

GREEN BUILDING

Construction Workers, Safety & Health



W

Sellen



AGENDA: SESSIONS 01 – 04



- 01 ■ Sustainability, Climate & Green Building
- 02 ■ Sites, Water & Materials
- 03 ■ Energy & Atmosphere
- 04 ■ Safety and Indoor Environment



2010 SESSION 4



SESSION 4: AGENDA



- Indoor Air Quality
- Homework Review
- Safety for Green Bldg. Systems
- Evaluation & Feedback



INDOOR AIR QUALITY MANAGEMENT



Goals:

- Establish good indoor air quality
- Eliminate, reduce, manage the sources of indoor pollutants
- Ensure thermal comfort and system controllability
- Provide for occupant connection to the outdoor environment

Facts:

- Americans spend on average 90% of their time indoors where pollutants may run 2-5x higher than the outdoors
- Improved indoor environmental quality improved worker productivity by 16%

INDOOR ENVIRONMENTAL QUALITY



INDOOR AIR QUALITY MANAGEMENT



Indoor Air Quality - construction sequencing



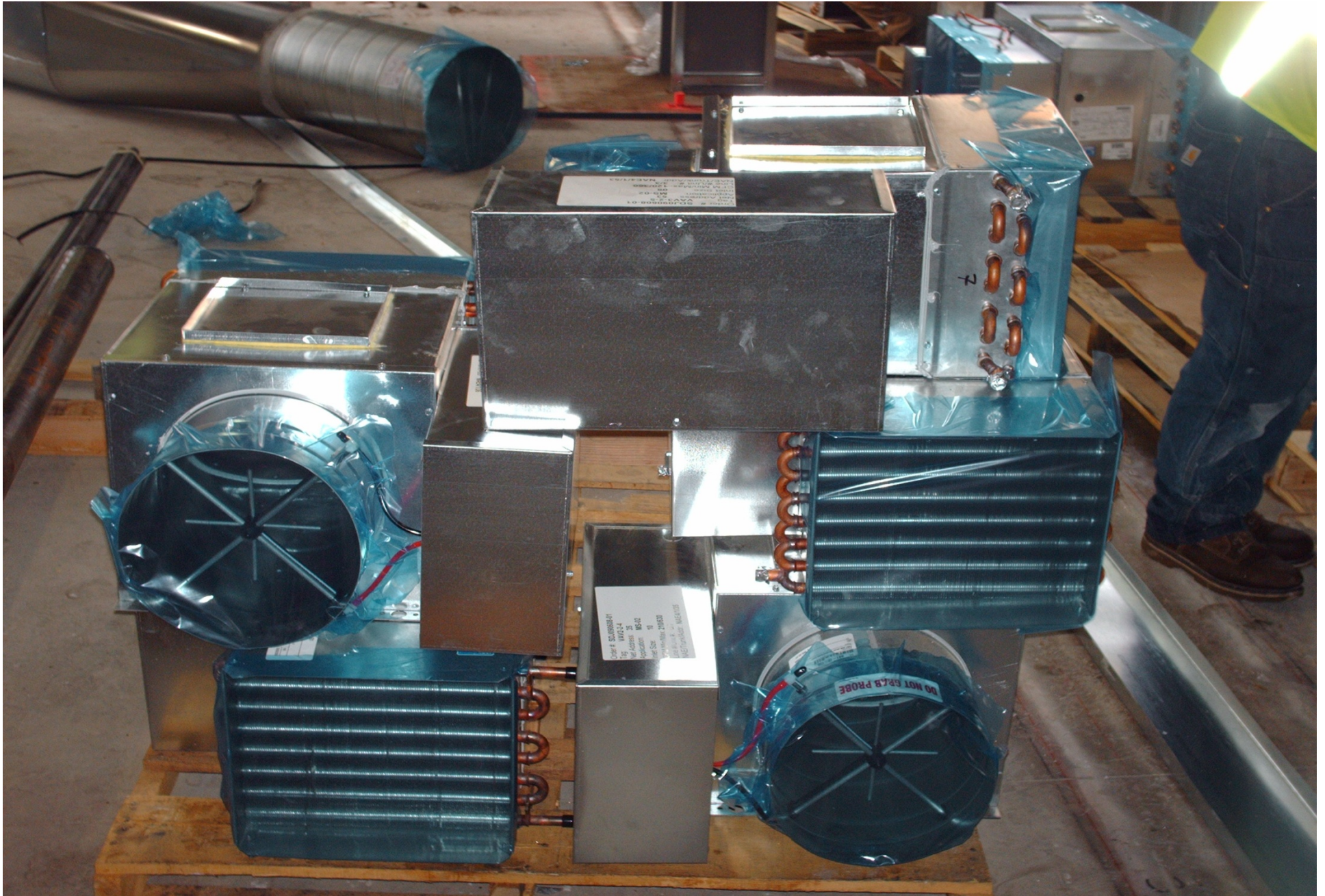
Ductwork contamination prevention



INDOOR AIR QUALITY MANAGEMENT



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INDOOR AIR QUALITY MANAGEMENT



1.03 SUBMITTALS

- A. Submit in accordance with the following:
 1. Samples
 - a. Architect's Representative shall select a minimum of three samples for each material or acceptable facsimiles painted with specified paint or coating in gloss/sheen and textures required to MPI standards, or as specified by Architect. Size should not be less than 12 sq.in.
 - b. Before installation, samples shall be prepared and submitted for review and acceptance. Size should not be less than 12 sq.in.
 - c. For any samples not accepted furnish additional samples as required by Architect. Colors, finishes, and textures are acceptable and Architect issues authorization to proceed.
 - d. When accepted, samples shall become standard of quality for application on site surface with one of each sample retained on-site.
 2. Subcontractor's Written Qualifications. Furnish written qualifications attesting to satisfactory experience. List last three jobs. Include following information:
 - a. Start and completion dates.
 - b. Architect/Owner's Representative phone number.
 - c. Amount of Subcontract cost.
 3. Materials and Products Lists (typewritten): Submit complete lists of products and specified products.
 - a. Arrange in same format as schedule this Section.
 - b. Include applicable manufacturer's recommendations.
 - c. Include additional information requested by Architect.
 4. LEED Submittals:
 - a. Credit EQc4: Complete the LEED VOC Submittal Form for each sealant, paint and primer product used on the inside of the vapor barrier of the building.
- B. Site samples, Mock-Ups: Include 100 sq.ft. "brushouts" for Architect's review and acceptance. Architect may request samples on walls and ceilings and require mock up of

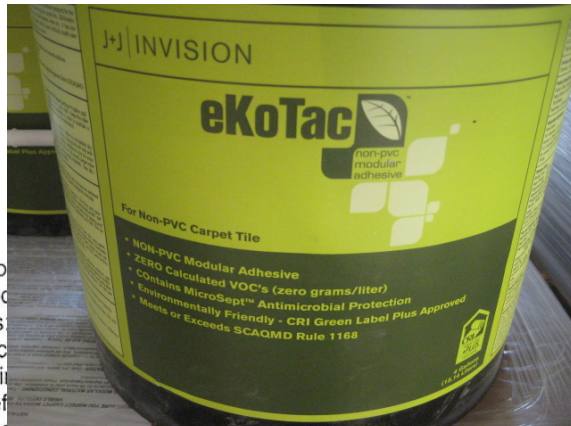


Table 1: South Coast Rule # 1168 VOC Limits, Less Water and Less Exempt Compounds

Architectural Adhesives Applications	VOC Limit [g/L]	Welding & Installation	VOC Limit [g/L]
Indoor Carpet Adhesives	50	PVC welding	510
Carpet Pad Adhesives	50	CPVC welding	490
Outdoor Carpet Adhesives	150	ABS welding	400
Wood Flooring Adhesives	100	Plastic cement welding	350
Rubber Floor Adhesives	60	Adhesive primer for plastic	650
Subfloor Adhesives	50	Contact Adhesive	80
Ceramic tile installation	65	Special Purpose Contact Adhesives	250
VCT and Asphalt Tile Adhesives	50	Structural Wood Member Adhesive	140
Dry Wall and Panel Adhesives	50	Sheet Applied Rubber Lining Operations	850
Cove base installation	50	Top and Trim Adhesive	250
Multipurpose Construction Adhesives	70	Sealants	
Structural Glazing Adhesives	100	Architectural	250
Substrates		Porous Architectural Sealant Primer	775
Metal to metal	30	Non-porous Architectural Sealant Primer	250
Plastic foams	50		
Porous material except wood	50		
Wood	30		
Fiberglass	80		



INDOOR AIR QUALITY MANAGEMENT



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INDOOR AIR QUALITY MANAGEMENT



After installation of ductwork, materials remain covered, such as the floor diffusers and future diffuser locations..

MERV 8 filters are used as a temporary filtration media. These are changed periodically throughout construction until final trim-out.





INDOOR AIR QUALITY MANAGEMENT



Low VOC's, no urea-formaldehyde, recycled content



Day lighting, operable windows, HVAC sensors

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CONSTRUCTION WORKERS, SAFETY & HEALTH



Improved Worker Safety and Health



- Material with lower VOC's and fewer chemicals
- Indoor Air Quality Management protocol
- Cleaner jobsites tend to have fewer accidents



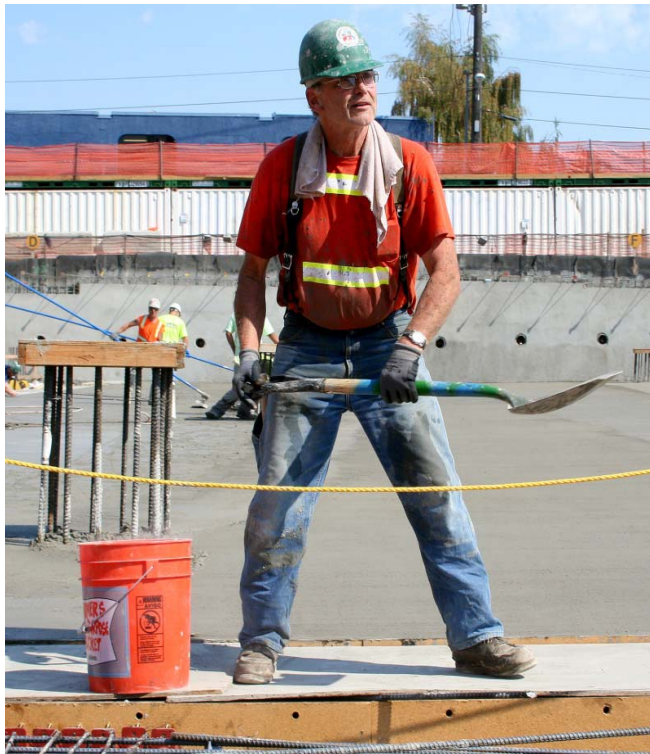


SESSION 4: AGENDA



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SAFETY & GREEN BUILDINGS



- Safety as standard practice
- New Green Building Systems & worker safety
- Green Buildings improving worker safety

Standard Safety Protocol



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STANDARD SAFETY PROTOCOL



- Asphalt paving



Source: National Institute for Occupational Safety and Health



STANDARD SAFETY PROTOCOL



- Compact fluorescent bulbs

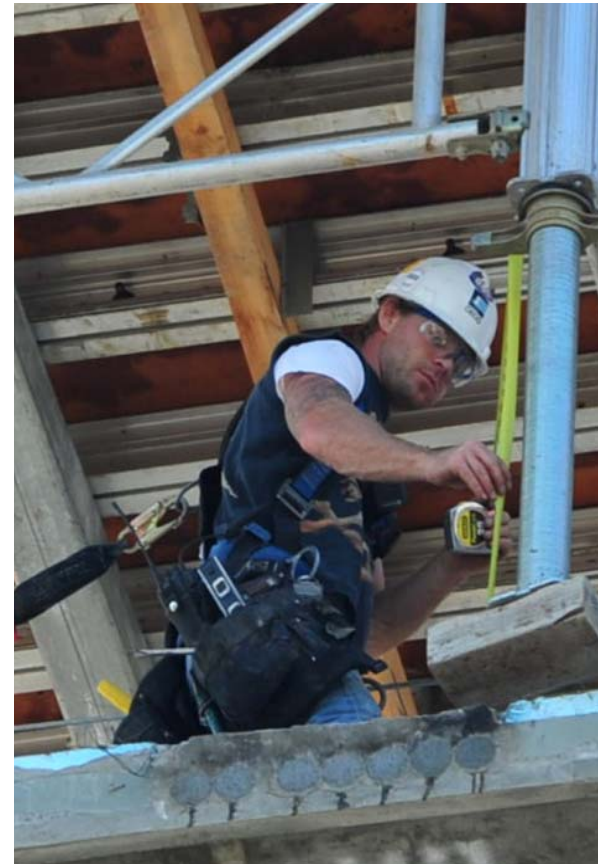




NEW GREEN BUILDING SYSTEMS



- Solar hot water – evacuated tubing
- Vegetated roofing
- Rain water collection
- Geo thermal wells
- Skylights



Green Roofing



4-30-08

SKY-PIX
800.325.4342

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RAIN STORAGE SYSTEMS



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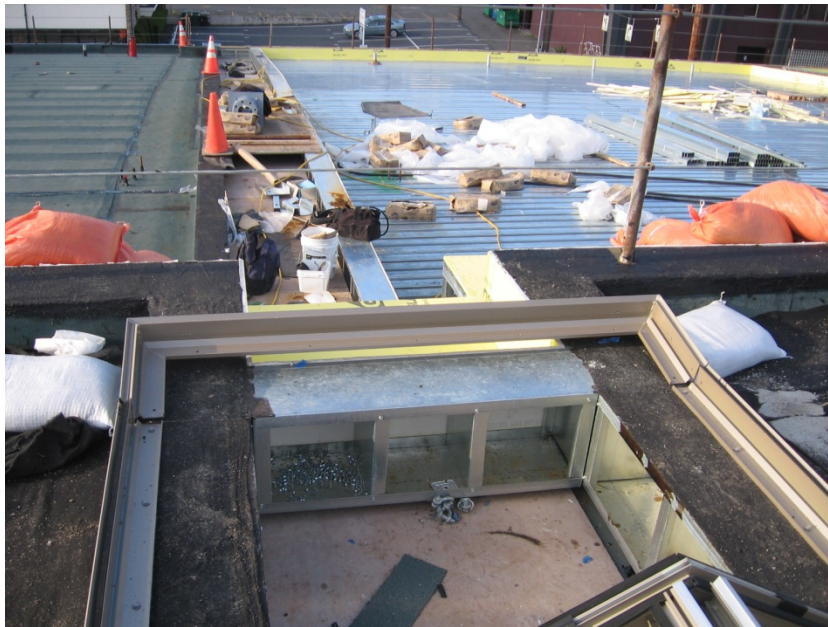


Skylight & Roofing Safety

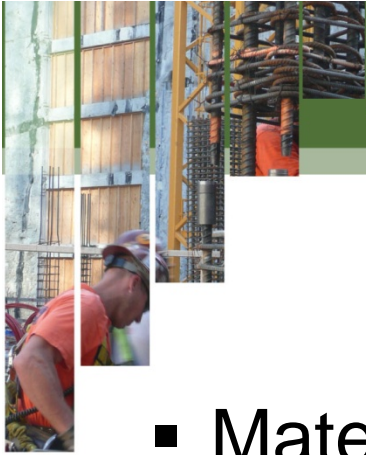
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SKYLIGHT & ROOFING SAFETY



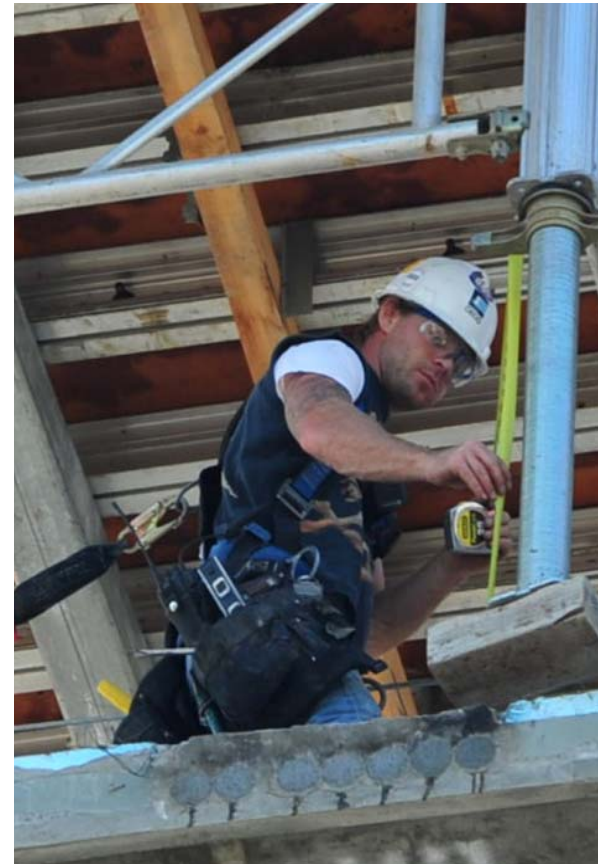
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IMPROVED WORKER SAFETY



- Material with lower VOC's and fewer chemicals
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