



INDOOR AIR QUALITY CERTIFICATION - FLOORSORE

SCS Global Services does hereby certify that an independent assessment has been conducted on behalf of:

Greenlam Industries Ltd

E176-179, SP-02, RIICO Industrial Area Phase-II, Behror 301701, RJ, India

For the following product(s):

Engineered Hardwood:

Oak and Walnut Mikasa Pristine, Mikasa Atmos

The product(s) meet(s) all of the necessary qualifications to be certified for the following claim(s):

FloorScore®

Indoor Air Quality Certified to SCS-EC10.3-2014 v4.1

Conforms to the CDPH/EHLB Standard Method v1.2-2017 (California Section 01350), effective April 1, 2017, for the school classroom and private office parameters when modeled as Flooring.

Measured Concentration of Total Volatile Organic Compounds (TVOC): Less than/equal to 0.5 mg/m³ (in compliance with CDPH/EHLB Standard Method v1.2-2017)

Registration # SCS-FS-07387

Valid from: November 10, 2023 to October 31, 2024

SCS Global Services is currently the only certification body approved by the Resilient Floor Covering Institute (RFCI) to provide FloorScore® product certification; certified products are only listed on the SCS Green Products Guide, <http://www.scsglobalservices.com/certified-green-products-guide>.



A handwritten signature in black ink that reads "Stanley Mathuram".

Stanley Mathuram, PE, Executive Vice President
SCS Global Services
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FloorScore®

2023 Renewal Certification Assessment

SCS Environmental Certification Services

Prepared for:

Greenlam Industries Ltd

Engineered Hardwood

Manufactured at Behror, India

Project Work Order: # GRE-23-25

November 10, 2023




FloorScore® Renewal Certification Assessment

SCS Global Services, Environmental Certification Services completed a renewal FloorScore certification assessment of Greenlam Industries' engineered hardwood products manufactured in Behror, India. The lead auditor has completed a full assessment of the quality management assessment of each manufacturing site and product emissions review to determine conformance to SCS EC 10.3 – 2014 Indoor Air Quality Performance Standard and CA 01350 (Standard Method v1.2, effective April 1, 2017). The results of the assessment are included within this assessment report.

This certification assessment has been completed in accordance with SCS' quality management system, ISO 19011 standard auditing practices, ISO/IEC 17065 and has been approved by the program manager. If there is a disagreement with the certification decision, please contact the program manager/quality manager directly.

Authorized Signatures

AUDITOR INFORMATION			
Lead Auditor Name	June Acay-Gelman, Sr. Technical Specialist jacay@scsglobalservices.com +1.510.229.4010	Date	October 30, 2023
SCS FINAL REVIEWER SIGNATURE			
SCS Decision Maker	Rob Emelander, Program Manager remelander@scsglobalservices.com +1.616.502.6090		
Signature		Date	Nov. 10, 2023

EXECUTIVE SUMMARY

ASSESSMENT SCOPE

Greenlam Industries' engineered hardwood assessment scope is detailed in the work order GRE-23-25. A change of scope was not required.

INDOOR AIR QUALITY CERTIFICATION SUMMARY

The following table details the conformance for products that have met FloorScore® product certification requirements. Products that have met FloorScore® certification also comply with the following criteria: USGBC LEED 2008, 2009 and v4 for Low-Emitting Materials (Flooring); Collaborative for High Performance Schools (CHPS) 2009 Criteria, EQ2.2.3; ANSI/ASHRAE/USGBC/IES Standard 189.1-2014, Section 8.4.2.3: Floor Covering Materials; BREEAM International and BREEAM UK; Green Guide for Health Care 2.2 EP 3.3 and EQ 4.3; and WELL Building Standard 4.3.a: Air.

PRODUCT CATEGORY	PRODUCT LINE(S)	QUALIFICATIONS	CERTIFICATE NUMBER	CERTIFICATION PERIOD
Engineered Hardwood	Oak and Walnut Mikasa Pristine, Mikasa Atmos	TVOC Range: 0.5 mg/m ³ or less	SCS-FS-07387	November 10, 2023 – October 31, 2024

PRODUCT ASSESSMENT SUMMARY

The following table indicates if a Non-Conformance Report (NCR) / Opportunity for Improvement (OFI) /New Information Request (NIR) is issued based on deficiencies found in the documentation or other supplemental information provided to meet both Standard Method v1.2 and the Quality Management System requirements. All NCRs must be closed before certification may be issued.

NCR/ OFI/ NIR-#	STANDARD REQUIREMENT	AUDITOR FINDINGS	DUE DATE	STATUS
NIR-23-01	SCS-EC10.3-2014-Section 6.5	Example of internal and external (DNV) audit report provided. Status of DNV open findings # MANL-0002-2386801/ MNL-0004-2386801 and corrective actions are requested as they relate to production and product quality. This is to ensure that consistent quality products are being manufactured and that there are no open findings.	October 31, 2024	Open

MANUFACTURING ONSITE AUDIT SUMMARY

The table below indicates the entire scope of applicable site audits, the status of site audits completed, conformance status, and rationale for site audit selection for initial and renewal years.

MANUFACTURING SITE	DATE OF LAST ONSITE AUDIT	STATUS OF NCR/NIR	AUDITOR RATIONALE
Alwar, Behror, India	April 24, 2019	NIR closed	This site continues to demonstrate the ability to control production through a quality management system and manufactures products considered to be a high priority for emissions testing. The site does not require a renewal onsite audit at this time. The site will be re-evaluated for an onsite during the 2025 assessment.

1.0 Product Category Assessment

The following tables provide a progressive review on how products were selected to represent the emission profile for the product category, actual emissions results, and overall product certification results.

1.1 PRODUCT TESTING SAMPLE SELECTION

The following product sample selection is based on the product formulations, ingredients/materials, production processes and known production variability.

PRODUCT LINE	SUPPORTING DOCUMENTATION	AUDITOR RATIONALE
Oak Mikasa Pristine (15mm)	Email: Sample Collection Procedures for Greenlam Industries Ltd	Greenlam's engineered hardwoods are considered high priority and require testing every year. Oak Mikasa Pristine failed emissions testing in the past due to the presence of urea formaldehyde. EPI glue is currently used and only Walnut Mikasa Pristine has been tested. To determine if there is a significant difference between different wood types, Oak Mikasa Pristine is recommended for testing. The thickest Oak Mikasa Pristine (15mm) with highly textured surface and a surface finish that has the highest VOC is recommended for renewal testing in 2023.

1.2 PRODUCT EMISSIONS RESULTS

The table below summarizes the product emissions results for the individual volatile organic compounds (VOCs) tested for compliance to California Specification 01350 (Standard Method v1.2, effective April 1, 2017) private office and school classroom parameters when modeled as flooring. The highlighted row indicates the current emissions results.

1.2.1 ENGINEERED HARDWOOD

PRODUCT LINE	LAB REPORT NUMBER AND DATE	CREL VOCs	EF ($\mu\text{g}/\text{m}^2$) at 96hrs	PRIVATE OFFICE RESULTS	SCHOOL CLASSROOM RESULTS	TVOC RANGE
Oak Mikasa Pristine 15mm	0144200715a 001f - Nov2018	Toulene	1105.0	FAIL	FAIL	-
Oak Mikasa Pristine 15mm	0144200715a 001f - Nov2018	Methylene Chloride	105.0	PASS	PASS	-
Oak Mikasa Pristine 15mm	0144200715a 001f - Nov2018	Formaldehyde	68.0	FAIL	FAIL	-
Oak Mikasa Pristine 15mm	0144200715a 001f - Nov2018	Acetaldehyde	15.0	PASS	PASS	-
Oak Mikasa Pristine 15mm	0144200715a 001f - Nov2018	TVOC	1242.0	-	-	0.5 – 5.0 mg/m^3
Walnut Mikasa Pristine 15mm	158236591a 001-Aug2021	Formaldehyde	14.0	PASS	PASS	-
Walnut Mikasa Pristine 15mm	158236591a 001-Aug2021	TVOC	9.00	-	-	0.5 mg/m^3 or less
Walnut Mikasa Pristine 15mm	158261578a1 001-Nov2222	Formaldehyde	13.75	PASS	PASS	-
Walnut Mikasa Pristine 15mm	158261578a1 001-Nov2222	Acetaldehyde	18.33	PASS	PASS	-
Walnut Mikasa Pristine 15mm	158261578a1 001-Nov2222	Toluene	4.68	PASS	PASS	-
Walnut Mikasa Pristine 15mm	158261578a1 001-Nov2222	TVOC	146.67	-	-	0.5 mg/m^3 or less
Oak Mikasa 15mm	158278558a1 001_26Oct23	Formaldehyde	6.00	PASS	PASS	-
Oak Mikasa 15mm	158278558a1 001_26Oct23	TVOC	673.00	-	-	0.5 mg/m^3 or less

The results for Greenlam's Engineered Hardwood Flooring products manufactured in Alwar, India demonstrate that one or more of the 35 targeted CREL VOCs listed in CDPH/EHLB Standard Method V1.2 are currently below 70% of the maximum allowable limits but due to high emissions in previous year, these products are considered **High Priority**. High Priority products require renewal testing every year after initial certification. The TVOC results also demonstrate a TVOC range of 0.5 mg/m^3 or less. If consistent low emissions are observed, the testing frequency could potentially be lowered.

1.3 Lab Testing Requirements

The table below is a checklist of the standard requirements for product testing and report results according to CA 01350 (Standard Method v1.2) and SCS EC10.3-2014.

	REQUIREMENT	SUPPORTING DOCUMENTATION	AUDITOR KEY FINDINGS	ASSESSMENT RESULT
1	Laboratory is a qualified ISO 17025 certified laboratory. [Reference: SCS-EC10.3-2014-Section 6.3.2]	158278558a1 001_26Oct23	The sample was tested by TUV Rheinland Hong Kong, an ISO 17025 certified lab.	<input checked="" type="checkbox"/> No Issues <input type="checkbox"/> NCR <input type="checkbox"/> NIR <input type="checkbox"/> OFI
2	The manufacturer has submitted results in accordance with CDPH/EHLB/Standard Method V1.2 (January 2017), [Reference: SCS-EC10.3-2014-Section 6.3.3]	158278558a1 001_26Oct23	Meets requirements.	<input checked="" type="checkbox"/> No Issues <input type="checkbox"/> NCR <input type="checkbox"/> NIR <input type="checkbox"/> OFI
3	Samples for testing are selected by a SCS auditor or a person authorized by SCS. [Reference: SCS-EC10.3-2014-Section 6.2]	Email: Sample Collection Procedures for Greenlam Industries Ltd	Sample recommended by auditor.	<input checked="" type="checkbox"/> No Issues <input type="checkbox"/> NCR <input type="checkbox"/> NIR <input type="checkbox"/> OFI
4	The samples are selected from a production lot that is representative of the processes and quality the manufacturer intends to present to the market. [Reference: SCS-EC10.3-2014-Section 6.2]	158278558a1 001_26Oct23 Chain of Custody form	Meets requirements.	<input checked="" type="checkbox"/> No Issues <input type="checkbox"/> NCR <input type="checkbox"/> NIR <input type="checkbox"/> OFI
5	Manufacturer has submitted their nominations for test groups and worst-case models accompanied by supportive data in the form of calculations, test results, formulations, and written explanation. [Reference: SCS-EC10.3-2014-Section 6.2]	Greenlam_2023_FS_Renewal DRF_auditor	Sample was selected based on current scope and past emissions.	<input checked="" type="checkbox"/> No Issues <input type="checkbox"/> NCR <input type="checkbox"/> NIR <input type="checkbox"/> OFI
6	Samples submitted to the laboratory are in conformance with CDPH/EHLB/Standard Method V1.2-January 2017, Section 2. [Reference: SCS-EC10.3-2014-Section 6.2]	158278558a1 001_26Oct23 Chain of Custody form	Meets requirements.	<input checked="" type="checkbox"/> No Issues <input type="checkbox"/> NCR <input type="checkbox"/> NIR <input type="checkbox"/> OFI

1.4 Quality Management System

The table below includes a review of the ongoing maintenance of the manufacturer's quality management system in accordance to SCS EC10.3-2014.

	REQUIREMENT	SUPPORTING DOCUMENTATION	AUDITOR KEY FINDINGS	CONFORMANCE ISSUE
1	QMS Certification Valid ISO 9001 or comparable certification was submitted (if applicable)	Greenlam_2023_FS_Renewal DRF_auditor	ISO 9001 valid until November 12, 2023	<input checked="" type="checkbox"/> No issue <input type="checkbox"/> OFI <input type="checkbox"/> NIR <input type="checkbox"/> NCR
2	Internal/External Audits Evidence of no outstanding NCRs were provided.	Greenlam_2023_FS_Renewal DRF_auditor	Example of internal and external (DNV) audit report provided. Status of DNV open findings # MANL-0002-2386801 and MNL-0004-2386801 are requested as they relate to production and product quality.	<input type="checkbox"/> No issue <input type="checkbox"/> OFI <input checked="" type="checkbox"/> NIR <input type="checkbox"/> NCR
3	Production Flow Chart [Reference: SCS-EC10.3-2014-Section 6.5]	Greenlam_2023_FS_Renewal DRF_auditor	There were no reported changes.	<input checked="" type="checkbox"/> No issue <input type="checkbox"/> OFI <input type="checkbox"/> NIR <input type="checkbox"/> NCR
4	Production Variability [Reference: SCS-EC10.3-2014-Section 6.5]	Greenlam_2023_FS_Renewal DRF_auditor	There were no reported changes.	<input checked="" type="checkbox"/> No issue <input type="checkbox"/> OFI <input type="checkbox"/> NIR <input type="checkbox"/> NCR
5	Product Line Identification and Traceability [Reference: SCS-EC10.3-2014-Section 6.5]	Greenlam_2023_FS_Renewal DRF_auditor	There were no reported changes.	<input checked="" type="checkbox"/> No issue <input type="checkbox"/> OFI <input type="checkbox"/> NIR <input type="checkbox"/> NCR
6	Production Control [Reference: SCS-EC10.3-2014-Section 6.5]	Greenlam_2023_FS_Renewal DRF_auditor	Example of complaint provided.	<input checked="" type="checkbox"/> No issue <input type="checkbox"/> OFI <input type="checkbox"/> NIR <input type="checkbox"/> NCR

1.5 FloorScore® Logo Review

The table below includes a review of the ongoing FloorScore® logo usage.

	REQUIREMENT	SUPPORTING DOCUMENTATION	AUDITOR KEY FINDINGS	CONFORMANCE ISSUE
1	Logo Use-Website Are SCS Indoor Air Quality logos used on the company website? (If yes, provide a link to the website.) [Reference: SCS-EC10.3-2014-Section 5.4]	Greenlam_2023_FS_Renewal DRF_auditor	The client does not use the logo in this capacity.	<input checked="" type="checkbox"/> No issue <input type="checkbox"/> OFI <input type="checkbox"/> NIR <input type="checkbox"/> NCR
2	Logo Use-Marketing Collateral Are SCS Indoor Air Quality logos used on “off-products” such as brochures, price lists, or leaflets? (If yes, provide a sampling of logos used on off-products.) [Reference: SCS-EC10.3-2014-Section 5.4]	Greenlam_2023_FS_Renewal DRF_auditor	The client does not use the logo in this capacity.	<input checked="" type="checkbox"/> No issue <input type="checkbox"/> OFI <input type="checkbox"/> NIR <input type="checkbox"/> NCR
3	Logo Use-On Product Packaging Are SCS Indoor Air Quality logos used on products such as product packaging or labels? (If yes, provide an example of a logo used on products.) [Reference: SCS-EC10.3-2014-Section 5.4]	Greenlam_2023_FS_Renewal DRF_auditor	The client does not use the logo in this capacity.	<input checked="" type="checkbox"/> No issue <input type="checkbox"/> OFI <input type="checkbox"/> NIR <input type="checkbox"/> NCR

APPENDIX

A.1 Renewal Audit Recommendations

A.1.1 Renewal Sample Selection

The following table represents suggested sample selections for emissions testing. The frequency and required number of samples is dependent on the quality management systems review per manufacturing site and emissions history review completed during each renewal assessment by the auditor.

PRODUCT LINE	PRODUCT DETAILS	RENEWAL YEAR	AUDITOR RATIONALE
Walnut Mikasa Pristine	15.0mm; highly textured surface; Surface finish with the highest VOC content	2024	Greenlam's engineered hardwoods are considered high priority and require testing every year due to high formaldehyde in 2022. Walnut Mikasa has shown a wider range in emissions compared to Oak Mikasa. The thickest Walnut Mikasa Pristine with highly textured surface and a surface finish that has the highest VOC is recommended for renewal testing.



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