

LEED FOR SCHOOLS REQUIREMENTS OVERVIEW

IEQc4.1–IEQc4.6 LOW EMITTING MATERIALS

The purpose of this document is to outline LEED requirements related to low-emitting materials used on the project and to offer a list of products that are approved for use on LEED for Schools projects. It is best to check with the manufacturer to see if the VOC limit still complies as companies often change the VOC levels of products as the product is updated.

Please note that the list of product below was researched in 2008 and may be become outdated. For updated lists of products, go to the websites listed below. Projects may choose any of the following options, with a maximum of four points.

IEQc4.1: Adhesives & Sealants

IEQc4.2: Paints & Coatings

IEQc4.3: Flooring Systems

IEQc4.4: Composite Wood & Agrifiber Products

IEQc4.5: Furniture & Furnishings

IEQc4.6: Ceiling & Wall Systems

Resources

Indoor Advantage Gold – Option 5

<http://scscertified.com/ecoproducts/products/>

GREENGUARD Children & Schools – Option 1, Option 2, Option 3, Option 5, Option 6

<http://www.greenguard.org/Default.aspx?tabid=135>

FloorScore – Option 3

<http://www.scscertified.com/iaq/floorscore.html#FloorScoreCertifiedProducts>

Green Label Plus – Option 3

<http://www.carpet-rug.org/commercial-customers/green-building-and-the-environment/green-label-plus/index.cfm>

CHPS product list – All Options

<http://www.chpsregistry.com/live/>

IEQc4.1—ADHESIVES & SEALANTS (1 point)

All adhesives and sealants installed in the building interior (defined as inside of the weatherproofing system and applied on-site) shall meet the testing and product requirements of the California Department of Health Services *Standard Practice for The Testing Of Volatile Organic Emissions From Various Sources Using Small-Scale Environmental Chambers*, including 2004 Addenda.

List of Approved Adhesives and Sealants

Manufacturer	Product
3M™	3M™ Scotch-Weld™ Cylinder Spray Adhesive 94CA
	3M™ Fastbond™ Pressure Sensitive Adhesive 4224NF
	3M™ Fastbond™ Contact Adhesive 2000NF
	3M™ Fastbond™ Foam Adhesive 100
	3M™ Fastbond™ Insulation Adhesive 49
	3M™ Fastbond™ Contact Adhesive 30NF/30H
Bentley Prince	Healthbond Ultragreen (to be used with all Bentley Prince Street products)

Carpet & Rug Institute	Green Label Plus -- Approved Carpet Adhesive List	
CERES Natural	Sovereign SS 176 one-part urethane adhesive	
ITW TACC	Gun 'N Go Drywall Adhesive	
	EasyFlow Drywall Adhesive	
	Z Solvent-Free Postformable Adhesive®	
	MASON BOND® Masonry Adhesive	
	Glenkote™ Duct Sealant/Mastic	
	Foamseal	F2100 Adhesive System
		F6400 Adhesive
		BIG BOND Adhesive
	Miracle/Kingco®	D-619 Duct Sealant/Mastic
M-181 Duct Sealant/Mastic		
ULTRASEAL 970™ Duct Sealant/Mastic		
ULTRATAACK® Duct Liner Adhesive		
Mannington Commerical	V-11 Adhesive (pressure sensitive)	
	V-81 Adhesive (SBR latex)	
	V-82 (acrylic latex)	
	MT-790	
	MT-711	
	MC-411	
	M-Guard: 798, 418 and 718	
Toli International	#900 2-Part Epoxy Adhesive	
	#5050 Acrylic Adhesive	

OPTION 2—PAINTS & COATINGS (1 point)

All paints and coatings installed in the building interior shall meet the testing and product requirements of the California Department of Health Services *Standard Practice for The Testing Of Volatile Organic Emissions From Various Sources Using Small-Scale Environmental Chambers*, including 2004 Addenda.

<u>List of Approved Paints and Coatings</u>		
Manufacturer	Product	
Benjamin Moore	Eco Spec®	
Frazee	002 Majestic Acrylic Flat (1st coat)/ 002 Majestic Acrylic Flat (2nd coat)	
	061 Aqua Seal (1st coat)/ 022 Lo Glo Acrylic Eggshell (2nd coat)	
	061 Aqua Seal (1st coat)/ 128 Satin Glide Acrylic Semi Gloss (2nd coat)	
	661F774 Metal Prime (1st coat)/ 124 Mirro Glide Acrylic Semi Gloss (2nd coat)	
	Envirokote	Primer 066
		Flat 018
		Eggshell 029
		Semi-Gloss 032
Dunn-Edwards	Decoglo, Interior Acrylic Semi-Gloss Paint W450V	
	Ultra-Grip, Acrylic Multi-Purpose Primer W715	
	Vinylastic, Interior Pigmented Sealer W101	
	Walltone, Interior Latex Flat Paint W420	
	ECOSHIELD	Primer (W600),
		Flat (W601),
		Low Sheen (W602),
		Semi-Gloss (W603)
Eco-Trend	Collagen, Interior (flat, semi-gloss, eggshell)	
http://www.ecotrendlife.com/	Silicone, Exterior Flat	
ICI Paints	Devflex 4020 PF	
	Prep & Prime Odor-less WB LM9116	
	Dulux Lifemaster	Flat 9100

		Eggshell 9300
Prosoco, Inc	Consolideck®	LS
		LS/CS
		LS Guard
		GemTone™ Stain
Zolatone Interior Finishes	Polomyx by Zolatone All-Acrylic (water-base) formula	
Triach (A Division of Dryvit Systems, Inc.)	Duroplex	

IEQc4.3—FLOORING SYSTEMS (1 point)

All flooring elements installed in the building interior shall meet the testing and product requirements of the California Department of Health Services *Standard Practice for The Testing Of Volatile Organic Emissions From Various Sources Using Small-Scale Environmental Chambers*, including 2004 Addenda.

List of Approved Flooring Systems		
Floor System Type	Manufacturer	Products
Access Flooring	Haworth	TecCrete®
		Nexus™
Flooring	American Olean	Ceramic Wall Tile, Ceramic & Porcelain Floor Tile, Quarry & Paver Tile, and Ceramic & Porcelain Mosaic Tile
	Dal-Tile	Ceramic Wall Tile, Ceramic & Porcelain Floor Tile, Quarry & Paver Tile, and Ceramic & Porcelain Mosaic Tile
	Mohawk	Ceramic Wall Tile, Ceramic & Porcelain Floor Tile, Quarry & Paver Tile, and Ceramic & Porcelain Mosaic Tile
Acoustical Flooring	MP Global Products, LLP	Quiet Walk
		Insulayment
		Quiet Warmth
		Fiberbacker
Resilient Flooring	Altro	Altro Maxis
		Altro Maxis Suprema
	Amtico	Stratica Chlorine Free Eco-Polymeric Resilient Tile
		Stratica Eco-Polymeric Resilient Tile with Universal 2-Part Adhesive (Assembly)
		Amtico Performance-Coated Resilient Tile
		Amtico Standard Resilient Tile
	Armstrong	Excelon Vinyl Composite Tile
		Medintech Homogenous Sheet
		Marmorette Linoleum
		Natural Options Luxury Vinyl Tile
		Translations Heterogeneous Sheet Flooring
	Burke Mercer	Burkebase Wall Base with BR-101 Adhesive
	CERES Natural Floors	CERES Sequoia PVC-Free Plank
		CERES Recycled Rubber Flooring ID: 52248157
	Congoleum Corporation	Choices Vinyl Composite Tile
		Alternatives Vinyl Composite Tile
	EcoSurfaces	ECONights
		ECOearth
		ECORocks
		ECOSand
		ECOSTone
	Environmental Molding Concepts	Kid Kushion Play Ground Safety Tile
	Flexco Floors	Wallflower® Premium Rubber Wall Base

		Wallflower® Rubber Inside/Outside Corners
		Base Sculptures Wall Base
		Vinyl Stair Treads
		Vinyl Wall Base & Inside/Outside Corners
		Vinyl Accessories
		Base 2000 Wall Base & Inside/Outside Corners
		Enviroflex™ Solid Vinyl Tile
		Rubber Tile
		Rubber Stair Treads
		Spextones™ Rubber Tile & Stair Treads
		Appeal™ Solid Vinyl Tile
		Contract Solid Vinyl Tile
	Forbo	Marmoleum
	Game Time, Inc.	GT Imax
	Johnsonite	ComforTech Rubber Sheet Flooring
		Rubber Stair Treads
		Rubber Floor Tile
		rePLACE Wall Base System
		Millwork Rubber Wall Base, MW-130-L
		TightLock Cove Base, TCBR-41, 4 3/4
	Lonseal	LonEco
		LonEco Mesa
		LonWood Dakota
		LonWood Natural
		LonFloor Vista
	Losetas Asfálticas	Vinylasa Vinyl Composition Tile
	Mannington	Heterogeneous Sheet
		ICORE Laminate Flooring
		Inlaid Homogeneous Sheet Flooring
		Luxury Vinyl Tile
		Olefin Tile - Cameo
		Vinyl Composite Tile
	nora® Rubber Flooring	Norament 925 Grano w/ nora® 410 Acrylic Adhesive or nora® dryfix adhesive
		Norament 925 Lago w/ nora® 410 Acrylic Adhesive or nora® dryfix adhesive
		Norament 925 Round Pastille w/ nora® 410 Acrylic Adhesive or nora® dryfix adhesive
		Norament 925 Strada w/ nora® 410 Acrylic Adhesive or nora® dryfix adhesive
		Norament 925 Grano Stairtread w/ nora® 410 Acrylic Adhesive or nora® dryfix adhesive
		Norament Hammered Stairtread w/ nora® 410 Acrylic Adhesive or nora® dryfix adhesive
		norament® cara w/ nora® 410 Acrylic Adhesive or nora® dryfix
		norament® luxor w/ nora® 410 Acrylic Adhesive or nora® dryfix
		norament® metro w/ nora® 410 Acrylic Adhesive or nora® dryfix
		Norament Round Pastille Stairtread w/ nora® 410 Acrylic Adhesive or nora® dryfix adhesive
		Noraplan Classic w/ nora® 410 Acrylic Adhesive or nora® dryfix adhesive
		Noraplan Eco w/ nora® 410 Acrylic Adhesive or nora® dryfix adhesive

		noraplan® environcare™ w/ nora® 410 Acrylic Adhesive or nora® dryfix
		noraplan® environcare™ 3.0mm w/ nora® 410 Acrylic Adhesive or nora® dryfix
		noraplan® environcare™ acoustic w/ nora® 410 Acrylic Adhesive or nora® dryfix
		Noraplan Logic w/ nora® 410 Acrylic Adhesive or nora® dryfix adhesive
		Noraplan Mega w/ nora® 410 Acrylic Adhesive or nora® dryfix adhesive
		Noraplan Stone w/ nora® 410 Acrylic Adhesive or nora® dryfix adhesive
		Noraplan Uni w/ nora® 410 Acrylic Adhesive or nora® dryfix adhesive
	Rikett Quartz	Rikett Quartz Tile Flooring
	Roppe Corporation	Pinnacle Rubber Base
		Pinnacle Rubber Corner Blocks™
		Pinnacle Rubber Inside/Outside Corners
		BaseMates™ Stackable Trim Molding System
		Rubber Accessories
		AlphaBase™ Rubber Base
		Visuelle Wall Base & Inside/Outside Corners
		Vinyl Stair Treads
		700 Series Base & Inside/Outside Corners
		Vinyl Accessories
		Rubber Stair Treads
		Designer's Choice™ Rubber Tile
		Rubber Floor Tile
		SafeTcork Slip Resistant Rubber Tile & Stair Treads
		Fiesta Rubber Tile & Stair Treads
		SafeTcork Fiesta Rubber Tile & Stair Treads
		Rubber Spike & Skate Resistant Tile
		SafeTcork Vinyl Tile
		Vinyl Cove Base
	Tarkett, Inc.	Azrock Cortina
		Coordinates Flooring
		Cortina Grande Flooring
		Dignity/Acczent Flooring
		Eminent Safe-T Flooring
		Linosom Veneto Flooring
		Optima Flooring
		Primo Plus Flooring
	Takiron	CERES WELS Sheet PVC-Free Flooring
	TOLI International	Landing Sheet MT
		Linotesta Tile
		Stair Treads 2W
		Stair Treads 4W
	Zaxxon	Ionique
Flooring Adhesives	3M™	3M™ Scotch-Weld™ Cylinder Spray Adhesive 94CA
		3M™ Fastbond™ Pressure Sensitive Adhesive 4224NF
		3M™ Fastbond™ Contact Adhesive 2000NF
		3M™ Fastbond™ Contact Adhesive 30NF/30H
Carpet	Carpet & Rug Institute	Green Label Plus -- Approved Carpet List
Carpet Adhesives	Carpet & Rug Institute	Green Label Plus -- Approved Carpet Adhesive List

IEQc4.4—COMPOSITE WOOD & AGRIFIBER PRODUCTS (1 point)

All composite wood and agrifiber products installed in the building interior shall meet the testing and product requirements of the California Department of Health Services *Standard Practice for The Testing Of Volatile Organic Emissions From Various Sources Using Small-Scale Environmental Chambers*, including 2004 Addenda.

List of Approved Composite Wood & Agrifiber Products	
Manufacturer	Product
Armstrong	WoodWorks® Ekos™ Wall Panels
PrimeBoard	PrimeBoard (Particleboard) 10615
Roseburg Forest Products	SkyBlen Duramine Melamine Panels
Sierra Pine	Arries™
	Medex®, MDF
	Medite® II, MDF

IEQc4.5—FURNITURE & FURNISHINGS (1 point)

Classroom furniture including all student and teacher desks, tables and seats introduced into the project space that has been manufactured, refurbished or refinished within one year prior to occupancy must meet one of the requirements below. Salvaged and used furniture that is more than one year old at the time of occupancy is excluded from the credit requirements.

- A. GREENGUARD™ Children & Schools CertifiedSM

List of Compliant Manufacturers*	
Manufacturer	Product
Bretford	Tables, Casegoods
Stylex	Seating
Instant Seating	Seating
SitOnIt Seating	Seating
Knowll, Inc	Seating
SICO America, Inc	Educational Furniture, Tables
Q Collection Junior	Children's Furniture
Teknion	Seating, Furniture Systems
Naturepedic	Mattresses
Dwyer Products	Casework
Allsteel, Inc	Chairs, Tables, Dividers, Desks, Casegoods, Storage
Smith System Manufacturing	Seating, Desks, Tables, Library Systems, Shelves, Carts
Virco	Classroom Furniture, Stools, Chairs, Tables, Desks, Benches, Bookcases, Files, Cabinets

*These manufacturers have approved furniture systems however not all of their products are compliant. Also, these are not the only compliant manufacturers.

- B. Calculated indoor air concentrations that are less than or equal to those established in **Table 1** for furniture systems and seating determined by a procedure based on the U.S. Environmental Protection Agency's Environmental Technology Verification (ETV) Large Chamber Test Protocol for Measuring Emissions of VOCs and Aldehydes (September 1999) testing protocol conducted in an independent air quality testing laboratory.

Table 1: Indoor Air Concentrations

Chemical Contaminant	Emissions Furniture	Limits	Systems	Emissions Seating
TVOC	0.5 mg/m3			0.25 mg/m3
Formaldehyde	50 parts per billion			25 parts per billion
Total Aldehydes	100 parts per billion			50 parts per billion

4 – Phenylcyclohexene (4-PCH)	0.0065 mg/m3	0.00325 mg/m3
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- C. Calculated indoor air concentrations that are less than or equal to those established in Table 1 for furniture systems and seating determined by a procedure based on BIFMA M7.1-2005 and X7.1-2005 testing protocol conducted in an independent third party air quality testing laboratory.

IEQc4.6—CEILING AND WALL SYSTEMS (1 point)

All gypsum board, insulation, acoustical ceiling systems and wall coverings installed in the building interior shall meet the testing and product requirements of the California Department of Health Services *Standard Practice for The Testing Of Volatile Organic Emissions From Various Sources Using Small-Scale Environmental Chambers*, including 2004 Addenda.

List of Approved Ceiling and Wall Systems		
Product Type	Manufacturer	Product
Acoustical Ceiling and Wall Panels	Armstrong	Ultima Acoustical Ceiling Panel (1910, 1911,1912, 1913, 1914, 1915, 1916, 1917, 1918, 1941, 1942, 1944, 1945)
		Ceramaguard Acoustical Ceiling Panel (605, 607, 608)
		Cirrus Acoustical Ceiling Panel (533, 574, 577, 578, 584, 589)
		Mesa Acoustical Ceiling Panel (686, 687)
		Fine Fissured Acoustical Ceiling Panel (1713, 1714, 1810, 1811, 1820, 1821, 1824, 1828, 1829, 1728NF)
		Fine Fissured Second Look Fire Guard Acoustic Ceiling Panel (1860, 1861, 1862, 1863)
		Georgian High Acoustics Ceiling Panel (795, 796, 1750)
		Dune Acoustical Ceiling Panel (1772NF, 1774NF, 1775NF)
		Cortega Fire Guard and Second Look Fire Guard Acoustical Ceiling Panel (2758, 816NF, 823NF, 824NF)
		Fissured Fire Guard Acoustical Ceiling Panel (815NF, 895NF, 896NF)
		Cortega Second Look Acoustical Ceiling Panel (2765NF, 2767NF, 2768NF, 2790NF, 2776NF)
		Cortega Acoustical Ceiling Panel (747NF, 769NF, 770NF, 703NF, 704NF, 2195NF)
		Fissured Acoustical Ceiling Panel (755NF, 756NF, 705NF)
		WoodWorks® Ekos™ Wall Panels
	Carnegie Fabrics	XOREL Inherently Fire Retardant Wall Covering
		XOREL Wall Covering
	Certain Teed Ceilings	Ecophon FOCUS acoustic panels
		Ecophon GEDINA acoustic panels
		Ecophon MASTER acoustic panels
		Ecophon HYGIENE acoustic panels
		VinylShield A (VinylShield C, Vinylrock X, Envirogard, Aquarock)
		Cashmere (Customline, Designer Series, High NRC, Integrated Accents, Style Edge)
		FFCL - Fine Fissured Customline - (Fine Fissured, Fine Fissured High NRC, Baroque, Baroque Customline, Baroque Textured, Vantage 10, Directional Fissured, School Board, Stippled, Theatre Black)
		Gyptone (Base 31, Line 4, Point 11, Quattro 20)
		Sand Micro (Sand Micro Customline, Sand)
		Symphony M (Symphony G)
	Chatfield-Clarke Co, Inc	Vinyl Tackboard Panels
	Columbia Forest Products	Purebond Decorative Plywood
	Homasote Company	NCFR, MDF Panels 550-34
	Owens Corning	Select Sound Black Acoustic Blanket

	USG (Acoustical Ceiling Panels)	Brio™ ClimaPlus™
		Eclipse ClimaPlus High LR
		Eclipse™ ClimaPlus™
		"F" Fissured™
		Fresco™ ClimaPlus™
		Frost™ ClimaPlus™
		Glacier™
		Mars ClimaPlus with Cloquet Coating
		MICORE Brand Mineral Fiber Board-Wall Panel
		Millennia® ClimaPlus™
		Radar
		Radar ClimaPlus
		Sandrift™ ClimaPlus™
		Summit™ ClimaPlus™
Demountable Partitions	Haworth	Lifespace™ Moveable Walls
Gypsum Board	Georgia-Pacific Gypsum LLC	DensArmor Plus® Abuse Guard Paperless Interior Drywall
		DensArmor Plus® Paperless Interior Drywall
		DensShield Tilebacker® Board
	USG (Gypsum Wall and Ceiling Panels)	SHEETROCK® Brand FIRECODE® Core Gypsum Panel
		SHEETROCK® Brand HUMITEK® FIRECODE® Core Gypsum Panel
		SHEETROCK® Brand Water-Resistant FIRECODE® Core Gypsum Panel
Insulation	Bonded Logic	Ultra Touch Natural Cotton Insulation
	CertainTeed Corporation	CertaPro Batts (Plain, Kraft faced, Foil Faced and FSK faced)
		Building Insulation Batts (Plain, Kraft faced, Foil Faced and FSK)
		Optima Fiber Glass Blowing Insulation
		Insulsafe 4 Fiber Glass Blowing Insulation
		System 5 Fiber Glass Blowing Insulation
	International Cellulose Corporation	Cellulose Spray Applied Insulation
	Johns Manville	Unfaced batts and rolls
		Faced batts and rolls (MR, Kraft, Foil, FSK-25, PSK)
		Comfort Therm poly-encapsulated
		Spider Custom Insulation System
		Climate Pro and Attic Protector blow-in insulation
	Knauf Insulation	1000°F SSL Pipe Insulation
		faced Wall Batt
		Ceiling Insulation Batts (faced & unfaced)
		Duct Wrap
		Jet Stream Blowing Insulation
		Summit Blowing Insulation
		Wall Insulation Batts (faced & unfaced)
	Owens Corning	703 Board Products (unfaced, FRK-faced, ASJ-faced)
		Black Glass Acoustical Insulation Products
		Certified R Metal Building Insulation (unfaced, faced)
		Flame Spread 25 Insulation (FRK-faced, PSK-faced)
		Foamular® Extruded Polystyrene Insulation Products
		Rigid Foam Insulation Polymer Products
		Select Sound Black Acoustic Blanket
		Sound Attenuation Batt Insulation
		Sonobatts® Insulation (unfaced, kraft-faced)
		Thermal Batt Insulation (unfaced, kraft-faced, foil-faced)
		Tuscany Alternative Non-woven Wall Covering

Wall Coverings Wall Coverings	Carnegie Fabrics	Tuscany Alternative Non-woven Wall Covering
	Carnegie Fabrics	XOREL Wall Covering
	RJF International Corp	Koroseal
		Vicrtex
		Sanitas
		Resonance® Alternative Wall Covering
	Surface iQ	Non-PVC Commercial Wallcovering