





CERTIFIED ENERGY EXPERT®
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COLLABORATE TO ACCELERATE

2024 NATIONAL MEETING

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DIFFERENTIATING IN A CROWDED SPRAY FOAM MARKET

NATURAL POLYMERS TECH TEAM:



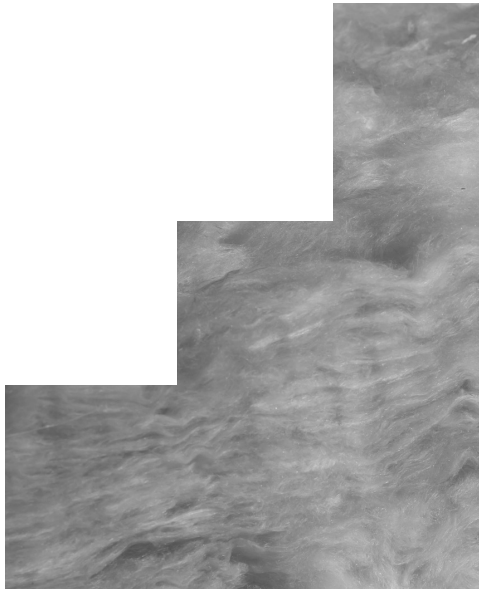
Seth Dodge



Jim Watkins



Archi Gardner





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KEY DIFFERENTIATORS

Safety

Quality

Sprayer Retention



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DIFFERENTIATE WITH SAFETY: EMISSIONS

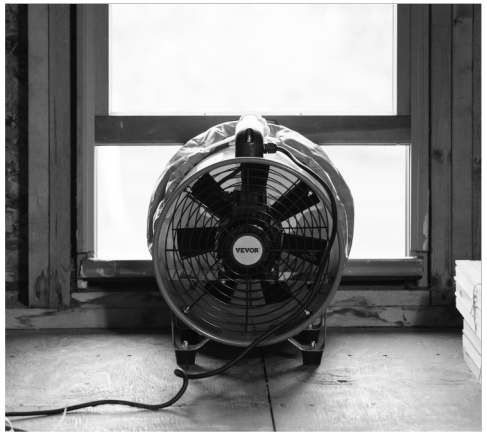
VOC (Volatile Organic Compounds) Redeposition

GreenGuard Gold Standard

GREENGUARD GOLD

PROCESS is just as important as PRODUCT.

DIFFERENTIATE WITH SAFETY: VENTILATION



- Section off spray-zone
- Create negative air pressure (Remove more air than you supply)
- Use cross-ventilation to achieve min.10 ACH
- Meet ACH requirements (necessary to achieve re-entry/re-occupancy times)

DIFFERENTIATE WITH SAFETY: VENTILATION

Spray Foam Ventilation Calculator

Keep installers safe! Let us help you calculate how much ventilation is needed during a spray foam insulation project.

Dimensions

Room Shape

- (•) Triangle (attic)
- ( ) Square/rectangle (room)

Enter the dimensions of your attic:

Length (ft)		Width (ft)
20	X	10

Height (ft)

8

Air Changes per Hour (ACH)

10

Minimum of 10 ACH required; more is better

VIEW RESULTS

EXAMPLE FAN REQUIREMENTS

(No Bends in Exhaust Line)*

133

Target CFM

# 12 INCH FANS	OR	# 10 INCH FANS	OR	# 8 INCH FANS
2200 CFM		1500 CFM		600 CFM
1		1		1

* Bending of exhaust line will reduce CFM output

Use of Filters: Use of filters on fan intakes is recommended and may reduce fan output.

Calculation Method: For further guidance and for calculation method, visit the ACC website.

Estimating Dimensions: Many rooms may have complicated layouts and ceiling constructs, which can make calculating dimensions more difficult. When estimating approximate dimensions, ensure values are estimated on the larger size.

Duration of Fan Operation: minimum of two hours post spraying; however, longer is better.

Disclaimer:
The estimated fan requirements are based on the dimensions entered into the calculator. The fan(s) should be appropriately sized for the workspace and strategically placed to ensure an even distribution of air and fume removal. It is the contractor's responsibility to insert accurate dimensions and ensure adequate ventilation.



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DIFFERENTIATE WITH SAFETY: PROCESS RESULTS

- Measure TVOC's before and after install. (Net VOC increase)
- Steward your business and the industry well.

DIFFERENTIATE WITH QUALITY: DRUM CONDITIONING



- Conditioned Storage
- Blanket or plate heaters
- Impact of over-heating chemical
- Know and follow manufacturer application guidance

DIFFERENTIATE WITH QUALITY: DENSITY CHECK





Preliminary testing suggests up to 30% off ratio before we can see it visually in the foam.



Validate physical properties after you spray.

DIFFERENTIATE WITH QUALITY: DENSITY DEMO

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DENSITY CHECK INSTRUCTIONS

WHAT YOU NEED

- 1000 ml graduated cylinder
- Gram scale
- Sharp knife to prepare a sample
- Calculator

COLLECT A SAMPLE

- Should weigh 5.5–10 g
- Trim to easily fit the graduated cylinder
- Should not have any internal or external "skins"



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THE CALCULATION

1. **Weigh the sample.**
   Weight _____ grams
2. **Fill the cylinder 2/3 with water and record water level.**
   Initial Level _____ ml
3. **Submerge sample fully and record the water level.**
   Submerged Level _____ ml
4. **Submerged Level _____ ml – Initial Level _____ ml = Volume _____ ml**
5. **Density = Weight / Volume X 62.43**
   _____ lb/cu.ft = _____ g / _____ ml X 62.43

*** Target Density: 1.85–2.15 g ***

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DIFFERENTIATE WITH QUALITY: RECORD KEEPING



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DAILY JOB SITE LOG

Company _____ Applicator _____

Date _____ Applicator _____

Site Information

Project _____

Customer _____ Contact Name _____

Site Address _____

Product Information

Product _____ Product _____

Lot # MDI _____ Expiration _____ Lot # MDI _____ Expiration _____

Lot # Resin _____ Expiration _____ Lot # Resin _____ Expiration _____

Usage _____ Gallons/Cycles Usage _____ Gallons/Cycles

Equipment Information

Rig Name/Number _____ Gun _____

Proportioner _____ Mixing Chamber _____

Rig Heat Used/Blankets _____ Air Supply Pressure _____

Known Equipment Issues/Maintenance _____

Environmental Conditions

Substrate Type _____

Substrate Preparation _____

Substrate Temp	AM _____	Noon _____	PM _____
Substrate Moisture	AM _____	Noon _____	PM _____
Ambient Temp	AM _____	Noon _____	PM _____
Humidity	AM _____	Noon _____	PM _____
Dew Point	AM _____	Noon _____	PM _____

Material Conditioning

Product _____ Product _____

Initial MDI Drum Temp _____ Initial MDI Drum Temp _____

Initial Resin Drum Temp _____ Initial Resin Drum Temp _____

Drum Heating Method _____ Drum Heating Method _____

In-Use MDI Drum Temp _____ In-Use MDI Drum Temp _____

In-Use Resin Drum Temp _____ In-Use Resin Drum Temp _____

Product Mixed ☐ Yes ☐ No Product Mixed ☐ Yes ☐ No

Product Mixed ☐ Yes ☐ No Product Mixed ☐ Yes ☐ No

Ventilation Conditions

Mechanical Ventilation ☐ Yes ☐ No Fans Left ☐ Yes ☐ No

ACH Target _____ Time _____

Estimated Air Volume _____ TVOC Before _____

Fans Used (Number) _____ TVOC During _____

Fans Used (Size) _____ TVOC End _____

TVOC After Fan Removal: _____

Processing Information

Hose Heat Start _____ Hose Heat Settle _____

A Preheat Start _____ A Preheat Settle _____

B Preheat Start _____ B Preheat Settle _____

Pressure Static _____ Pressure Dynamic _____

Inlet Pressure _____ Inlet Temp _____

Test Results

Mass (g) _____ Adhesion ☐ Pass ☐ Fail

Volume (ml) _____

Density= (Mass/Volume X 62.43) _____

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ENGAGING THE NEW GENERATION

DIFFERENTIATE WITH RETENTION:

The construction industry will need to attract an estimated 501,000 additional workers on top of the normal pace of hiring in 2024 to meet the demand for labor, according to a proprietary model developed by Associated Builders and Contractors.

ABC: 2024 Construction Workforce Shortage Tops Half a Million | Contractor (contractormag.com)



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DIFFERENTIATE WITH RETENTION:

Invested In

Given Opportunities

Rewarded For Their Effort