

TECHNICAL SPECIFICATIONS

Bevel Lock	Cut Tight	UFH Installation	See IM Floating
Layer	Thickness (mm)	Thickness (mil)	Type
Top Layer	0.3	12	Quartz enhanced UV cured coating
Core	2.7	106	Waterproof thermoplastic composite
Backing Layer	1.0	39	Pre-attached sound absorbent pad(EVA)
Total	4.0	157	

CERTIFICATIONS & CHEMICAL PROPERTIES

Norm	Item	Test method	Requirement	Result
EN 14041	Emissions	EN 717-1	≤ 0.124 mg/m3	E1
Decret No2011-321	Emissions	ISO 16000	TVOC<1000µg/m3	VOC A+
GreenGuard Gold	Emissions	Spectrometry, chromatography	TVOC≤220µg	Certified
Prop 65	Orthophthalates	Spectrometry	ND	Compliant
CPSIA	Lead	CPSC-CH-E-1002-08	≤ 90ppm	Compliant
EU REACH Regulation	PAHs	Spectrometry, chromatography	<1mg/kg	Compliant
	SVHC	Spectrometry, chromatography	≤ 0.1% (w/w)	Compliant
EN 14041	CE Certification	Multiple	Multiple	Compliant


PHYSICAL PROPERTIES

Norm	Item	Test Method	Requirement	Result
ASTM F3261	Surface Integrity	ASTM F1914	No puncture	Pass
	Dimensional Stability	ASTM F2199/ISO 23999	ΔW/ΔL ≤ 0.2% (commercial)	Pass
	Curling	ASTM F2199/ISO 23999	≤2mm	Pass
	Length tolerance	ISO 24337	+/- 2 mm	Pass
	Width tolerance	ISO 24337	+/- 0.4mm	Pass
	Thickness tolerance	ASTM F387	+/- 0.13mm (no backing); +/- 0.20mm (with)	Pass
	Squareness	ISO 24337	0.25mm	Pass
	Flatness	ISO 24337	Length: ≤ 0.50% (concave) ≤ 1.0% (convex) Width: ≤ 0.10%(concave) ≤ 0.15% (convex)	Pass
	Residual Indentation	ASTM F1914	≤0.18mm (70lbs/34kg)	Pass
	Static load	ASTM F970/ASTM F387	≤0.13mm	Pass
Resistance to Chemicals	Resistance to Chemicals	ASTM F925	Slight change only	Pass
	Resistance to Heat	ASTM F1515	E ≤8	Pass
	Resistance to light	ASTM F1514	E ≤8	Pass
ASTM F1700*	Residual Indentation	ASTM F1914	≤ 8% (140 lbs/63.5kg)	Pass
	Dimensional Stability	ASTM F2199	ΔW/ΔL ≤ 0.16%	Pass
ISO 10582	Residual Indentation	ISO 24343-1	≤ 0.1mm	Pass
	Resistance to light	ISO 105-B02:1994,	≥ Grade 6	Pass
	Locking strength (23)	ISO 24334	≥2.0 kN/m	Pass
NALFA LF 01-2011	Castor chair	ISO 4918	Only slight change	NA
	Resistance to Chemicals	NALFA LF 01-2011	Slight change only	Class 4, meets commercial requirements
	Impact Resistance	NALFA LF 01-2011 3.5	≥ 1400mm	Class 4, meets commercial requirements
EN 14041	Impact Resistance	NALFA LF 01-2011 3.6	≥ 500mm	Class 4, meets commercial requirements
	Thermal Resistance (R)	EN 12667/ASTM C518	NA	Suitable for underfloor heating systems
	Slipperiness	EN 13893	≥ 0.3	Pass
Others	Reaction To fire	EN 13051-1	NA	Class Bfl -S1
	Static Electrical Propensity((voluntary))	EN 1815	≤ 2.0kV	NA
	Density	ISO 23996	NA	Around 1550kg/m3
	Airborne sound transmission	ASTM E413-16	≥50	67
	Impact sound transmission	ASTM E989-6	≥50	63
	Reducing impact sound transmission	ASTM E2190-16	NA	23
	Slipperiness	ANSI A137-1	≥ 0.42	Pass
	Slipperiness	DIN 51130	NA	R10
	Rolling Load	ASTM F2753	NA	NA
	Fire Resistance (CHF)	ASTM E648/NFPA 253	≥0.45	Class 1

*Note: Only tests specific to ASTM F1700 are listed here; for tests and requirements similar to ASTM F3261, please refer to the tests under that standard

LEED SCORECARD

LEED was developed to address all buildings everywhere, regardless of where they are in their life cycle. From hospitals to data centers, from historical buildings to those still in the design phase, there is a LEED certification program for every building. Our products will contribute value to a building's LEED v4 Scorecard in the following LEED certification program categories recognized by the USGBC as per following

LEED Programme Certification	Category	Credit Title	LEED Points Attainable	Credit Description	How our product contributes to obtaining LEED points
 Building Design and Construction	Indoor Environmental Quality	Credit 1: Enhanced Indoor Air Quality Strategies – Option 2 Additional Enhanced IAQ Strategie - option D	1 point ID&C, 2 points Retail CI	To reduce concentrations of chemical that can damage air quality, human health, productivity, and the environment.	1. Formaldehyde emission are less than 0.05mg/m3, TVOCs are less than 0.5mg/m3. 2. The product is GreenGuard Gold certified.
		Credit 2: Low-Emitting Materials – Option1 Flooring	1 point		1. VOC emission are less than 0.5mg/m3. 2. The products is GreenGuard Gold certified.
	Material & Resource	Credit 4: Indoor Air Quality Assessment - Option 2 Air Testing	2 points		To establish better quality indoor air in the building
Credit 4: Material ingredient– Option 2 Credit 6 – PBT source reduction: lead, cadmium and copper		1 point 1 point		Minimize the use and generation of harmful substances To reduce the release of persistent, bioaccumulative, and toxic chemicals	The product is 100% REACH compliant The product is free of lead, cadmium and copper



Material & Resource

Credit 3: Purchasing - Facility maintenance and renovation

1 point

To reduce the environmental harm from materials used in building renovations

1. The product is 100% REACH compliant
2. Formaldehyde emission are less than 0.05mg/m3, TVOCs are less than 0.5mg/m3. 3. Test report according to ISO 16000 is available on request.
3. The product is GreenGuard Gold certified.



Indoor Environmental Quality

Credit 2: Contaminant Control – Option 4 Air Testing

1 point

Demonstrate that contaminants do not exceed concentration levels listed

The products is GreenGuard Gold certified.

Credit 7: Low-Emitting Materials

0.5 point

To reduce occupants' exposure to airborne chemical contaminants

The product is GreenGuard Gold certified and meet the requirements of CA Section 01350. The product is made with ULEF or non-added formaldehyde material

Material & Resource

Prerequisite – Durability management

0 point (Prerequisite)

To promote durability and performance of the building

The product is water resistant



Indoor Environmental Quality

Credit 1: Enhanced Indoor Air Quality Strategies – Option 2 Additional Enhanced IAQ Strategies - option D

1 point ID&C,
2 points Retail CI

To reduce concentrations of chemical contaminants that can damage air quality, human health, productivity, and the environment

1. Formaldehyde emission are less than 0.05mg/m3, TVOCs are less than 0.5mg/m3.
2. The product is GreenGuard Gold certified.

Credit 2: Low-Emitting Materials – Option1 Flooring

1 point

To reduce concentrations of chemical contaminants that can damage air quality, human health, productivity, and the environment

1. VOC emission are less than 0.5mg/m3.
2. The products is GreenGuard Gold certified.

Credit 4: Indoor Air Quality Assessment - Option 2 Air Testing

2 points

To establish better quality indoor air in the building

1. Formaldehyde emission are less than 0.05mg/m3, TVOCs are less than 0.5mg/m3.
2. The product is GreenGuard Gold certified.

Material & Resource

Credit 4: Material ingredient– Option 2

1 point

Minimize the use and generation of harmful substances

The product is 100% REACH compliant

WELL SCORECARD

The WELL Building Standard is founded on the understanding that facets of our environment interact with personal, genetic and behavioral factors to shape our overall health and well-being. By compiling leading practices in building design and management and referencing existing standards and best practice guidelines set by governmental and professional organizations, WELL works to harmonize and clarify existing thresholds and requirements.

Facet	Feature	Part	Requirements	Concept score	How our product contribute to obtain WELL level certification
AIR	01. Air quality standards	1. Standards For Volatile Substances	The following conditions are met: a. Formaldehyde levels less than 27ppb (0.027ppm)	PRECONDITION	a. Formaldehyde emission are less than 0.05mg/m3.
			b. Total volatile organic compounds less than 500ug/m3 (0.5mg/m3)		b. The total volatile organic compounds are less than 0.5mg/m3.
	04. VOC Reduction	1. Interior Paints and Coatings	The VOC limits of newly applied paints and coating meet one of the following requirements: a. 100% of installed products meet California Air Resources Board (CARB) 2007, Suggested Control Measure (SCM) for Architectural Coatings, or South Coast Air Quality Management District (SCAQMD) Rule 1113, effective June 3, 2011 for VOC content. b. At minimum 90%, by volume, meet the California Department of Public Health (CDPH) Standard Method v1.1-2010 for VOC emissions	PRECONDITION	a. The VOC limits for California Air Resources Board (CARB) are less than 0.11ppm. b. Measured Concentration of Total Volatile Organic Compounds (TVOC): Less than/equal to 0.5 mg/m3 (in compliance with CDPH/EHLB Standard Method v1.1-2010). The product is GreenGuard Gold certified
			3. Flooring		The VOC emissions of all newly installed flooring must meet all limits set by the following, as applicable: a. California Department of Public Health (CDPH) Standard Method v1.1-2010.
	11. Fundamental Material Safety	1. Asbestos and Lead Restriction	All newly-installed building materials meet the following materials composition requirements: a. No asbestos. b. Not more than 100 ppm (by weight) added lead.	PRECONDITION	a. No asbestos b. The product contain less than 100 ppm.
			2. Lead Abatement	For repair, renovation or painting on buildings constructed prior to any applicable laws banning or restricting lead paint, lead evaluation and abatement.	PRECONDITION
3. Asbestos Abatement			To reduce hazards in buildings constructed prior to any applicable laws banning or restricting asbestos, the following testing, evaluation and abatement.	PRECONDITION	The product contain less than 90 ppm.

Comfort	25. Toxic Material Reduction	2. Flame Retardant Limitation	Halogenated flame retardants are limited in the following components to 0.01% (100 ppm) to the extent allowable by local code: a. Window and waterproofing membranes, door and window frames and siding. b. Flooring, ceiling tiles and wall coverings. c. Piping and electrical cables, conduits and junction boxes. d. Sound and thermal insulation. e. Upholstered furniture and furnishings, textiles and fabrics.	OPTIMIZATION	The product don't contain halogenated flame retardants
		3. Phthalate (Plasticizers) Limitation	DEHP, DBP, BBP, DINP, DIDP or DNOP (often found in polyvinyl chloride [PVC]) are limited in the following components to 0.01% (100 ppm): a. Flooring, including resilient and hard surface flooring and carpet. b. Wall coverings, window blinds and shades, shower curtains, furniture and upholstery. c. Plumbing pipes and moisture barriers.	OPTIMIZATION	In accordance with US Consumer Product Safety Improvement Act 2008 (CPSIA) (H.R.4040) Title I, Section 108 & California Proposition 65 & Annex XV II item 51&52 of the REACH Regulation (EC) No. 1907/2006 and amendment No. 552/2009, the product contains less than 100ppm.
		5. Urea-Formaldehyde Restriction	Urea-formaldehyde presence is limited in the following components to 100 ppm: a. Furniture or any composite wood products. b. Laminating adhesives and resins. c. Thermal insulation.	OPTIMIZATION	The product contains urea-formaldehyde less than 100ppm.
	74. Exterior Noise Intrusion Part 1. Sound Pressure Level		Each regularly occupied space meets the following sound pressure level as measured when the space and adjacent spaces are unoccupied, but within 1 hour of normal business hours: a. Average sound pressure level from outside noise intrusion does not exceed 50 dBA.	PRECONDITION	1. The product has IIC = 63 according to the standard ASTM E492-09 2. The product has STC = 67 according to the standard ASTM E90-09
	79. Internally Generated Noise	Part 1. Sound Masking Limits	If sound masking systems are used, sound levels fall within the following range, when measured from the nearest workspace: a. Open workspaces: 45 - 48 dBA. b. Enclosed offices: 40 - 42 dBA	OPTIMIZATION	1. The product has IIC = 63 according to the standard ASTM E492-09 2. The product has STC = 67 according to the standard ASTM E90-09

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