

GREEN BUILDING COUNCIL OF SRI LANKA
'Committed Leadership in Sustainability'



**GREEN
BUILDING
COUNCIL OF
SRI LANKA**



GREEN^{SL}® LABELLING SYSTEM FOR SUSTAINABLE BUILDING MATERIALS AND PRODUCTS

VERSION 2.0

SUPPORTED BY





**G R E E N
B U I L D I N G
C O U N C I L O F
S R I L A N K A**

GREEN^{SL}® LABELLING SYSTEM FOR SUSTAINABLE BUILDING MATERIALS AND PRODUCTS

Version 2.0

Green Building Council of Sri Lanka

First Publication - December 2012
Second Publication - March 2022

ISBN 978-624-5525-03-4

Printed by:

Apex Print and Graphics,
No. 2/9, Wanatha Road, Gangodawila, Nugegoda.

Published by,

Green Building Council of Sri Lanka
120/10, Vidya Mandiraya,
Vidya Mawatha,
Colombo 7, Sri Lanka.
Tel: +94(0) 112679130
Email: office@srilankagbc.org
Web: www.srilankagbc.org

One day, King Udena went up to Venerable Ānanda and exchanged greetings with him. When the cordial exchanges were concluded, he sat down at one side. Then King Udena inquired from Venerable Ānanda;

“Master Ānanda, did our concubines come here?”

“Maharajah, your concubines did come here today.”

“And what did they give to master Ānanda?”

“Maharajah, they gave me 500 sets of outer robes.”

“But what is master Ānanda going to do with so many robes?”

“Maharajah, we distribute them to monks with robes that are worn out.”

“But, master Ānanda, what then do you do with the old worn-out robes?”

“We turn them into cover-sheets.”

“What then, master Ānanda, do you do with the old cover-sheets?”

“We turn them into covers for pillows and mattresses.”

“What then, master Ānanda, do you do with the old covers?”

“We turn them into floor-sheets [carpets] Maharajah.”

“What then, master Ānanda, do you do with the old floor-sheets?”

“We turn them into foot-towels, Maharajah.”

“What then, master Ānanda, do you do with the old foot-towels?”

“We turn them into dusters, Maharajah.”

“What then, master Ānanda, do you do with the old dusters?”

“Maharajah, having shredded them up, we knead them into the mud, and then we will spread them out on the flooring.”

Then King Udena thought,

“These recluses, sons of the Shākya, proceed very wisely; nothing is wasted!”

(Chulla Vagga)

FOREWORD

Sri Lanka, like other countries around the world, is facing an immense challenge, to create sustainable buildings for the future. Buildings are the major source of demand for energy and construction materials which produce a significant amount of by-product greenhouse gases. Studies show that the building sector accounts for over 40 percent of the world's energy requirements and that a large percentage of the present energy consumption and carbon dioxide generation could be saved by applying certification standards such as the one presented in this document.

The public's perception of the importance of sustainable green design is dramatically increasing followed by a great demand. Developers of buildings of all types (and the consultants involved in the design of those buildings) now recognize that sustainable design must be used because it adds value to their investment. Design for the sake of designing alone is no longer an option. Designing for higher performance is our pathway to a better future.

Increasing global environmental awareness has created a demand for and the supply of green products. This well-qualified committee led by Prof. Parakrama Karunaratne and other leading professionals involved worked very hard to produce version 2.0 of GREEN^{SL}® Labelling System for sustainable building materials and products for Sri Lanka, with the main aim of fundamentally changing the built environment by creating energy-efficient, healthy, products that reduce or minimize the significant impacts of buildings on the environment. Although the green labelling system is based on the world's best green labelling schemes, the committee has very efficiently incorporated local conditions. A local certification system is essential as local conditions are different from the conditions experienced in countries where these standards have been developed.

Recognizing products that are sensitive to environmental conditions can lead manufacturers, distributors, and marketers towards significant financial savings. Thus, there is no doubt that it will receive support from both public and private sectors and become the green labelling tool of choice. Finally, I would like to acknowledge the tremendous effort of Green Technology and Eco Labelling Division of GBCSL in coordinating the overall project.

Prof. Priyan Mendis
Founder Chairman,
Green Building Council of Sri Lanka

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This document was prepared by Green Building Council of Sri Lanka under the framework of the Global Environment Facility (GEF) full-sized project 9771: Global best practices on emerging chemical policy issues of concern under the Strategic Approach to International Chemicals Management (SAICM). This project is funded by the GEF, implemented by UNEP and executed by the SAICM Secretariat.

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ACKNOWLEDGEMENTS

The GREEN^{SL}® Labelling System for Sustainable Building Materials and Products, Version 2.0 has been made possible through the efforts of many volunteers, committee members, representatives from the manufacturing industry, product experts, conformity agencies and sustainable consultants. We extend our deepest gratitude to all these members.

GBCSL acknowledges the support of Ms. Harshani Saranaweera in coordinating the project and preparing the draft.

We mention with gratitude the expert committee members and research team members for their expertise and reviews in perfecting the draft.

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We would like to thankfully acknowledge the support by the Global Environment Facility (GEF), United Nations Environment Programme (UNEP) and Secretariat of Strategic Approach to International Chemicals Management (SAICM) in preparing this document.

We would also like to thank the following organizations for their participation and contribution in developing the document of GREEN^{SL}® Labelling System Version 2.0.

- National Cleaner Production Centre, Sri Lanka
- Lanka Walltiles PLC
- Tokyo Cement Company Lanka PLC
- Siam City Cement (Lanka) PLC
- Lanka Tiles PLC
- Rocel Bathware Limited
- Royal Ceramics Lanka PLC- Ehaliyagoda Plant
- Royal Ceramics Lanka PLC- Horana Plant
- Samson Rajarata Tiles Pvt Ltd

- SMS Holdings Pvt Ltd
- Samren Holdings Company Pvt Ltd
- Euro Strong Pvt Ltd
- Saint Gobain India Pvt Ltd
- BlueScope Lysaght Lanka Pvt Ltd
- St. Anthony's Industries Pvt Ltd
- El Toro Roofing Products Limited
- Idea Industries Limited
- Alumex PLC
- Swisstek Aluminium Limited
- GB Coatings Pvt Ltd
- Nippon Paint Lanka (Pvt) Ltd
- Macksons Paints Lanka Pvt Ltd
- International Construction Consortium (Pvt) Ltd
- Metecno Lanka Pvt Ltd
- Union Chemicals Lanka PLC
- Kelani Cables PLC
- True Value Green Products (Pvt) Ltd
- Smart Eco Concepts Pvt Ltd
- Global Vinyl Pvt Ltd
- Lion Roofing Pvt Ltd
- Melwire Group
- Philips Lighting Lanka Pvt Ltd
- Sanctuary Holdings Pvt Ltd
- Posom Ceramics
- Alumatek Lanka Pvt Ltd

GLOSSARY

Adhesives - A substance used for sticking objects or materials together

Carbon Dioxide (CO₂) - Odourless gas which is commonly created by respiration and combustion and is created by the oxidation of carbon-based substances; a principal greenhouse gas

Carpets - A floor or stair covering made from thick woven fabric

CEA - Central Environment Authority; See www.cea.lk

CFCs - - Chlorofluorocarbons; refrigerants which that cause depletion of the Ozone layer when released to the atmosphere

Diluents - A substance used to dilute something

EMS - Environmental Management Systems

Extraction - The action of taking out something, esp. using effort or force

Fossil Fuels - A natural fuel such as coal or gas, formed in the geological past from the remains of living organisms

GEN - Global Eco-Labeling Network

GHG - Green House Gasses

GRI - Global Reporting Initiative; An independent, international organization that helps businesses and other organizations take responsibility for their impacts, by providing them with the global common language to communicate those impacts

Halogens - Any of the elements occupying group VIIA (17) of the periodic table (fluorine (fluorine, chlorine, bromine, iodine, and astatine and, etc)

Hazardous - - The nature of a substance that poses substantial or potential threats to public human health or the environment; ignitable, corrosive, reactive or toxic

HCFCs - - Hydrochlorofluoro carbons; refrigerants which that cause depletion of the Ozone layer when released to the atmosphere

Heavy Metals - a metal of relatively high density (specific gravity greater than about 5) or of high relative atomic weight (especially one that is poisonous like important examples include mercury or lead)

Insulators - A substance that does not readily allow the passage of heat or sound.

LCA - Life Cycle Assessment; A holistic assessment of the environmental effects of a product or activity by analysing analyzing its full lifecycle.

Life Cycle - - All stages associated with the life of a product or substance; i.e., design, creation, distribution/sale, installation, use, disposal/reuse/recycling etc.

PCB - Polychlorinated biphenyl

PCN - Polychlorinated naphthalenes

PFOA - Perfluorooctanoic acid

PFOS - Perfluorooctanesulfonic acid

Pollution - The presence in the environment of a substance, which through its chemical composition or quantity, prevents the proper functioning of natural processes and produces undesired health and environmental effects.

POPs - Persistent Organic Pollutants

Post-consumer Recycled Content - The composition of a product that contains some proportion of material diverted from the waste stream of the product users; excludes re-utilisation of materials such as re-work, re-grind or scrap generated in a process and capable of being reclaimed within the same process that generated it.

PPE - Personal Protective Equipment

PVC - Polyvinylchloride

Recyclables - Products or materials which possess the ability to be recovered from or otherwise be diverted from the solid waste stream for the purpose of being recycled.

Recycled Content - Materials which that have been recovered or otherwise diverted from the solid waste stream, either during the manufacturing process (pre-consumer) or after being used by the consumer (post-consumer).

Recycling - The process of collection, separation and often reprocessing of discarded materials for reuse in the form of raw materials or finished goods.

SCCP - Short Chain Chlorinated Paraffins

SEA - Sri Lanka Sustainable Energy Authority; See www.energy.gov.lk

SLAB - Sri Lanka Accreditation Board; See www.slab.lk

SLSI - Sri Lanka Standards Institution; See www.slsi.lk

Virgin Materials - - Materials that are previously unprocessed/ Previously unprocessed Materials

VOC - Volatile organic compounds; organic compounds capable of converting to gaseous phase from either liquid or solid phase organic compounds that have a high vapour pressure at room temperature

WHO - World Health Organization

**GREEN^{SL}® LABELLING SYSTEM FOR SUSTAINABLE BUILDING
MATERIALS AND PRODUCTS
VERSION 2.1 CHECKLIST
1000 Total Points Available**



Criteria		Points
1.0 MANAGEMENT		160 Points Available
<input type="checkbox"/> Credit 1.1	Environmental Management System [100 Points]	
	Option 1: Certified System (ISO 14001: 2015)	100 Points
	Option 2: Non – certified System	60 Points
<input type="checkbox"/> Credit 1.2	Quality Management System [60 Points]	
	Option 1: Certified System (ISO 9001:2015)	60 Points
	Option 2: Non-certified System	40 Points
2.0 RAW MATERIALS & CHEMICALS		190 Points Available
<input checked="" type="checkbox"/> Mandatory requirement	a) Legal compliance for mineral/ raw material extraction b) Compliance to environmental regulations relevant to the site/ Operation c) Legal compliance for raw material transportation. (If applicable)	
<input type="checkbox"/> Credit 2.1	Raw Material Acquisition [40 points]	
<input type="checkbox"/> Credit 2.2	Raw Material Transportation [30 points]	
	Credit 2.2.1 Upstream Transportation	10 Points
	Credit 2.2.2 Downstream Transportation	5 Points
	Credit 2.2.3 Green Fleet Management	15 Points
<input type="checkbox"/> Credit 2.3	Storage of Raw Materials and Finished Goods [10 Points]	
<input type="checkbox"/> Credit 2.4	Chemical Management System [50 Point]	
<input type="checkbox"/> Credit 2.5	Green Initiatives for Resource Efficiency 1. Application of green chemistry/ green engineering 2. Chemical Leasing 3. Cleaner Production	30 Points
<input type="checkbox"/> Credit 2.6	Local Material Usage [15 Points]	
	% of local material usage \geq 50% & distance from raw material source to manufacturing facility < 50km	15 Points

	% of local material usage \geq 50% & distance from raw material source to manufacturing facility \geq 50km	10 Points
<input type="checkbox"/> Credit 2.7	Alternative Raw Material [15 Points]	
	% of alternative material usage \geq 50% of conventional raw material	15 Points
	% of alternative material usage \geq 30% of conventional raw material	10 Points
3.0 MANUFACTURING PROCESS		200 Points Available
<input checked="" type="checkbox"/> Mandatory requirement	The production process of the product shall meet the requirements of all applicable environmental laws and regulations.	
<input type="checkbox"/> Credit 3.1	Energy Efficiency [80 points]	
	Option 1: Energy Management System (ISO 50001:2018) [80 Points]	
	Option 2: Projects for improving Energy Efficiency [60 Points]	
	a) Accredited energy manager	5 Points
	b) Sub metering and recording energy consumption Energy Efficiency	5 Points
	c) Developing company benchmarks for Energy Consumption	10 Points
	d) Optimizing energy efficiency	20 Points
	e) Actions for realizing energy saving potentials	10 Points
	f) Tracking the progress	10 Points
<input type="checkbox"/> Credit 3.2	Renewable Energy [60 Points]	
	Credit 3.2.1 On-site Renewable Power -Thermal [30 Points]	
	\geq 50% of specific thermal power consumption	30 Points
	\geq 30% of specific thermal power consumption	20 Points
	<30% of specific thermal power consumption	10 Points
	Credit 3.2.2 On-site or Off-site Renewable Power - Electrical [30 Points]	
	\geq 50% of specific electrical power consumption	30 Points
	\geq 30% of specific electrical power consumption	20 Points
	<30% of specific electrical power consumption	10 Points

<input type="checkbox"/>	Credit 3.3	Water Efficiency [60 points]	
		Option 1: Minimization of water consumption [60 points]	
		a) Calculation of Water Foot Print	10 Points
		b) Demonstration of water saving $\geq 25\%$ of baseline year consumption	30 Points
		c) Saving verified by a third party	20 Points
		Option 2: Water management practices [40 Points]	
		a) Sub metering and recording water consumption	5 Points
		b) Developing company benchmarks for Water Consumption	10 Points
		c) Optimizing water efficiency	15 Points
		d) Actions for realizing water saving potentials	5 Points
		e) Tracking the progress	5 Points
<input type="checkbox"/>	Credit 3.4	Waste water discharge	
<input checked="" type="checkbox"/>	Mandatory requirement	Complying with CEA regulations on tolerance limits	
4.0 PRODUCT CHARACTERISTICS		70 Points Available	
<input type="checkbox"/>	Credit 4.1	Fitness for purpose	30 Points
<input type="checkbox"/>	Credit 4.2	Limits for substances	
<input checked="" type="checkbox"/>	Mandatory requirement	Hazardous substances in the final product should not exceed given limits under each product category defined by GBCSL.	
<input type="checkbox"/>	Credit 4.3	Recyclable content [40 points]	
		Recyclable content $> 10\%$	40 Points
		Recyclable content $> 5\% \leq 10\%$	20 Points
5.0 WASTE MANAGEMENT		60 Points Available	
<input checked="" type="checkbox"/>	Mandatory requirement	Complying with environmental regulations for Management of Solid, Liquid and Gaseous Wastes. Selecting of CEA licensed disposing agents Availability of scheduled waste management license (if applicable) License/Permit from Marine Environment Protection Authority (if applicable)	
<input type="checkbox"/>	Credit 5.1	Waste Management System [50 Points]	

	Credit 5.1.1 Waste Management Policy or Plan	5 Points
	Credit 5.1.2 Implementation [45 Points]	
	a) Monitoring and recording of waste generation	10 Points
	b) Segregation and Storage	10 Points
	c) Waste processing techniques	25 Points
<input type="checkbox"/> Credit 5.2	Discharges to Air	
<input checked="" type="checkbox"/> Mandatory requirement	Emission to air shall not exceed given limits as mentioned in CEA regulations	
	Credit 5.2.1 Dust & fumes management plan, monitoring & testing initiatives to reduce dust & fumes emission	10 Points
6.0 LIFE CYCLE APPROACH		70 Points Available
<input type="checkbox"/> Credit 6.1	Credit 6.1 Life Cycle Analysis	
	a) Full LCA	30 Points
	b) Partial LCA	15 Points
	c) Impact reduction through results of LCA	40 Points
7.0 GHG MANAGEMENT		70 Points Available
<input type="checkbox"/> Credit 7.1	GHG Management of Product [40 Points]	
	a) Availability of Carbon neutrality plan/ Carbon management plan & Road Map	5 Points
	b) Carbon Foot Print Calculation	10 Points
	c) Achieving Carbon Neutrality	15 Points
	d) Third party verification	10 Points
<input type="checkbox"/> Credit 7.2	GHG Management of Organization [30 Points]	
	a) Availability of Carbon neutrality plan/ Carbon management plan & Road Map	5 Points
	b) Carbon Foot Print Calculation	10 Points
	c) Achieving Carbon Neutrality	10 Points
	d) Third party verification	5 Points
8.0 PRODUCT STEWARDSHIP		30 Points Available
<input type="checkbox"/> Credit 8.1	Extended Producer Responsibility	10 Points

<input type="checkbox"/> Credit 8.2	Consumer Information & complaint handling procedure	10 Points
<input type="checkbox"/> Credit 8.3	Initiatives for sustainable packaging	10 Points
9.0 HEALTH AND SAFETY		50 Points Available
<input checked="" type="checkbox"/> Mandatory Requirement	Operating in accordance with the requirements in factory ordinance for employee health, safety and welfare.	
<input type="checkbox"/> Credit 9.1	Health and Safety Management [50 Points]	
	Option 1: Certified Health & Safety Management System [50 Points]	
	Option 2: Health & Safety Management Practices [40 Points]	
	a) Planning	10 Points
	b) Competence, Training and Awareness	10 Points
	c) Operation	10 Points
	d) Performance Evaluation	10 Points
10.0 ECO-INNOVATIONS & AWARDS		100 Points Available
<input type="checkbox"/> Credit 10.1	Innovations for products, processes or systems	30 Points
<input type="checkbox"/> Credit 10.2	Awards and Accolades	20 Points
<input type="checkbox"/> Credit 10.3	GRI Reporting	50 Points
TOTAL		1000 Points

Star ratings given will be as follows;

- Certified 400 – 499 Points
- 3 Star 500 – 599 Points
- 4 Star 600 – 699 Points
- 5 Star 700 Points and above



05 Star (Excellent)



04 Star (Very Good)



03 Star (Good)

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INTRODUCTION TO GREEN BUILDING COUNCIL OF SRI LANKA (GBCSL)

Going green is no strange concept to us Sri Lankans having a proud history of great civilizations with structures and monuments together with irrigation systems that impress the entire world even today. The balanced lifestyle and coexistence with nature, which is provided to the human society is the ultimate goal of *GBCSL*'s endeavour.

GBCSL came into existence as a result of an emerging trend towards applying greener concepts to the built environment.

GBCSL launched in November 2009 as a non-profit organization that is committed to developing a sustainable building industry for Sri Lanka by encouraging the adoption of green building practices. It is uniquely supported by both industry and government institutions across the country.

The *GBCSL* is now granted with “Emerging Member Status” by the *World Green Building Council*, which represents 70 countries ranging from developed to developing nations worldwide.

Prof. Ranjith Dissanayake leads the *GBCSL* as the chairperson while the board comprises expert academic advisors and industry agents.

Board Members

- **Prof. Ranjith Dissanayake (Chairman)**
Secretary, State Ministry of Rural Roads and other Infrastructures
- **Prof. Priyan Mendis (Founder Chairman)**
Professor, Department of Civil and Environmental Engineering, University of Melbourne
- **Eng. Shiromal Fernando (Vice-Chairman)**
Managing Director, Civil and Structural Engineering Consultants (Pvt)
- **Archt. Jayantha Perera (Vice-Chairman)**
Past President, Sri Lanka Institute of Architects
- **Archt. Chandana Edirisuriya (Vice Chairman)**
Past President, Sri Lanka Institute of Architects

- **Brig. Madura Wijeyewickrema (Vice-Chairman)**
CEO, M & SC – National Construction Association of Sri Lanka
- **Arch. PInr. Piyal Silva (Vice Chairman)**
President, Institute of Town Planners, Sri Lanka
- **Mr. Lionel Nawagamuwa (Director)**
Accountant and Management Consultant
- **Dr. Locana Gunarathna (Director)**
Past President, National Academy of Sciences, Institute of Town Planners, & Institute of Architects
- **Prof. Chithra Wedikkara (Director)**
Department of Building Economics, University of Moratuwa, Past President, IQSS Sri Lanka
- **Prof. Ajith de Alwis (Director)**
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- **Eng. Mahendra S. Jayalath (Director)**
Sr. Energy Consultant & CEO, EnergySolve International
- **Eng. Chandana Dalugoda (Director)**
ASHRAE Distinguished Lecturer, Managing Partner at Chandana Dalugoda Consultants, Sri Lanka

Committees of the Council

- Green Environmental Rating System & Life Cycle AssessmentTransport
- Infrastructure in Built Environment
- Education & Training
- Awareness & Publicity
- International Relations
- Membership
- Volunteer Force

Institutions that have taken leadership in establishing GBCSL

- Sri Lanka Standards Institute (SLSI)
- Sri Lanka Institute of Architects
- The Institution of Engineers Sri Lanka
- Society of Structural Engineers Sri Lanka
- National Construction Association of Sri Lanka
- Institute of Quantity Surveyors of Sri LankaNational Academy of Sciences
- Sri Lanka Sri Lanka Institute of Nanotechnology
- Institute of Town Planners Sri Lanka
- Department of Civil Engineering, Department of Mechanical Engineering and Faculty of Architecture - University of Moratuwa
- Department of Civil Engineering - University of Peradeniya
- Department of Civil & Environmental Engineering - University of Melbourne



VISION OF GREEN BUILDING COUNCIL OF SRI LANKA

Our Vision is to transform the construction industry in Sri Lanka with traditional building practices and fully adopt sustainability as the means by which our environment flourishes, the economy prospers and society grows to ensure the future wellbeing of our motherland.

MISSION OF GREEN BUILDING COUNCIL OF SRI LANKA

The Mission is to develop the sustainability of the built environment by transforming the way it is planned, designed, constructed, maintained and operated and drive the adoption of green building practices through market-based solutions while helping to forge a new partnership between government, industry and other stakeholders.

INTRODUCTION TO GREEN^{SL}® LABELLING SYSTEM (GLS^{SL}®)

Like in many other developing countries around the globe, the construction industry is one of the fastest-growing industries in Sri Lanka contributing significantly to economic growth. The rapid growth of the sector poses a host of challenges for preserving the environment as well as keeping up the health of occupants. The green building movement spearheaded by the Green Building Council of Sri Lanka (GBCSL) has enabled the construction industry to incorporate green building concepts to enhance the environmental performance of buildings.

The term sustainable development was coined and offered a new perspective on how to address the dilemma of advancing economic development while protecting environmental systems and enriching the quality of life for the present and future generations. The concept of sustainable development slowly leached its way to a number of disciplines and has been speedily accepted by the world as it has holistic ideas of protecting the environment for the survival of mankind. ‘Green Labelling’ or ‘Eco-Labelling’ is one such discipline which has been applied in many countries with the aim of minimizing the adverse effects imposed on the environment.

Companies embracing ‘green’ concepts across construction, manufacturing and services sectors have created demand for green products. The demand is expected to grow exponentially in future. Against this background, GBCSL has launched a green product certification scheme namely, GREEN^{SL}® Labelling System with the support of all the stakeholders including product manufacturers, standard developers, conformity agencies, testing laboratories, consultants, end users, regulators, representatives from the concerned government departments etc.

The aim of GREEN^{SL}® Labelling System (GLS^{SL}®) is

- to encourage suppliers to produce environmentally sound products/services
- to allow consumers to make comparisons among products/services in similar category
- to make more environmentally friendly decisions; i.e. to promote sustainable manufacturing and consumption patterns in Sri Lanka.
- To smoothen the operational activities during the whole life-cycle adhering to occupational health and safety standards

The GLS^{SL}® is an ISO Type I Green Labelling System which involves voluntary, third party certification based on multiple environmental criteria across the life cycle of a product. According to GEN (2010), Type I Green-Labelling programmes are transparent in their standard development process and rely on independent verification of products or service to these standards.

The GLS^{SL}® was developed by the expert committee members of GBCSL together with the Building Economics and Management Research Unit (BEMRU) of University of Moratuwa. GBCSL is the governing body in Sri Lanka, responsible for implementing and maintaining the GLS^{SL}®. The governing body comprises of experts in different disciplines,

i.e. academia, industrial and commercial associations and environmental groups, who effectively contribute to the functioning of the system.

In establishing the environmentally acceptable criterion for products, the relevant international standards were drawn and benchmarked with well-developed green-labels to ensure the credibility. Further, GREEN^{SL}® Label will be issued by GBCSL for products suppliers which then will be followed with continuous monitoring to ensure that the certified environmental criteria are maintained.

LIFE CYCLE APPROACH

The GREEN^{SL}® Labelling System adopts a holistic approach based on the 'Life Cycle' of the product. The rating system encourages the product manufacturers to implement measures that would result in environmental, health and wellbeing benefits at the following stages of the life cycle of the products.

1. Raw materials
2. Manufacturing Process
3. Raw material/ final goods transformation
4. Waste Management
5. Innovation
6. Social Responsibility
7. Conformity to Standards
8. Life Cycle Assessment



BENEFITS OF GREEN LABELLING SYSTEM

A sound Green- Labelling System provides following benefits.

- Recognition in Global Competitive Market.
- Save on Energy Consumption
- Reduces Environment Impact
- Improve Corporate Social Responsibility
- Possibility in Achieving Additional Marks in Green Rating Projects
- Promotion through GBCSL Web Site, Exhibitions and News Letters

FORMUATION OF CERTIFICATION CRITERIA

The certification programme applies product specific “GREEN^{SL}® Certification Standards” for evaluating the products. The product standards were developed with the support of an expert committee set up by Green Building Council of Sri Lanka. The expert committee provided the consultancy and required technical knowledge.

Eco Labelling Platform for Sri Lanka which was developed by SWITCH-Asia SCP NPSC SL Project was followed as the methodology for developing certification criteria. A technical committee was formed to do desk research activities and walk-through data collection. All the tasks done by the technical committee were examined by the expert committee. Expert committee and technical committee consisted of all major stakeholders such as university academia, manufacturers, standard setters, conformity agencies, architects, users, etc. All expert and technical committee members were unbiased expertise in different fields related to the manufacturing industry.

The certification standards were developed in line with the ISO 14020 Environmental Labels and Declarations - General principles. The principles adopted for the development of GREEN^{SL}® Labelling System include:

- Information concerning procedure, methodology and any criteria supporting certification shall be available for all parties.
- Certification shall follow the life cycle approach of any product.
- The process of development shall be open and consensus-based involving all relevant stakeholders.
- Information on certified products and their services shall be available to the purchasers / potential purchasers.
- Information/declarations provided shall be accurate, verifiable and relevant.

FEATURES OF GREEN^{SL}® LABELLING SYSTEM

GREEN^{SL}® standard follows prescriptive as well as performance-based approach for evaluating a product. The certification calls for demonstration of product performance through testing as per specified standards and implementation of measures at every stage of Life Cycle of the product, leading to measurable environmental benefits.

GREEN^{SL}® Certification Scheme evaluates green features of products based on various performance parameters grouped under the following Credit Modules.

MN	Management	RMC	Raw Materials and Chemicals
MP	Manufacturing Process	PC	Product Characteristics
WM	Waste Management	GHG	GHG Management
LCA	Life Cycle Approach	PS	Product Stewardship
HS	Health and Safety	IA	Eco Innovation and Awards

1. Management: The rating necessitates the manufacturer to demonstrate its top management commitment towards environmental performance improvement of the product.

2. Raw Materials and Chemicals: The rating demands efforts to reduce environmental impacts from raw material extraction/supplying to transporting and storing them in the manufacturing facility. Chemical concerns are considered.

3. Manufacturing Process: The rating demands efforts to bring down the use of energy and water consumption through best practices, adopting renewable technologies and complying with all relevant local regulations.

4. Product Characteristics: The rating encourages the product manufacturer to maintain proper quality levels of the product including requirements for product ingredients.

5. Waste Management: The rating recognizes the efforts taken by the product manufacturer to reduce the amount of solid waste going for land filling and responsible management of waste.

6. Life Cycle Approach: The rating calls for efforts to carry out Life Cycle Analysis for the products and implement measures based on the impact analysis.

7. GHG Management: The rating encourages the product manufacturer to carry out carbon calculation for the product/organization and implement measures based on the results obtained.

8. Product Stewardship: The rating recognizes the measures implemented by the product manufacturers to reduce environmental impact in product transportation and recycling /product disposal.

9. Health and Safety: The rating recognizes the responsibility of the management of the manufacturing facility with regard to maintaining proper safety practices at the facility.

10. Eco-Innovation and Awards: The rating recognizes the innovative measures implemented by the product manufacturers which had resulted in a substantial reduction in environmental impact exceeding the threshold level specified in the rating standard. Contesting to obtain environment-related awards and applying Global Reporting Initiatives are encouraged.

A Product needs to comply with certain specified mandatory requirements and compliance to mandatory requirements is a pre-requisite. The mandatory requirements will be the same for all product categories.

The threshold limit of all the credits is 1000. The product manufacturers can apply for the Credits depending upon the applicability and gain credit points for the rating.

PRODUCT REGISTRATION

Organizations interested in registering their products under GREEN^{SL}® Labelling System for Sustainable Building Materials and Products are advised to send the product registration inquiry via info.gbcsl@gmail.com / ecolabelling.gbcsl@gmail.com. The GBCSL website (www.srilankagbc.org) also includes information on product registration and its process.

Registration is the first step that helps establish initial contact with GBCSL and provides access to the required documents, fees, templates, important communications and other necessary information.

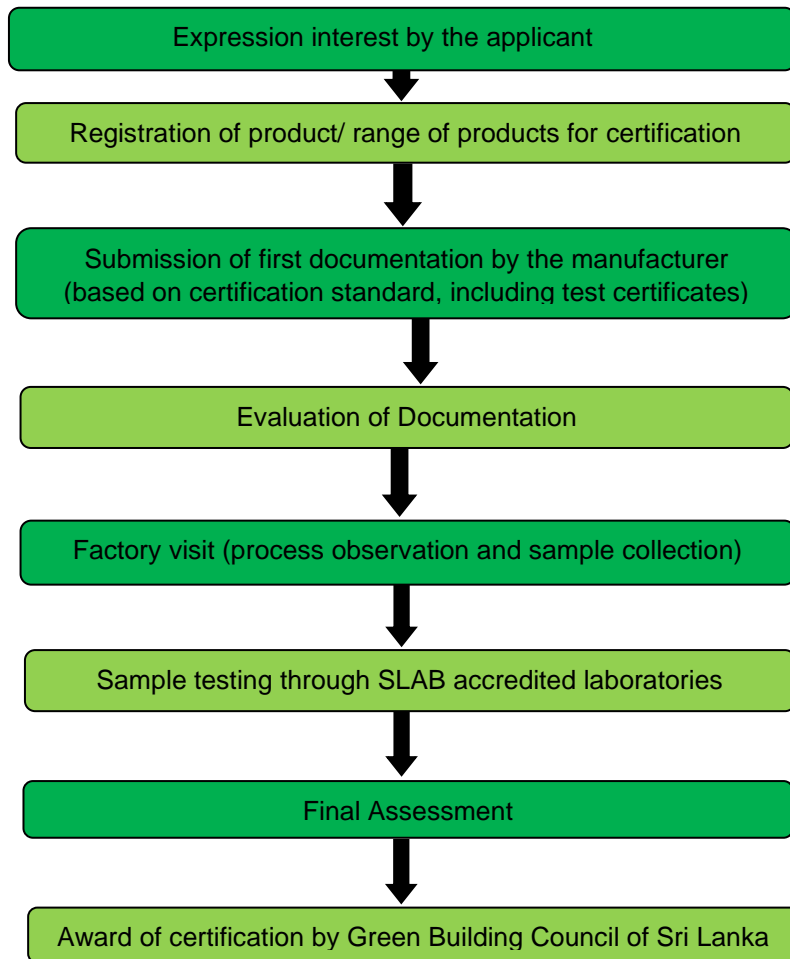
PRODUCT CERTIFICATION

To earn a green certification, a product must meet all mandatory requirements and minimum credit points. The applicant/manufacturing company will need to provide supporting documents for all mandatory requirements and credits attempted in the final submission stage. The evaluation will be done by an independent auditor and any determination, opinion, or valuation made by the auditor during the evaluation shall be the final decision.

PROJECT AWARDING

GBCSL will recognize products that have reached the qualification levels through an official certificate and a plaque.

METHODOLOGY OF CERTIFICATION



PRODUCT TESTING

The GREEN^{SL}® Labelling System calls for testing of selected product parameters for the award of certification. Wherever testing of the products is recommended, the GREEN^{SL}® Labelling System also specifies the testing standards and the requirements.

The product manufacturers can carry out the product testing in any of the Laboratories accredited by the **Sri Lanka Accreditation Board (SLAB)** according to the specified standards and produce the test certificates with the test results for further evaluation.

If the product testing has been already carried out in a SLAB accredited laboratory by the product manufacturer, the product manufacturer has to submit the relevant latest test reports.

If the product testing has been carried out outside the country, the laboratory should have been accredited by the accrediting agency recognized by the Government of the respective country or an accrediting agency which is a member of international bodies such as International Laboratory Accreditation Co-operation (ILAC) or Asia Pacific Laboratory Accreditation Cooperation (APLAC).

GREEN^{SL}® CERTIFICATION – ELIGIBILITY

A product will be certified depending upon the number of credit points achieved based on the evaluation of 3rd party conformity agency.

The maximum achievable credit points are 1000. A product will be certified as 'GREEN^{SL}® Labelled Product' if it achieves 400 or more credit points in the evaluation.

VALIDITY OF THE GREEN^{SL}® CERTIFICATE

The GREEN product certificate is valid for 3 years from the date of award of the certification for the product/product range.

At the end of the validity period, the product manufacturer needs to apply for the renewal of the GREEN^{SL}® certification.

PRODUCTS FOR CERTIFICATION

1. Cement
2. Cement & Concrete Products
3. Ceramic Products
4. Paints & Coatings
5. Thermal Building Insulation
6. Flooring
7. Carpets
8. Windows and Doors
9. Wall Coverings
10. Fiber Panel
11. Adhesives and Sealants
12. LED Lamps
13. Air Conditioners
14. PV Modules
15. Pipes/ tubes, water tanks and fittings
16. Steel
17. Building Products Using Recycled Materials

**GREEN^{SL}® LABELLING SYSTEM FOR
SUSTAINABLE BUILDING MATERIALS
AND PRODUCTS**

1.0 MANAGEMENT

Credit 1.1 Environmental Management System

Intent: To design a product holistically considering all the environmental attributes to minimize the associated impacts.

Award of Points

Credit 1.1	Environmental Management System [100 Points]	
	Option 1: Certified System (ISO 14001: 2015)	100 Points
	Option 2: Non – certified System	60 Points

Option 1: Certified System (ISO 14001: 2015)

Conformity Option

The applicant/manufacturer shall have a Management System in place that is in accordance with ISO 14001-2015.

The environmental aspects including but not limited to the following should be among the ones addressed by the EMS;

- Emissions to air (including but not limited to: SO₂, dust/PM)
- Releases to water and land
- Waste management (waste and by-products)
- Storage and handling of hazardous raw materials and dangerous goods
- Noise management

Maximum points can be claimed for having a valid ISO 14001:2015 certified system. In absence of Option 1, Option 2 is considered.

Documentation Required

Copy of valid ISO 14001:2015 certificate, aspects and Impacts register, recent certification audit report and any other information as per the discretion of the auditor.

Option 2: Non-certified System

Conformity Option

Implementing a proper Environmental Management System developed by the organization including the following key elements of ISO 14001 would be eligible to claim maximum allowable points.

1. Environment Policy
2. Planning
3. Implementation and Operation
4. Checking and Corrective Action
5. Management Review

Documentation Required

- Environmental Policy of the Organization
- Proof documents related to the above key elements or any other information as per the discretion of the auditor.

Credit 1.2 Quality Management System

Intent: To verify that the management system, manufacturing process, service or documentation procedure has all the requirements for standardization and quality assurance.

Award of Points

Credit 1.2	Quality Management System [60 Points]	
	Option 1: Certified System (ISO 9001:2015)	60 Points
	Option 2: Non-certified System	40 Points

Option 1: Certified System - ISO 9001:2015

Conformity Option

The applicant/manufacturer shall have a Management System in place that is in accordance with ISO 9001-2015.

Maximum points can be claimed for a valid ISO 9001:2015 certified system.

In absence of Option 1, Option 2 is considered.

Documentation Required

Copy of valid ISO 9001:2015 certificate and any other information as per the discretion of the auditor.

Option 2: Non-certified System

Conformity Option

Applicant shall have sufficient evidences to prove the commitment for quality management.

Having Quality Award from Sri Lanka Standards Institution (SLSI) or TPM Award by Japan Institute of Plant Maintenance within three years before the assessment is conducted are identified as eligibility criteria for obtaining maximum points.

Documentation Required

Proofs on having SLSI Quality Award/ TPM Award or any other information as per the discretion of the auditor.

2.0 RAW MATERIALS AND CHEMICALS

Mandatory Requirements

- a) Legal compliance for mineral/ raw material extraction
- b) Compliance with environmental regulations relevant to the site/ operation
- c) Legal compliance for raw material transportation (If applicable)

Credit 2.1 Raw Material Acquisition

Intent: To minimize the environmental impacts during material extraction, proper rehabilitation of extracted sites and proper management during post-rehabilitation period.

Award of Points

Mandatory requirement	<ul style="list-style-type: none"> a) Legal compliance for mineral/ raw material extraction b) Compliance to environmental regulations relevant to the site/ Operation c) Legal compliance for raw material transportation. (If applicable)
Credit 2.1	Raw Material Acquisition [40 points]

Three cases are considered under this credit.

Case 1: If the applicant is the raw materials extractor

Compliance Options

Consider how the manufacturer has taken actions to reduce environmental and social impact during the following three stages and points are given accordingly;

- I. Mining of raw materials (10 points)
- II. Mine site rehabilitation (20 points)
- III. Post rehabilitation period (10 points)

Mining of Raw Materials (10 points)

Mandatory to maintain noise and particle levels below the levels given in CEA guidelines at specified boundaries. Efforts taken towards controlling noise and dust emission during mining are considered such as putting trapping nets or maintaining a Green Belt to avoid the spread of dust or noise out from the site. Check if any public complaints have arisen during the past three years and how the manufacturer has tackled them.

Mine Site Rehabilitation (20 points)

Consider effectively implemented Quarry/ Site Restoration Plan and demonstration of efforts towards following.

- a) Restoration of spent mines
- b) Green belt development and bio diversity
- c) Water table management
- d) Top soil conservation

If the manufacturer has considered all possible ways of above with respect to his scope, give 20 points or if acted upon rehabilitation the major impact, give 10 points.

Post Rehabilitation Period (10 points)

Monitor, assess and take actions for reducing negative impacts that occur due to rehabilitation of the site.

Demonstration of strategies to monitor post-remediation period. Assess the impact taking into account the risks from application of remediation approaches with regard to contaminant bioavailability, soil health and the restoration of soil processes and ecosystem services. Decision-making for corrective actions considering the assessment results is required.

Documentation Required**I. Mining of Raw Materials**

- Test reports of noise and dust levels at the mining site.
- Photographic evidence for noise and dust control.

II. Mine Site Rehabilitation

- Details of the projects implemented for enhancement of mine life and top soil conservation.
- Hydrological survey report for water table management.
- Documentary evidence such as study reports, photo graphs for restoration of spent mines and Green Belt development.

III. Post Rehabilitation Period

- Details of the monitoring plan and bioassays conducted.
- Photographic evidence of the corrective actions taken.

Case 2: If the applicant and the raw material extractor are two separate bodies and raw materials are extracted locally;

Compliance Options

Consider if the manufacturer has control over three stages mentioned above through actions like monitoring quarry management data, legal agreements between two parties for quarry management, periodical observations by the manufacturer to the site and etc. If the supplier is beyond the control of the manufacturer due to reasonable facts, the applicant is exempted from this criterion under the professional judgement of the auditor.

Documentation Required

- Site visit records by the manufacturer, photographs of the site visits conducted
- Agreements with the supplier (Refer the clauses relate to environmental aspects)
- Documents/photographic evidence which prove supplier's engagement for the above clauses

Case 3: If the applicant imports raw materials

Compliance Options

Demonstration of the manufacturer's involvement for the minimization of environmental damage during the three stages mentioned above is expected. Or the manufacturer should have sufficient information about the supplier to prove that they have taken efforts for minimizing environmental damage during the material extraction process.

If requirements of the three stages are fulfilled, full points could be claimed and if not points will be given accordingly considering available evidence. Refer to Case 1 for additional details. If the manufacturer has reasonable facts for proving his difficulty to get information from the supplier, the applicant is exempted from this criterion under the professional judgement of the auditor.

Mining of Raw Material (10 points)

Mine Site Rehabilitation (20 points)

Post Rehabilitation Period (10 points)

Documentation Required

- Certificates of environmental conformance received from the supplier.
- Agreements with the supplier (Refer to the clauses relate to environmental aspects of mining and site rehabilitation)
- Documents/photographic evidence which prove the supplier's commitment for the above clauses.

Credit 2.2 Raw Material Transportation

Intent: To minimize the environmental impacts associated with material transportation and to encourage adopting sustainable technologies for fleet management.

Award of Points

Credit 2.2	Raw Material Transportation [30 points]	
	Credit 2.2.1 Upstream Transportation	10 Points
	Credit 2.2.2 Downstream Transportation	5 Points
	Credit 2.2.3 Green Fleet Management	15 Points

Credit 2.2.1 Upstream Transportation

Compliance Options

This criterion is applicable for raw material transportation and considers the efforts taken by the applicant to reduce related environmental impacts and material wastage. Covering of materials during transportation, pre-planning of transportation to avoid unnecessary movement of materials and emergency preparedness are encouraged.

If the raw material transportation is carried out by a third party, consider the manufacturer's involvement with the relevant party to reduce associated environmental impacts. (E.g.: conditions through agreements, providing guidance for them, monitoring them by tracing the routes of transportation).

If upstream transportation is fully/ partially outsourced, the manufacturer shall have a sustainable transportation procurement policy .

Efforts taken for implementing the policy needs to be demonstrated.

Documentation Required

- Sustainable Transportation Procurement Policy of the company and proofs for its implementation.
- Details of the projects implemented and the efforts taken to minimize dust emission/material spillage.
- Details of the safety precautions taken during transportation, photographic evidence.
- Details of agreement with third parties and evidence on how it is practiced.
- Details of Emergency Preparedness

Credit 2.2.2 Downstream Transportation

Compliance Options

This criterion is applicable for finished goods transportation and considers the efforts taken by the manufacturer to reduce related environmental impacts. Covering of materials during transportation, pre-planning of transportation to avoid unnecessary movement of materials are encouraged.

If the finished goods transportation is carried out by a third party, consider manufacturer's involvement with the relevant party to reduce associated environmental impacts. (E.g.: conditions through agreements, providing guidance for them, monitoring them by tracing the routes of transportation).

If downstream transportation is fully/ partially outsourced the manufacturer shall have a sustainable transportation procurement policy. Efforts taken for implementing the policy needs to be demonstrated.

Documentation Required

- Details of the projects implemented and the efforts taken to minimize dust emission/material spillage due to transportation.
- Details of the safety precautions taken during transportation, photographic evidence.
- Details of agreement with third parties and evidence on how it is practiced, Sustainable Transportation Procurement Policy of the company and proofs for its implementation

Credit 2.2.3 Green Fleet Management

Compliance Options

Consider how the manufacturer has engaged in reducing fuel use, emissions and costs. Implementing a Green Fleet Management Strategy/ Plan for the organization including the following key three aspects is encouraged.

1. Transport Demand Management –aims to reduce the miles driven

Combine trips where possible and whether the optimum routes are being used, examine current practices and significant mileage savings can be made to reduce fuel and mileage costs, emissions and even the size of a fleet.

2. Cleaner Fuels and Technologies - aims to use the lowest emission vehicles appropriate to their role. Explore new, low emissions technologies such as electric vehicles or sustainably produced biofuels that may be suitable.

3. Efficient Vehicle Use

Ensure that vehicles are being used as efficiently as possible and using the least amount of fuel. Driver performance and vehicle maintenance are encouraged under this.

Documentation Required

- Green Fleet Management Strategy/ Plan
- Eco test reports, Fuel usage records, evidence for green practices such as two-mode transportation and etc.

Credit 2.3 Storage of Raw Materials and Finished Goods

Intent: To encourage the manufacturer to store raw materials in a way that ensures continuous supply of RM to the production floor while preventing the risk for material handlers and reducing material wastage/ flow off/ spillage or any other incident according to the MSDS guidelines.

Award of Points

Credit 2.3	Storage of Raw Materials and Finished Goods [10 Points]
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Compliance Options

Raw materials shall store in a way that prevents/ minimizes spills, wastage and leaks making sure that any spill or leak does not expose or harm the environment. Using a storage plan for the organization is encouraged.

Chemical raw materials are exempted under this criterion.

Documentation Required

- Storage plan of the organization.
- Verification through observations

Credit 2.4 Chemical Management System

Intent: To ensure the safe and proper use of hazardous chemicals and to comply with applicable governmental regulations addressing the use and disposal of both hazardous and non-hazardous chemicals.

Hazard level of chemicals would be decided as per the rating system of the National Fire Protection Association.

Refer: <https://www.fm.colostate.edu/files/forms/safety/ch-23.nfpa.ratings.pdf>

Award of Points

Credit 2.4	Chemical Management System [50 Points]
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Conformity Options

The general legislative requirements for hazardous substances and dangerous goods and other controlled substances which require additional specific controls are needed to be demonstrated.

Having ISO 45001 or holding Responsible Care Logo are considered as eligible for getting full points.

If not, checked whether the manufacturer follows any standard procedure/practice including the following general components of a Chemical Management System.

- Chemical Purchasing Policy
- Supplier Selection Criteria
- Presence of Restricted chemical list (CEA or other)
- Chemical Inventory
- Chemical Storage Plan
- Hazard Communication System (labelling, posters, training, other)
- Certifications related to chemical management (voluntary)
- PPE selection criteria
- OHS standard (To test employee health)
- Emergency Preparedness and response plan
- Training (first aid, fire) & Awareness

For Chemical Storage (compatibility test), chemical storage as per GHS -Globally Harmonized System of classification and labelling of chemicals or OSHA 29 CFR 1910.106 (d)(3) (I & ii) or equivalent can be referred.

Documentation Required

- Permit of using Responsible Care logo and latest audit report or ISO 45001 certificate.
- Supporting documents that prove the implementation of ISO 45001 or requirements of responsible care logo.
- Chemical Management System of the Organization
- MSDS of the chemicals being used
- Proofs for implementing the practices listed above

Credit 2.5 Green Initiatives for Resource Efficiency

Intent: To design and produce cost-competitive products and processes that attain the highest level of resource efficiency by optimizing resource consumption.

Award of points

Credit 2.5	Green Initiatives for Resource Efficiency	30 Points
	<ol style="list-style-type: none"> 4. Application of green chemistry/ green engineering 5. Chemical Leasing 6. Cleaner Production 	

Conformity Options

Consider green initiatives that the manufacturer has adopted such as green chemistry, chemical leasing and cleaner production. To claim points under Green Chemistry, should implement at least one principle of Green Chemistry. Manufacturers that offer their products through a service-based model also be rewarded under this criterion.

Green and Sustainable Chemistry Objectives and Guiding Considerations of the UN Framework Manual on Green and Sustainable Chemistry could be referred for application of Green Chemistry.

Any initiative that is not mentioned here, but can be counted as a Green initiative for Resource Efficiency is eligible for claiming points.

Documentation Required

Agreements with chemical leasing suppliers, Purchasing orders of Green Chemicals, Safety Data sheets of Green Chemicals.

Credit 2.6 Local Material Usage

Intent: To encourage the usage of locally available materials to cut down on transportation distances, which lowers greenhouse gas emissions.

Award of points

Credit 2.6	Local Material Usage [15 Points]	
	% of local material usage \geq 50% & distance from raw material source to manufacturing facility < 50km	15 Points
	% of local material usage \geq 50% & distance from raw material source to manufacturing facility \geq 50km	10 Points

Conformity Options

More than 50% of raw material content out of total raw material is considered for this. Distance between the raw material source (where more than 50% of raw material is acquired) to the manufacturing facility is considered. Distance can be either more than 50km or less than 50km.

To become eligible to claim points under this criterion, the amount of raw materials acquired locally should be 50% or more than that out of the total raw material consumption to produce a unit of product.

Documentation Required

Records of total and local raw material usage, Distance from raw material sourcing point to the manufacturing site.

Credit 2.7 Alternative Raw Material

Intent: To minimize the natural mineral resource consumption and reduce the environmental impact associated with mining.

Award of points

Credit 2.7	Alternative Raw Material [15 Points]	
	% of alternative material usage \geq 50% of conventional raw material	15 Points
	% of alternative material usage \geq 30% of conventional raw material	10 Points

Conformity Options

50% out of the total raw material is considered for this. Alternative raw materials should not alter the quality of products and should be environmentally friendly when compared to conventional materials.

This criterion will be ignored for those products that alternative raw materials are not accessible. The manufacturer shall provide sufficient reasons for not using alternative materials.

Documentation Required

- Chemical analysis of alternate raw materials
- Details of the quantity of alternate raw materials utilized year wise for the past 3 years.

3.0 MANUFACTURING PROCESS

Mandatory requirement:

The production process of the product shall meet the requirements of all applicable environmental & labour laws and regulations.

Credit 3.1 Energy Efficiency

Intent: To encourage manufacturers to enhance the energy efficiency of their manufacturing processes as a solution for reducing energy consumption.

Award of Points

Credit 3.1	Energy Efficiency [80 points]	
	Option 1: Energy Management System (ISO 50001:2018) [80 Points]	
	Option 2: Projects for improving Energy Efficiency [60 Points]	
	a) Accredited energy manager	5 Points
	b) Sub metering and recording energy consumption Energy Efficiency	5 Points
	c) Developing company benchmarks for Energy Consumption	10 Points
	d) Optimizing energy efficiency	20 Points
	e) Actions for realizing energy saving potentials	10 Points
	f) Tracking the progress	10 Points

Option 1: Energy Management System (ISO 50001:2018)

Conformity Options

Implementation of ISO 50001:2018 verified by an accredited certification body. Following attributes are considered with respect to ISO 50001:2018;

- Develop a policy for more efficient use of energy
- Fix targets and objectives to meet the policy
- Use data to better understand and make decisions about energy use
- Measure the results
- Review how well the policy works, and
- Continually improve energy management.

In case of a verified ISO 50001 is not available in the company, option 2 is considered.

Documentation Required

ISO 50001 certificate and supporting documents with reference to ISO 50001.

Option 2: Projects for improving Energy Efficiency

Conformity Options

If there is any non-certified energy management system implemented by the organization covering the requirements equivalent to ISO 50001, the applicant could claim full points given under Option 2.

If not such a system is in place, requirements under Option 2 are considered separately.

The applicant shall demonstrate his commitment to saving energy through different projects as mentioned below.

a) Accredited Energy Manager

-Energy manager should possess the accreditation of the Sri Lanka Sustainable Energy Authority.

b) Sub metering and recording energy consumption

- Monitoring the daily operations of the organization and maintaining records of energy consumption for different sub sections of the facility and making them pertinent to the overall energy consumption.

-Submitting monthly and quarterly energy consumption reports to the management of the organization.

- Preparing annual reports on energy consumption of the organization and making them available for relevant authorities.

c) Developing company benchmarks for Energy Consumption

- Establish specific consumption of the plant and monitor on a continuous basis.

E.g.: specific electrical energy consumption in KWh / Tonne of product produced and specific thermal energy consumption in Kcal/Tonne of product produced.

d) Optimization of Energy Efficiency

- Exploring opportunities for improving energy efficiency and reducing energy consumption. (Using skylights, using energy efficient appliances, LED lighting, using natural air flow, cleaning and maintaining equipment and etc.)

- Obtaining the services of an Accredited Energy Auditor from time to time, to identify energy conservation opportunities in the organization.
- Keeping abreast with advancements in new energy management technologies (recovery waste heat).

e) Actions for realizing energy saving potentials

- Conducting and organizing training and awareness programs relating to energy efficiency for the employees of the organization at all operating levels.
- Advising the organization on the procurement of energy efficient equipment.
- Ensuring that any new constructions put up by the organization comply with the Code of Practice for Energy Efficient Buildings.
- Preparing the energy management plan of the organization once every two years.
- Assisting the organization in implementing its energy management plan, within specified time frames.

f) Tracking the progress

- Tracking the progress by analysing meter data to make sure that the energy-saving efforts have been effective
- Carrying out impact assessment of the programmes implemented yearly and proposing corrective actions to be implemented in the future.

Documentation Required

- Copy of the certificate of accreditation of the Energy Manager
- Records of sub meter readings, Annual reports on Energy Consumption
- Details of company benchmarks including comparisons with previous two years/ national and international benchmarks.
- Observations of energy saving actions within the facility, Energy Audit reports, proposals for adopting new energy saving technologies.
- Records of training programs conducted, Energy management plan, purchasing orders for energy efficient equipment, proofs for conformance with the code of practice for energy efficient buildings.
- Impact Assessment Reports, Documents on corrective actions

Credit 3.2 Renewable Energy

Intent: Encourage the use of on-site & off-site renewable energy sources to reduce the dependence on power from National Grid or fossil fuels and their associated environmental impacts.

Award of Points

Credit 3.2	Renewable Energy [60 Points]	
	Credit 3.2.1 On-site Renewable Power -Thermal [30 Points]	
	≥50% of specific thermal power consumption	30 Points
	≥30% of specific thermal power consumption	20 Points
	<30% of specific thermal power consumption	10 Points
	Credit 3.2.2 On-site or Off-site Renewable Power - Electrical [30 Points]	
	≥50% of specific electrical power consumption	30 Points
	≥30% of specific electrical power consumption	20 Points
	<30% of specific electrical power consumption	10 Points

Credit 3.2.1 On- Site Renewable Power - Thermal

Conformity Options

Install on-site renewable energy system to reduce dependence on fossil fuels. Renewable energy sources such as biomass, geothermal, solar thermal, biofuels, biogas and landfill gas are encouraged.

The source for Renewable power should be a sustainable source, which does not create any environmental damage during processing.

Documentation Required

- Details of installation of onsite renewable power generation, certification sources including the technology, installed capacity and location with photographs of installations.
- Details of annual thermal power consumption in the manufacturing facility and renewable power produced in kWh, substitution amount with calculations.
- Supply chain information of the source of energy.
- Flu gas test reports

Credit 3.2.2 On-Site or Off-Site Renewable Power - Electrical

Conformity Options

Install on-site or off-site renewable energy system to reduce dependence on Electricity from National Grid. Renewable energy sources such as small hydro, biomass, wind, solar, tidal and geothermal are encouraged.

Documentation Required

- Details of installation of onsite or off-site renewable power generation, certification sources including the technology, installed capacity and location with photographs of installations.
- Details of annual electricity consumption in the manufacturing facility and renewable power produced in kWh, substitution amount from renewable power with calculations.
- Supply chain information of the source of energy.

Credit 3.3 Water Efficiency

Intent: Incorporate water efficiency measures in the manufacturing process to reduce potable water consumption and implement measures to benefit society at large.

Award of points

Credit 3.2	Renewable Energy [60 Points]	
	Credit 3.2.1 On-site Renewable Power -Thermal [30 Points]	
	≥50% of specific thermal power consumption	30 Points
	≥30% of specific thermal power consumption	20 Points
	<30% of specific thermal power consumption	10 Points
	Credit 3.2.2 On-site or Off-site Renewable Power - Electrical [30 Points]	
	≥50% of specific electrical power consumption	30 Points
	≥30% of specific electrical power consumption	20 Points
	<30% of specific electrical power consumption	10 Points

Option 1: Minimization of water consumption

If Water Foot Print is calculated, identify where the water consumption and then take actions, achievements of the minimum 25% saving compared to baseline year and saving verified by a third party are there to be demonstrated with evidence, maximum points could be claimed under Option 1.

If not available either a detailed Water Foot Print report or water audit report, ignore Option 1 and consider Option 2.

Documentation Required

-Detailed Water Footprint Report should be demonstrated.

-Proofs on actions taken for minimizing water consumption, identifying water saving potentials and achievements

Option 2: Water management practices

Points could be claimed separately for five sections under Option 2.

Conformity Options

a) Sub metering and recording water consumption

- Monitoring the day-to-day operations of the organization and maintaining records of water consumption for different sub sections of the facility and making them pertinent to the overall water consumption.

- Submitting monthly and quarterly water consumption reports to the management of the organization.

- Preparing annual reports on water consumption of the organization and making them available for relevant authorities.

b) Developing company benchmarks for Water Consumption

- Establish specific water consumption of the plant and monitor on a continuous basis.

E.g.: specific water consumption in m³ / Tonne of product manufactured

For the products that do not require water for manufacturing, water consumption in m³/month can be measured.

c) Optimization of Water Efficiency

- Minimization of the usage of potable water through substitution from alternate water such as reducing, reusing, recycling of water, rain water harvesting and etc.

- Exploring opportunities for improving water efficiency and reducing water consumption through water saving actions.

- Conducting water audits in order to identify water conservation opportunities in the organization.

- Keeping abreast with advancements in new water management technologies (using nano-technology, shifting from wet processes to dry processes).

d) Actions for realizing water saving potentials

- Conducting and organizing training and awareness programmes relating to water efficiency for the employees of the organization at all operating levels.

- Advising the organization on the procurement of water efficient equipment.

e) Tracking the progress

- Tracking the progress by analysing meter data to make sure that the water-saving efforts have been effective.
- Carrying out impact assessment of the programmes implemented yearly and proposing corrective actions to be implemented in the future.

Documentation Required

- Records of sub meter readings, Annual reports in Water Consumption
- Details of company benchmarks including comparisons with previous two years/ national and international benchmarks.
- Observations of water saving actions within the facility, Water Audit reports, Documents for adopting new water saving technologies.
- Records of training programs conducted, purchasing orders for water efficient equipment.
- Impact Assessment Reports, Documents on corrective actions.

Credit 3.4 Waste water discharge

Conformity Options

It's a mandatory requirement for the applicant to comply with Central Environment Authority (CEA) regulations before discharging water to the environment.

Documentation Required

Treated wastewater test reports.

4.0 PRODUCT CHARACTERISTICS

Intent: To ensure the minimum level of quality, durability and safety of the product is implicit before the GREEN^{SL}® label can be displayed on the product.

Award of Points

Credit 4.1	Fitness for purpose	30 Points
Credit 4.2	Limits for substances	
Mandatory requirement	Hazardous substances in the final product should not exceed given limits under each product category defined by GBCSL.	

Credit 4.1 Fitness for purpose

Conformity Options

The product shall be fit for its intended purpose and shall meet performance requirements of Sri Lanka Standards Institution (SLSI), or prove fitness for purpose with other appropriate documentation.

Products that are mandatory to obtain SLS certification are not eligible to claim points under this criterion. They will be exempted from this criterion but the valid SLS certificate of them shall be in place.

Refer to the website of Sri Lanka Standards Institution (SLSI), sli.lk to find the updated list of Voluntary SLSI codes and Mandatory SLSI codes. (Annexure A)

Documentation Required

- Valid SLS certificate
- Documentation identifying applicable standards or performance requirements met by the product supported by relevant test reports and results.
- Test reports verifying the performance parameters of the product are met.

Credit 4.2 Limits for Substances

Intent: to ensure using of product is safe for human health and prevent pollutants entering the environment.

Conformity Options

Composition of substances in the product should comply with the requirements mentioned in the Annexure C: Product Specific Criteria. Sample collection is done by the auditing team when require laboratory testing. Testing should be done only in laboratories accredited by the Sri Lanka Accreditation Board (SLAB).

Documents Required

Ingredients list for the product and Safety Data Sheet (SDS) for each ingredient, identification of potential contamination sources. If a substance is present as a contaminant, applicable safety standards and procedures that are met have to be detailed.

Credit 4.3 Recyclable Content

Intent: To minimize the amount of solid waste that ends up in landfills.

Award of Points

Credit 4.3	Recyclable content [40 points]	
	Recyclable content > 10%	40 Points
	Recyclable content > 5% ≤ 10%	20 Points

Conformity Options

Some initiative shall be taken towards reducing the impact from the product's end-of-life phase by showing that:

- The product is recyclable at the end of its life/ elements that may prevent recycling have been avoided; or
- Information is provided to the user on recycling of the product (e.g. possible options for recycling, with names of recycling facilities where possible, product passport/ list of substances and materials contained in the product).

Documents Required

Description and proof of initiatives taken to reduce impact from usage and/or end of life phase of the product.

5.0 WASTE MANAGEMENT

Mandatory requirement

Disposal of Solid, Liquid and Gaseous Waste should comply with all environmental regulations. License for scheduled waste management is required.

License/Permit from Marine Environment Protection Authority (if applicable)

Credit 5.1 Waste Management System

Intent: To reduce the burden on the environment due to waste produced during the production process.

Award of Points

Mandatory requirement	Complying with environmental regulations for Management of Solid, Liquid and Gaseous Wastes. Selecting of CEA licensed disposing agents Availability of scheduled waste management license (if applicable) License/Permit from Marine Environment Protection Authority (if applicable)	
Credit 5.1	Waste Management System [50 Points]	
	Credit 5.1.1 Waste Management Policy or Plan	5 Points
	Credit 5.1.2 Implementation [45 Points]	
	a) Monitoring and recording of waste generation	10 Points
	b) Segregation and Storage	10 Points
	c) Waste processing techniques	25 Points

Credit 5.1.1 Waste Management System

Conformity Option

The product manufacturer must have effective waste management policies and procedures and/or a waste management programme covering manufacturing operations, and waste management plan should cover the following attributes;

1. Assigning a responsible person for managing waste on site.
2. Obtaining legal compliance for managing waste.
3. Establish goals and objectives.
4. Estimate the waste types and amounts involved.
5. Set targets for reducing the amount of each waste sent to landfill.
6. Describe recycling/reuse methods for each material.
7. Identify the waste destinations and transport modes, including what materials are being segregated on site for reuse or recycling.
8. Track progress.
9. Describe special measures for material use and handling.
10. Describe communication and training to support and encourage participation from everyone on site.
11. If applicable, describe the sequencing and methods for deconstruction projects.
12. Project review.

If the policy is the same as mentioned for ISO 14001, it is not considered here.

Credit 5.1.2 Implementation

a) Monitoring and recording of waste generation

Implementing a tracking system allows you to identify your current waste streams while determining how much waste you're generating. As a result, your company can maximize landfill diversion and capture what waste can be recycled or beneficially reused significantly reducing your environmental footprint.

Review all waste with a Status of Generated. You can filter by various criteria, such as location, waste profile, or type (Hazardous, Residual/Non-Hazardous, or Municipal). This enables you to review specific types of waste that have already been generated at specific locations.

b) Segregation and Storage

Separate waste materials into different types (paper and cardboard, plastics, metals, etc) for storage, transport and recycling. Should store waste securely in sealed, labelled containers ready for recycling or disposal. Consider using colour coding for quick identification, eg red for hazardous waste and green for glass.

- Prevent waste from escaping and causing pollution. Take steps to prevent:
 - leaks from storage containers and tanks
 - wind-blown litter
 - waste escaping during transport
 - leaks from waste processing machinery, for example hydraulic oils from waste compactors.

- Store waste in areas that can contain a leak or spill and are isolated from surface water drainage systems.
- Do not mix any hazardous wastes with other waste or you will need to dispose of all of it as hazardous waste.

- Be aware that some materials you store for recycling can contaminate land and you could be responsible for clean-up. For example, poorly handled fluorescent tubes could smash, spreading mercury across your site.

- Identify the need for having a pollution incident response plan.

- Separate and store plastics according to their grade and type. The three most common types of recyclable plastic are:
 - polyethylene terephthalate (PET)
 - high density polyethylene (HDPE)
 - polyvinyl chloride (PVC).
 - WRAP: Types of plastic in packaging
- You will need to agree with your waste management contractor on how you separate your waste for collection.

For hazardous waste:

If a company uses hazardous materials, proper precautions must be taken in the storage and disposal of these materials. (Such as paint, fertilizer and other chemicals). All manufacturers of hazardous materials are required to provide MSDS so that end users can treat the materials properly.

- If a company uses hazardous materials on site, the below guidelines should be followed as long as the materials are present on the premises:
- Employees should be trained in the storage and disposal of hazardous materials.
- A manual for the storage and disposal of wastes should be available in the local language.
- Materials should be stored in sealed containers, at appropriate temperatures, and separate from regular business activities.
- They should be monitored once a week to ensure no spillage or damage to the container.
- Materials should be labelled
- Materials stored should be recorded and documented. The records should be reviewed periodically to identify trends in the use of hazardous materials on site and potential ways to reduce the level of such materials.
- Hazardous waste must be disposed of through a certified third party.

It' s mandatory to have scheduled waste management license for the manufacturer for producing hazardous solid waste. Select CEA certified waste collection agencies.

c) Waste processing techniques

Reuse

Identify the ways to use an existing item again or to repurpose an existing item for different use.

In a factory:

- Purchase used/refurbished equipment.
- Use rechargeable batteries, remembering to recycle them when no longer usable.
- Maintain and fix equipment and machines regularly in order to prolong their lifespan.

Recycle

Ways to use parts of or all of material to manufacture another product.

In a factory:

- Concrete and asphalt can be crushed and used as an aggregate in pavements or as structural fill.
- Coal fly ash, slag, and spent foundry sand can be recycled in concrete, road embankments and kinds of fillings.
- Coal ash can be used in the manufacture of cement and ceiling tiles.
- Flue gas, desulfurization gypsum, foundry sand, and pulp and paper products can be used in manufactured soil and agricultural amendments.

Common Recyclable Materials	Common Compostable Materials
Steel	Fruit and Vegetable
Scraps Other Metals (aluminum, copper, lead, zinc, nickel, titanium, cobalt)	Coffee grounds
Textiles	Eggshells and Nutshells
Plastics	Wood ashes and Sawdust
Tires	Livestock manure
Stainless Steel	Hair clippings and Feathers
	Straw

Composting

Ways to use decomposed organic substances (food and plant waste) as fertilizer

In a factory:

- Identify a local composting company that can periodically pick up materials from your factory that may be composted, such as cotton and wool rags, burnt wood ashes, sawdust, and wood chips.
- Implement a composting program in the factory for organic materials.

Recovery

Energy recovery, or waste-to-energy, is the production of electricity, heat, or fuel from non-recyclable waste materials.

Types of energy recovery:

Mass burn: Waste is burned in large facilities at very high temperatures. The energy that is created is used for the mass burn process, as well as for electricity or heat.

Refuse-derived fuel (RDF): High-quality, high-calorie, pre-sorted waste is incinerated and used to produce fuel in industrial facilities (mostly cement factories and power stations). The RDF process is a cleaner alternative that enables the diversification of energy sources and the reduction of fossil fuel consumption.

Gasification: The conversion of organic materials into synthetic gas without combustion.

Pyrolysis: The decomposition of organic material at high temperatures.

Company should be responsible to prevent or limit the negative effects of the waste recovery process on the environment. Company should have permit for processing hazardous waste. Types and quantities of waste that are allowed to process, operating conditions, emission limits and monitoring requirements should be maintained as per the conditions mentioned in the Permit for Waste Processing.

Providing waste to a licenced third party for disposal

Once left with only materials that can be neither recycled nor composted, it is important to ensure that the remaining waste is disposed of through a municipal or certified third-party waste management system. If a company is located in a rural area without a certified provider, it can identify the nearest town with a municipal or certified provider. It may be possible to make arrangements for periodic pickup or drop-off.

Documents required

Copy of Environment Management Plan, Demonstration of its implementation.

Conformance with waste management practices shall be stated in writing and signed by the Chief Executive Officer or other authorised representative of the applicant company. This statement shall be accompanied by documentation that;

- Describes the waste management policies, procedures and programmes; and
- Includes annual reports on waste generation and management.

Credit 5.2 Discharges to Air

Mandatory requirement: Emissions to air shall not exceed the limits given by CEA.

Refer to the website of Central Environment Authority, cea.lk for updated regulations for air emissions.

Documents Required

- Test reports of emissions (kiln/non-kiln)
- Valid copy of Environment Protection License

Credit 5.2.1 Dust & Fumes Management Plan, Initiatives to Reduce Dust & Fumes Emission, Monitoring & Testing

Intent: To make it ensure the factory atmosphere is safe for its occupants.

Award of Points

Credit 5.2	Discharges to Air	
Mandatory requirement	Emission to air shall not exceed given limits as mentioned in CEA regulations	
	Credit 5.2.1 Dust & fumes management plan, monitoring & testing initiatives to reduce dust & fumes emission	10 Points

Conformity Option

Initiatives for dust and fumes emission reduction are encouraged such as installing scrubbers, implementing a dust management plan and other suitable initiatives.

Documents Required

Conformance with these requirements shall be stated in writing and signed by the Chief Executive or authorised representative of the applicant company.

The company shall make available for inspection, if required, documentation, including a copy of the site dust management plan and records to show it is being effectively implemented.

6.0 LIFE CYCLE APPROACH

Credit 6.1 Life Cycle Analysis

Intent: Identify environmental impact at every stage of the life cycle of the product and initiate measures to reduce such impacts.

Award of Points

Credit 6.1	Credit 6.1 Life Cycle Analysis	
	b) Full LCA	30 Points
	b) Partial LCA	15 Points
	c) Impact reduction through results of LCA	40 Points

Conformity Option

Carry out Life cycle analysis of the product for the boundary conditions of Cradle to Cradle. i.e. From the raw material sourcing to recycling/disposal of the manufactured products.

The product manufacturer can carry out the life cycle analysis with the support of an external service provider or with internal expertise using an LCA software tool. It's encouraged to characterize human and ecotoxicological impacts of chemicals in such Life cycle Analyses. (Ex for Ref: <https://usetox.org/>)

Based on the Life Cycle impact analysis, implement measures for reducing the environmental impacts is required.

Documents Required

- LCA study report with the details of the study conducted and impact analysis.
- Details of the measures implemented based on the impact analysis of LCA study and the benefits achieved.

7.0 GHG MANAGEMENT

Intent

To reduce CO₂ emissions per tonne/unit of product and thereby reduce the associated environmental impacts.

Award of Points

Credit 7.1	GHG Management of Product [40 Points]	
	a) Availability of Carbon neutrality plan/ Carbon management plan & Road Map	5 Points
	b) Carbon Foot Print Calculation	10 Points
	c) Achieving Carbon Neutrality	15 Points
	d) Third party verification	10 Points
Credit 7.2	GHG Management of Organization [30 Points]	
	a) Availability of Carbon neutrality plan/ Carbon management plan & Road Map	5 Points
	b) Carbon Foot Print Calculation	10 Points
	c) Achieving Carbon Neutrality	10 Points
	d) Third party verification	5 Points

Credit 7.1: GHG Management of Product

Conformity Options

GHG Management of the product through calculation, planning, implementation, and finally achieving carbon neutrality verified by a recognized third party would get maximum points.

Documentation Required

- Reports of Carbon Foot Print Calculation
- Details of the Carbon neutrality plan/ Carbon management plan & Road Map
- Proofs for third party verification.

Credit 7.2: GHG Management for Organization

Conformity Options

GHG Management of the Organization through calculation, planning, implementation, and finally achieving carbon neutrality verified by a recognized third party would get maximum points.

Documents Required

- Reports of Carbon Foot Print Calculation
- Details of the Carbon neutrality plan/ Carbon management plan & Road Map
- Proofs for third party verification.

8.0 PRODUCT STEWARDSHIP

Credit 8.1 Extended Producer Responsibility

Intent: To encourage manufacturers to institute a mechanism for product take-back for recycling or safe disposal at the end of useful life.

Award of Points:

Credit 8.1	Extended Producer Responsibility	10 Points
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Conformity Option

The company is encouraged to have a mechanism for product take-back which would involve;

- Collection
- Environmentally sound treatment of the collected product
- Use of product & materials in the form of reuse or recycling

The company has to employ an environmentally friendly procedure or method to dispose of products that cannot be reused or recycled. The disposal method to comply with the Law of the country.

Documentation Required

Details of the mechanism in place for product take back.

Quantity of reduction in product take back.

Credit 8.2 Consumer Information & Complaint Handling

Intent: To encourage the manufacturer to be more responsible with what is produced and delivered to the consumers.

Award of Points

Credit 8.2	Consumer Information & complaint handling procedure	10 Points
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Conformity Option

The manufacturer shall provide relevant environment related information on the label, packaging of the product. Advertisements on the product in communication media should deliver the environmental friendliness of the particular product.

Reference document: Guidelines for Providing Product Sustainability Information (UNEP, ITC)

<https://www.oneplanetnetwork.org/knowledge-centre/resources/guidelines-providing-product-sustainability-information>

Documentation Required

Observations on the product label and advertisements.

Credit 8.3 Initiatives for Sustainable Packaging

Intent: To reduce the ecological impact of the packaging stage of the product life cycle.

Award of Points

Credit 8.3	Initiatives for sustainable packaging	10 Points
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Conformity Option

Packaging shall comply with at least one of the following;

Each material constituting >20% by weight of the total primary and secondary packaging used, must contain at least 50% recycled content by weight;

Each material constituting >20% by weight of the total primary and secondary packaging used, must be derived from plant-based materials (e.g. PLA plastics); or

Each separable item constituting >20% by weight of the total primary and secondary packaging, must be recyclable in Sri Lanka.

Paper and cardboard packaging must be either certified under recognised forest certification scheme (e.g. FSC or PEFC) or contain at least 30% recycled content by weight.

Applying initiatives by companies to reduce their packaging overall and reusing and/or recycling packaging wherever possible would be rewarded points based on the judgement of the auditor.

Documents Required

- MSDS of packing materials.
- Proofs on reducing, reusing and recycling packing materials

9.0 HEALTH AND SAFETY

Credit 9.1 Health and Safety Management

Intent: To ensure the quality of life of the employees is responsibly secured by the manufacturer.

Award of Points:

Mandatory Requirement	Operating in accordance with the requirements in factory ordinance for employee health, safety and welfare.	
Credit 9.1	Health and Safety Management [50 Points]	
	Option 1: Certified Health & Safety Management System [50 Points]	
	Option 2: Health & Safety Management Practices [40 Points]	
	a) Planning	10 Points
	b) Competence, Training and Awareness	10 Points
	c) Operation	10 Points
	d) Performance Evaluation	10 Points

Option 1: Certified Health & Safety Management System

Conformity Options

Consider the compliance with ISO 45001: 2018 or equivalent and following outcomes through effective implementation of the system is expected.

- a) Continual improvement of OH&S performance
- b) Fulfilment of legal requirements and other requirements
- c) Achievement of OH&S objectives.

Documents Required

-Valid ISO 45001: 2018 certificate and supporting documents that demonstrate the set objectives for OH&S are met.

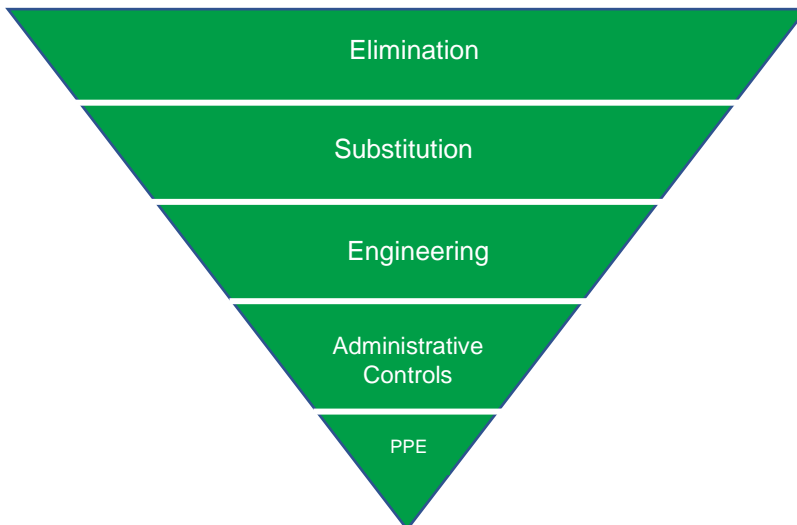
Option 2: Health & Safety Management Practices

Conformity Options

Organizations which maintain a proper worker health & safety management system, but not certified and have sufficient proof to demonstrate the implementation of the system would get maximum points under Option 2.

Or else consider providing marks separately for the sections mentioned under Option 2.

a) Planning - It is required organizations to formulate actions to address risks, opportunities, legal and other requirements, and prepare for and respond to emergency situations. Taking into account, the OHS hierarchy of controls is further emphasized when planning actions.



Apply actions for below with respect to the above hierarchy.

- PPE – Protect the worker with personal protective equipment.
- Administrative controls- Change the way people work. Provide proper ergonomics.
- Engineering controls – Isolate people from hazard
- Substitution- Replace the hazard
- Elimination – Physically remove the hazard.

b) Competence, Training and Awareness: Provide required competence for workers (both male and female, taking into account specific needs for instance planning training at a time of day that allows both women and men to attend) that can affect the organization's OHS performance. Should maintain documents and records of the training/ awareness sessions conducted.

c) Performance Evaluation: Requires specifying what should be monitored and measured, measuring criteria, when monitoring and measuring should be performed; and when results must be analysed, evaluated, and communicated. Elements such as risks and opportunities, needs and expectations of interested parties, adequacy of resources, consultation and participation with workers, and opportunities for continual improvement must be addressed and considered in determining the direction of the organization.

d) Improvement: OHSMS must be continually improved in order to enhance OHS performance and the suitability, adequacy, and effectiveness of the OHS management system.

Documents required

- OHS plan prepared by the company.
- OHS policy of the organization.
- Accident register, Observations of using personal protection equipment.
- Evidence of actions taken in order to prevent hazards as per the hierarchy.
- Recordings of awareness sessions conducted/ fire drills.

10.0 ECO INNOVATION AND AWARDS

Credit 10.1 Innovations for Products, Processes or Systems

Intent: Recognize initiatives that are not addressed in this Certification system but have a profound impact in protecting the environment.

Award of Points

Credit 10.1	Innovations for products, processes or systems	30 Points
Credit 10.2	Awards and Accolades	20 Points
Credit 10.3	GRI Reporting	50 Points

Conformity Option

As part of the credit, the product manufacturer can apply for three innovative measures. If the implemented measures meet any one of the following criteria mentioned below can be considered as an innovative measure.

Any environmental measure not covered in the Certification but addressed by the manufacturer.

Any measure surpassing the credit threshold of any of the credits included as part of this Certification.

Note: Even one innovative measure that has a considerable influence can be considered for awarding maximum points according to the professional judgment of the auditor.

Documentation Required

Details of the innovative measures highlighting the Intent and the measured Impacts.

Credit 10.2 Awards and Accolades

Intent: To encourage the manufacturer to obtain national and international level recognition for their products.

Award of Points

Credit 10.2	Awards and Accolades	20 Points
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Conformity Option

The applicant shall demonstrate his commitment for environment protection, better employee health and safety, gender equality, implementing CSR activities through obtaining Awards and Accolades.

Documentation Required

Copy of the certificates for the details of Eco-labels, Awards & accolades obtained.

Credit 10.3 GRI Reporting

Intent: To allow organizations to publicly report the impacts of their activities in a structured way that is transparent to stakeholders and other interested parties.

Award of Points

Credit 10.3	GRI Reporting	50 Points
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Conformity Option

The applicant shall use GRI (Global Reporting initiative) Framework for sustainability reporting.

Documentation Required

Copy of the GRI Report

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APPENDIX A
ALTERNATIVE RAW MATERIALS

APPENDIX A

Alternative Raw Materials

The following substances may be used as alternative raw materials:

Building products/ Materials	Suggestions for alternative materials
Cement	<ul style="list-style-type: none"> • Ground blast furnace slag and Fly ash (GBFS) geopolymers allowed when compared to MK Metakaolin (MK) geopolymers • Marble slurry, run off mine, lignite ash • Bottom ash from municipal solid waste incinerators • Fly ash from coal power plants • Gypsum from the desulfurization plants used in power plants
Concrete and concrete products	<ul style="list-style-type: none"> • Substitution of OPC with fly ash, GGBS or other industrial waste such as slag • industrial waste in coarse aggregate - Sintered Fly ash Aggregate, Aggregate made of copper slag or steel slag, Recycled Concrete Aggregates • Ceramic tile polishing waste (CTPW) as a partial substitute of cement and sand for concrete paving blocks • steel chips waste from the iron and steel industries as a substitute for sand in concrete manufacturing • Rice husk ash and coconut fibers in concrete
Bricks	Bottom ash and fly ash, recycled fine aggregates and sea sand
Ceramic and clay tiles	Industrial waste <ul style="list-style-type: none"> a) Waste from mines and quarries <ul style="list-style-type: none"> - Waste sand from quarries and ceramics - Micro silica sand generated at separation of silica by water b) Waste from metal industry <ul style="list-style-type: none"> - Steel slag - Casting sand - Ceramic waste - Copper slag - Ferronickel slag - Electric furnace slag c) Other industrial wastes <ul style="list-style-type: none"> - Coal ash

	<ul style="list-style-type: none"> - Disposed plastics - Shells - Disposed lumber from buildings (sludge excluded) - Disposed rubber - Glass cullet
	<p>Incinerated ashes & sludge</p> <ul style="list-style-type: none"> - Incinerated ashes of municipal garbage - Incinerated ashes of industrial wastes /mineral coal fly ash - Sludge generated industrially - Paper manufacturing sludge - Aluminium sludge - Plating sludge - Polishing sand sludge
Paints and coatings	Latex
Thermal Insulation	wood, hemp, flax, cellulose and sea grass
Flooring	natural-fiber carpeting, bamboo and cork, and recycled products include carpet tiles, reclaimed wood, terrazzo, and antique brick and stone
Carpets	Latex for carpet backings Wool as a primary fiber
Doors & Window	Fiberglass Durable timber from sustainable forests
Wall coverings	Cinder Blocks, Acoustic Tiles, Cork
Composite products	Wood: Bamboo Wood Composite (binding the strands, fibers or boards of wood together)
	Fiber boards: oil palm fronds, bamboo fibers, coconut fibers, rice-husks and sugar cane-dregs to make cement board
Roofing Materials	Bamboo tile, cement roofing sheets made using cement, wood pulp, silica sand, wood related roofing tiles and clay related roofing tile
	Waste materials such as fabric waste, coir fiber, polymer materials and human hair as reinforced material

Construction chemicals	Tannin (especially wood adhesives)
Electrical fittings & appliances	Halogen-free electric wires (mixed with olefin resins such as PP)
Solar systems	Make polysilicon with ethanol instead of chlorine-based chemicals for eliminates the creation of silicon tetrachloride
	NaOH to clean the polysilicon wafers instead of HCl

Note: Any material not mentioned in the list above, but can be demonstrated as sustainable substitution of virgin material with sufficient proof would be considered for awarding points.

APPENDIX B
SLS STANDARDS

APPENDIX B

SLS Standards

LIST I VOLUNTARY SLS STANDARDS

Product/ Material		Relevant SLS Standard
Ceramic Tiles		SLS 1181
Concrete Paving Blocks		SLS 1425
Sanitaryware	Sanitary Appliances	SLS 229
	Wash Basins	SLS 377
Steel	Galvanized Steel Pipes and Sockets	SLS 829
	Steels for structural and general engineering purposes	SLS 1006 -1
Paints	Emulsion paints for interior use	SLS 533
	Emulsion paints for exterior use	SLS 557
	Enamel Paints	SLS 539
	Water based enamel paints	SLS 1536
PVC	unplasticized poly (vinyl chloride) fittings for water supply and for buried and above ground drainage and sewerage under pressure	SLS 659
	Unplasticized poly (vinyl chloride) pipes for water supply and for buried and above ground drainage and sewerage under pressure	SLS 147
Aluminum		SLS 1410

LIST II

SLS STANDARDS FOR IMPORTED PRODUCTS

Product/ Material		Relevant SLS Standard
Ceramic Tiles and Porcelain Tiles		SLS 1181
Cement Tile		SLS 863
Steel	Plain steel bars and coils for the reinforcement of concrete	SLS 26
	Ribbed steel bars for the reinforcement of concrete	SLS 375
PVC	PVC-U (unplasticized polyvinyl chloride) pipes for soil and waste discharge systems inside buildings	SLS 1325
	PVC-U fittings for soil and waste discharge systems inside buildings	SLS 1325

LIST III
COMPULSORY SLS STANDARDS

Product/ Material		Relevant SLS Standard
Clay Tiles	Clay roofing tiles- flat tiles and ridge tiles	SLS 2
Cement	Blended hydraulic	SLS 1247
	Masonry	SLS 515
	Ordinary Portland	SLS 107
	Portland Limestone	SLS 1253
Concrete products	Cement Blocks	SLS 855
Steel	Plain steel bars for reinforcement of concrete	SLS 26
	Ribbed steel bars for the reinforcement of concrete	SLS 375
	Cold drawn mild steel wire for the manufacture of wire nails	SLS 7
	Mild steel wire for general engineering purposes	SLS 139
	Hot rolled steel bars/ Flats for structural & general engineering purposes	SLS 949
	Hot rolled structural steel	SLS 907
PVC	Rigid unplasticized PVC pipes for potable cold-water supplies	SLS 147
	Rigid unplasticized PVC pipe joints and fittings for potable cold-water supplies	SLS 659

APPENDIX C
PRODUCT SPECIFIC CRITERIA

APPENDIX C

Product specific criteria

Product Specific Criteria

The criteria in this section are intended to address some of the major life-cycle factors of a product that can be anticipated in sustainable design and are more easily incorporated during the design phase of product development.

This section includes limitations of substances and other performance criteria particularly each product should possess for becoming eligible to apply GREEN^{SL}® certification and no points are allocated as all the requirements under this section are mandatory to be fulfilled.

Criteria are verified through;

- Review of laboratory test reports
- Review of supporting information
- Review of Material Data Sheets
- Factory observations
- Interview with relevant personnel

Product types included in this section are;

1. Cement
2. Concrete and Concrete Products
3. Ceramic Products
4. Paints and Coatings
5. Thermal Building Insulation
6. Flooring
7. Carpets
8. Windows and Doors
9. Wall Coverings
10. Fiber Panels
11. Adhesives and Sealants
12. LED Lamps
13. Air Conditioners
14. Photovoltaic Modules
15. Pipes/ tubes, water tanks and fittings
16. Steel
17. Building Products Using Recycled Material

1. Cement

Product Scope

General-purpose cement and mixtures of general-purpose cement blended with materials such as fly ash, slag or naturally occurring pozzolanic materials.

Health Criteria

a. Prohibited Substances

Asbestos shall not be added to products or used during manufacture.

b. Heavy Metals

The following substances or their compounds shall not be added to the product during the production process:

Cadmium, Lead, Chromium VI, Arsenic, Mercury, Selenium

Above substances may be present as contaminants. Contaminants are defined as residues from raw material production or from a previous lifecycles (in case of recycled materials) present in the finished product, in raw materials or in alternative fuels used in the kiln, but not substances that are added to a raw material or product for a purpose, irrespective of quantity.

The levels of the above hazardous substances as contaminants shall not exceed the following limits:

Cadmium: 10 ppm

Lead: 90 ppm

Chromium VI: 90 ppm

Arsenic: 50 ppm

Mercury: 10 ppm

Selenium: 20 ppm

c. Kiln emissions

Air emissions from the kiln shall not exceed the following limits:

Pollutant	Maximum Allowable Concentration (kg/tonne of clinker)	Documents for verification
Particulate Matter (total)	0.046	Continuous or discontinuous (no less than annually) stack emission monitoring reports for particulate, NO _x and SO ₂ .
NO _x (as NO ₂)	2.4	
SO ₂	1.38	

d. Point discharges to air (non-kiln)

Air emissions shall not exceed the following limits;

Pollutant	Maximum Allowable Concentration (mg/Nm³)	Documents for verification
Particulate Matter	50	stack emissions testing results

Recycled Content

All recycled materials used in the product shall be blast furnace slag, blast furnace slag powder and coal ash produced domestically. The weight of recycled materials in the product shall be greater than 40%.

2. Concrete and Concrete Products

Product Scope

Products with >50% (by weight) concrete including but not limited to:

- Concrete masonry
- Precast concrete
- Concrete pipes
- Concrete roof tiles
- Autoclaved Cellular Concrete (ACC) e.g. in panels or noise barriers

Health Criteria

a. Prohibited Substances

Asbestos shall not be added to products or used during manufacture.

b. Heavy Metals

The following substances or their compounds shall not be added to the product during the production process:

Cadmium, Lead, Chromium VI, Arsenic, Mercury, Selenium

Above substances may be present as contaminants. Contaminants are defined as residues from raw material production or from a previous lifecycles (in case of recycled materials) present in the finished product, in raw materials or in alternative fuels used in the kiln, but not substances that are added to a raw material or product for a purpose, irrespective of quantity.

The levels of the above hazardous substances as contaminants shall not exceed the following limits:

Cadmium: 10 ppm

Lead: 50 ppm

Chromium VI: 10 ppm

Arsenic: 50 ppm

Mercury: 10 ppm

Selenium: 20 ppm

c. Discharges to air

Pollutant	Maximum Allowable Concentration (mg/Nm3)	Documents for verification
Particulate Matter	50	stack emissions testing results

3. Ceramic Products

Product Scope

Ceramic Tiles, Toilet bowls, Urinals

Health Criteria

- a. Raw materials used shall not contain known or suspected human carcinogens i.e. Carcinogenic substances in categories 1, 2A and 2B as classed by the International Agency for Research on Cancer (Lists of IARC Evaluations at <http://www-cie.iarc.fr/monoeval/crthall.html>)
- b. No asbestos shall be present in the raw materials used in the product.
- c. If lead, cadmium and antimony (or any of their compounds) are used in the additives, their content shall not exceed the following limits:

Parameter Limit (% in weight of the glazes)

Lead 0.5
Cadmium 0.1
Antimony 0.25

4. Paints and Coatings

Product Scope

All paints which have water as the primary solvent / diluent;

All paints which have an organic solvent as the primary volatile component and

Varnishes

Health Criteria

a. Substances excluded from use

- Organotin compounds
- Phthalates
- APEO – alkylphenol ethoxylates and alkylphenol derivatives (substances that release alkylphenols on degradation).
- Fragrances
- Persistent Organic Pollutants (POPs) regulated by the Stockholm convention (PFOS, PFOA, PCB, PCN, SCCP)
-

b. Heavy Metals

The paint shall not be formulated or manufactured with mercury or their compounds, or be tinted with pigment of cadmium, chromium VI, lead or mercury. The levels of the above hazardous elements as impurities shall not exceed:

- Cadmium: 10 ppm
- Chromium VI: 10 ppm
- Lead: 50 ppm
- Mercury: 10 ppm

c. Volatile organic compounds (VOCs)

The paint shall not contain volatile organic compounds (VOCs) in excess of:

- 50g per litre (g/L) of the water-based coatings for indoor application;
- 150g per litre (g/L) of the water-based coatings for outdoor application; and
- 250g per litre (g/L) of the solvent-based coatings

d. Total Aromatic Compounds

Shall contain no more than 0.01% by wet weight of the sum total of aromatic compounds, which must include benzene, toluene, xylenes, and ethylbenzene.

e. Halogenated solvents

Shall contain no more than 0.01% by wet weight or 100mg/L of the halogenated solvents (including DCM and 1,1,1-Trichloroethane)

f. Formaldehyde

Shall contain no more than 0.01% by wet weight of formaldehyde

5. Thermal Building Insulation

Product Scope

“Thermal Building Insulation” and may include:

- Board-type thermal insulation;
- Loose-fill and spray-on thermal insulation; and
- Other building materials that have insulating properties

Health Criteria

a. Prohibited substances

Product shall not be formulated or manufactured with the following hazardous substances:

- CFC (chlorofluorocarbons)
- Asbestos
- Persistent Organic Pollutants (listed in the Stockholm Convention) – (HCBD (Hexabromocyclododecane) : 100ppm if included as impurities)

b. Hazardous Substances

The levels of the following hazardous substances as impurities shall not exceed the following limits:

Cadmium: 10 ppm

Lead: 50 ppm

Chromium VI: 10 ppm

Arsenic: 50 ppm

Mercury: 10 ppm

Selenium: 20 ppm

PBDE (polybrominated diphenyl ether): 100ppm

PBB (polybrominated biphenyls): 100ppm

c. Emissions to Indoor Air

Volatile Organic Compounds (VOCs) shall not exceed 500µg/m²/hr

Formaldehyde shall not exceed 0.2 mg/m²/hr

Thermal Conductivity

The product must be able to meet the minimum thermal conductivity (K-value) and or resistance (R-value):

K-value $\leq 0.1 \text{ W/m}\cdot\text{K}$

R-value $\leq 2.5 \text{ m}^2\cdot\text{K}/(\text{W}\cdot\text{in})$

6. Flooring

Product Scope

Flooring that are laid on top of and underlying foundation of concrete or wood/beams and that has no structural function. The most common flooring products include hard floorings and resilient floorings.

Health Criteria

a. Prohibited Substances

The product shall not contain chlorinated/brominated paraffin, organic tin compounds, phthalates or polybrominated diphenylethers.

b. Heavy Metals

Cadmium, lead and mercury must not be actively used in the flooring product. Pollution in concentration up to 1mg/kg of flooring in case of cadmium and mercury and 10 mg/kg in case of lead is in flooring material.

c. Volatile Organic Compounds (VOCs)

Discharge of Volatile Organic Compounds (VOCs) shall not exceed 500 ug/m² /hr of floor covering.

For Wood-based Flooring:

- Emission of formaldehyde from the product shall not exceed 0.13 mg/m³ of air.
- Wood originating from tropical rain-forest shall not be utilized in the product.
- Raw materials of wood shall be derived from sustainable forests with certificates issued from the Forest Stewardship Council

Recycled Flooring:

Should the flooring product be a recycled roadbed material or a recycled hot asphalt mixture made from construction waste, the product shall contain at least 50% recycled aggregate made from construction waste

7. Carpets

Product Scope

Applied for following types of broadloom and modular tile carpets:

- Natural fibre carpets such as wool.
- Synthetic polymer fibre carpets comprising of nylon and nylon blends, olefin (polypropylene), polyester, acrylic, polyamide and polyethylene terephthalate (PET).
- Blends composed of material that fit into the above fibre types.

Other carpet materials that do not directly fit into the above may be considered for certification, provided the product fulfils the requirements of relevant sections of this standard.

Health Criteria

a. Prohibited Substances

The product shall not contain;

- Persistent Organic Pollutants (listed in the Stockholm Convention)
- Heavy metals: antimony, arsenic, cadmium, chromium, copper, lead, mercury, selenium and tin.
- Potentially explosive chemicals
- Carcinogens, teratogens and mutagens including any R45-49 (H350, H340, H373, H372, H350) substances
- WHO pesticides 1a and 1b

b. Dyes

Dyes shall not contain substances classified as mutagenic, toxic to reproduction according to the 2A carcinogens as classed by the International Agency for Research on Cancer – <http://monographs.iarc.fr/ENG/Classification/index.php>

c. Total Volatile Organic Compounds

Emissions of Total Volatile Organic Compounds (TVOCs) shall not exceed 0.5 mg/m² per hour.

Recycled Content

Recycled content of backing – A post-consumer or post-industrial recycled content of at least 5% shall be included.

Reusability/Recyclability – The product shall be recyclable into either new carpet or other products, or shall be capable of being refurbished.

8. Windows and Doors

Product Scope

Applied to all ordinary windows and window-doors. The windows can be permanently shut or openable. The casements and frames can be made of wood, wood-aluminum, aluminum, plastic, steel or composites.

Health Criteria

a. Prohibited Substances

The windows shall not contain additives based on lead, cadmium, chlorinated/brominated paraffines, mercury, arsenic, organic tin compounds, phthalates or polybrominated diphenylethers, and hexavalent chromium.

b. Chlorinated Plastics

The windows shall not contain chlorinated plastics.

Thermal Insulation Capacity

The thermal insulation capacity of the windows (U-value) shall not exceed $1.4\text{W/m}^2\text{K}$.

9. Wall Coverings

Product Scope

Applied to products comprising finished wall coverings in roll form where paper is the foundation layer. Finished wall covering is defined as wall covering that does not require further processing or painting.

Health Criteria

a. Wall covering made of fabrics

Shall not contain chlorinated plastics.

Emission of formaldehyde from the finished product shall not exceed 8mg/100mg finished product.

The quantity of chlorophenols shall not exceed 20µg/kg fibre in textiles materials used in wall coverings;

The quantity of extractable organic halogens (EOX) shall not exceed 3mg/kg fibre in textile materials used in wall coverings;

The quantity of heavy metals shall not exceed the following threshold values (in terms of mg/kg finished product)

Arsenic	0.2 mg/kg
Cadmium	0.1 mg/kg
Chromium	900 mg/kg
Cobalt	900 mg/kg
Copper	900 mg/kg
Chromium (VI)	0.02 mg/kg
Mercury	0.02 mg/kg
Nickel, Tin	4.0 mg/kg
Zinc	60 mg/kg

b. Wall covering made of plastic

The product shall not contain Chlorine based plastics.

Emission of formaldehyde from the finished product shall not exceed 8mg/100mg finished product.

c. Wall covering made of paper

At least 50% recycled fibers*, including 20% post-consumer* content or

For Virgin wood fibers, it shall originate from sustainable source with certification from the Department of Forest Conservation.

***Recycled fiber** refers to fibers collected from the conversion and consumer stages.

***Post-consumer** refers to material generated by households, or by commercial, industrial and institutional facilities in their role as end users of the product, which can no longer be used for its intended purpose. This includes returns of material from the distribution chain.

d. Coating, Printing color and/ or adhesives

The product shall not contain Halogenated/ aromatic solvents, Organic Tin, halogenated organic agents, halogenated organic flame retardants.

Total content of lead, cadmium, chromium (VI) and mercury in the print color shall not exceed 100ppm.

10. Fiber Panel

Product Scope

Applied to fiber cement products consisting essentially of an inorganic hydraulic binder or a calcium silicate matrix formed by the chemical reaction of a siliceous material and a calcareous material reinforced by fibers.

The reinforcement fibers can be either

- Cellulose fiber
- Synthetic organic fiber
- Inorganic fiber excluding Asbestos and Glass fibers

The addition of process aids, fillers and pigments that are compatible with fiber cement shall be allowed.

Health Criteria

a. Prohibited Substances

Raw materials shall not contain the following substances;

- Asbestos
- Phosphogypsum
- Formaldehyde
- Pentachlorophenol
- Carcinogenic agents as defined in group 1 and 2a of the International Agency for Research on Cancer (IARC);
<http://monographs.iarc.fr/ENG/Classification/index.php>

b. Heavy Metals

The content of heavy metals inside the finished product shall not exceed the limits as stated in the following table;

Antimony	50 mg/kg
Arsenic	50 mg/kg
Chromium (VI)	50 mg/kg
Barium	100mg/kg
Beryllium	75mg/kg
Chromium	25 mg/kg
Cadmium	100 mg/kg
Cobalt	80 mg/kg
Copper	25 mg/kg
Lead	50 mg/kg
Mercury	20 mg/kg
Nickel,	20 mg/kg
Selenium	20 mg/kg
Zinc	50 mg/kg

c. Paints for fiber panels

Paints applied to the product shall not contain the following substances;

- Lead, cadmium or its oxide, chromium (+6) or its oxide in manufacturing process. However, a combined contaminant of those substances shall not exceed 0.01 mg/l.
- Volatile organic compounds (VOCs) shall be less than 100 mg/l.
- Organic solvents include aromatic solvents, halogenated solvent, and formaldehyde in manufacturing process.
- Ammonium and its compounds shall be less than 2% by weight.

11. Adhesives and Sealants

Product Scope

- (1) Contact adhesive/sealants (intended by the manufacturer to adhere to itself instantaneously upon contact).
- (2) Multi-purpose construction adhesive/sealants (intended by the manufacturer for the installation or repair of various construction materials)
- (3) Special purpose construction adhesive/sealants

Health Criteria

a. Prohibited substances

The following substances shall not be formulated or added in the product;

- Organotin compounds
- Phthalates
- APEO – alkylphenol ethoxylates and alkylphenol derivatives (substances that release alkylphenols on degradation)
- Halogenated organic substances
- POPs regulated by the Stockholm convention (such as PFOS, PFOA, PCB, PCN, SCCP)

b. Heavy metals

The following heavy metals or heavy metal compounds must not be present in the product or in its constituent chemical substances:

- Cadmium
- Lead
- Chromium VI
- Mercury
- Arsenic
- Barium (with the exception of barium sulphate, and other equally insoluble barium compounds)
- Selenium
- Antimony

Traces of the above-mentioned metals, from impurities can be included up to 100ppm (100 mg/kg, 0.01% by weight) per single metal in the raw material.

c. Volatile Organic Compounds

Adhesives may contain a maximum of 1.0% by weight volatile organic compounds.

Sealants are permitted to contain no more than 3.0% by weight volatile organic compounds.

d. Volatile Aromatic Hydrocarbons (VAH)

VAH must not be actively added to the product, but may occur as residues or impurities to a maximum of 100 ppm (0.01% by weight, 100 mg/kg) in the final product.

e. Formaldehyde

The level of free formaldehyde (from formaldehyde not intentionally added or from formaldehyde-releasing substances) in the end product must not exceed 10 ppm (0.001% by weight, 10 mg/kg).

12. LED Lamps

Product Scope

Integral LED lamps, which is used by directly connecting to a commercial power source. These criteria include integral LED lamps intended to replace incandescent lamp, decorative (candelabra style) lamps, fluorescent lamp, halogen lamp or lamp for street lighting.

Performance and Energy Consumption

Having Energy Label by Sustainable Energy Authority, Sri Lanka is accepted for verification.

Durability

A warranty shall be provided for lamps, covering repair or replacement for a minimum of 1 year from the date of purchase.

Recyclability (Optional)

Plastic parts weighing over 25g and with an even surface of over 200mm, excluding extruded plastic materials, shall be marked for identification according to the ISO 11469 Standard.

Chemical Substances

Mercury, lead, cadmium, chromium VI, polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE) shall not be used as constituent parts of product, in accordance with the Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment 2002/95/EC (commonly referred to as the Restriction of Hazardous Substances Directive or RoHS).

Short-chain chlorinated paraffins (C=10 to 13) with 50% chlorine or above shall not be used in products.

Synthetic resin components used in the housing of the LED weighing over 25g shall not contain halogen compound. Exemption for organic fluorine additive (e.g. anti-dripping agent) with weighing $\leq 0.5\%$.

13. Air Conditioners

Product Scope

Applied to residential non-ducted air conditioners powered by a single-phase electric current. The product can be either single unit or split system with a rated cooling capacity not exceeding 10kW, and does not apply to fan-coil and water-cooled air conditioning systems. Industrial and central air conditioning systems are not included in the product category.

Performance and Energy Consumption

Having Energy Label by Sustainable Energy Authority, Sri Lanka is accepted for verification.

Noise Emission

For cooling capacity less than 2240 kcal/h: ≤ 50 dBA (indoor) and ≤ 53 dBA (outdoor)

For cooling capacity between 2500 and 3500 kcal/h: ≤ 53 dBA (indoor) and ≤ 57 dBA (outdoor)

For cooling capacity above 4000 kcal/h: ≤ 58 dBA (indoor) and ≤ 62 dBA (outdoor)

Coating material

Coating material used on the product shall not contain mercury, mercury compounds or mixed with dyes stuff containing lead, cadmium, hexavalent chromium and their oxides.

Prohibited Substances

The product and its manufacturing process shall not contain or use substances controlled by the Montreal Protocol.

14. Photovoltaic Modules

Product Scope

Applied for silicon photovoltaic modules and products that use silicon photovoltaic cells as main power sources. In addition, systems using photovoltaic cells as main power sources, together with wind power generation or hydroelectric power generation systems, are also covered. This category does not cover the other photovoltaic cells such as compound semiconductor cells and products using them as sources of power.

Become a registered Solar Photovoltaic Provider

Having registration from Sustainable Energy Authority would be considered as the verification for meeting minimum performance, durability and safety requirement for product certification.

Refer guidelines for Photovoltaic Service Providers.

<http://www.energy.gov.lk/index.php/en/soorya-bala-sangramaya>

Health Criteria

Plastic parts of the product shall not contain PBB (polybromobiphenyl,) PBDE (polybromodiphenyl ether,) or short-chain chlorinated paraffins (containing a chain carbon of 10-13, and a chlorine content of 50% or more) as the prescription constituents.

None of the constituents of the product shall contain lead, cadmium, hexavalent chromium, or mercury as prescription constituents. (if included as impurities; maximum concentrations 0.1% or 1000ppm by weight are allowed).

Lead-based solder shall not be used.

15. Pipes/ tubes, water tanks and fittings

Product Scope

All PVC pipes and fittings with recycled contents.

Hazardous Substances

Lead and Cadmium should not be used. However, amount of lead in the leaching solution shall be 1 mg/L or less is permitted when using a copper alloy such as brass, bronze.

Recycled Content

The plastic product shall contain at least 50% by weight of recycled plastic content.

16. Steel

Product Scope

Slabs, plates, hot rolled coil plates, cold rolled coil, billets, structural beams and columns, hollow pipes, rolled hollow sections, flat angles and channels, reinforcement bars, hot rolled coil round bar, steel wire, rails, galvanised steel products, coated steel products, assembled steel products.

Other environmentally innovative steel products that do not fit the above categories may be considered for certification provided the product fulfils the requirements of any relevant sections of this standard.

Health Criteria

a. Heavy metals

The following substances or their compounds shall not be added to the product during the production process:

- Mercury;
- Arsenic;
- Selenium;
- Lead;
- Cadmium;
- Chromium IV and VI; or
- Antimony.

No substance shall be used in the production processes that are classified as toxic, carcinogenic, harmful to the reproductive system or genetically harmful (excluding cement). Exempted from these requirements are impurities of the elements listed above which are contained in raw materials or components in trace levels (< 0.1 %) for each element.

b. Coating

Paint used to coat the steel products shall not be formulated with chromium VI, mercury, lead, cadmium, arsenic or their compounds.

The total content of volatile organic compounds (VOCs) in the coatings and paints of steel products must not exceed the values stated below:

Coating type	Limit (g/l)
Coatings for architectural purposes	50
Solvent-based coatings except for architectural purposes	450
Water-based coatings except for architectural purposes	50

17. Building Products Using Recycled Materials

Product Scope

Applied for following products.

1. Roof /floor materials: Clay roof tiles, Clay floor tiles, pressed cement roof tiles
2. Clay bricks/ bricks with recycled content

Recycled materials can be post-consumer materials* or pre-consumer materials* or a combination of both, as defined below. Logs, unused wood, by-products such as blast furnace slag, coal ash, and sludge are additionally included in this product category.

***Post-consumer materials:** Materials or products disposed of after they have been used as goods.

***Pre-consumer materials:** Materials or rejected products generated in products manufacturing process, excluding those, which are recycled within the same process.

Health Criteria

a. Prohibited Substances

The product shall not contain asbestos.

b. Heavy Metals

Hazardous substances shall not be used as an ingredient of the product (whether as a substance or as part of any preparation).

The levels of the following hazardous substances as impurities shall not exceed the following limits:

Cadmium: 10 ppm

Lead: 300 ppm

Chromium VI: 10 ppm

Arsenic: 50 ppm

Mercury: 10 ppm

Selenium: 20 ppm

c. Surface treatment of product

Regarding chemical substances used in the surface treatment of the product:

- The content of formaldehyde shall not exceed 10mg/kg (10 ppm)
- Surface coatings shall be of low VOCs content.

Recyclability

The percentage of recycled materials in the product shall be at least 50% of the product's net weight.

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PUBLISHED BY
GREEN BUILDING COUNCIL OF SRI LANKA

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