SPFA Certification Overview

February 15, 2013
Certification Relationship Diagram

Value Chain Inclusion
Categories of Certification

• Insulation

• Roofing
4 Levels of Certification

- Assistant (same as roofing)
- Installer
- Master Installer
- Project Manager
Contractor Individual Certifications

Four Individual levels for Insulation and Roofing Certification
Priority: Accommodate Multiple Installer Entry Points

Levels build upon each other but allow for multiple entry points to accommodate advancement of more experienced professionals.
Certification Requirements

• **Assistant**
  – CPI Health and Safety on-line course
• **Installer**
  – CPI Health and Safety on-line course
  – OSHA 10 hour card
  – 100,000 bf/sf experience
• **Master Installer**
  – CPI Health and Safety on-line course
  – OSHA 10 hour card
  – CPR/First Aid Training
  – 500,000 bf/sf experience
  – Field Exam
• **Project Manager**
  – CPI Health and Safety on-line course
  – OSHA 30 hour card
  – CPR/First Aid Training
  – 500,000 bf/sf experience
Exams required by level

- Assistant - Exam
- Installer
  - Assistant exam
  - Installer exam
- Master Installer
  - Assistant
  - Installer
  - Master Installer
  - Field Exam (hands on)
- Project Manager
  - Assistant
  - Installer
  - Master Installer
  - Project Manager
QAP Cmte Develop Job Task Analysis (JTA)

JTA INSULATION

A Introduction to Spray Polyurethane Foam
- Task A.1 History of Spray Polyurethane Foam
- Task A.2 What is Spray Polyurethane Foam?
- Task A.3 Types of SPF and Cell Content
- Task A.4 Physical Properties
- Task A.5 Reaction, Time Factors and Ratio

B Health and Safety - Chemicals
- Task B.1 Potential for Chemical Exposure
- Task B.2 Hazard Communications (HMIS)
- Task B.3 Engineering Control/Site Isolation
- Task B.4 Work Practices
- Task B.5 Personal Protection Equipment (PPE)

C Health and Safety - General
- Task C.1 Reasons for practicing safety
- Task C.2 OSHA
- Task C.3 Written Safety Management Program

D Jobsite Safety
- Task D.1 Electrical Hazards
- Task D.2 Hand and Power Tools
Training Committee

• Develop Written Curriculum
• Develop PPT Slides for Training
• Develop Training Facility Criteria
• Develop Instructor Criteria
A Introduction to Spray Polyurethane Foam

Task A.1 History of Spray Polyurethane Foam

Learning Objectives
Upon completion of this section the student will be able to:

- Name the year SPF was invented
- Identify the person credited with inventing spray polyurethane foam
- Be able to describe the original uses for SPF
- Understand when spray foam became a commercial product

In 1937, German scientist, Dr. Otto Bayer discovered, and received a patent for, the chemical reaction that gave birth to the modern SPF industry. Since then, SPFs, particularly those that can be sprayed in place, have gained wide acceptance in the construction industry.

Spray foam became commercially available in the 1960s. Installation equipment advances soon followed, allowing for more efficient application. Growth was further spurred on by the energy crisis in the 1970s. SPFs are now used as insulation systems, components in air barrier systems, and as adhesive materials. SPFs may be used in numerous building applications including the building envelope and roofing systems.

Task A.2 What is Spray Polyurethane Foam and the Components That Make It?

Learning Objectives
Upon completion of this section the student will be able to:

- Define what is polyurethane foam
- Name the two basic chemical ingredients
- Know that isocyanate is mostly designated by the letter A
- Know that the Resin Blend (or polyol) is mostly designated by the letter B
- Know that this Resin Blend consists of 6 components

CHEMICAL AND PHYSICAL PROPERTIES
By definition, SPF is a cellular plastic. It is a dispersion of gas in a solid polymeric matrix and derives properties from both phases. The foam is 97% gas by volume. The gas phase contributes mainly to thermal insulation properties; the polymeric structure affects the mechanical and chemical properties.

Close up view of spray foam
Certification Scheme (CSC) Committee

- Written Knowledge Exams
- Written Skills Exams
- Field Exams
- Create CSC Handbook for program participants
A. INTRODUCTION TO SPRAY POLYURETHANE FOAM

<table>
<thead>
<tr>
<th>Task</th>
<th>New LO#</th>
<th>learning objective</th>
<th>Question</th>
<th>Answer 1</th>
<th>Answer 2</th>
<th>Answer 3</th>
<th>Answer 4</th>
<th>Correct Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task A.1 History of Spray Polyurethane Foam</td>
<td>A.1.a</td>
<td>Name the year that polyurethane chemistry was invented.</td>
<td>What year was polyurethane chemistry invented?</td>
<td>1886</td>
<td>1985</td>
<td>1962</td>
<td>1937</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>A.1.b</td>
<td>Identify the person credited with inventing polyurethane chemistry</td>
<td>Who is credited with inventing polyurethane chemistry?</td>
<td>George Sievert</td>
<td>Otto Bayer</td>
<td>Fred Gusmer</td>
<td>Charles Kettering</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>A.1.b</td>
<td>Identify the person credited with inventing polyurethane chemistry</td>
<td>Polyurethane chemistry was invented by whom?</td>
<td>Otto Bayer</td>
<td>Charles Dow</td>
<td>Henri DuPont</td>
<td>Fred Gusmer</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>A.1.c</td>
<td>Describe the common uses for spray polyurethane foam</td>
<td>SPF is used widely in the ___ industry.</td>
<td>Cleaning</td>
<td>Constructio n</td>
<td>Medical</td>
<td>Beauty</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>A.1.c</td>
<td>Describe the common uses for spray polyurethane foam</td>
<td>SPF generally is NOT used as a(n): Adhesive</td>
<td>Insulation</td>
<td>Insecticide</td>
<td>Air barrier</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>
### CSC Cmte Sample Written Skills Exam Questions (S)

<table>
<thead>
<tr>
<th>Job</th>
<th>Learning Objective</th>
<th>Learning Objective ID — OLD#</th>
<th>K, S or Level</th>
<th>Question</th>
<th>Answer 1</th>
<th>Answer 2</th>
<th>Answer 3</th>
<th>Answer 4</th>
<th>Correct Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>O - Jobsite Safety</td>
<td>Estimate the minimum length ladder required to access a given roof height</td>
<td>D.6.c.9, D.6.2.c.1</td>
<td>S</td>
<td>You have to safely access a roof 20 feet above ground level. There are four ladders available, which of the following is the minimum length ladder that can be safely used to access this roof?</td>
<td>20</td>
<td>23</td>
<td>32</td>
<td>40</td>
<td>3</td>
</tr>
<tr>
<td>O - Jobsite Safety</td>
<td>Estimate the minimum base width of scaffolding for a given work platform height</td>
<td>D.6.c.9, D.6.1.d.1</td>
<td>S</td>
<td>You need scaffolding with a working platform height of 32 feet, calculate the minimum width of the base.</td>
<td>8</td>
<td>4</td>
<td>32</td>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>O - Jobsite Safety</td>
<td>Calculate the minimum design weight capacity of a hole cover</td>
<td>D.6.c.9, D.6.3.b.1</td>
<td>S</td>
<td>There is a 4 feet x 4 feet hole on a roof which will be open during construction. For safety sake the hole needs to be covered during construction. The anticipated maximum weight on the hole cover is 500 pounds. Calculate the minimum design support capacity for the hole.</td>
<td>250</td>
<td>500</td>
<td>750</td>
<td>1000</td>
<td>4</td>
</tr>
<tr>
<td>O - Substrate Preparation</td>
<td>Estimate the amount of the primer required for the job</td>
<td>G.2.b.5, G.2.b.1</td>
<td>S</td>
<td>A concrete wall of 5,000 square feet requires primer before spraying. The primer manufacturer recommends 2.5 gallons per 100 square feet. How many gallons are required for the project?</td>
<td>12.5 gallons</td>
<td>1,250 gallons</td>
<td>6.25 gallons</td>
<td>125 gallons</td>
<td>1</td>
</tr>
</tbody>
</table>
• Example: CSC Cmte Master Installer Field Exam Roofing and Insulation
SPFA-QAP’s Certification Scheme Committee (CSC) Handbook documents the input and insight into the certification scheme, examination types, processes, recertification, surveillance activities and related matters.

Insulation, Roofing and Field Examiner versions.
Pilot Programs – November 2012

• Gaco Western – Wisconsin
  – Exam Prep Classes -38
    • Assistant
    • Insulation Installer
    • Field Examiner
  – Self Study Exams -90+
Pilot Programs - January 2013

• Premium Spray – Georgia
  – Exam Prep Classes - 69
    • Insulation Master Installer
    • Insulation Project Manager
    • Field Examiner
  – Self Study Exams -305
  – Field Exams Insulation - 39
Spray FCoam 2013

• Exam Prep Classes - 152
  • Assistant
  • Insulation Installer
  • Insulation Master Installer
  • Insulation Project Manager
  • Field Examiner
  • Roofing Installer
  • Roofing Master Installer
  • Roofing Project Manager

– Self Study Exams – 300 ?
Timeline & Future Focus

• Phase I - 2012
  – Installer Certification (Insulation and Roofing) - Complete
  – Field Examiner Certification - Complete

• Phase II - 2013
  – Contractor (Company/Firm) Accreditation
  – Manufacturer / Systems House Accreditation
  – Distributor Firm Accreditation
2013 QAP Action Items

• Develop Contractor (Company) Accreditation

• Develop Manufacturer Accreditation

• Develop Distributor Accreditation

• Develop Policies and Procedures Manual
2013 CSC Action Items

• Review and Modify Test questions

• Develop Handbooks for
  – Contractor Accreditation
  – Manufacturer Accreditation
  – Distributor Accreditation
2013 Training Committee
Action Items

• Review and Modify Self Study Guides

• Develop Instructor Guide and Instructions
• NEED VOLUNTEERS!!!!!!!!!!
Thank You

Questions?