF Insulation Installer Written Examination



PCP – Field Examiner

- Separate training and certification test
- Only PCP program where training is REQUIRED
- Trained in documentation, field examinations
 - Field exams ONLY for use within the context of SPFA PCP
 - Not commercial or public service
- Field Exam performance requirements available in Field Examiner Handbook

PCP Deployment

- March 2012
 - Announcement & Scoping Sessions
- Oct 2012
 - Federal Interagency Task Force on SPF review & comment
- November 2012
 - 1st Pilot Session
- January 2013
 - 2nd Pilot Session
- February 2013
 - Program Roll-Out @ SPFA Annual Convention
- November 2013
 - SPFA 1000th Test Milestone

PCP Deployment

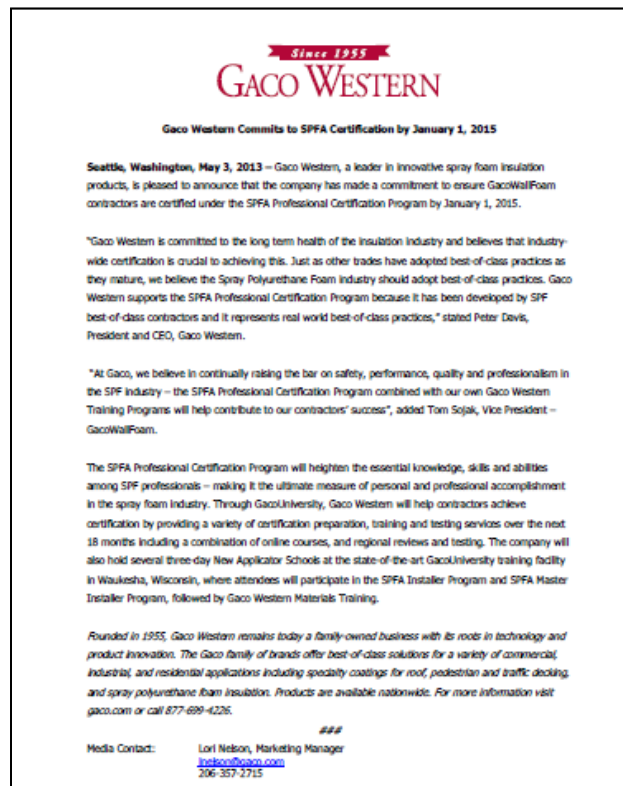
- Administration & ISO Compliance
 - Building Professionals
- Manufacturers incorporate into training, drive to test
- Training & Certification of Field Examiners
- Training of ISO-compliant “Written Examiners” (proctors)
- Spanish test translation complete (Assistant → Master)
- Online training and testing in-process (ISO-compliant)

Current Status - PCP

- Over 1000 Exams Completed YTD
- Several manufacturers and distributors have endorsed PCP
- Center for the Polyurethanes Industry (CPI) Sprayfoam Coalition endorses PCP 2013
- Several states already considering acknowledgement of PCP certifications
- Developing model CSI spec for SPF including references to SPFA PCP

Current Status - Adoption

- Example: Gaco Western announces May 2013 that all installers will be SPFA PCP certified by January 2015



Current Status - Adoption

- Example: Sprayfoam Nation offers PCP training and testing
- Offers tests every Friday July – Sept. 2013



The screenshot displays the Spray Foam Nation website, which is an energy independence company. The header includes the company logo, a tagline "that's making a positive difference", a phone number (877-769-8080), and a "TOP 20" award badge. Navigation links for training, rigs, equipment, documents, news, and more are provided. The main content area is titled "SPFA Certification" and features a "5-DAY Training PLUS SPFA Certified Combo Package". It describes the training program, lists the days of training (SPFA Assistant, SPFA Installer, Equipment Training, Equipment Training/HERS Medical evaluation, and SPFA Test/Spray Day), and includes a list of topics covered in the 5-day training. A sidebar on the right promotes an "Online Spray Foam Store" with discounts and lists upcoming training events. At the bottom, there are links to the company's Facebook page and a mailing list sign-up form.

SPRAY FOAM NATION™
AN ENERGY INDEPENDENCE COMPANY

A spray foam distributor
that's making a positive difference
Call us: 877-769-8080

SPFA CERTIFIED TOP 20 DISTRIBUTOR

Spray Foam Training ▼ Spray Foam Rigs ▼ Spray Foam Equipment ▼ Technical Documents ▼ News ▼ Learn More ▼

SPFA Certification

5-DAY Training PLUS SPFA Certified Combo Package

Spray Foam Nation has now incorporated getting SPFA CERTIFIED into its nationally recognized 5-Day Training Program. Contractors will be able to take prep courses and exams that will earn them and SPFA Certification for various levels (Assistant, Installer, Master Installer & Project Manager), as well as take advantage of our hands-on training.

Day 1: SPFA Assistant Certification – prep course and exam
Day 2: SPFA Installer Certification – prep course and exam
Day 3: Equipment Training
Day 4: Equipment Training/HERS Medical evaluation
Day 5: SPFA Test/Spray Day

*Medical exam is for lung test/Spirometry Exam and is administered by an MD but is not administered at all of our locations.

Our 5-DAY Training includes:

- Introduction to SPF
- SPF Health & Safety (Yale University presents in CT)
- Spirometry Medical Exam (Lung Exam administered by MD)
- Equipment Overview
- Insulation Materials & Info
- Proportioner & Gun Selection
- Safety Gear Training
- Physical Properties of SPF
- Code Compliance
- Gun/Machine/Equipment Maintenance
- Hands On With Pumps & Spray Guns
- Spray Open & Closed Cell Foam
- Application Techniques
- Intro to HERS Ratings/Building Science
- Sales & Marketing 101
- Troubleshooting
- Q & A

When? Generally once per month or once every other month and available at our West Haven CT or Sticell, LA facility (near New Orleans). (See below for dates)

Investment:

Online Spray Foam Store
Huge discounts on all spray foam supplies
Shop Now

Upcoming Training

Upcoming Events

- 3-Day SPFA Training in CT Aug 28-29
- 5-Day SPFA Training in CT Sept 18-20

Like us on Facebook
Spray Foam Nation

Join our mailing list
Email:
Subscribe

Spray Foam News

SPFA CERTIFIED PCP



Current Status – States (CT)

- 5908 | June 2013 Veto

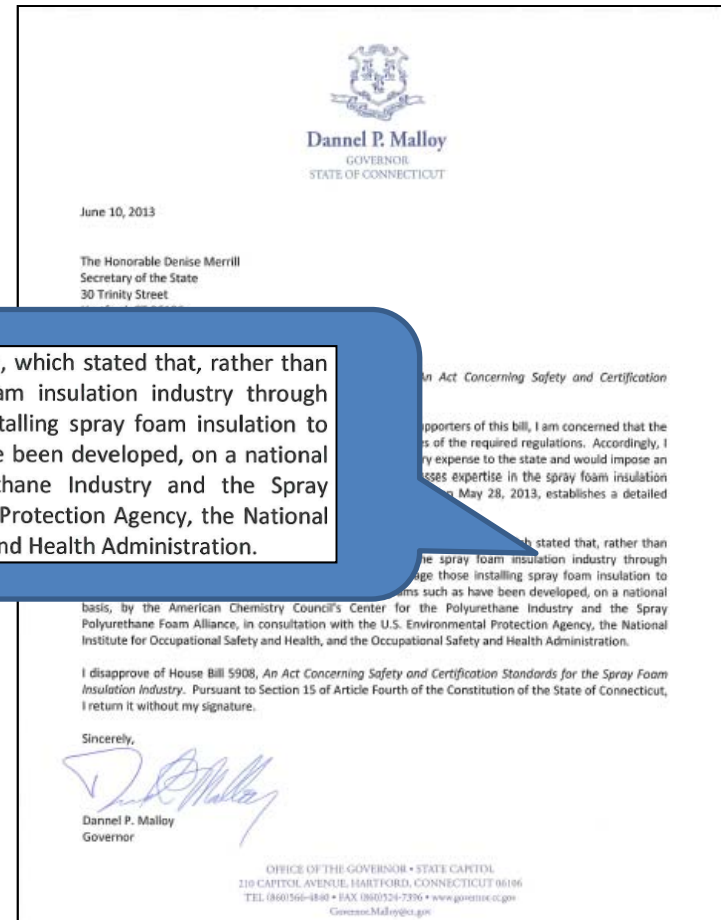
I agree with the testimony submitted by the Department of Public Health, which stated that, rather than require Connecticut to develop additional standards for the spray foam insulation industry through regulation, a more practical approach would be to encourage those installing spray foam insulation to obtain training, credentialing or certification under programs such as have been developed, on a national basis, by the American Chemistry Council's Center for the Polyurethane Industry and the Spray Polyurethane Foam Alliance, in consultation with the U.S. Environmental Protection Agency, the National Institute for Occupational Safety and Health, and the Occupational Safety and Health Administration.



CT N OnDemand General Law Committee February 21st Meeting and Public Hearing4

by TheSPFA • 5 months ago • 71 views

SPFA Technical Director Dr. Richard Duncan, testifying in front of the Connecticut State General Law Committee on the matter of ...



Current Status – States (MA)

- Working to develop 4 state organized workshops on SPF & Certification for 2013 - 2014

Safe Spraying and Intelligent Insulation: Spray Polyurethane Foam and other Building Insulation Options



FREE Half Day Workshop on Insulation Options
December 11, 2013 at 8:00 AM – 12:30 PM
Firefighting Academy, One State Road, Stow, MA, Room 105

Session Description:
Isocyanates contained in spray polyurethane foam insulation materials present concerns that require management. Earlier this year, the Occupational Safety and Health Administration announced a new National Emphasis Program to protect workers from occupational exposure to isocyanates. Several organizations have joined to organize this free workshop on safe installation, for those considering or applying spray foam, and to discuss best practices concerning insulation generally.

**SAFE POLYURETHANE SPRAY INSULATION:
ESSENTIALS AND AVAILABLE TRAINING**
When applied correctly, spray polyurethane foam can improve the energy efficiency of a building and save owners and occupants money. When sprayed improperly, however, the foam can present a health threat to the installer, the surrounding workers and the building inhabitants, as well as cause issues relating to fire, maintenance and indoor air quality. During this session, experts will discuss the essential elements of environmental, health and safety practices and available certifications of training.

INTELLIGENT INSULATION: OPTIONS AND BEST PRACTICES
It is important professionals understand both the variety of insulation options available and the factors that impact insulation performance. Considerations include cost, proper ventilation, moisture control, and options for using different materials, perhaps in combination. Our panel of experts will discuss current practices from a variety of perspectives. Bring questions and comments!

Space is limited! Reserve your spot ASAP!
Confidential Attendance: Registration for this event is for the purpose of determining capacity limits only. OTA is an assistance office that provides confidentiality. OTA will not share the event list with any party and will delete it immediately following the event.

For registration contact isa.hiberodt@state.ma.us
or go to: <http://otainsulation.eventbrite.com>

WORKSHOP AGENDA:
7:30 – Coffee and Registration
8:00 – 10:30
**Session A - Safe Polyurethane Spray Insulation:
Essentials and Available Training**
Spray Polyurethane Foam Alliance
OSHA & OSHA Consultation Service
ACC Center for the Polyurethanes Industry
Building Performance Institute
U.S. EPA New England
Occupational and Environmental Medicine
Program, Yale Medical Group
10:45 – 12:30
**Session B - Intelligent Insulation:
Options and Best Practices**
Richard Keiber, AIA, Thompson & Lichtner
Henri Fennell, KC Fennell Consulting
Paul Eldrenkamp, Ryggmeister Design Build
Brian Meacham, Worcester Polytechnic Instit.
Tyler Fluke, Anchor Insulation
Mark Hutchins, Conservation Services Group
Tom Riley, Board of Building Regulations and
Standards, Commonwealth of MA
(Session B will be followed by open discussion.)

**RECOMMENDED FOR: CONTRACTORS,
INSTALLERS, ARCHITECTS, WEATHERIZERS,
REMODELERS, DESIGNERS, INSPECTORS:** any
other party installing insulation or influencing
decisions involving how insulation is installed.

**BPI and AIA Continuing Education
Credits are available**

Coffee and treats/breakfast sponsored by the Mass
Save Program Administrators; Columbia Gas of
Massachusetts, The Berkshire Gas Company, Cape
Light Compact, National Grid, New England Gas
Company, NSTAR, Unitil, and Western Massachusetts
Electric Company.

Organized by representatives from: The MA Executive Office of Energy and Environmental Affairs (EEA); the MA Department of Energy Resources; the MA Department of Labor Standards; the MA Department of Public Safety; the Massachusetts Department of Public Health; the US Environmental Protection Agency, the Occupational Safety and Health Administration, the Spray Polyurethane Foam Alliance, ACC Center for the Polyurethanes Industry, and the MA Coalition for Occupational Safety and Health. FOR FURTHER INFORMATION contact the Office of Technical Assistance at EEA: 617 626 1062, or email risk.relati@state.ma.us.





Current Status – States (LA)

- SPFA was requested to meet June 2013 with LA state Home Builders Association (HBA) to present upon SPF performance, H+S, Certification
- SPFA was requested to meet June 2013 with LA State Code Council to present upon SPF performance, H+S, Certification
- Possible state bill requiring professional SPF certification
- SPFA hosts July 2013 webinar on SPF & ventilation practices presented by Louisiana State University



Current Status – Company Accreditation

- SPFA developing Contractor and Manufacturer Accreditation Programs
- Work in progress
- Various roles & responsibilities directed at further deploying the PCP
- Allows for blanket recognition at company level for completing various requirements
 - Easier bid reference

Current Status - International

- Several countries have requested to use the SPFA PCP
 - Mexico
 - Canada
 - Scandinavian Region
 - South Africa
 - Australia
- Working to identify and develop addendums, international deviations, companion documents on building codes and safety

Current Status – Advisory Council

- SPFA Board (July 2013) approves creation of SPFA PCP Advisory Council
- Role to assist SPFA PCP in outreach, expansion, program accommodation
- Major partners being solicited for participation
 - ACC/CPI, ACCA, AIA, AGC, BPI, ICAA, NAHB, NRCA, RESNET, others
- Planned for January 2014

Current Status – OSHA NEP

- July 2013 OSHA announces National Emphasis Program (NEP) on Isocyanates
- Targeted inspections and regulatory enforcement nationwide
 - New: Includes companies with <10 employees
- Proper handling, PPE use, medical documentation, respiratory safety plans
- Requires demonstration of **training** for employees

https://www.osha.gov/OshDoc/Directive_pdf/CPL_03-00-017.pdf



PCP Challenges

- New Program Mid-Industry Acceptance
 - Integrating a new professional certification program into an existing industry framework
 - Community not oriented to classroom training / paper tests
- Cost
 - Not comparatively high cost but challenging for small – medium sized contractor businesses
 - Many manufacturers considering incentivizing or discounting for their customers
- Accessibility
 - Many contractors geographically dispersed
 - Developing options for online training and testing
- Promotion / Awareness
 - Need outreach partners to recognize program and assist with benefits messaging

PCP Opportunities

- No Competition
 - SPFA PCP only standards-based, non-proprietary, unbiased certification program for all SPF types and installations in the world
- Growing Interest
 - Contractors and manufacturers beginning to realize respective benefits of certification
- Existing Demand
 - Homeowners, professional customers (builders, GCs, etc) desire one point of reference for demonstration of proficiencies and KSAs of SPF contractors
- Engaging Partnerships
 - Example: Carpenters Union interest to possibly use 900k sqft training center in Las Vegas, and 250 national centers for testing
 - Mtg Aug 2013

Other SPFA Activities

- Industry Quarterly Trade Publication
- Annual Convention & Expo
 - 1200+ Attendees (40% increase over 5 years)
- Technical Programs
 - Example: SPF Model LCA & EPD – only insulation industry to publish
- NAHB Builder's Checklist – In Development



PCP Contacts & Info

- SPFA PCP Online Info
 - www.sprayfoam.org
- CPI H+S Online
 - www.spraypolyurethane.com
- SPFA PCP Program Administration
 - Kelly Marcavage, PCP Director
kmarcavage@sprayfoam.org
 - Administrative & Registration
admin@spfapcp.org | 1.866.222.5000



Thank You

Kurt Riesenberg

SPFA Executive Director

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