EPA United States Environmental Protection Agency

Complete IAQ Made Easier

Plain Speak on How to Find, Evaluate, and Specify the Right Products

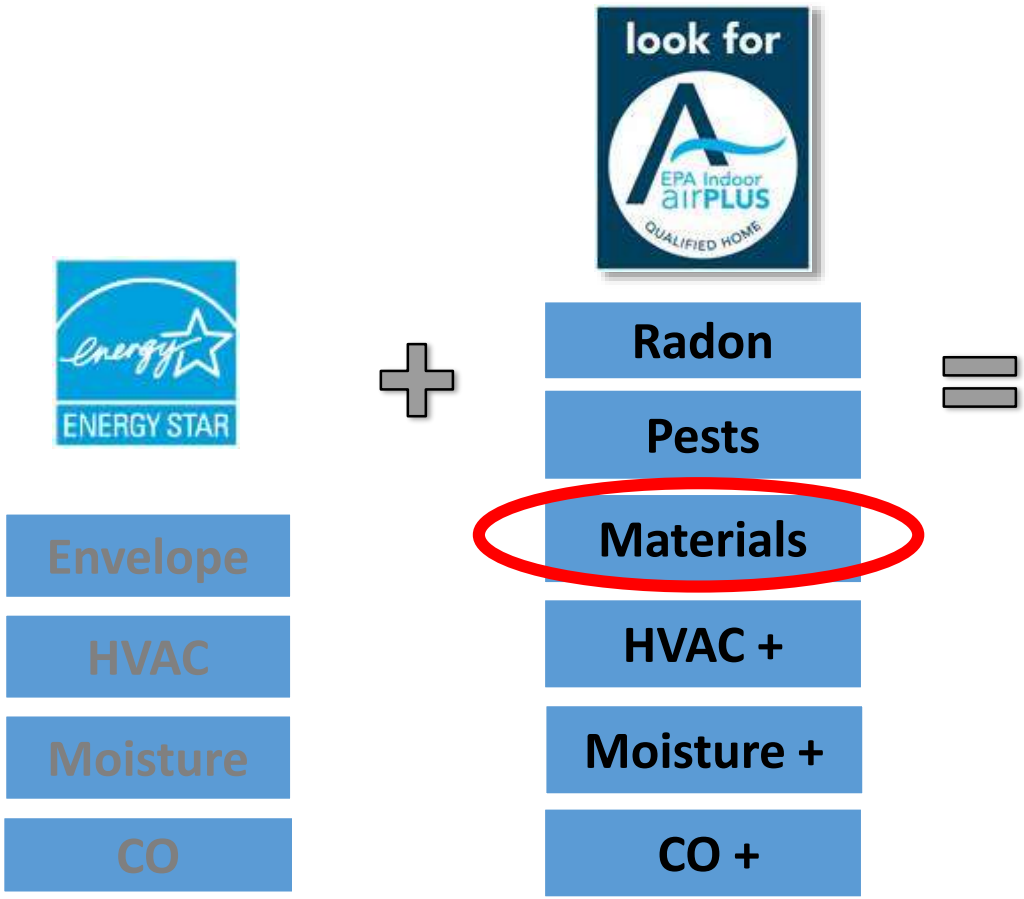
RESNET Building Performance Conference

March 2, 2016

Agenda

- Why Low-emission Materials?
- VOC and Product Labeling Basics
- Exploring IAP Section 6 and Available Products
- Additional Resources
- Q&A

ENERGY STAR + Indoor airPLUS



1. **Better durability**
2. **Less long-term maintenance**
3. **Comprehensive Indoor Air Quality protection**
4. **A safer, healthier home**

Note: 3rd-party verification for Indoor airPLUS can generally be done with the same 2 inspections during ENERGY STAR verification

Volatile Organic Compounds (VOCs)

- Large group of carbon based chemicals that easily evaporate at room temperature
- Examples: acetone, benzene, formaldehyde, perchloroethylene
- Many products release (off-gas, emit) VOCs; emissions highest when new
- Levels in homes depend on many factors: e.g., amount of the VOC, rate of release, room volume, ventilation rate, etc.
- VOC levels in homes can be 2-5 higher than outdoors, sometimes 100 times higher during and immediately after product use

Potential Health Effects of VOCs

Acute/Short term:

- Sensory irritation
- Headaches
- Dizziness, nausea
- Allergies
- Asthma

Chronic/Long term:

- Increased risk of cancer
- Potential liver, kidney, central nervous system damage

Why so much emphasis on formaldehyde?

- Widely used in building materials and household products; also a by-product of combustion and natural processes
- In 1992, formaldehyde listed by the California Air Resources Board (CARB) as a Toxic Air Contaminant with no safe level of exposure.
- International Agency for Research on Cancer concluded that formaldehyde is a carcinogen.
- Formaldehyde has been linked to the exacerbation of asthma in formaldehyde-sensitive individuals, and possibly other asthmatics.
- Formaldehyde also has non-cancer effects such as eye, nose, and respiratory irritation, difficulty breathing, nausea.

http://www.arb.ca.gov/toxics/compwood/factsheet.pdf

Communicating the “Why” Keep it Simple:

Benefits of an Indoor airPLUS Qualified Home

Source: USEPA

Mold and Moisture Control

Paying close attention to moisture details:

- Increases structural durability
- Reduces the potential for mold-related health issues
- Prevents recurring maintenance issues

Homeowner Education

Indoor airPLUS homebuyers receive:

- An Indoor airPLUS label and certificate
- A list of features included in their home
- Instructions for regular equipment maintenance

Radon Control

In high risk areas, radon control systems help reduce the risk of lung cancer from radon gas.

Heating, Ventilation and Air-Conditioning

A well-designed HVAC system provides:

- Improved comfort
- Humidity control
- Enhanced filtration
- Clean, well-sealed ductwork

Indoor airPLUS construction specifications are designed to help improve indoor air quality (IAQ) in new homes compared with homes built to minimum code. However, these features alone cannot prevent all IAQ problems. Occupant behavior is also important for IAQ. For example, products used in the home after occupancy and smoking inside may both negatively impact the home's IAQ and the performance of the specified Indoor airPLUS features.

See: http://www.epa.gov/indoorairplus/ for more information.

Building Materials

Choosing low-emission building materials:

- Lowers exposure to Volatile Organic Compounds (VOCs)
- Reduces the potential for health problems
- Minimizes "chemical smell" in the home

Combustion Pollutant Control

Careful attention to venting and combustion sources:

- Reduces pollutants in living spaces
- Minimizes CO exposure
- Provides peace-of-mind for everyone in the home

Pest Barriers

Blocking pest entry:

- Keeps the home cleaner
- Limits allergens, germs, and asthma triggers
- Prevents potential pest damage

What are the Requirements?

6.1 – Composite Wood

Structural panels, cabinetry, shelving, trim, doors, stair treads, flooring, etc.

6.2 - Interior Paints and Finishes

Site-applied coatings only, but not simply "low-VOC".

Indoor airPLUS – Section 6

Low-emission Materials

6.3 – Carpet and Carpet Adhesives

CRI Green Label

6.4 – Adhesives and Sealants

Recommended but not yet required.

VOC and product labeling basics

- Complex and evolving field
- VOCs have been regulated under the Clean Air Act (CAA) for decades
- BUT CAA is only concerned about VOCs that react with sunlight to form ground level ozone in outdoor air
  - Indoor air was not considered in the Clean Air Act
  - Some VOCs are exempt from CAA but may still be of concern indoors
- Ramifications:
  - Early standards for low emission products only concerned with not exceeding the regulatory VOC limits
  - Led to a CONTENT-based system of evaluating VOC s in products based on the weight or volume of *regulated* VOCs that go into the product
  - No attention to what VOCs are actually emitted into indoor air

VOC and product labeling basics

- The indoor air field is concerned with what people, particularly kids and susceptible populations, are breathing in their homes, schools, and other buildings
- What goes in is not necessarily what comes out
- Content-based standards have generally gotten better. e.g., some but not all programs prohibit specific VOC constituents, some address colorants added at point-of-sale
- The only way to know what VOCs are being emitted is to conduct emission testing
- EPA has not established emission limits for indoor VOCs but a national formaldehyde emissions standard for composite wood products is coming

Why 3rd party standards and verification programs?

- Verify product claims
- Add credibility to manufacturer claims
- Increase transparency
- Consensus standards ensure broad stakeholder input and support
- Reduce greenwashing
- EPA does not establish emission limits for products used indoors

Why are there *so many* labels and programs referenced?

- Indoor airPLUS requirements provide a range of options
  - Some are very rigorous
  - Others are a lower bar (mostly content-based) because availability of products meeting more rigorous labels and standards may not be widespread
- Builders only need to meet ONE of the identified standards or certifications for a product
- In many cases, different industry and 3rd party labeling programs are actually certifying to the same underlying standard, e.g.
  - CARB Phase 2
  - California Specification 01350 for Emissions

What is CARB Phase 2?

- California Air Resources Board (CARB) established mandatory emission performance standards on particleboard, medium density fiberboard, and hardwood plywood
- Airborne Toxic Control Measure (ATCM) to Reduce Formaldehyde Emissions from Composite Wood Products (AKA CA 93120)
- Phase 2 refers to more stringent emission limits that went into effect from 2010-2012
- Complying materials must be used in finished goods
- Compliant products must be labeled
- Federal composite wood standards are coming this year
  - Federal law required EPA to match the CARB Phase 2 limits
  - http://www.epa.gov/formaldehyde/

CARB Emissions Standard for Formaldehyde

Phase 1 Emission Standards (in parts per million (ppm))					
Effective Date	HWPW-VC	HWPW-CC	PB	MDF	tMDF
January 2009	0.08	-----	0.18	0.21	0.21
July 2009	-----	0.08	-----	-----	-----
Phase 2 Emission Standards					
January 2010	0.05	-----	-----	-----	-----
January 2011	-----	-----	0.09	0.11	-----
January 2012	-----	-----	-----	-----	0.13
July 2012	-----	0.05	-----	-----	-----

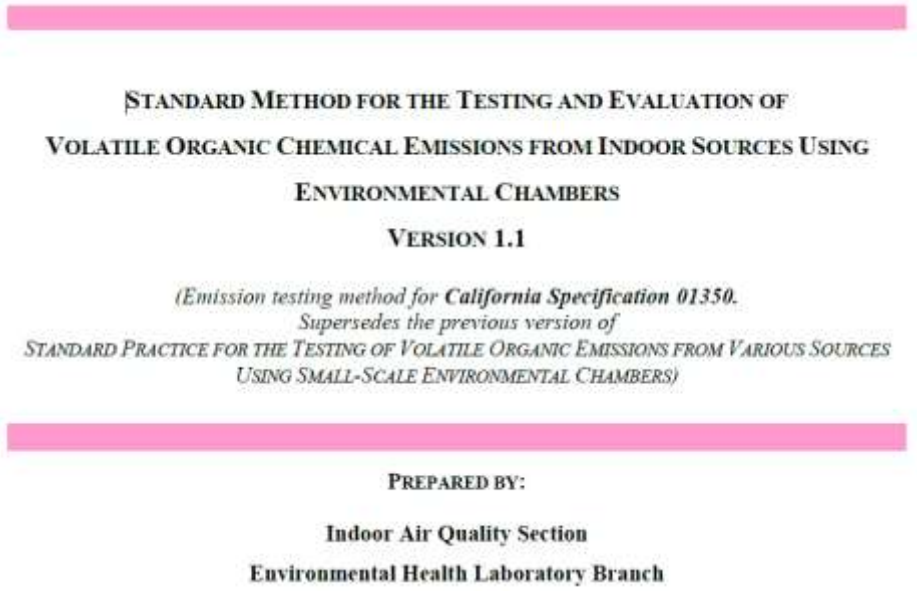
"Prior to the Composite Wood Product Regulation, formaldehyde emissions were often ten to twenty-fold higher than the current allowable levels."

--CARB

http://www.arb.ca.gov/toxics/compwood/factsheet.pdf

What is California Specification 01350?

- California Section 01350 for VOC Emissions (CDPH/EHLB Standard Method 1.1-2010)
- Widely used in numerous labeling and product verification programs
- Considered the current best practice for evaluating emissions from products



STANDARD METHOD FOR THE TESTING AND EVALUATION OF VOLATILE ORGANIC CHEMICAL EMISSIONS FROM INDOOR SOURCES USING ENVIRONMENTAL CHAMBERS

VERSION 1.1

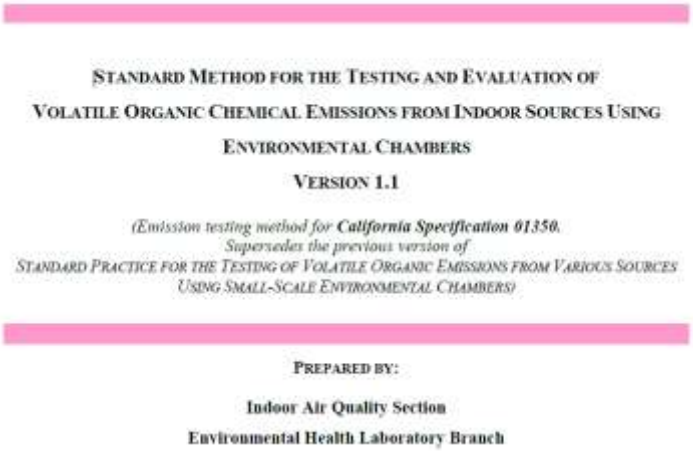
*(Emission testing method for **California Specification 01350.***
Supersedes the previous version of
STANDARD PRACTICE FOR THE TESTING OF VOLATILE ORGANIC EMISSIONS FROM VARIOUS SOURCES USING SMALL-SCALE ENVIRONMENTAL CHAMBERS)

PREPARED BY:

Indoor Air Quality Section
Environmental Health Laboratory Branch

CDPH Standard Method 1.1

"This method applies to any product category generally used within the envelope of an enclosed indoor environment. The method is applicable to products that can be tested whole or by representative sample in environmental chambers. This includes, as examples, paints, other architectural coatings and finishes, sealants, adhesives, wallcoverings, floor coverings, acoustical ceilings, wood paneling, wall and ceiling insulation used in public and commercial office buildings, schools, residences and other building types. "



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VOC and Product Labeling Basics

- The third-party programs referenced in the Indoor airPLUS specs include U.S. programs that are designed to reduce human exposure indoors to individual VOCs of potential concern for human health effects.
- Indoor airPLUS requirements are intended to establish best practices for builders in offering safer, healthier homes.

Low-Emission Materials

Notable Changes in Revision 3

1. **A supplementary low-emission material resource** now provided to assist builders and Raters in finding compliant products

2. Item 6.1 has been revised to add clarification regarding low-formaldehyde composite wood (**CARB 2 or California Phase 2** products are all compliant)

3. **Additional 3rd-party labels are referenced**: (ECC Sustainability Standard, GREENGUARD, Green Wise, etc.)

How to Find Indoor airPLUS Compliant Low-Emission Products

6.2 Interior Paints and Finishes

Requirement: At least 90 percent of the interior surface area covered by site-applied paints and coatings shall use low-VOC or no-VOC products certified by one of the following third-party standards or certifications:

Meet at least one of the standards below	How to find compliant products
GREENGUARD or GREENGUARD GOLD Certification for Paints and Coatings	**Look for GREENGUARD labels on products, packaging, or spec sheets:** Search for GREENGUARD and GREENGUARD Gold certified paint and coating products at: http://productguide.ulenvironment.com/SearchResults.aspx?CategoryID=15&SubCategoryID=28
Scientific Certification Systems (SCS) Standard EC-10.2-2007 or Indoor Advantage Gold	**Look for the Indoor Advantage Gold label on products, packaging, or spec sheets.** OR find Scientific Certification Systems certified products at: http://www.scsglobalservices.com/certified-green-products-guide?scscertified=1
CA Section 01350 (CDPH Standard Method V1.1-2010)	**Look for low-emitting products found in the CHPS database.** CA 01350 Certified products can be found in the Collaborative for High Performance Schools searchable high performance product database under the category "Interior Finish and Trim" with attribute "Low Emitting Material: http://www.chps.net/dev/Drupal/node/445
Green Seal Standard GS-11	**Look for the Green Seal label on products, packaging, or spec sheets:** Green Seal Standard GS -11 products: http://www.greenseal.org/FindGreenSealProductsandServices.aspx?vid=ViewProductDetail&cid=0&sid=6
Green Wise and Green Wise Gold products	**Look for the Green Wise labels on products, packaging, or spec sheets.** Find Green Wise and Green Wise Gold products: http://greenwisepaint.com/products/interior-top-coat
Master Painters Institute (MPI) Green Performance [8] Standards X-Green, GPS-1 or GPS-2.	**Look for the MPI labels on products, packaging, or spec sheets:** Find MPI approved products: http://www.paintinfo.com/mpi/approved/Specification_index.shtml

What are the Requirements?

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Indoor airPLUS – Section 6

Low-emission Materials

6.3 – Carpet and Carpet Adhesives

CRI Green Label

6.4 – Adhesives and Sealants

Recommended but not yet required.

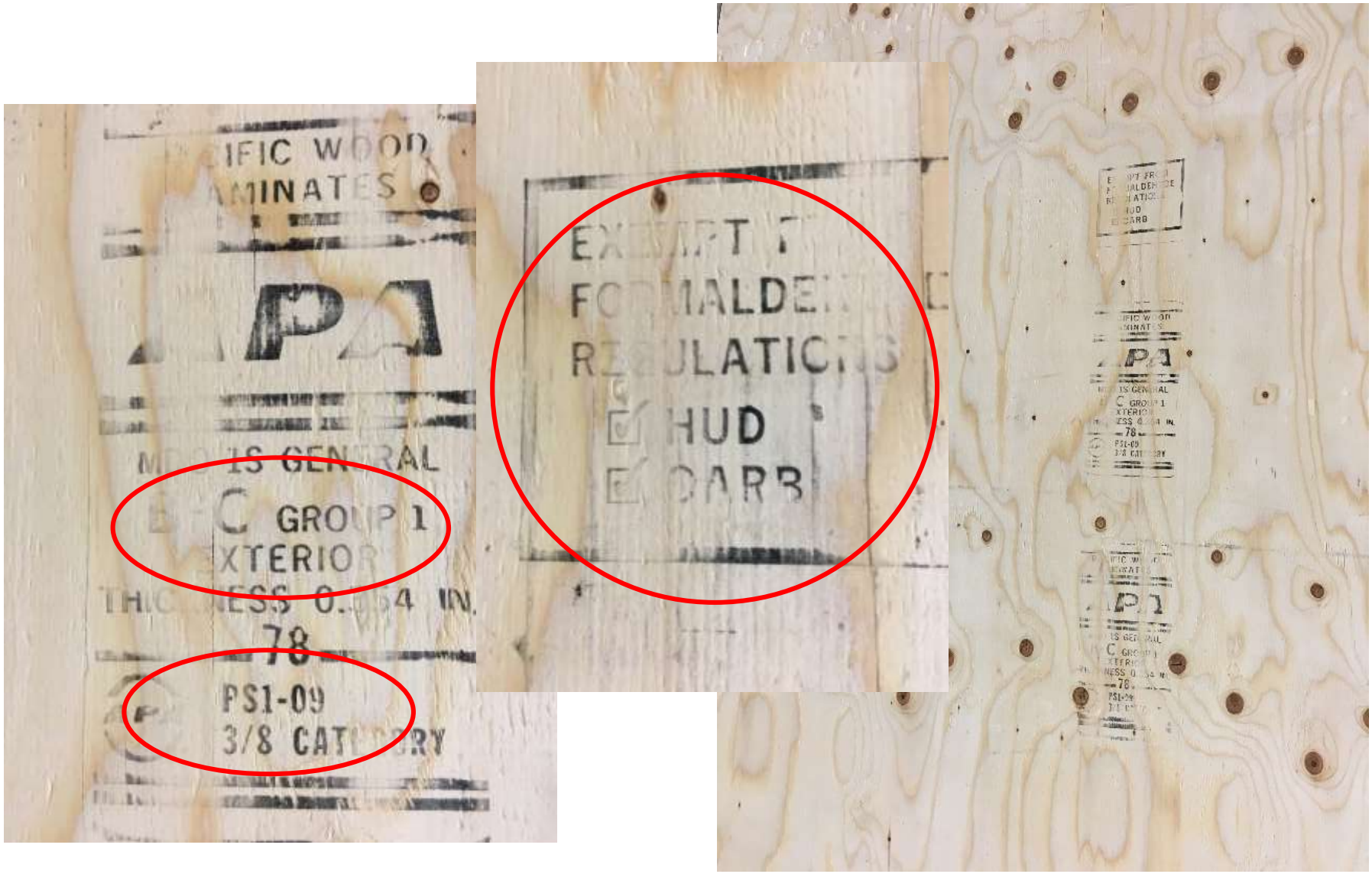
6.1 – Composite Wood

Structural plywood and oriented strand board (OSB)

Requirement: Use only products certified as compliant with PS1 or PS2, as appropriate, and made with moisture-resistant adhesives as indicated by "Exposure 1" or "Exterior" on the American Plywood Association (APA) trademark.

Meet either standard below	How to find compliant products
PS 1-09 or ***PS 2-10***	**Look for the APA PS1 or PS2 label.** Building codes in the U.S. require use of PS-1 or PS-2 panels when used for structural purposes. These products are widely available. List of manufacturers that produce APA PS1 or PS2 products: http://www.apawood.org/plywood

6.1 Composite Wood – Structural Wood Panels

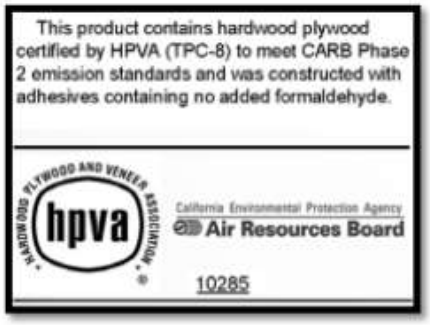


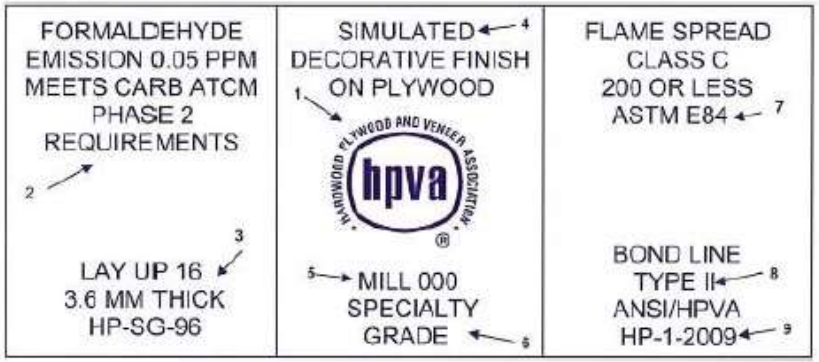
6.1 Composite Wood – Structural Wood Panels

Hardwood Plywood

Requirement: Use only hardwood plywood products certified as compliant with Formaldehyde emissions requirements of ANSI/HPVA HP-1-2009; **OR** CA Airborne Toxics Control Measure (ATCM) to Reduce Formaldehyde Emissions from Composite Wood Products.

Meet either standard below	How to find compliant products
ANSI/HPVA HP-1-2009	**Look for the HPVA HP-1 label on products, packaging, and/or spec sheets.** The HPVA HP-1 certification label demonstrates compliance below California ATCM for formaldehyde and HUD Title 24 formaldehyde levels. Find HPVA / TPC-8 CARB Compliant Composite Wood Products Manufacturers here: http://www.hpva.org/sites/default/files/CARB%20TPC8%20LIST%202015-6-4.pdf





6.1 Composite Wood – Hardwood Plywood

EPA Indoor airPLUS

6.1 Composite Wood - HWPW

6.1 Composite Wood - HWPW

Particleboard & MDF

Particleboard and Medium Density Fiberboard (MDF) Products

Requirement: Use only particleboard and MDF products certified as compliant with the California ATCM to Reduce Formaldehyde Emissions for Composite Wood Products, **OR** formaldehyde emissions requirements of ANSI A208.1 and A208.2, respectively, **OR** certified compliant with the ECC Sustainability Standard by the Composite Panel Association (CPA), **OR** certified as GREENGUARD or GREENGUARD GOLD.

Meet at least one standard below	How to find compliant products
ANSI A208.1-2009 (Particleboard) *ANSI A208.2-2009 (MDF)*	**Look for ANSI A208.1 or ANSI A208.2 on products, packaging, and/or spec sheets.** Note: These standards are also incorporated into other listed programs and labels.
Eco-Certified Composite (ECC) Sustainability Standard by the Composite Panel Association (CPA) CPA 4-11	**Look for ECC label on products, packaging, and/or spec sheets.** ECC Certified Companies: http://www.decorativesurfaces.org/cpa-green/ecc-certified-companies.html Companies and facilities that offer "no added formaldehyde" (NAF), ultra-low emission formaldehyde (ULEF), and/or CARB Phase 2 certified emission levels as part of their product offerings can be found here: http://www.decorativesurfaces.org/cpa-green/naf-nauf-ulef.html *Note: Products only labeled as "No added urea formaldehyde" (NAUF) are not addressed by CARB and are not compliant with Indoor airPLUS.*

24 Manufacturers listed

32 Manufacturers listed

NAF…ULEF… NAUF… ???

6.1 Composite Wood - NAF…ULEF…NAUF

- GREENGUARD or GREENGUARD GOLD Certification for Cabinetry.

Note: "No added formaldehyde" (NAF) or "Ultra-low emitting formaldehyde" (ULEF) products that are specifically exempted from the California ATCM to Reduce Formaldehyde Emissions from Composite Wood Products are compliant with Indoor airPLUS.

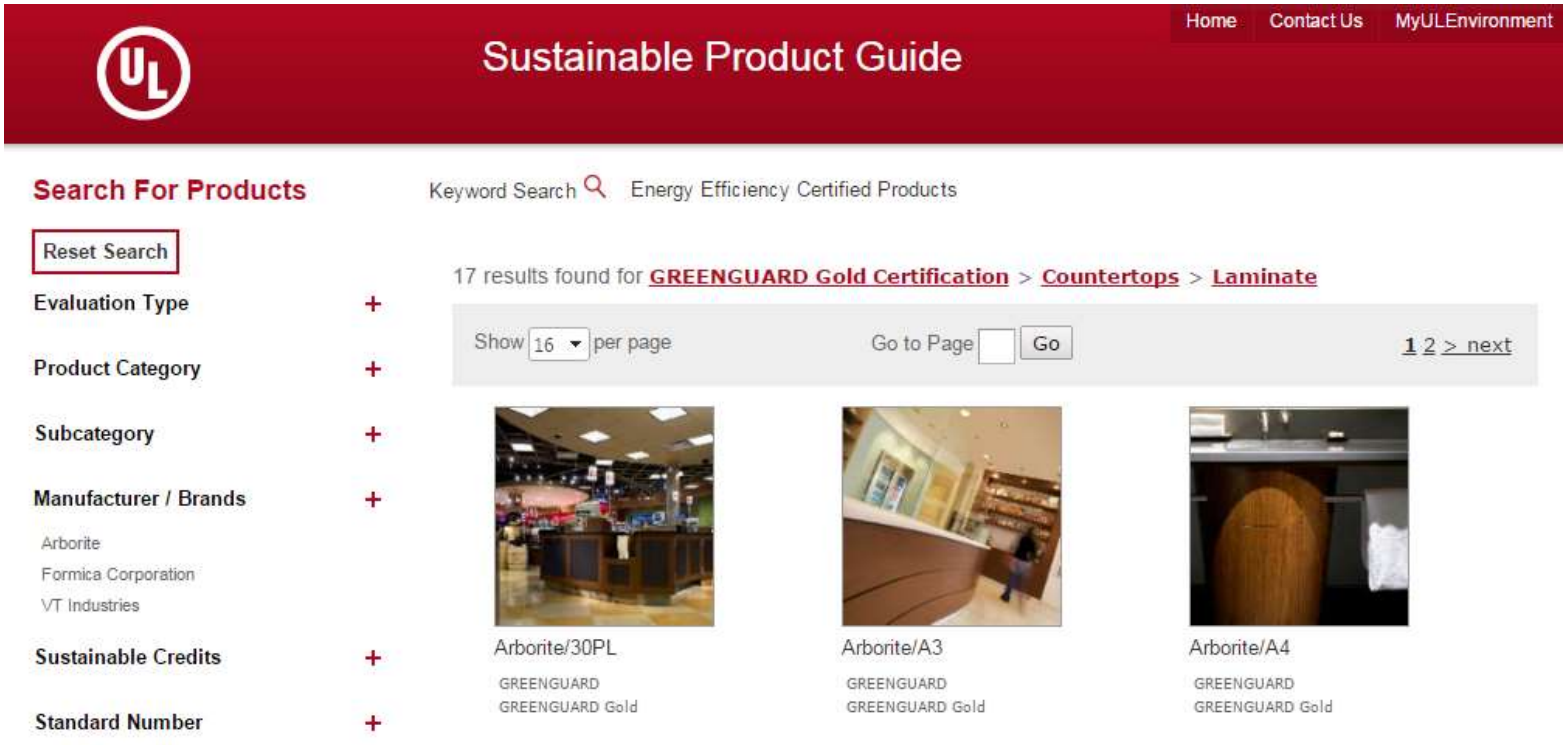
6.2 Interior Paints and Finishes

- NAF – No added formaldehyde
- ULEF – Emissions are consistently below Phase 2 standards
- NAUF – Products labeled only as "No added urea formaldehyde" are not addressed by CARB and are not compliant with Indoor airPLUS

For more info:
http://www.arb.ca.gov/toxics/compwood/naf_ulef/naf_ulef.htm

Particleboard & MDF

GREENGUARD or GREENGUARD Gold Certification	For a list of GREENGUARD or GREENGUARD Gold certified products, visit: http://productguide.ulenvironment.com/SearchResults.aspx?CertificationID=1



Search for GREENGUARD and GG Gold products under:

- Adhesives/Sealants
- Cabinetry
- Countertops
- Flooring
- Panels, Surfacing Materials, etc.

Indoor Air Quality (IAQ)

6.1 Composite Wood – What about flooring?

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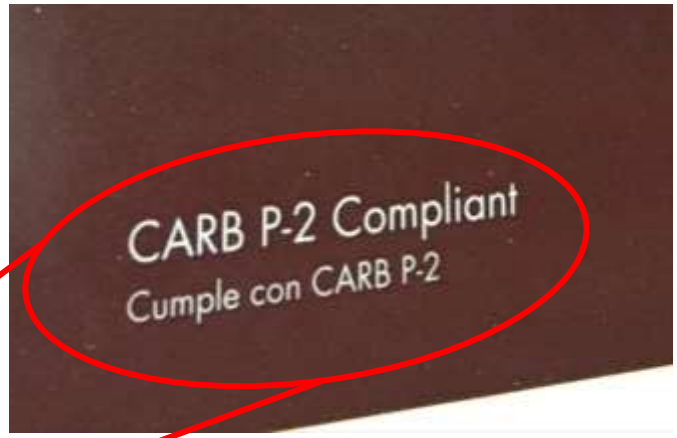
6.1 Composite Wood – Particleboard



6.1 Composite Wood - MDF

6.1 Composite Wood – MDF (Wainscot Panel)

6.1 Composite Wood – Cabinetry

Cabinetry

Requirement: Use Cabinetry made with component materials (plywood, particleboard, MDF) that are certified to comply with the appropriate standards above; **OR** registered brands or products produced in plants certified under the Kitchen Cabinet Manufacturers Association's (KCMA) Environmental Stewardship Certification Program (ESP 05-12); **OR** GREENGUARD or GREENGUARD Gold Certification for Cabinetry.

Meet at least one standard below	How to find compliant products
Cabinet components must comply with the appropriate standard above	**Look for:** • **ANSI A208.1 or ANSI A208.2, OR** • **the ECC label, OR** • **GREENGUARD or GREENGUARD GOLD.**
KCMA's Environmental Stewardship Program (ESP 05-12)	**Look for the KCMA-ESP label on cabinets (often sink bases), product packaging, and/or spec sheets.** For a list of KCMA certified manufacturers that produce compliant cabinets, visit: http://www.kcma.org/Members/ESP_Certified_Manufacturers *Note: Manufacturers listed in the link above can be used as a resource, but partners should request confirmation from the manufacturer or supplier that the product lines they are using are indeed compliant.*
GREENGUARD or GREENGUARD Gold Certification for Cabinetry	For a list of GREENGUARD or GREENGUARD Gold certified cabinetry, visit: http://productguide.ulenvironment.com/SearchResults.aspx?CategoryID=47

Note: Do not confuse the 2 KCMA labels

6.1 Composite Wood – Cabinetry

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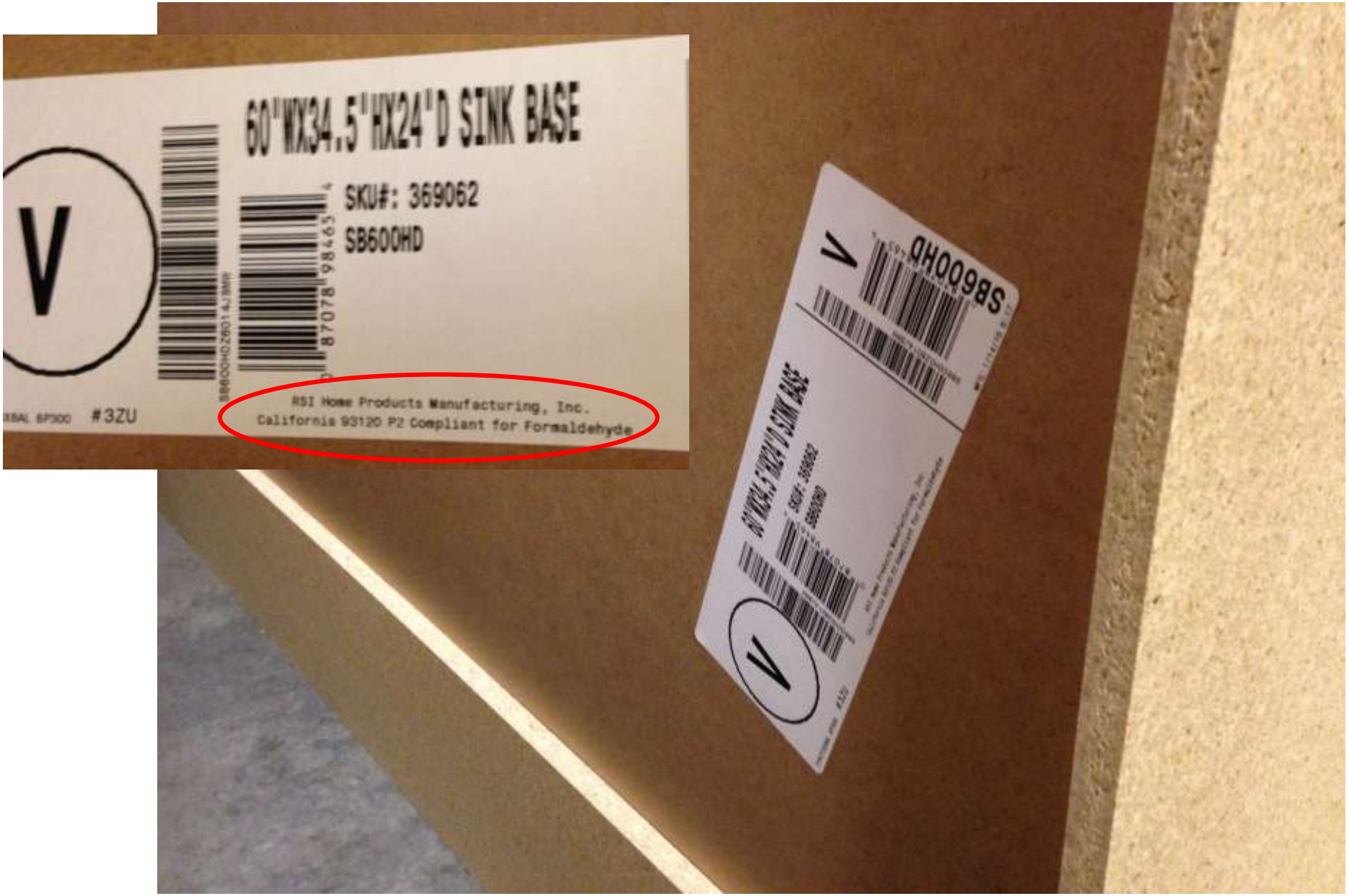

IAP Composite Wood Quiz

- Is there a laminate flooring requirement in IAP?
  - A: No, unless it contains composite wood (MDF, particleboard, HWPW). If so, look for CARB 2, GREENGUARD, ANSI A208.2, etc.
- How do I verify compliant HWPW?
  - A: Look for ANSI/HPVA HP-1-2009 or the CARB ATCM.
- How do I verify cabinetry?
  - A: Look for CARB 2 or the KCMA-ESP (Environmental Stewardship Program).

This product contains hardwood plywood certified by HPVA (TPC-8) to meet CARB Phase 2 emission standards and was constructed with adhesives containing no added formaldehyde.

What are the Requirements?

6.1 – Composite Wood

Structural panels, cabinetry, shelving, trim, doors, stair treads, flooring, etc.

6.2 - Interior Paints and Finishes

Site-applied coatings only, but not simply "low-VOC".

Indoor airPLUS – Section 6

Low-emission Materials

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CRI Green Label

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Recommended but not yet required.

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Meet at least one of the standards below	How to find compliant products
GREENGUARD or GREENGUARD GOLD Certification for Paints and Coatings	**Look for GREENGUARD labels on products, packaging, or spec sheets:** Search for GREENGUARD and GREENGUARD Gold certified paint and coating products at: http://productguide.ulenvironment.com/SearchResults.aspx?CategoryID=15&SubCategoryID=28
Scientific Certification Systems (SCS) Standard EC-10.2-2007 or Indoor Advantage Gold	**Look for the Indoor Advantage Gold label on products, packaging, or spec sheets.** OR find Scientific Certification Systems certified products at: http://www.scsglobalservices.com/certified-green-products-guide?scscertified=1
CA Section 01350 (CDPH Standard Method V1.1-2010)	**Look for low-emitting products found in the CHPS database.** CA 01350 Certified products can be found in the Collaborative for High Performance Schools searchable high performance product database under the category "Interior Finish and Trim" with attribute "Low Emitting Material: http://www.chps.net/dev/Drupal/node/445

6.2 – Interior Paints and Finishes

Green Seal Standard GS-11	**Look for the Green Seal label on products, packaging, or spec sheets:** Green Seal Standard GS -11 products: http://www.greenseal.org/FindGreenSealProducts andServices.aspx?vid=ViewProductDetail&cid=0&sid=6
Green Wise and Green Wise Gold products	**Look for the Green Wise labels on products, packaging, or spec sheets.** Find Green Wise and Green Wise Gold products: http://greenwisepaint.com/ products/interior-top-coat
Master Painters Institute (MPI) Green Performance ® Standards X-Green, GPS-1 or GPS-2.	**Look for the MPI labels on products, packaging, or spec sheets:** Find MPI approved products: http://www.paintinfo.com/mpi/ approved/Specification_index.shtml

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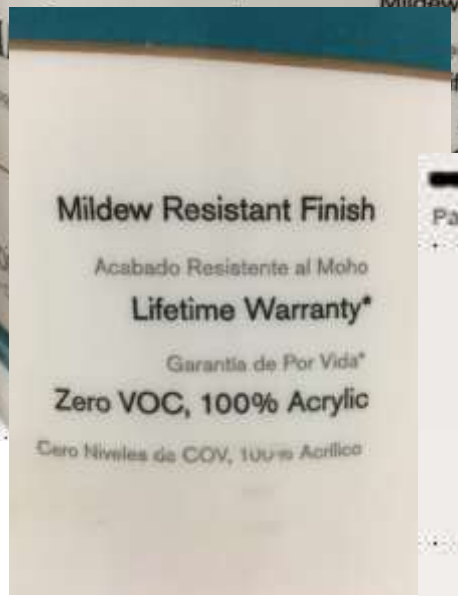
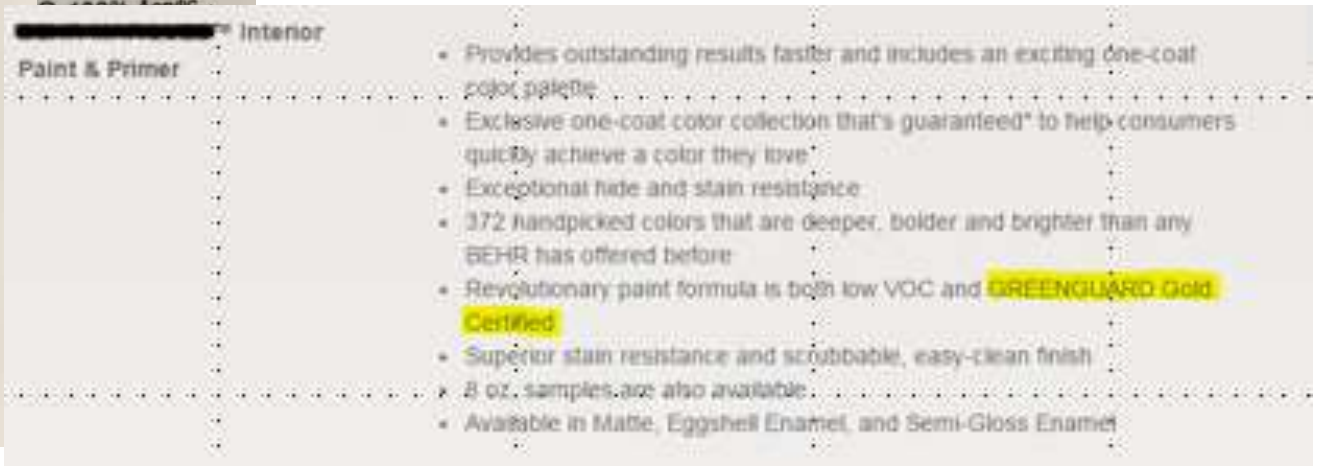
Is this product compliant?

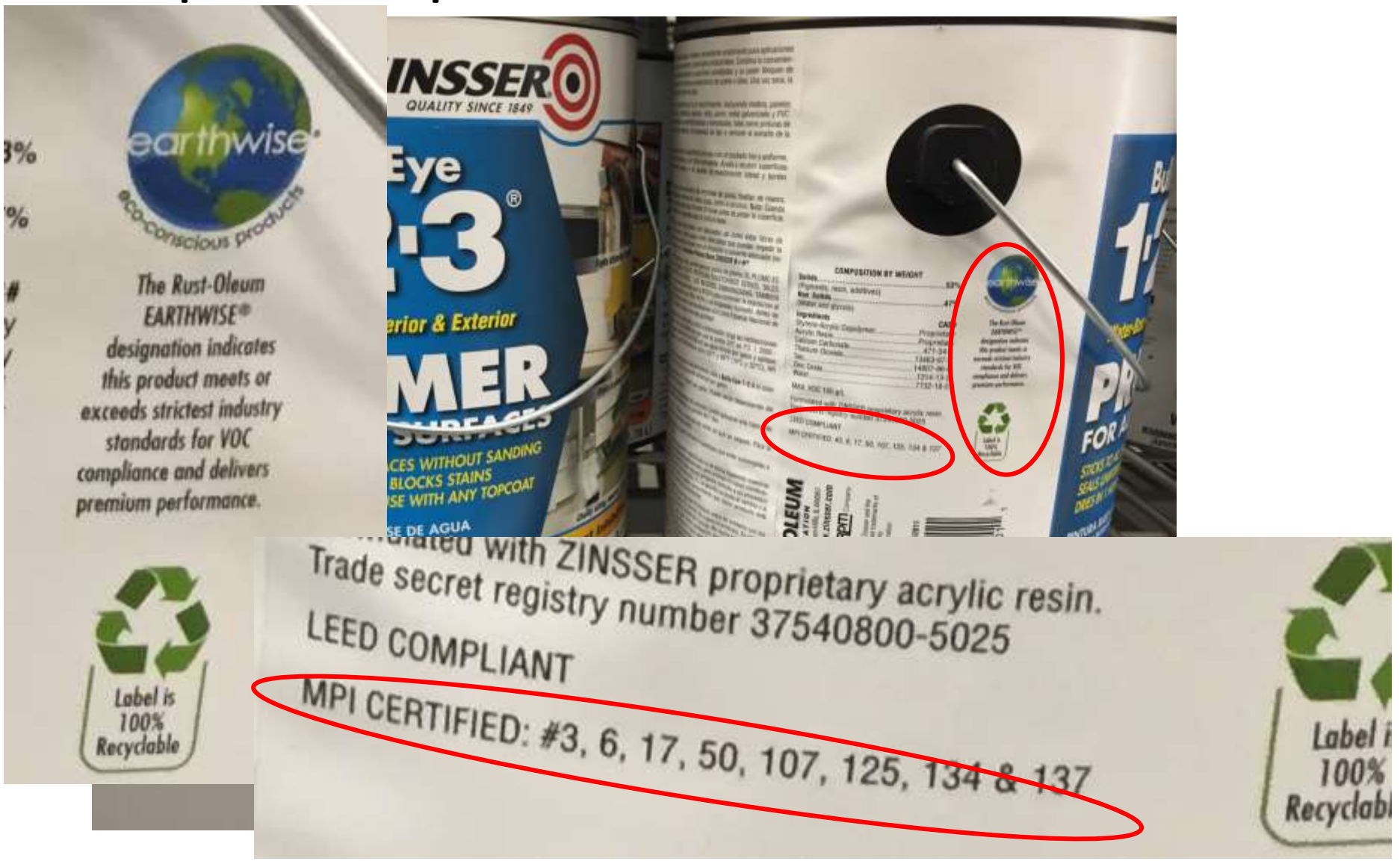


- Paint and Primer in One
- STAYS LOOKING NEW LONGER® Finish
- Formulated with advanced NANOGUARD® technology with an extra-protective shell that offers excellent stain removal and resistance against scuffing
- Provides a tighter, more evenly dispersed paint coating to protect against damage from moisture, stains and dirt
- Resists penetration by common household stains and abrasions, so spills and marks are easier to wipe off and clean
- Hand-selected, designer-inspired palette features 386 colors ranging from relaxing, organic-toned neutrals to more saturated and vibrant hues
- Advanced colorant technology offers higher hiding capabilities
- 8 oz. sample jars available in an Interior/Exterior Flat finish
- Low-VOC product, all sheens are less than 50 VOC with freeze and thaw capability
- Mildew and fade-resistant finish
- 100% acrylic latex formula
- Easy-Clean Pearl-Like Sheen
- Ideal for family rooms, living rooms, dining rooms, kitchens, bathrooms, bedrooms, kids' rooms, hallways, doors, windows, trim, cabinets, shutters, interior furniture and ceilings
- Lifetime guarantee*



6.2 – Interior Paints and Finishes

Is this product compliant?



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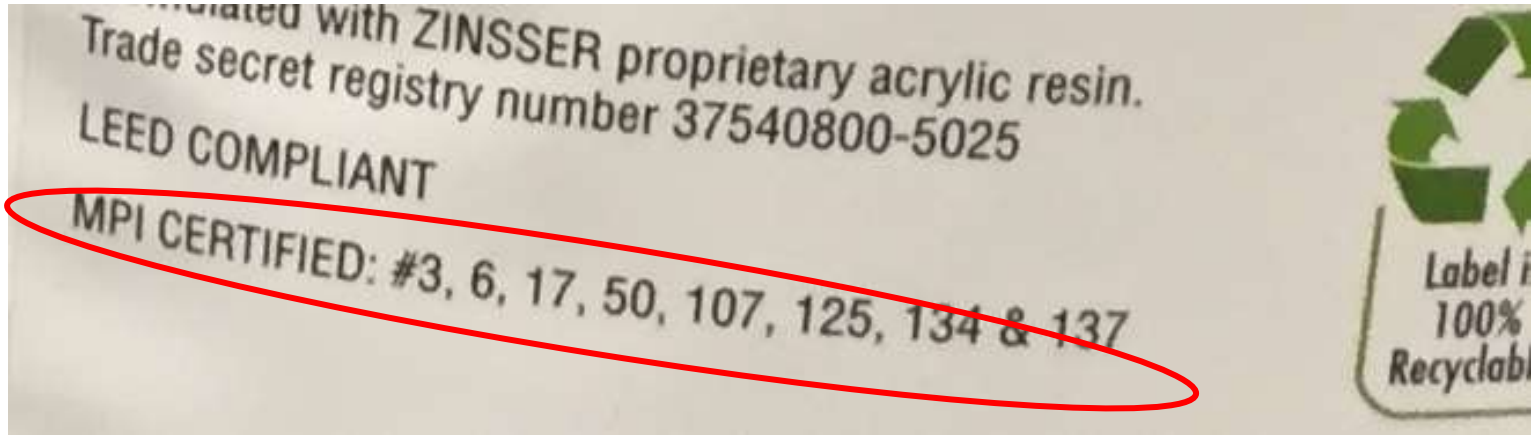
How to Find Indoor airPLUS Compliant Low-Emission Products (October 1, 2015) 5



6.2 – Interior Paints and Finishes

Is this product compliant?

Name, Label or Code | Product Index By MPI Number | Product Index By Alphabetical | Product Index By Type | GPS Products

MPI Approved Products List

Index Alphabetical - List Updated February 1st, 2016

Paintinfo.com | Approved Products>>

previous **MPI # 50 Primer Sealer, Latex, Interior** next

A white, pigmented, water based latex sealer used on new interior plaster, concrete and gypsum wallboard surfaces that are subsequently painted with latex or alkyd finish coat(s). Its purpose is to reduce the porosity of the substrate for finish coats. Not intended for use on wood or previously painted surfaces.

[Evaluated characteristics include consistency/viscosity, dry time, fineness of grind, hiding power by contrast ratio method, reflectance, alkali resistance holdout properties, and sanding properties. See MPI 'Detailed Performance' Specs for complete details, specific requirements, and/or reference specs.]

MPI Detailed Performance

MPI VOC Ranges (grams/L)	E3 <51 g/l	E2 51 - 100 g/l	E1 101 - 150 g/l	E '0' - outside range, n/a - unavailable

EPR - Environmental/Performance Rating (VOC & Relative Performance of Category+Gloss & Appropriate Specified Use). ✔ meets GPS-1, ✔ meets MPI GPS-2 for Standard Category: Primers, Sealers & Undercoaters ✔ meets RG (OTC or EC) ✔ meets LEED 2009 (excluding LEED for schools)

Listing Mfr	Label	Product Name	Code	E Range	RG	L	EPR	GPS-1	GPS-2

6.2 – Interior Paints and Finishes

Is this product compliant?

EPR - Environmental/Performance Rating (VOC & Relative Performance of Category+Gloss & Appropriate Specified Use). ✔ meets GPS-1, ✔ meets MPI GPS-2 for Standard Category: Primers, Sealers & Undercoaters ✔ meets RG (OTC or EC) ✔ meets LEED 2009 (excluding LEED for schools)

Listing Mfr	Label	Product Name	Code	E Range	RG	L	EPR	GPS-1	GPS-2
PPG Architectural	Sico (CA)	Expert Interior Primer-Sealer Latex	870-799	E 2	✔	✔	2	✔	
PPG Architectural	Sico (CA)	Expert Interior Latex Primer-Sealer	870-130	E 2	✔		2	✔	
Pratt & Lambert	Pratt & Lambert	Int/Ext Multi-Purpose Waterborne Primer	P1001/F2001	E 2	✔	✔	2	✔	
Rodda Paint Co.	Master Painter	UL Primer	503601	E 3	✔	✔	3	✔	✔
Rodda Paint Co.	Rodda Paint	Scotseal Primer	507801	E 2	✔		2		
Rust-Oleum	Rust-Oleum	Sierra Performance Griptec Multi Surface Primer	208028	E 3	✔	✔	3	✔	✔
Rust-Oleum	Zinsser	AllPrime Interior-Exterior Primer Sealer	250960	E 2	✔	✔	2	✔	
Rust-Oleum	Zinsser	Allprime Water Base Primer (Int)	6821	E 2	✔	✔	2	✔	
Rust-Oleum	Zinsser	Allprime Zero	291072	E 3	✔	✔	3	✔	✔
Rust-Oleum	Zinsser	Bull Eye Water-Based Primer	2241	E 2	✔	✔	2	✔	
Rust-Oleum	Zinsser	Bulls Eye 123 Plus	249937	E 3	✔	✔	3	✔	✔
Rust-Oleum	Zinsser	Bulls Eye 1-2-3 Primer/Sealer/Stain Killer	2000, 2001, 2004	E 2	✔	✔	2	✔	
Rust-Oleum	Zinsser	Bulls Eye 2	285156	E 2	✔	✔	2	✔	
Rust-Oleum	Zinsser	Bulls Eye Zero Primer	249019/20/21	E 3	✔	✔	3	✔	✔

What are the Requirements?

6.1 – Composite Wood

Structural panels, cabinetry, shelving, trim, doors, stair treads, flooring, etc.

6.2 - Interior Paints and Finishes

Site-applied coatings only, but not simply "low-VOC".

Indoor airPLUS – Section 6

Low-emission Materials

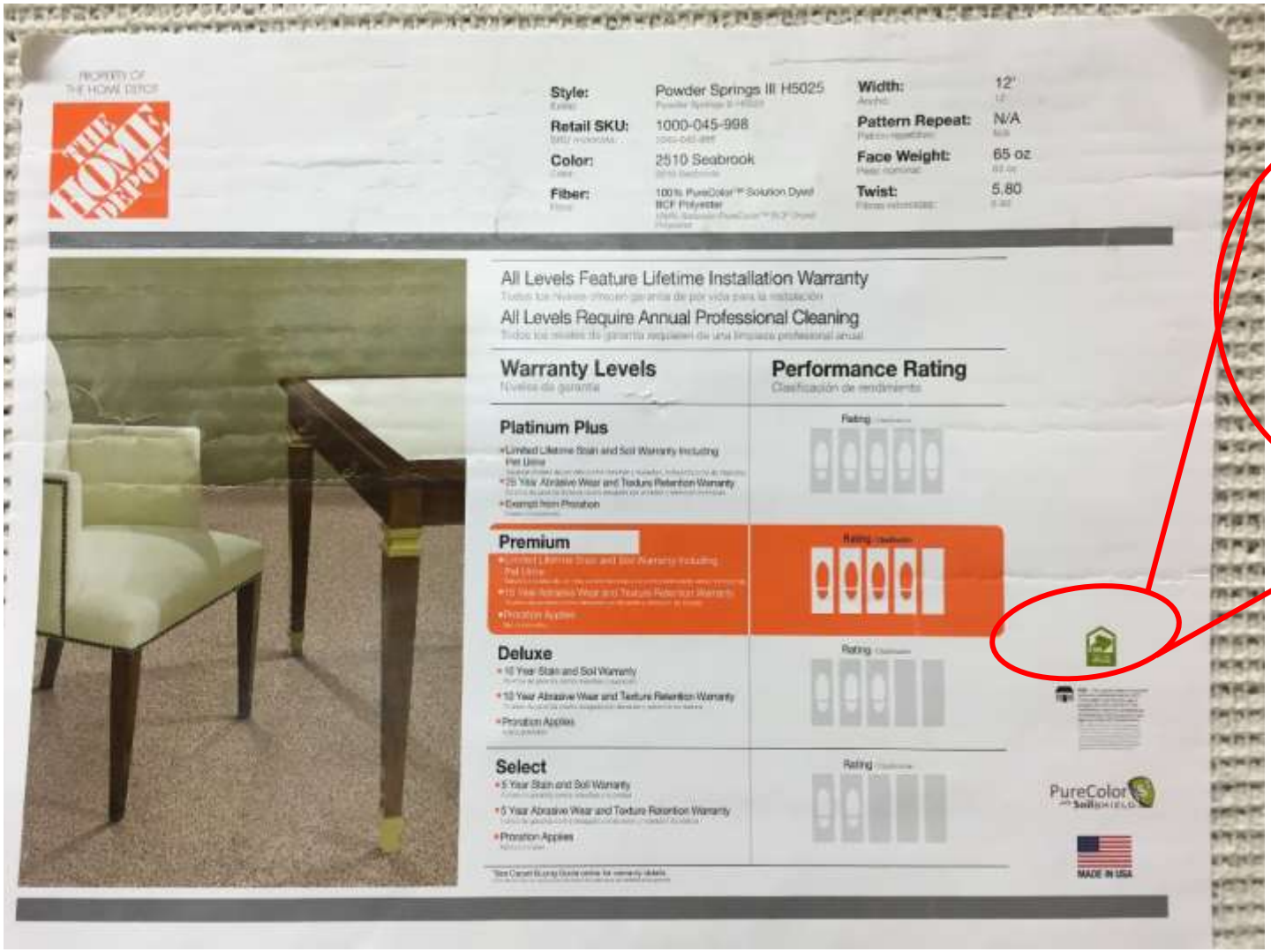
6.3 – Carpet and Carpet Adhesives

CRI Green Label

6.4 – Adhesives and Sealants

Recommended but not yet required.

6.3 Carpet and Carpet Cushion



EPA Indoor airPLUS

6.3 Carpet and Carpet Cushion

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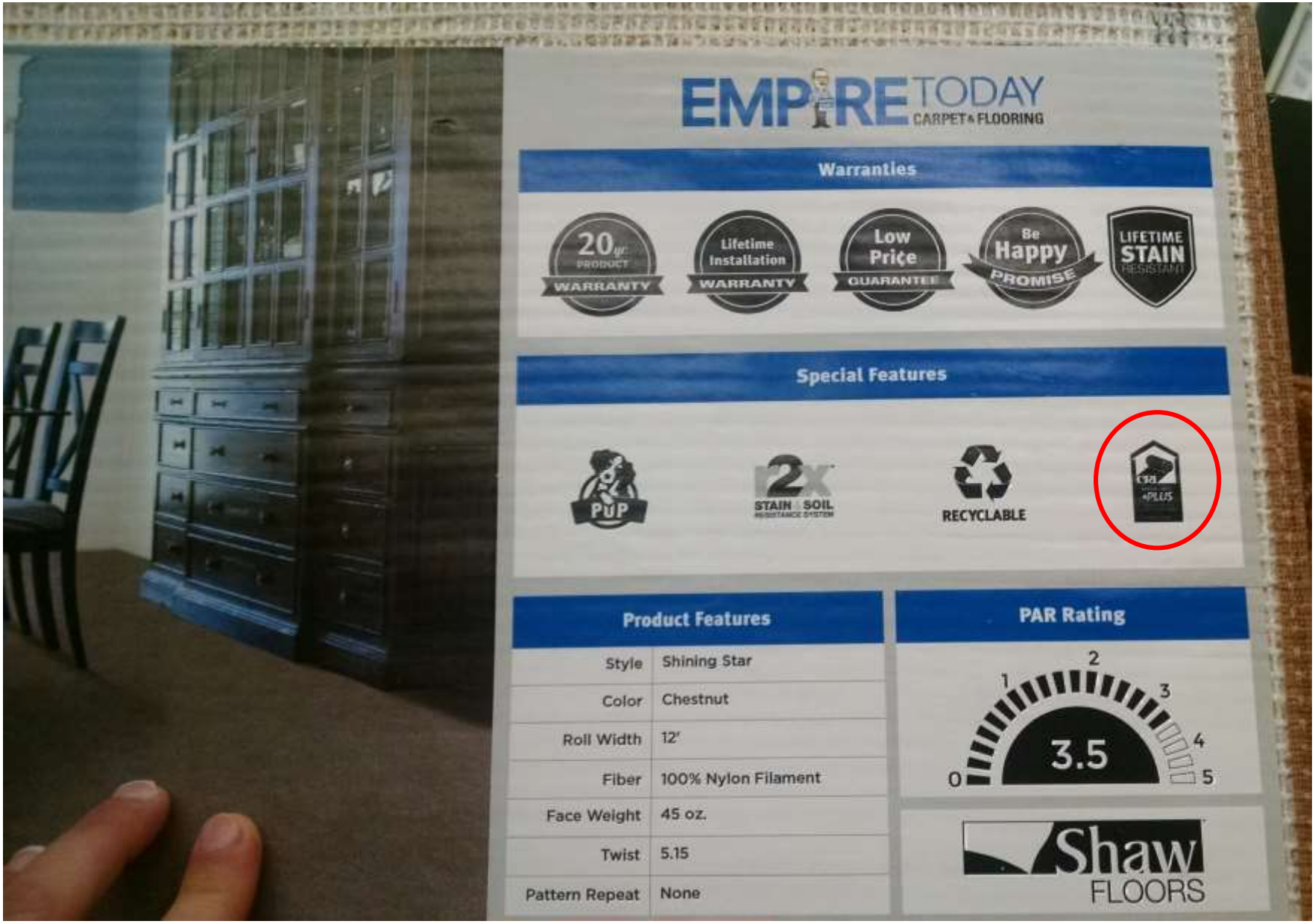
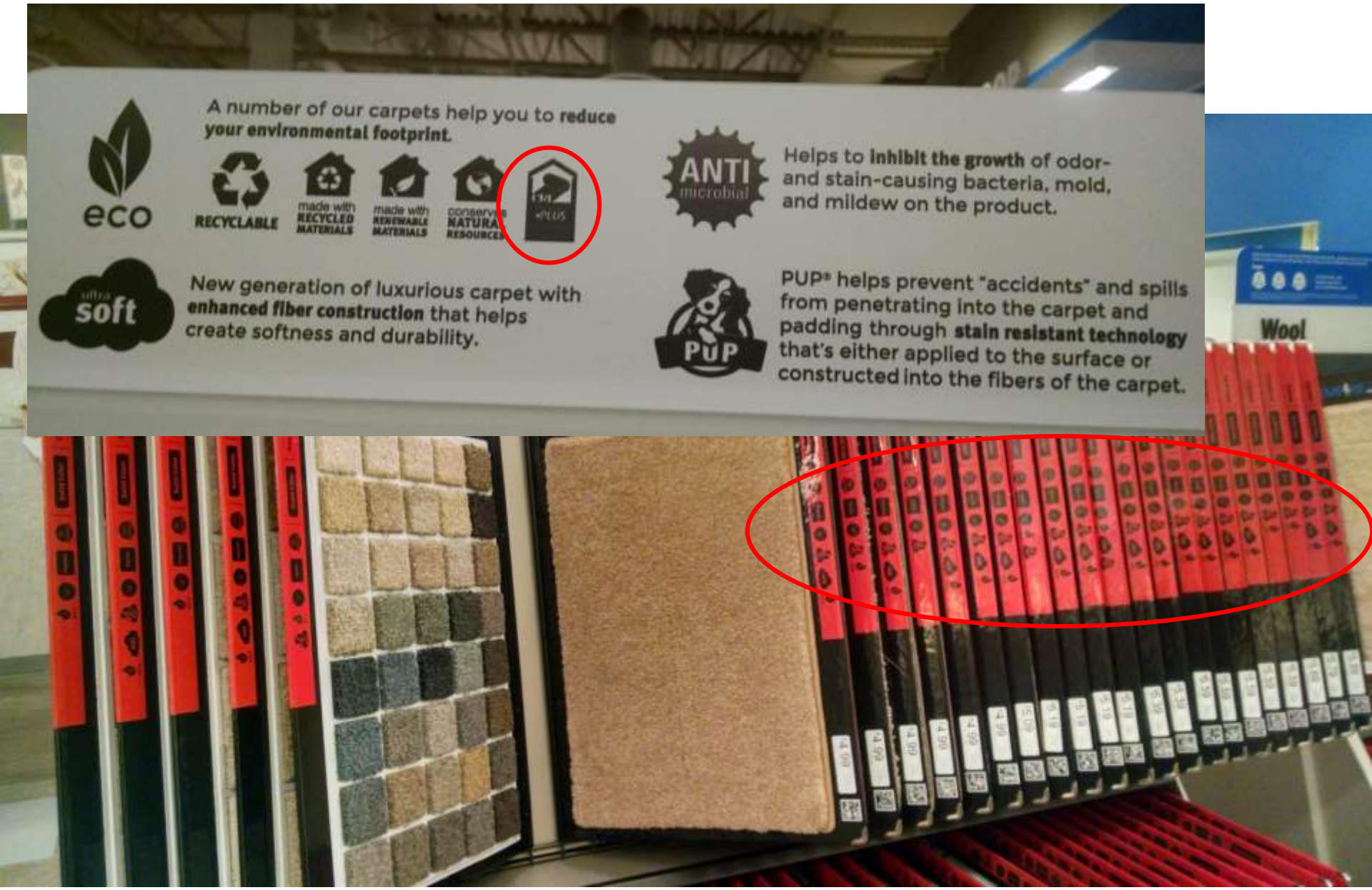


6.3 Carpet and Carpet Cushion

EPA Indoor airPLUS

Indoor Air Quality (IAQ)

6.3 Carpet and Carpet Cushion



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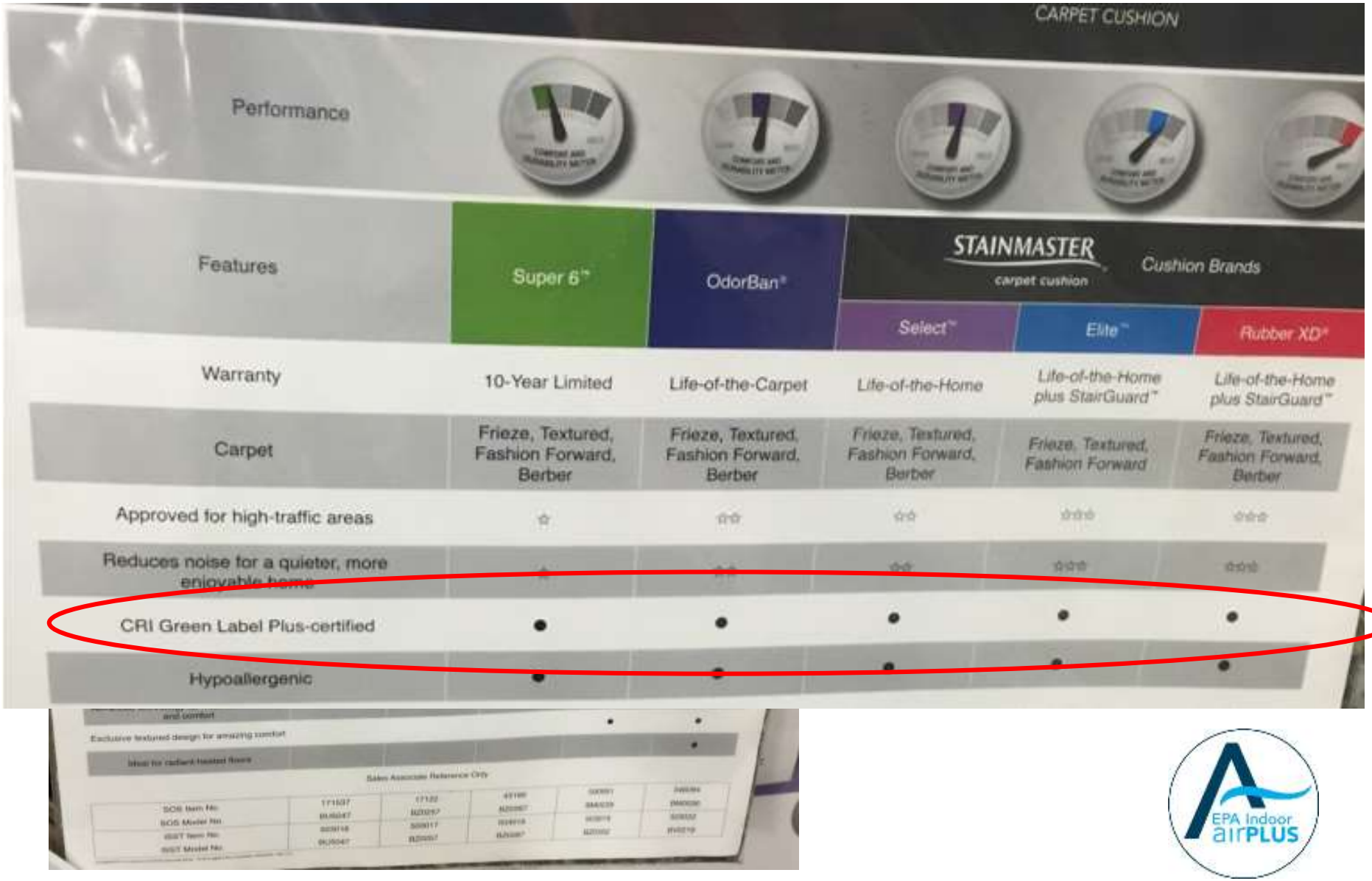

CARPET CUSHION

Performance					
Features	Super 6™	OdorBan®	STAINMASTER® carpet cushion Cushion Brands		
			Select™	Elite™	Rubber XD®
Warranty	10-Year Limited	Life-of-the-Carpet	Life-of-the-Home	Life-of-the-Home plus StairGuard™	Life-of-the-Home plus StairGuard™
Carpet	Frieze, Textured, Fashion Forward, Berber	Frieze, Textured, Fashion Forward, Berber	Frieze, Textured, Fashion Forward, Berber	Frieze, Textured, Fashion Forward	Frieze, Textured, Fashion Forward, Berber
Approved for high-traffic areas	☆	☆☆	☆☆	☆☆☆	☆☆☆
Reduces noise for a quieter, more enjoyable home	☆	☆☆	☆☆	☆☆☆	☆☆☆
CRI Green Label Plus-certified	●	●	●	●	●
Hypoallergenic	●	●	●	●	●

EPA Indoor airPLUS

What are the Requirements?

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Indoor airPLUS – Section 6

Low-emission Materials

6.3 – Carpet and Carpet Adhesives

CRI Green Label

6.4 – Adhesives and Sealants

Recommended but not yet required.

6.4 Adhesives and Sealants

Advisory: While not currently required by Indoor airPLUS, EPA recommends that at least 90 percent of site-applied interior adhesives and sealants be low-VOC or no-VOC products certified by one of the following third-party standards or certifications: A third-party low-emitting product list based on CA Section 01350 (CDPH Standard Method V1.1-2010), OR Green Seal GS-36.

Recommended but not required	How to find products
CA Section 01350 (CDPH Standard Method V1.1-2010)	CA 01350 Certified products can be found in the Collaborative for High Performance Schools searchable high performance building product database: http://www.chps.net/dev/Drupal/node/445
Green Seal GS-36	Green Seal GS-36 Adhesives for Commercial Use: http://www.greenseal.org/GreenBusiness/Standards.aspx?vid=ViewStandardDetail&cid=0&sid=22
GREENGUARD or GREENGUARD Gold Certification	GREENGUARD or GREENGUARD Gold adhesives and sealants: http://productguide.ulenvironment.com/SearchResults.aspx?CertificationID=1&CategoryID=23

*These products are not yet required, but they are now becoming readily available in the market.

6.4 – Adhesives and Sealants

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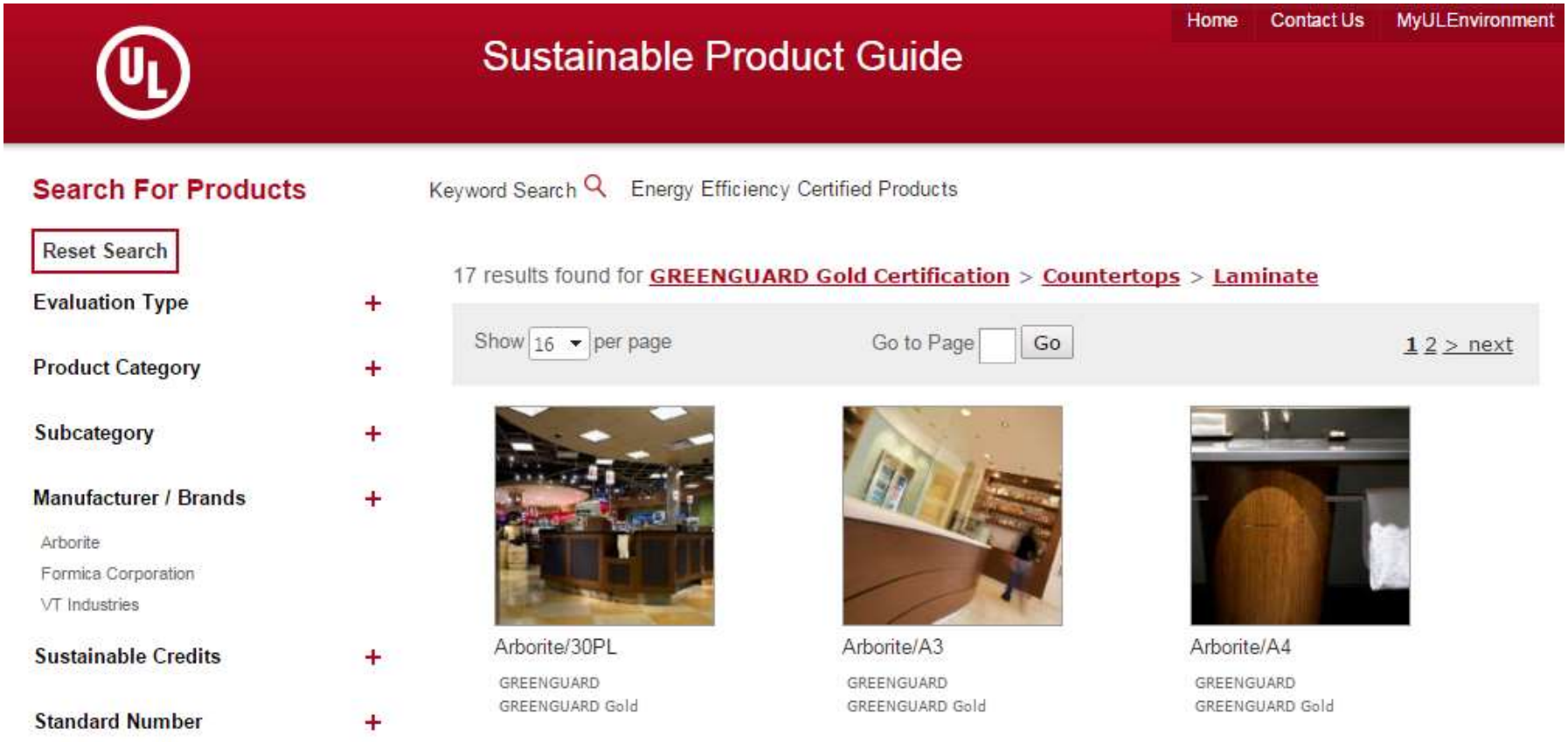
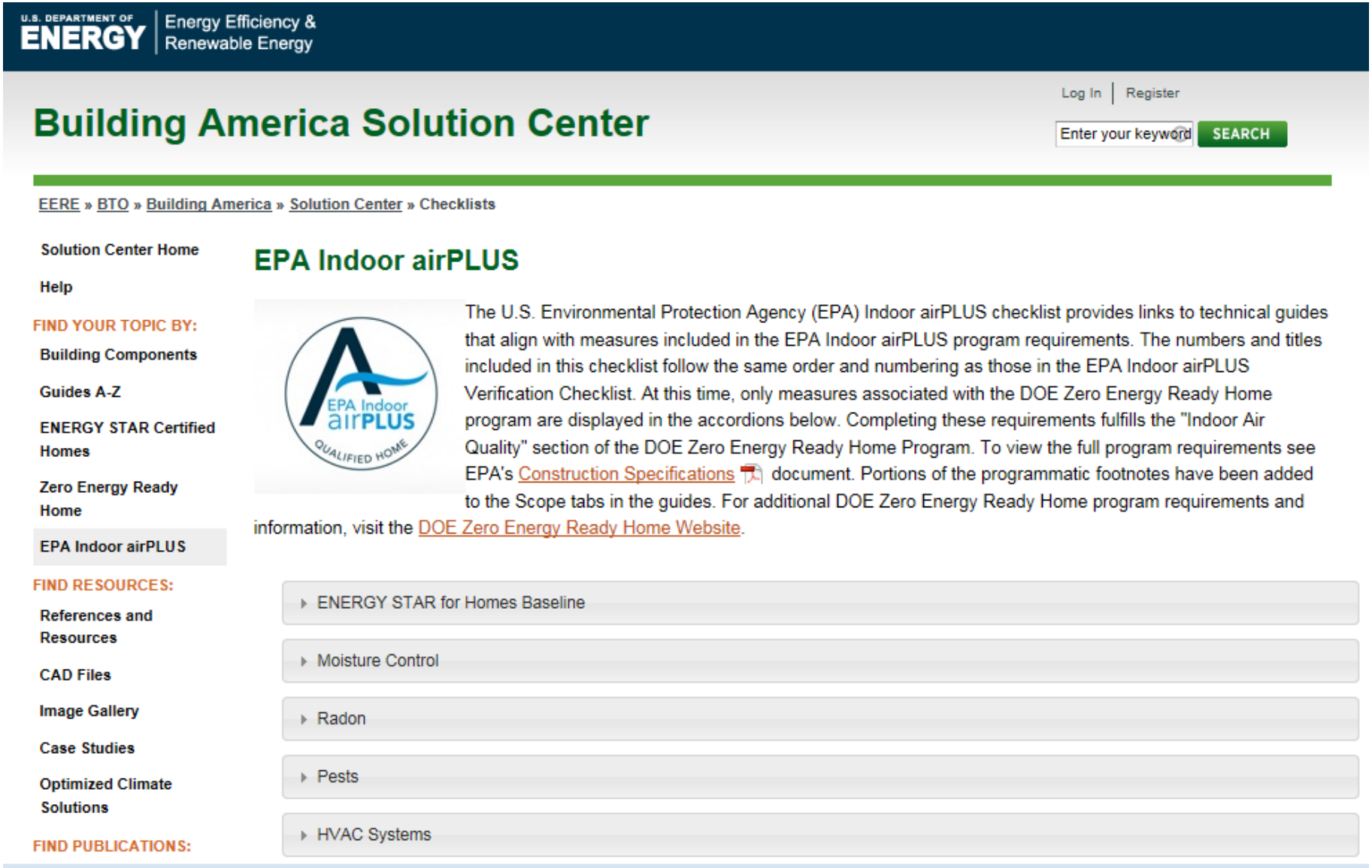
6.4 – Adhesives

Can’t find a product?



Search for GREENGUARD and GG Gold products under: http://productguide.ulenvironment.com/SearchResults.aspx?CertificationID=1

- Adhesives/Sealants
- Cabinetry
- Countertops
- Flooring
- Panels, Surfacing Materials, etc.



Technical Resources and Tools

https://basc.pnnl.gov/checklists/epa-indoor-airplus

Indoor Air Quality (IAQ)

Indoor airPLUS Resources and Tools

Marketing Support for Partners

- *Now available* - Sales Training Kit!
- Builder and consumer brochures
- Website widgets
- Podcasts & Videos
- Partner locator

www.epa.gov/indoorairplus

Email: IAP@icfi.com

For Sales Training materials and partner-only resources:
www.energystar.gov/mesa

EPA Indoor airPLUS

Indoor Air Quality (IAQ)

Indoor airPLUS Sales Training Kit

EPA Indoor airPLUS

Indoor Air Quality (IAQ)

KB HOME

MANDALAY HOMES

SCHELL brothers

FULTON HOMES

Charles Thomas HOMES

Habitat for Humanity® Saint Louis

KETTLER FORLINES HOMES

C & B CONSTRUCTION
a division of C&B Custom Homes, Inc.
Lic. #115300 B-1 Commercial #39973 - B Residential

Indoor airPLUS Leader Awards – Market Your Partnership!

http://www2.epa.gov/indoorairplus/indoor-airplus-leader-award-winners

New Indoor airPLUS Video

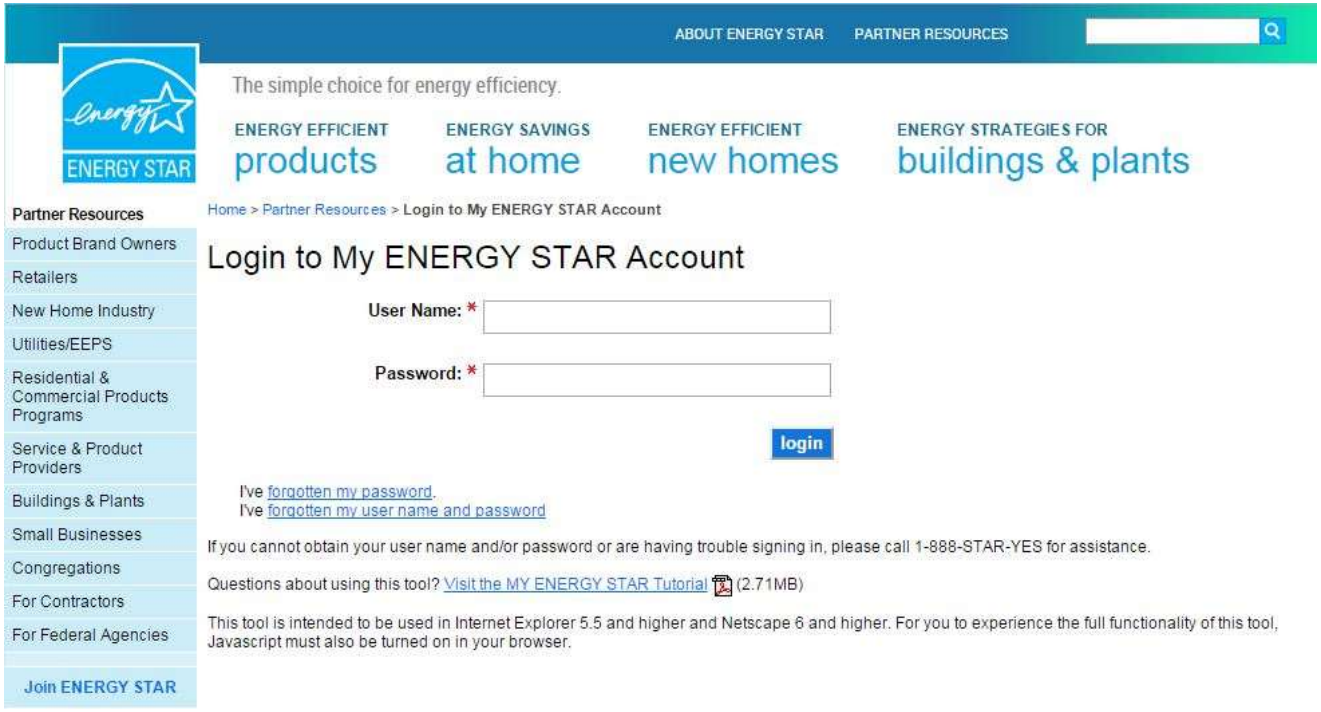
http://www.epa.gov/indoorairplus/indoor-airplus-videos-podcasts-webinars-and-interviews

Link from your own website

http://www.epa.gov/indoorairplus/indoor-airplus-videos-podcasts-webinars-and-interviews

Become an Indoor airPLUS Partner

- For *current* ENERGY STAR Partners:
  - Log into your My ENERGY STAR Account (MESA) www.energystar.gov/mesa
    - If you don't know your user name and password, click the link or email energystarhomes@energystar.gov for assistance.
  - Click the "Join Indoor airPLUS" link in MESA.



Energy Savings PLUS Health Indoor Air Quality Guidelines for Multifamily Building Upgrades

NEW!

- ✓ *Meet energy goals*
- ✓ *Protect indoor air quality*
- ✓ *Practical*
- ✓ *Easy to use*
- ✓ *Custom verification checklists*

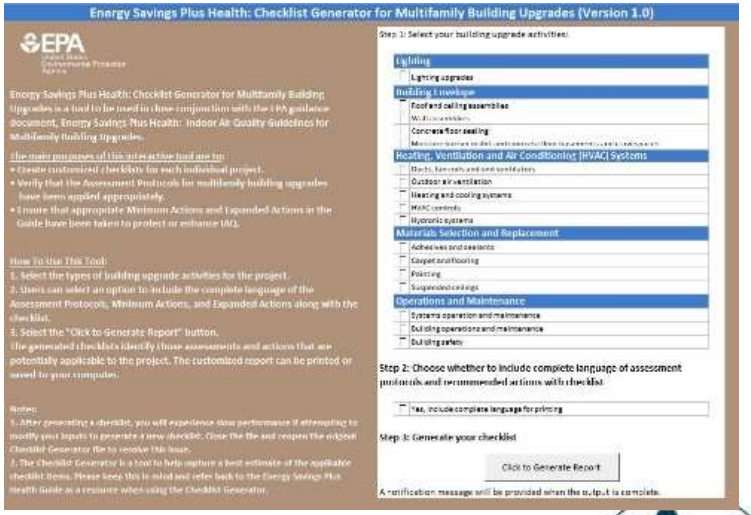
www.epa.gov/iaq

EPA Indoor airPLUS

Indoor Air Quality (IAQ)

Energy Savings PLUS Health Indoor Air Quality Guidelines for Multifamily Building Upgrades

- ✓*Assessment Protocols for 24 Issue Areas*
- ✓*Recommended Minimum Actions*
- ✓*Expanded Actions*
- ✓*Checklist Generator*



www.epa.gov/iaq

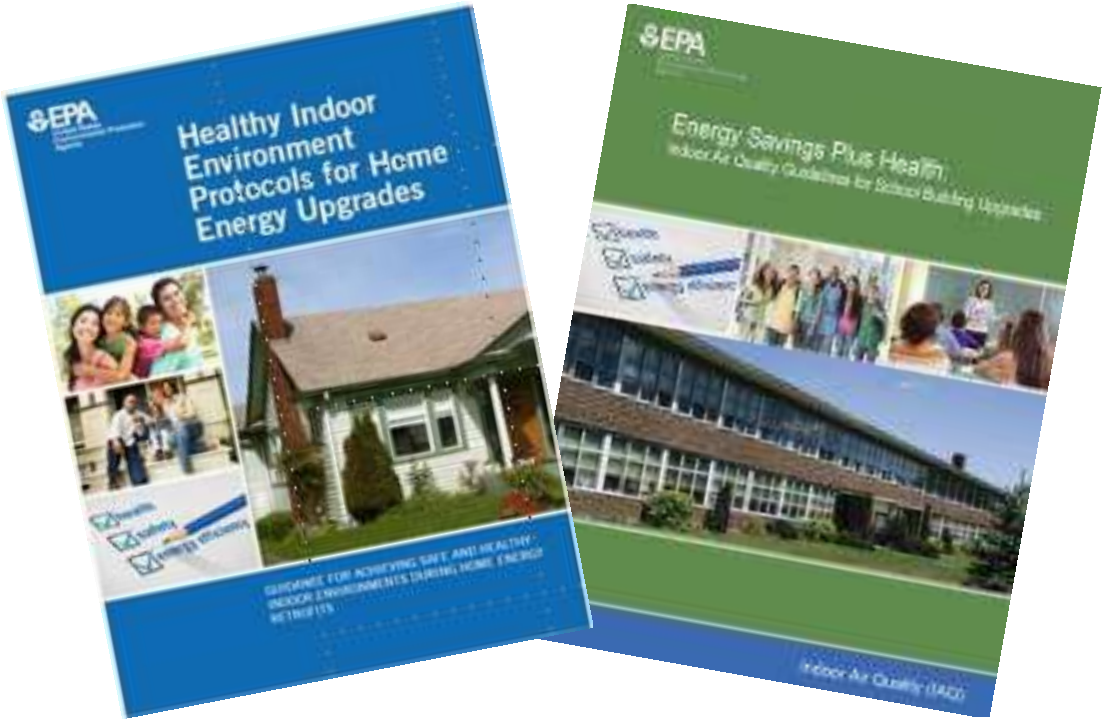
EPA Indoor airPLUS

Indoor Air Quality (IAQ)

Energy Savings PLUS Health
Indoor Air Quality Guidelines

Guidelines for single family and school building upgrades also available at:

www.epa.gov/iaq



EPA Indoor airPLUS

Indoor Air Quality (IAQ)