ECO LABEL CRITERIA FOR CEMENT

ECO LABEL SRI LANKA
National Cleaner Production Centre, Sri Lanka

1. Introduction

The Certification Scheme for Eco Labelling of Products/Services of the National Cleaner Production Centre, Sri Lanka (NCPC-SL) is based on the requirements laid down in the *ISO 14024:2018* Environmental labels and declarations - Type 1 environmental labeling – Principles and procedures.

ISO 14024 specifies the requirements for eco-labeling certification. The Eco Labelling criteria /s of NCPC SL satisfy the ISO 14024 requirements as required by the eco-labelling certification schemes. Here are the key requirements fulfilled accordingly;

- Scope: The eco-labeling certification scheme covers specific product categories/services with a significant impact on the environment.
- Product Criteria: Clear and transparent environmental criteria has been established for products/ services to be eligible for the eco-label. These criteria has been based on scientific evidence and consider the entire product life cycle.
- Independent Third-Party Verification: NCPC SL conduct independent third-party verification of compliance with the eco-labeling criteria.
- Impartiality: The certification process is impartial and free from any conflicts of interest that could undermine its credibility.
- Transparency: The eco-labeling scheme has provided transparent information about the certification process, criteria, and verification procedures.
- Continuous Improvement: The scheme encourages continuous improvement in the environmental performance of certified products /services.
- Stakeholder Involvement: Stakeholders, including businesses, NGOs, consumers, and government representatives, has been involved in the development and revision of the eco-labeling criteria.
- Non-Discrimination: The certification scheme has not discriminated against products or services from different sources based on factors unrelated to environmental performance.
- Compliance Monitoring: Regular monitoring and surveillance of certified products or services has been conducted to ensure ongoing compliance with eco-labeling criteria.
- Public Access to Information: Information about the eco-labeling scheme, certified products, and their environmental criteria shall be accessible to the public.
- Environmental Labeling and Advertising: The use of the eco-label in advertising or labeling has been controlled and subject to the certification scheme's rules.
- Review and Revision: The certification scheme should undergo periodic review and revision to ensure its relevance and effectiveness.

This document sets out specific managerial and technical criteria for raw material extraction, transportation, manufacturing, dispatch of product for sale, etc.

Terminologies and aspects related to the concepts of sustainability management are covered during the involved processes.

The aspects related to sustainability management described in this document can include environmental impacts, energy, and water security or socio-economic development, or any combination thereof.

The certification of Eco Labelling of cement is implemented through a set programme operated over a specified period as agreed with relevant parties.

The NCPC-SL functions as the scheme owner of this certification scheme. This document includes environmental criteria, function characteristics, and legal requirements related to cement.

This specific product environmental criteria document has been prepared by the Expert Committee on Eco Labelling appointed by the NCPC-SL and authorized for adoption by the Governing Council of NCPC-SL. The cement manufacturers who are seeking eco-labeling certification are required to meet the following requirements.

i. The product and processing conditions shall comply with the requirements given in the below NCPC-SL guidelines;

and

ii. The product and processing shall comply with relevant regulations mentioned in this document and enforced in the country, as applicable;

and

iii. The product should conform to the relevant national, regional, and internationally recognized standards

This document supplements the below guidelines and provides guidance for the certification of cement for both auditors and Producers who are preparing for certification. Each criterion mentioned herein is categorized depending on the significance of its impact on the product environmental criterion or product function characteristic being discussed, e.g. energy, water, material, environment, or socio-development, as follows.

I. Mandatory requirements (M) – Related to the legal requirements for product functional characteristics
II. Critical requirements (C) – Significant to product environmental criteria
III. Non-critical requirements (NC) – Not so significant to product environmental criteria when compared to critical requirements

This document should also be read in conjunction with the Rules and Procedures of NCPC-SL as applicable to the Eco Labelling Certification scheme.

This document will be periodically reviewed and updated based on the experience gained and the developments that have taken place in technology and the use of energy, water, material and the environment.

The term 'shall' is used in this document to indicate those provisions which are mandatory. The term 'must' is used to indicate the guidance which, although not mandatory, is provided by NCPC-SL as a recognized means of meeting the requirements of the standard. The term 'should' is used to indicate recommendations for implementation.

The client should submit the relevant pieces of evidence for conformity verification for the last calendar year.

1. References

In the preparation of this criteria document, the following documents were referred.

ISO 14020 – Environmental labels and declarations - General principles

ISO 14024 – Environmental labels and declarations- Type 1 environmental labeling– Principles and procedures

Guidelines for Providing Product Sustainability Information, UN Environment Programme,2017

establishing the ecological criteria for the award of the EU Ecolabel for indoor and outdoor paints and varnishes, Official Journal of the European Union.

2. Terms and definitions

For the purpose of this document, the terms and definitions given in the referred standards and the following shall apply.

Conformity: Fulfillment of a requirement

Note: Conformance and compliance are synonymously used for conformity but deprecated.

Verification: Confirmation through the provision of objective evidence that specified requirements have been fulfilled.

Organization: The Applicant organization is hereinafter referred to as an organization.

3. Certification Criteria

The entire life cycle of the product is considered, from the extraction of raw material through to production, packaging, distribution, use and disposal. The EU Ecolabel may define criteria that target environmental impacts from any of these life cycle phases, with the aim being to encompass the areas of greatest impact.

4. Certification Criteria Requirements

Certification Criteria Requirements	Weighting Factor	Total Marks
Phase 01: Product Design for Sustainability		
a) The product/s shall be designed holistically, considering all the environmental qualities (eg: Resource Efficiency improvement, Minimizing waste/pollution/emissions, Eliminating toxicity, design for disassembly, extended product lifetime, etc), to minimize associated impacts throughout the lifecycle. Conformity verification ➢ Strategies adopted at Design & Manufacturing Process/Operations to improve the environmental performance of the product ➢ Resource allocation for environmental improving the at the desiging & manufacturing stages of the product ➢ Implemented measures and addressed environmental Impacts ➢ R & D plans, test reports, etc	M	
b) "recycled materials or industrial by-products" shall be used within the specified levels in the national standards in order to reduce the extraction of virgin materials, lowering the ecological footprint (e.g., fly ash, Slag …etc) Conformity verification ➢ Material consumption records ➢ Documents certifying the contents of materials ➢ Details of the pre-treatment implemented, issued by the material supplier	M	
Phase 02: Industrial and Construction Mineral Extraction		
a) Environmental impacts shall be assessed and addressed by the supplier for the locally extracted materials or imported RM as applicable by the National & International Laws Conformity verification ➢ Environmental clearance reports (EPL or EIA reports) ➢ Supplier declerations ➢ Topographic Map and Satellite Image Showing the Location of the Raw Material Field (Quarry) ➢ Business License to Open and Operate ➢ Operating License ➢ Reinstatement Plan ➢ Hydrological survey report for water table management ➢ Certificates of environmental conformance received from the supplier. ➢ Legal agreements with the supplier (Refer the clauses relate to environmental aspects) ➢ Process and the criteria of material selection/ evaluation	C	

b) Noise and particle levels shall be maintained below the levels specified levels by National laws (Example: In Sri Lanka – CEA Guidelines) Conformity verification ➢ Test reports of noise and dust levels at the mining site. ➢ Efforts taken (Photographic evidence for noise and dust control) 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. ➢ If the applicant and the raw material extractor are two separate bodies and raw materials are extracted locally: Site visit records by the manufacturer, and documents/photographic evidence which prove supplier's engagement with relevant environmental impacts management	M	
c) Industrial and Construction Mineral Extraction sites must not be established in areas of high conservation value, such as primary forests, wetlands, or other protected areas. Conformity verification: ➢ Documentation of land-use plans, ensuring no encroachment on protected or sensitive habitats. ➢ Proof of compliance with national regulations governing land use and biodiversity conservation (e.g., Forest Department or Central Environmental Authority permits).	C	
Phase 03: Raw Material Transport to the Factory		
a) Appropriate measures (eg: pre-planning of transportation, avoiding unnecessary movements, covering of materials during transportation, etc) must be taken to minimize oil/fuel consumption, and air emissions during the raw material transportation; Conformity verification ➢ The records on oil/fuel consumption for transportation are maintained ➢ Emission test reports of the vehicles ➢ Pre-planning of transportation to avoid unnecessary movements ➢ Green practices such as two mode transportation and etc. ➢ Details of the safety precautions taken during transportation, photographic evidence ➢ Details of Emergency Preparedness **Or** If the material transportation is carried out by a third party, appropriate measures should be taken to influence the third party in order to reduce associated environmental impacts Conformity verification ➢ Copy of Signed Agreement ➢ A sustainable transportation procurement policy ➢ Details of the projects implemented and the efforts are taken to minimize dust emission/material spillage reduction due to transportation.	C	

➢ Details of the safety precautions taken during transportation, and photographic evidence. ➢ Details of Emergency Preparedness ➢ Contractor Safety Management Directive (CSMD)		
Phase 04: Manufacturing Process		
4.1 General Requirements		
a) Effective Environmental Management System (EMS) policies, procedures, and environmental management programmes should be implemented by the organization Conformity verification ➢ Valid ISO 14001 EMS Certificate ➢ Records on Environmental Management Policy, procedures, and environmental management programmes are maintained	NC	
b) Documented Environmental Management Roadmap must be developed to address the potential environmental problems of the organization Conformity verification ➢ Environment management roadmap of the organization	C	
4.2 **Water Resource Consumption and Conservation**		
a) Infrastructure must be maintained to quantify the water usage for industrial processes and other purposes in the organization (from all water sources) Conformity verification ➢ Water supply metering and/or submetering facilities established in the organization ➢ Water consumption records are maintained on a daily/monthly basis	C	
b) The water distribution system/Plan should be documented Conformity verification ➢ Plumbing Layout of the factory	NC	
c) Organization benchmark/baseline for water consumption should be established and daily consumption shall be monitored continuously Eg: specific water consumption in m^3 / litres (m^3/Kg, m^3/MT) of product manufactured or per employee water consumption Conformity verification ➢ Details of annual production, annual water consumption & Specific water consumption for at least 2 years ➢ Details of organization benchmarks including comparisons with the previous two years or national and international benchmarks	NC	
d) Organization should set a annual target based on the baseline performace and potential for reduction	C	

(Reduction in specific water consumption ≥ 5% - 1marks Reduction in specific water consumption ≥ 10% - 2 marks Reduction in specific water consumption ≥ 15% - 3marks) Conformity verification ➢ Details of annual production, annual water consumption & Specific water consumption for 3 years		
e) Water conservation techniques and technologies must be implemented so that water efficiency is maintained Conformity verification ➢ Site inspection regarding the implementation of Water conservation techniques and technologies,	NC	
f) At least 5% of the total annual water consumption should be derived from the harvested rain water that runoff from the roof & non-roof areas of the manufacturing facility Conformity verification ➢ Factory observations of the operating rain water harvesting system ➢ Quantitative information on the rain water collected monthly/ annually	NC	
g) Organizational/product water footprint should be calculated, recorded, and maintained. Conformity verification ➢ The transparent and verifiable calculation method is available	NC	
h) A Method must be introduced and implemented for continuous monitoring and measuring the progress of the water management programmes and analysing water consumption/conservation relevant data to make sure that the water-saving efforts have been effective and communicating the progress to the relevant authorities (eg: top management) Conformity verification ➢ Progress report ➢ Impact/water Assessment Reports ➢ Management review meeting minutes, etc	C	
4.3 Energy Resource Consumption and Conservation		
a) Infrastructure must be maintained to quantify the energy (Renewable and Non-renewable) usage for industrial processes and other purposes in the organization Conformity verification ➢ Electricity sub-metering facilities established in the organization ➢ Electricity/Fuel consumption records are maintained on a daily/monthly basis ➢ Metering facilities for measuring renewable energy consumption/production are established in the organization and records are maintained	C	
b) Organization benchmark/baseline for energy consumption should be established and monitored continuously.	C	

(eg: specific electrical energy consumption in kWh / litres (kWh / kg, kWh / g, kWh / MT) of product produced and specific thermal energy consumption in MJ/litres,(MJ / kg, MJ / g ,MJ/MT)of product produced) Conformity verification ➢ Details of annual/monthly production, energy consumption & specific energy consumption for the preceding at least 2 years		
c) Organization should set a annual target based on the baseline performace and potential for reduction of the specific electricity consumption (Reduction in specific electricity consumption ≥ 5% - 1 mark Reduction in specific electricity consumption ≥ 10% - 2marks Reduction in specific electricity consumption ≥ 15% - 3marks) Conformity verification ➢ Details of annual production, energy consumption & specific energy consumption for at least 2 years ➢ Details of the implementation of energy efficiency improvement measures with actual benefits achieved	NC	
d) Organization should set a annual target based on the baseline performace and potential for reduction to reduce the specific thermal energy consumption (Reduction in specific thermal energy consumption ≥ 5% - 1 mark Reduction in specific thermal energy consumption ≥ 10% - 2marks Reduction in specific thermal energy consumption ≥ 15% - 3marks) Conformity verification ➢ Details of annual production, energy consumption & specific energy consumption for the preceding 2 years ➢ Details of the implementation of energy efficiency improvement measures with actual benefits achieved	NC	
e) The organization should be substituted nonrenewable energy sources (On-site & off-site) with renewable energy (Eg: biomass, solar power, hydropower, etc) Conformity verification ➢ Details of installation of onsite and offsite renewable power generating sources including the technology, installed capacity and location with photographs of installations ➢ Details of total power/energy consumption in the manufacturing facility and renewable power produced in kWh, ➢ Solar connection agreement, etc	NC	
f) Organization should be incentivized to replace a percentage of conventional fuels with waste-derived fuels (WDF), such as sustainable biomass (Rice husks, sawdusts) or industrial waste Conformity Verification ➢ Energy usage reports from the past three years showing improvements in efficiency and implementation of WDF.	NC	

g) Appropriate measures (Eg: Fuel switching, waste heat recovery applications – thermal conductive capacitors, liquid capacitors, etc) should be implemented to improve energy efficiency in the organization because Sri Lanka uses a 100% dry process, so measures should be taken to prioritize plant optimization to reduce energy consumption. Conformity verification ➢ Site inspection relevant to the energy efficiency measures implemented ➢ Records on energy savings done through such implementation, investment records, etc	C	
h) Effective Energy Management System (EnMS) or policies, procedures, and energy management programmes should be implemented by the organization Conformity verification ➢ Valid EnMS Certificate ➢ Records on Energy management Policy, procedures, and energy management programmes are maintained	NC	
i) A Method should be introduced and implemented for continuous monitoring and measuring the progress of the energy management programmes and analysing energy relevant data to make sure that the energy-saving efforts have been effective and communicating the progress to the relevant authorities (eg: top management) Conformity verification ➢ Progress report ➢ Impact/Energy Assessment Reports, Management review meeting minutes	C	
4.4 Raw Material Consumption		
a) The organization must maintain records on raw materials supplied to the production in batch-wise Conformity verification ➢ Records on raw materials supplied to the production batch-wise	C	
b) The organization must keep an inventory of chemicals used and the suppliers of each chemical product Conformity Verification ➢ Updated chemicals inventory	C	
c) A sound chemical management plan must be developed and implemented to ensure the safe and proper use of hazardous/Non-hazardous chemicals, dangerous goods/controlled substances and to comply with applicable governmental regulations Conformity Verification ➢ Chemical Management Plan which includes the following as necessary: ➢ Legislation and Licensing, Signage & Placarding, Training & Induction, Personal Hygiene, Chemical Handling, Safety Data Sheets, Risk Assessment of Tasks Involving Chemicals, Labelling, Storage, Transportation of Chemicals, Chemical Waste and Disposal and etc.	C	
d) Input/Raw materials must be non-toxic (within the allowable limit) to eliminate exposure to heavy metals (eg: mercury, lead, cadmium, hexavalent chromium, arsenic & antimony) and release of solvents.	C	

<table>
<tr><td>Conformity verification
➢ Records on Raw material consumption
➢ Product Sample test report
➢ Product certificates</td><td></td><td></td></tr>
<tr><td>e) The amount of raw materials acquired locally should be 5% or more than that out of the total raw material consumption to produce a unit of product

Conformity Verification
➢ Records of total and local raw material content, source/location of material acquired/Purchased</td><td>NC</td><td></td></tr>
<tr><td>f) Asbestos must not be added to products or used during manufacture

Conformity Verification
➢ Final Products test reoports</td><td>C</td><td></td></tr>
<tr><td>g) All ingoing chemicals used in the production of cement and any supplied materials that form part of the final product shall not contain substances of very high concern (SVHC).

Conformity Verifications
➢ Records of all supplied chemicals and materials used in the manufacture of cement
➢ Test Reports (do not contain more than 0.1% by weight of substances of very high concern.)
➢ The declaration in this direction shall be supported by the safety data sheets (SDS) of chemicals and materials or appropriate documents obtained from their suppliers.</td><td>C</td><td></td></tr>
<tr><td>h) The following substances or their compounds must not be added to the product intentionaly during the production process: Cadmium, Lead, Chromium VI, Arsenic, Mercury, Selenium

Conformity Verification
➢ Final Products test reports (Treshold levels should be below 2ppm)</td><td>C</td><td></td></tr>
<tr><td>i) Any cement products based on hydraulic binders or alternative cements that have been surface-treated with VOC-containing compounds shall be tested for VOC emissions and shall comply with the limits
<table>
<tr><th></th><th>Limits
(after 28 days)</th><th>Method</th></tr>
<tr><td>Total VOC</td><td>300 µg/m3</td><td rowspan="5">EN 16516</td></tr>
<tr><td>Formaldehyde</td><td>10 µg/m3</td></tr>
<tr><td>R-Value</td><td>< 1</td></tr>
<tr><td>Carcinogenic 1A and 1B VOCs listed in Annex H of EN 16516:2017 (excluding formaldehyde and acetaldehyde)</td><td>1 µg/m3 per individual substance</td></tr>
</table></td><td>C</td><td></td></tr>
</table>

Conformity verification ➢ Test certificates as per the standards specified complying with the limits ➢ Safety Data Sheets		
j) Appropriate measures must be taken to eliminate the consumption of organic solvents/solvent base and the products must be waterborne/water base Conformity verification ➢ Test certificates as per the standards specified, Products records, etc	C	
k) Appropriate measures must be taken to eliminate exposure to Free formaldehyde. Formaldehyde; Free formaldehyde MUST not be intentionally added. Free formaldehyde in product MUST be 0.001% for coating products, 0.01 % for other dispersions Conformity verification ➢ Test reports or certificates confirming the absence/level of formaldehyde	C	
l) Raw materials must be stored in a way that reduces spills, wastage and leaks. (Chemical raw materials are exempted under this criterion) Conformity verification ➢ Site inspection	C	
4.5 Occupational Health and Safety and Responsible Chemicals Management		
a) The manufacturing facility must maintain noise levels below the threshold limits set by national or international noise regulations, particularly in areas surrounding the factory and within worker environments. Conformity Verification ➢ A noise management plan that details the use of noise-reducing equipment, soundproof barriers, and restricted operating hours for noisy machinery. ➢ Noise level monitoring reports, measured by accredited third parties, ensuring compliance with acceptable limits such as EPL, OSHA or ISO 1996-1 standards. Verification through on-site checks to confirm the provision of hearing protection devices and designated quiet zones within the factory, particularly for workers exposed to high noise levels.	C	
b) The processing unit must have implemented an Occupational Health and Safety management system in accordance with ISO 45001:2018, guidelines or any other relevant standards. Conformity verification ➢ Valid certification of ISO 45001:2018 or any other relevant standard	NC	
c) All employees must receive adequate training on health and safety procedures relevant to their roles.	C	

Conformity verification ➢ Records of employee training sessions (Frequency of Trainings – Once in 6 months) and photograph/video pieces ➢ Employee awareness will be assessed by interviews. Site verification to check use PPEs		
d) Emergency preparedness plan and a fire safety management plan must be effectively implemented within the facility. Conformity verification ➢ Emergency preparedness plan (Should include preparedness, prevention & response plan for chemical accidents) ➢ Fire safety management plan ➢ Accident Registr ➢ Records of Fire safety Drills – Once in 6 months ➢ Records of Chemical safety drills	C	
e) All employees who handling with chemicals and hazardous waste must be trained. Conformity verifications ➢ Records/evidences of training sessions ➢ Safety Data Sheets must be available in languages for workers to understand (at least sections directly related to operational worker safety and storage requirements, such as first aid, hazard, and flammability information) ➢ Interview workers ➢ Chemical safety drills ➢ Use PPEs ➢ First aid Training records, Details of First aid team	C	
f) The employees handling the equipment must be adequately trained and be competent in using the equipment Conformity verification ➢ Evidence (photographs, videos) on employee training and awareness in handling equipment and machinery. Interviewing of workers to assess their knowledge in machinery handling. Competency matrix/ Training matrix of workers – ability/experience regarding machine operations Documented Standard operation procedures/ with operation parameters Details of reward system for best employees	C	
g) The guidelines and protocols established for chemical handling must be communicated to the relevant workers. Conformity verification ➢ Records, photographs, attendance sheets of awareness sessions to workers on safety handling of chemicals. ➢ On-site interviews with the workers to check on their level of understanding of such protocols. Display of Safety guidelines in languages for workers to understand (at least sections directly related to operational worker safety and storage requirements, such as first aid, hazard, and flammability information)	C	

h) Measurers must be taken to avoid potential sources of ignition including banning smoking in and around facilities Conformity Verification ➢ Documents of identification of potential risk areas ➢ Site verification ➢ Establishment of smoke alarms	C	
i) The organization must implement measures to protect workers from ionizing radiation during operations involving XRF and XRD machines used in the analysis of clinker quality. The following measures must be adhered to: • Provide suitable personal protective equipment (PPE), such as thyroid guards, to all workers operating these machines. • Equip the facility with GEIGER counters or radiometers to monitor radiation levels, ensuring they remain within permissible safety thresholds. Conformity Verification: ➢ Documentation of PPE issuance (e.g., thyroid guards) and training on its proper usage. ➢ Calibration certificates and monitoring records from GEIGER counters or radiometers. ➢ Workplace radiation level reports and corrective actions taken if limits are exceeded	C	
j) The organization must maintain a comprehensive health and safety registry as mandated by the Factory Ordinance. This registry must include details such as: • Incidents and accidents in the workplace. • Periodic inspections of safety equipment and practices. • Actions taken to address identified health and safety risks. Conformity Verification: ➢ A copy of the health and safety registry in compliance with Factory Ordinance requirements. ➢ Records of workplace inspections, safety audits, and corrective measures. ➢ Evidence of periodic updates and management review of the registry	C	
k) The organization must ensure that workers exposed to hazardous conditions such as cement dust, ionizing radiation, and other occupational risks undergo regular medical examinations. These tests must include: 1. **Lung Function Tests**: To monitor respiratory health due to exposure to cement dust. 2. Any other specific tests recommended by occupational health guidelines based on the workplace environment.	C	

Conformity Verification: ➢ Medical test records for workers in high-risk roles, including lung function test results. ➢ Reports on health monitoring programs, detailing test frequency and findings. ➢ Agreements with certified medical practitioners or occupational health services. ➢ Follow-up records for workers requiring further medical attention or reassignment.		
4.6 Product Quality		
a) The product must be fit for its intended purpose and must meet performance requirements of relevant national/International standards, or prove fitness for purpose with other appropriate documentation (standards/guidelines) Conformity Verification ➢ Test reports verifying the performance parameters of the product are met.	NC	
b) Effective Quality Management System (QMS) or policies, procedures, and quality plans/programmes should be implemented by the organization Conformity Verification ➢ Valid ISO 9001 QMS Certificate/ GMP ➢ Records on Quality Policy, procedures, and quality plans/ programmes are maintained ➢ Training for Total Quality Management (TQM)	NC	
c) The organization shall ensure that cement products comply with the national quality standards specified by the **Sri Lanka Standards Institution (SLSI)** and are monitored by the **Consumer Affairs Authority (CAA)**. The following measures must be implemented: • Obtain and maintain SLS certification for all cement products (e.g., SLS 107:2008 for Ordinary Portland Cement). • Facilitate regular inspections and quality audits by the CAA to ensure compliance with national standards. • Maintain clear documentation of quality control processes, including raw material inputs, production parameters, and final product testing. **Conformity Verification**: ➢ **SLS certification** for cement products issued by SLSI. ➢ Inspection and monitoring reports from the CAA and/or SLSI. ➢ Documentation of quality control processes, including test results and corrective actions for non-compliance. ➢ Records of compliance with labeling, packaging, and distribution requirements as mandated by the CAA.	M	

4.7 Waste Water Management		
a) The organization shall be complied with Central Environment Authority (CEA) stipulated regulations before discharging water into the environment. Conformity Verification ➢ Treated waste water test reports (From Accredited laboratories)	M	
b) Untreated wastewater must not be discharged into nearby streams, paddy fields or other sensitive ecosystems (prevent wastewater from mixing with stormwater in the storm drain systems) Conformity verification ➢ Onsite verification ➢ Plan of waste water treatment plant ➢ Certifications from the authorized body (Ex: CEA)	C	
c) Environmentally friendly biological treatment processes, such as high-rate anaerobic/aerobic systems or treatments developed by the recognized institute should be implemented, if no toxic substances are present in the wastewater. Conformity verification ➢ Records/reports/procedures on such investments ➢ Certifications from the authorized body (Ex: CEA) ➢ -	NC	
d) A baseline for the volume of water discharged per unit of product should be defined by the manufacturing unit Conformity verification ➢ Developed benchmark (Volume of discharged per unit – *liter/Ton* cement) ➢ Records of wastewater generated and disposed	NC	
e) Measures must be practiced to reduce to waste water generation from the factory Ex: Use dry cleaning methods wherever practicable for solids, (e.g. vacuum extraction, wipe down equipment that is accessible) rather than washing and rinsing them Conformity verification ➢ Details of innovative methods ➢ Records of water usage(Closed loop) – Monthly records to check the effectiveness of the methods (Ex: reused or recycled…etc)	NC	
4.8 Solid Waste Management		
a) Effective waste management policies and programmes/plans must be documented for hazardous and Non-Hazourdous solid waste with regard to the following; ➢ Quantities and types of waste recovered for reuse internally and externally; ➢ Quantities and types of waste recycled internally and externally; ➢ Quantities and types of waste disposed of to landfill; ➢ Information on disposal locations for all wastes; and ➢ Initiatives are taken to reduce waste generation and improve recovery/recycling of waste	C	

Conformity verification ➢ Copy of Waste Management policy and waste management Plan/Programmes ➢ The waste management plan should cover the following attributes as necessary Assigning a responsible person for managing waste on site., obtaining legal compliance for, managing waste., establishing goals and objectives., estimating the waste types and amounts involved., set targets for reducing the amount of each waste sent to landfill., describe recycling/reuse methods for each material., identify the waste destinations and transport modes, including what materials are being segregated on-site for reuse or recycling., Track progress., Describe special measures for material use and handling., Describe communication and training to support and encourage participation from everyone on site., If applicable, describe the sequencing and methods for decer projects., Project review. Evidences of practicing waste management plan		
b) A scheduled waste management license for the manufacturer for producing hazardous solid waste shall be obtained from Central Environmental Authority and implemented accordingly. Conformity verification ➢ Valid scheduled waste management license ➢ Copy of contract/agreement with CEA certified third-party waste collection agencies for safe disposal ➢ Site visits for Hazardous waste stores ➢ Record of hazardous waste generation is maintained	M	
c) Appropriate waste management practices (such as Collection, Monitoring and recording waste generation, Reuse, and recycling internally or externally), Provide waste to third-party for safe disposal. Consider choosing Central Environment (CEA) registered waste collecting agents must be implemented for Non-hazardous solid waste Ex: Encourage recycling of process waste, such as dust and kiln waste, to reduce landfill use. Conformity verification ➢ Copy of contract/agreement with CEA certified third-party waste collection agencies for safe disposal ➢ Site visit for waste stores/yard ➢ Records of Non-hazardous waste generation are maintained	C	
d) The manufacturing waste should be directed for innovative avenues for repurposing solid waste Conformity verification ➢ Documents on research and development initiatives ➢ Documents verifying partnerships or collaborations with research institutions or industry experts to explore and implement innovative solutions	NC	
4.9 Air Emissions		
a) Emissions to air shall not be exceeded the CEA stipulated limits to make it ensure the factory atmosphere is safe for its occupants. Conformity verification ➢ Valid Environmental Protection License	M	

b) The manufacturing facility must implement effective dust control measures to minimize the release of particulate matter into the environment through proper maintenance of machines and initiatives (e.g. isolated storage, separate process areas, enclosures, closed systems) Conformity Verification ➢ Inspect the facility to verify the implementation of dust suppression systems such as air filtration, vacuum systems ➢ A dust management plan that outlines control measures, including filtration systems, enclosed processes, and regular cleaning schedules.	C	
c) Air emissions from the cement kiln shall not exceed the CEA stack emissions limits (Annexure 01) Conformity Verification ➢ Continuous or discontinuous (no less than annually) stack emission monitoring reports for particulate matter, NO_x and SO_2	M	
d) Emissions from the biomass/boiler operations shall not exceed the CEA Limits (Annexure 02) Conformity Verification ➢ Continuous or discontinuous (no less than annually) stack emission monitoring reports	M	
4.10 GHG Emission Management		
a) The processing unit should calculate, record, and maintain the Carbon footprint of the organization or the product. Conformity verification ➢ A transparent and verifiable method for calculating the carbon footprint. ➢ The calculation method should adhere to recognized standards like ISO standards. ➢ The documents on calculating methods should be available for review to ensure transparency and accuracy.	NC	
b) The processing unit should establish clear and achievable targets for reducing greenhouse gas (GHG) emissions. Conformity verification ➢ Documents on established targets for GHG emission reduction ➢ Records on regular monitoring and assessment of progress towards the set targets ➢ The records on implementation of corrective actions and continuous improvement initiatives	NC	
c) The processing unit should implement carbon offsetting measures to compensate for unavoidable GHG emissions. Conformity verification ➢ Documentation showing the percentage of total GHG emissions offset ➢ Records of carbon offsetting projects, including certification by recognized standards (e.g., Verified Carbon Standard, Gold Standard) ➢ Sri Lanakan carbon crediting scheme (SLCCS)	NC	

d) The processing unit should adopt Science-Based Targets (SBTi) to guide their emissions reduction strategy, ensuring alignment with global climate goals. Conformity verification ➢ Documentation demonstrating participation in the Science-Based Targets Initiative (SBTi) and alignment of emission reduction targets with the initiative's criteria ➢ Evidence of validation or approval of emission reduction targets by the SBTi ➢ Periodic reports showing progress toward achieving SBTi targets, including updates on any revisions or enhancements based on the latest scientific findings	NC	
4.11 Packaging & Labelling		
a) Product Packaging should be complied with at least one of the following to reduce the ecological impact of the packaging stage of the product life cycle: ✓ Each material constituting >20% by weight of the total primary and secondary packaging used, must contain at least 30% recycled content by weight; or ✓ Each material constituting >20% by weight of the total primary and secondary packaging used, must be derived from Bio-Degradable/compostable materials ✓ Each separable item constituting >20% by weight of the total primary and secondary packaging, must be recyclable in Sri Lanka. or ✓ Paper and cardboard packaging must be either certified under recognised forest certification scheme (e.g. FSC or PEFC) or contain at least 20% recycled content by weight Conformity verification ➢ MSDS of packing materials ➢ Records relevant to the packaging material procurement and consumption	NC	
b) Unnecessary (over packaging) must be avoided Conformity verification ➢ Records of quantities of packaging materials used	NC	
c) Product packages/Labels shall be legibly printed with all the required information specified in the Consumer Affairs Authority Act, No. 09 Of 2003/other international standards Conformity verification ➢ Onsite verification of finished products/packages	M	
d) The manufacturer should provide relevant environment-related information (eg: recycle material content of the product, etc) on the label/packaging of the product Conformity verification ➢ Observations on the product label	NC	
e) Advertisements on the product in communication media should deliver the environmental friendliness of the particular product Conformity verification ➢ Observations on the product advertisements (leaflets/booklets, Organization profile, tv/radio advertisement, etc	NC	

4.12 **End Products Distribution**		
a) Efficient transport modes/ plans should be used for finished product distribution to reduce related environmental impacts Conformity verification ➢ The transport management plan/Product distribution plan is maintained and implemented ➢ 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 Organization and proofs for itsImplementation	NC	
b) A real-time digital tracking/monitoring system (GPS) should be installed and maintained for product distribution management Conformity Verification ➢ Onsite verification of the digital tracking/monitoring system of the organization	NC	
Phase 05: Consideration of the End-of-life phase		
a) Appropriate initiatives/measures should be taken toward reducing the impact of the product's end-of-life phase by showing that ; ✓ The product/packaging 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/ packaging (e.g. possible options for recycling, with names of recycling facilities where possible). to minimize the amount of solid waste that ends up as land-fills Conformity verification ➢ Description and proof of initiatives taken to reduce impact from usage and/or end-of-life phase of the product	NC	
b) A mechanism for encouraging product take back should be implemented for recycling or safe disposal at the end of useful life and which would involve; ✓ Collection ✓ Environmentally sound treatment of the collected product ✓ Use of products & materials in the form of reuse or recycling Conformity verification ➢ Details of the mechanism in place for product takeback ➢ Quantity of reduction in product takeback	NC	
Phase 06: Legal Requirements		
a) The Environmental Protection License (EPL) shall be obtained and all its requirements shall be implemented Conformity verification ➢ Valid Environmental Protection License is available	M	
b) All production activities and products shall comply with the requirements of the relevant national legislation in Sri Lanka Conformity verification ➢ Compilation of all the applicable Environmental and other Regulations is maintained	M	

Phase 07: Biodiversity Conservation Initiatives		
a) Cement manufacturers should invest in biodiversity offset programs if their operations result in unavoidable impacts on ecosystems. This could include supporting local conservation projects or establishing protected areas. Conformity Verification Reports on biodiversity conservation initiatives, including reforestation projects	NC	
b) Strategies must be implemented to monitor post-remediation period Conformity Verification ➢ Details of the monitoring plan and bioassays conducted ➢ Photographic evidence of the corrective actions taken ➢ Hydrological survey report for water table management ➢ Documentary evidence such as study reports, photo graphs for restoration of spent mines and Green Belt development ***If the supplier is beyond the control of the manufacturer due to reasonable facts,*** Conformity Verification ➢ Certificates of environmental conformance received from the supplier. ➢ Site visit records by the manufacturer ➢ Photographs of the site visits conducted ➢ Agreements with the supplier (Refer the clauses relate to environmental aspects)	C	
c) Encourage the rehabilitation of degraded land around cement plants by restoring natural habitats that promote biodiversity. Conformity Verification ➢ Reports on and rehabilitation efforts ➢ 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	NC	
Phase 08: Social Responsibility		
a) Worker Rights and Fair Wages The manufacturing units must ensure that all workers receive fair wages, work in safe conditions, and have their rights protected in line with national and international labor standards. Conformity verification ➢ Employment records showing compliance with wage and hour laws, ensuring fair compensation. ➢ Documentation of worker contracts and adherence to national and international labor rights conventions (e.g., ILO standards). ➢ Reports on working conditions and regular audits of labor practices. ➢ Evidence of grievance mechanisms for addressing worker concerns. ➢ Job Satisfaction records CSR Projects	M	

Annexure 01

CEMENT KILNS

Rated Output Capacity (C)	*Type of Pollutant*	*Emission Limit*	
		*Existing **	*New ***
Any	Particulate Matter (PM)	400mg/Nm^3	200mg/Nm^3
	Sulfur Dioxide (SO_2)	540mg/Nm^3	270mg/Nm^3
	Nitrogen Oxides (NO_x)	1250mg/Nm^3	1000mg/Nm^3
	Smoke	20% Opacity	20% Opacity

*** Cement kilns in existence prior to the date of operation of these regulations.**

**** Cement kilns which will commence operation after the date of operation of these regulations.**

Annexure 02

BOILERS

Fuel	*Rated Output Capacity (C)*	*Type of Pollutant*	*Emission Limit*
Oil	C<2 metric tons of steam/hour	Particulate Matter (PM), Sulfur Dioxide (SO_2), Nitrogen Oxides (NO_x)	Shall be controlled by fuel quality and stack height as set out in Regulations 11 and 12
		Smoke	20% Opacity
	C≥2 metric tons of steam/hour	Sulfur Dioxide (SO_2) Nitrogen Oxides (NO_x)	Shall be controlled by fuel quality and stack height as set out in Regulations 11 and 12
		Smoke	15% Opacity
		Particulate Matter (PM)	100mg/Nm^3
Bio mass	C<2 metric tons of steam/hour	Particulate Matter (PM) Nitrogen Oxides (NO_x)	Shall be controlled by stack height as set out in Regulations 11
		Smoke	20% Opacity
	C≥2 metric tons of steam/hour	Nitrogen Oxides (NO_x)	Shall be controlled by stack height as set out in Regulations 11
		Smoke	15% Opacity
		Particulate Matter (PM)	200mg/Nm^3
Coal	C<2 metric tons of steam/hour	Particulate Matter (PM), Sulfur Dioxide (SO_2), Nitrogen Oxides (NO_x)	Shall be controlled by fuel quality stack height as set out in Regulations 11 and 12
		Smoke	20% Opacity
	C≥2 metric tons of steam/hour	Nitrogen Oxides (NO_x)	500mg/Nm^3
		Sulfur Dioxide (SO_2)	850mg/Nm^3
		Smoke	20% Opacity
		Particulate Matter (PM)	150mg/Nm^3

INSTRUCTIONS FOR USERS

This criteria document contains 83 requirements; 13 Mandatory requirements, 37 critical requirements, and 33 non-critical requirements. Marks are allocated for each criterion except Mandatory criteria. At least 70% of the total marks allocation (284) for the criteria shall be scored by the applicant for being successful in the Eco Labelling certification process.

Requirement	Total Marks
Critical (C)	**37*5 = 185**
Non-critical (NC)	**33*3 = 99**

Mandatory Requirements

When the adequacy audit of the organization's application is conducted, there shall be no non-compliance related to the mandatory requirements, and if any nonconformity is reported during the adequacy audit stage or the certificate audit, a major nonconformity will be raised, and that shall be corrected within two months of the certification Audit.

Critical Requirements

If any violation of critical requirements is found during the verification visit, a minor nonconformity will be raised, and suitable corrective action shall be taken within two months.

Non-critical Requirements

If any non-compliance of non-critical requirements is found during the certification Audit, it will be considered as an observation for the improvement. The effectiveness of the corrective actions taken for the observations raised will be audited in the next surveillance audit.

Note: Until the non-conformities are addressed, the marks should not be released to the governing council, and the certificate should not be granted

Guideline for Marks Allocation;

The below guidelines are to be followed while assessing the implementation of criteria requirements. Marks allocation should be based on the level of implementation and the availability of sufficient evidence.

- ✓ **Criteria 1: Full Marks allocation:**
  - The criteria requirement has been fully implemented.
  - If sufficient evidence exists, the full marks mentioned in the mark's column can be given.
- ✓ **Criteria 2: 70%-80% Marks (Improvement Opportunities)**
  - The criteria requirement has been fully implemented.
  - However, sufficient evidence does not exist or has not been maintained.
  - In such cases, 80% of the allocated marks can be given.
- ✓ **Criteria 3: 60%-50% Marks (Improvement Opportunities)**
  - The criteria requirement has been implemented partially.
  - If sufficient evidence exists, 50% of the allocated marks can be given.
- ✓ **Criteria 4: 30%- 20% Marks (Improvement Opportunities)**
  - The criteria requirement has been implemented partially.
  - However, sufficient evidence does not exist or has not been maintained.
  - In such cases, 30% of the allocated marks can be given.
- ✓ **Criteria 5: 0 Marks - Non-Conformity (Critical Requirement)**
  - The criteria requirement has not been implemented.
  - If it's a critical (C) requirement, it must be raised as a Non-Conformity.
  - In this case, 0 marks should be given.
- ✓ **Criteria 6: 0 Marks - Observation (Non-Critical Requirement)**
  - The criteria requirement has not been implemented.
  - If it's a non-critical (NC) requirement, it must be raised as an observation.
  - In this case, 0 marks should be given.

During the mark allocation process, the team of auditors engages in discussions based on the audit findings, which include document reviews, observations, interviews, and other relevant sources of information. These discussions serve to ensure accuracy and prevent inconsistencies in the marks assigned. By collectively evaluating the evidence and considering different perspectives, the team strives to reach a consensus on the appropriate allocation of marks. This collaborative approach helps to enhance the fairness and reliability of the mark allocation process, allowing for a more comprehensive and well-rounded assessment.

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