



GreenPro Certification Standard for

“Ready Mix Concrete”

Version - 1

Supported by:



Creating Markets, Creating Opportunities



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“Ready Mix Concrete”
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Green Products and Services Council

GreenPro Certification – Ready Mix Concrete

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1. Introduction

The construction industry is one of the fastest growing sectors in India contributing significantly to the economic growth. At the same time, the rapid growth of the sector poses a host of challenges for preserving the environment and health of occupants. The Green Building Movement spearheaded by the Indian Green Building Council (IGBC) has enabled the construction industry to incorporate Green Building concepts for the enhanced economic, health and environment performance of buildings.

Thus far, the Council has been instrumental in enabling 6.75 Billion Sq.ft of green buildings in the country. The Green Building market growth has created demand for Green products & services. The demand is expected to grow exponentially in the future.

Against this background, CII-Sohrabji Godrej Green Business Centre (CII-Godrej GBC) has launched the **Green Products and Services Council** with the support of all the stakeholders including product manufacturers, standard developers, architects, Green building developers, conformity agencies etc.

The key objective of the council is to facilitate Green product market transformation in India through 'Green Product Certification'.

The initial focus of the council will be on Green building products and related technologies. Over a period of time, the council will expand its focus to other areas such as Industrial products, consumer items, services etc.

This certification is applicable for all Ready Mix Concrete manufacturing units including commercial and captive plants.

Why GreenPro Certification?

The GreenPro Certification is a tool for facilitating Green Product market transformation in the country. The GreenPro Certification is expected to:

1. Enable green building projects in selecting the right product and equipment
2. Increase the market demand for the Green products
3. Put a system in place for a product to be called 'green'

GreenPro Certification for Ready Mix Concrete

Ready mix concrete (RMC), one of the major products used increasingly in construction industry, has cement as a major constituent. RMC is now being used in around 50 cities in India, and this is expected to go up significantly. Currently, the RMC industry consumes about 7 - 9% of the total quantity of the total cement produced in the country. This is expected to rise to 20 to 25% over the next few years. A number of organizations from the government, semi-government and private sectors have made the use of RMC compulsory, and other cities may follow suit.

When compared to other materials of construction such as steel, aluminum, glass, etc., ready-mixed concrete is considered to be a sustainable material of construction. Yet, one of the major ingredients of concrete, i.e. cement is responsible for GHG emissions. Further, the energy consumption during concrete manufacturing, transportation, placing and compaction is also substantial. Thus, there is considerable scope to reduce the GHG emission of concrete as a whole.

Significant efforts have been made by the leading ready mix concrete manufacturers to reduce GHG emissions by increasing the proportion of additives in RMC such as flyash / slag to reduce the OPC consumption and improving the energy efficiency of manufacturing process. In India, the percentage of additives varies from 5% to 50% due to various reasons, as understood from our extensive interactions with industry. The GHG emissions per m³ of concrete production also varies from 0.08 – 0.12 ton/m³ of concrete. Considering an estimate of 7-9 % of total OPC cement produced in the country is used for RMC, a total of approximately 12 – 15.5 Million Tons of GHG/ annum could be attributed to the present RMC production in the organized sector.

This clearly indicates that the ready mix concrete sector offers enormous and cost effective intervention opportunities for improving the Green performance of the product, thereby reducing GHG emissions significantly, so that total emissions attributable are pushed to the lower end of the above range.

Hence, CII-Godrej GBC proposes to develop Green Product Certification for Ready Mix Concrete, facilitate market transformation and thereby reduce the overall GHG emission in the RMC sector.

This certification would be applicable for all Ready Mix Concrete manufacturing units including commercial and captive plants.

2. **GreenPro Certification – Life Cycle Approach**

The Green Products Rating 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. Product Design
2. Raw materials
3. Manufacturing Process
4. Product Performance during use
5. Disposal / Recycling



3. **Benefits**

GreenPro certification benefits both the product manufacturers and the users. The benefits are both tangible and intangible.

For Product Manufacturers

Some of the benefits of GreenPro Certification for the product manufacturers are highlighted below:

1. GreenPro Certification differentiates the Green product from the competition
2. Increases the market reach out with credible and precise information on the Green features of the products
3. Enables Green product Innovation
4. Increases resources conservation through enhanced energy efficiency, water efficiency, use of renewable energy, minimization waste etc., during the manufacturing process and hence increase in profitability
5. Acts as a driver for achieving environment excellence
6. Complements National & International Green Building Certification systems

For Users

Use of rated Green concrete leads to significant tangible and intangible benefits for the end users (Developers and Contractors).

Some of the benefits for the users are highlighted as below:

1. Recognition and credits for achieving national and international Certification for the Green Buildings
2. Improved product performance during use to reduce resource consumption and environmental impacts
3. Time and effort in carrying out due diligence in selecting a green product is saved
4. Ensures Toxic and hazardous substances free products which in turn decrease “health and wellbeing” risks of the users

4. National Priorities addressed in Certification

GreenPro Certification addresses the following which are priorities of the Government at the National level:

Water:

Water is a major concern in most part of the country. Implementation of water efficiency measures and “zero Liquid Discharge” are being encouraged to address the water related issues.

Land:

Availability of land and increase in land pollution are major areas of concern. The Certification system demands for increased recycling of material after use which would result in reduction in landfills and hence reduction in land pollution.

Energy Efficiency:

The Certification system encourages the product manufacturers to adopt energy efficiency improvement measures and reduce their energy consumption which is in line with the National Mission on Enhanced Energy Efficiency. This provides an opportunity to users of RMC to choose more energy-efficient and sustainable products from the product basket of the producer.

Renewable Energy:

The Certification advocates compliance with Renewable Purchase Obligation (RPO) and encourages product manufacturers to invest in renewable power generation. This is in line with Government of India’s objective of increasing the contribution of renewable power sources.

A combination of improving energy efficiency and the use of renewable energy leads to support the government’s efforts on Climate Change issues.

5. *Development of GreenPro Certification Standards*

GreenPro Certification applies product specific '**Certification Standards**' for evaluating the products. The Certification standards are developed with the support of respective product committees formed under the aegis of Green products and services council.

The product committee involves all major stakeholders related to the respective product category including product manufacturers, standard setters, conformity agencies, architects, users *et al.* The product committee is led by an expert who is also an unbiased specifier.

Key findings of pilot projects are incorporated in certification standard with consent from the product committee.

5.1 Features of GreenPro Certification

The Certification system 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 the Life Cycle of the product, leading to clearly measurable environmental benefits.

The Certification system evaluates green features for products based on various performance parameters grouped under the following Credit Modules.

1. **Product Design:** The Certification necessitates the manufacturer to demonstrate its top management commitment towards environmental performance improvement of the product.
2. **Product Performance:** The required performance parameters of the product need to be demonstrated through product testing as per the specified standards.
3. **Raw Materials:** The Certification demands for efforts to bring down the use of virgin materials through recycling and elimination of toxic and hazardous content in the input materials for product manufacturing.
4. **Manufacturing Process:** The green product Certification recognizes the efforts taken by the product manufacturer to reduce the resource consumption during the manufacturing process
5. **Waste Management:** The Certification calls for efforts to minimize the wastes or safer disposal of the wastes generated during manufacturing process
6. **Life Cycle Approach:** The Certification encourages the product manufacturer to carry out Life cycle analysis for the products and implement measures based on the impact analysis.
7. **Product Stewardship:** The Certification recognizes the measures implemented by the product manufacturers to reduce environmental and health impacts in product transportation, use and recycling / product disposal
8. **Innovation:** The Certification recognizes the innovative measures implemented by the product manufacturers which had resulted in substantial reduction in environment impact exceeding the threshold level specified in the Certification standard.

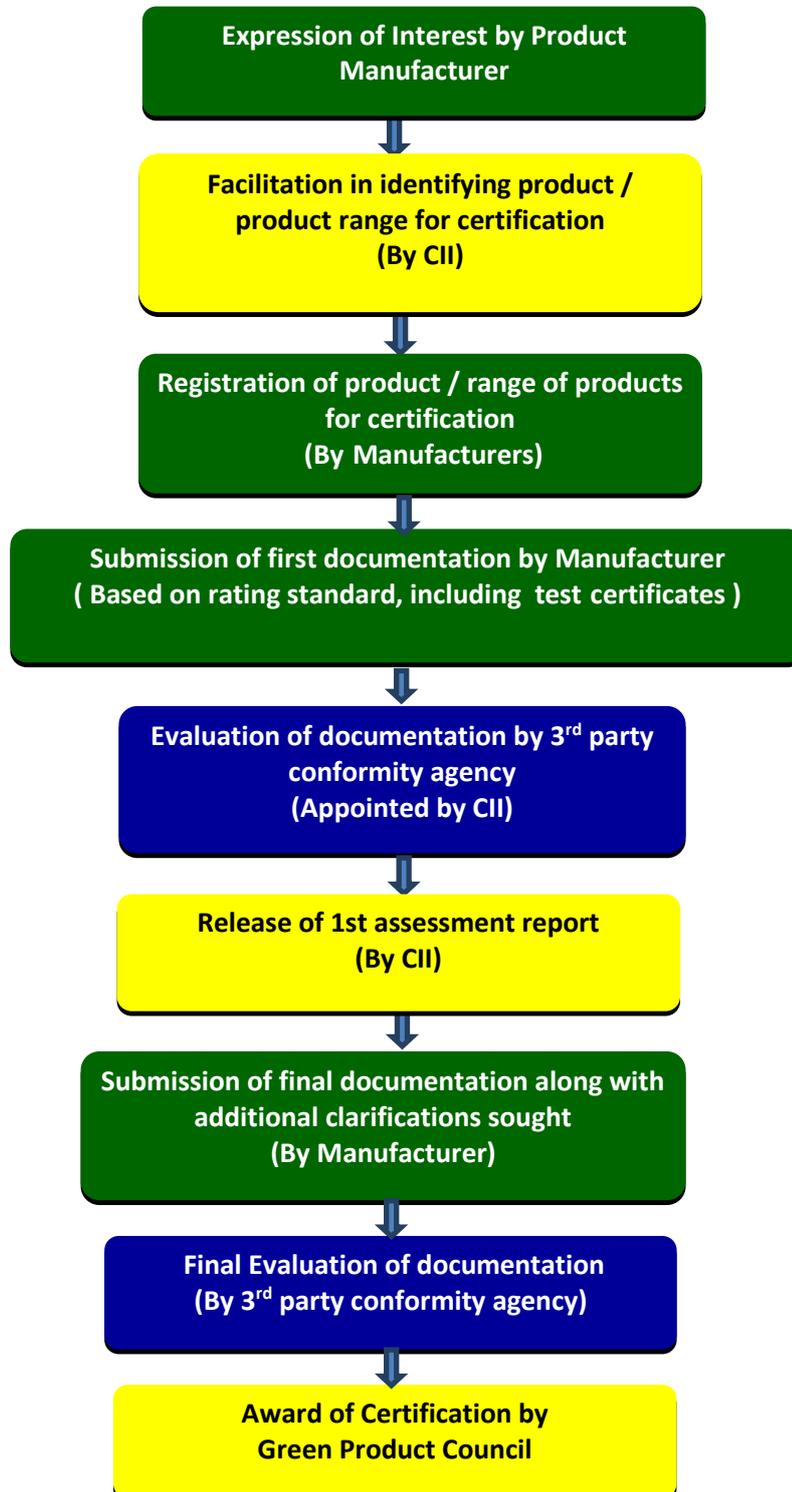
The approach and the Credit Modules for evaluation of products remain by and large the same for all the product categories. However, the credits as part of the individual Credit Modules and the weightage will vary depending upon the product categories and their significance.

A Product needs to comply with certain specified mandatory requirements. The mandatory requirements will vary depending upon the product category.

The threshold limit of all the credits is 100. The product manufacturers can apply for the Credits depending upon the applicability and gain credit points for the Certification.

6. *Methodology of Certification*

The step by step methodology for the Certification is mentioned below.



6.1 Product testing

The Green Product Certification calls for testing of select product parameters for the award of Certification. The product parameters will vary depending upon product categories. Wherever testing of the products is specified, the Certification 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 **National Accreditation Board for Testing and Calibration Laboratories (NABL)** 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 an NABL accredited laboratory owned by the product manufacturer, the product manufacturer has to submit the details of the test procedures & methodology for verification.

If the product testing needs to be 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), Asia Pacific Laboratory Accreditation Co-operation (APLAC) etc.

6.2 Evaluation by 3rd party Conformity Agency

The document submitted by the product manufacturer will be evaluated by a 3rd party conformity agency appointed by CII-Godrej GBC.

Conformity agency is a competent 3rd party agency for carrying out product conformity assessment for various products which would involve Product testing, inspection, factory audits and documentary review.

7. Green product Certification

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 100. A product will be certified as 'Green Product' if it achieves 50 or more credit points in the evaluation.

8. Validity of the Certification

GreenPro Certification is valid for 2 years from the date of award of the Certification with a yearly review for the product / product range.

At the end of the validity period, the product manufacturer needs to apply for the renewal of the Green product Certification.

Before the end of the validity period, the product manufacturer can attempt for higher level of Certification after implementing sufficient measures for gaining credit points. However, the attempt can be made only after a year from the date of award of the product Certification.

9. Fee for Green product Certification

The fee details are available on website www.greenbusinesscentre.com. The fee details can also be obtained through the contact details mentioned in the manual.

10. Updating of the Standard

GreenPro Certification Standard for Ready Mix Concrete is the result of Green Product and Services council's efforts towards facilitating market transformation in Green Building Products. The council's endeavor is to periodically update the standard and raise the bar.

The updating of the standard will be taken up with the support of the product committee on consensus basis. Updates or addenda will be incorporated and formally communicated to the applicants.

Summary of Credits & Points Distribution

GreenPro Certification - Ready Mix Concrete		
Credits	Criteria	Proposed Credit Points
1	Product Design	
Credit 1.1	<i>Eco - Vision</i>	1
	<i>Strategies adopted, environment improvement measures/ green measures implemented</i>	
	<i>- At design stage of the product</i>	2
	<i>- At manufacturing stage of the product</i>	1
	<i>- ISO 14001 certified manufacturing plant</i>	1
	<i>Sub Total</i>	5
2	Concrete Performance	
	Concrete Performance	Credits
Credit 2.1	<i>Low Density Concrete for Non- Structural Applications (using Flyash, GGBS, EPS, Perlite, Foam etc.)</i>	
	<i>Concrete Density > 1000 kg/m³ ≤ 1200 kg/m³</i>	5
	<i>Concrete Density > 800 kg/m³ ≤ 1000 kg/m³</i>	10
	<i>Concrete Density > 600 kg/m³ ≤ 800 kg/m³</i>	15
	<i>Concrete Density ≤ 600 kg/m³</i>	20
Credit 2.1	<i>Low Density Concrete for Structural Applications (using sintered Fly Ash or Bloated Clay Aggregates, etc)</i>	
	<i>Concrete Density > 1800 ≤ 1900 kg/m³</i>	20
	<i>Concrete Density > 1900 ≤ 2000 kg/m³</i>	15
	<i>Concrete Density > 2000 ≤ 2200 kg/m³</i>	10
Credit 2.2	<i>Self-Compacting Concrete(SCC)</i>	
	<i>High-fines SCC requiring low-level of compaction of concrete</i>	15
	<i>Conventional SCC requiring no compaction at all (as per EFNARC Guidelines)</i>	20
Credit 2.3.1	<i>Concrete with high SCM (Supplementary Cementitious Material) Concrete</i>	
	<i>Substitution of OPC with flyash, GGBS or other industrial waste</i>	
	<i>High Volume Fly ash > 40 ≤ 45%</i>	10
	<i>High Volume fly ash > 45 ≤ 50%</i>	15
	<i>High Volume fly ash > 50 %</i>	20
	<i>(or)</i>	
	<i>High Volume GGBS > 50 ≤ 60%</i>	10
	<i>High Volume GGBS > 60 ≤ 70%</i>	15
	<i>High Volume GGBS > 70%</i>	20
	<i>(or)</i>	

	<i>Any combination of SCM substituting OPC greater than 40%</i>	
	<i>Substituting OPC > 40 ≤ 45%</i>	10
	<i>Substituting OPC > 45 ≤ 50%</i>	15
	<i>Substituting OPC > 50%</i>	20
	<i>(or)</i>	
Credit 2.3.2	Controlled Low Strength Materials (CLSM) <i>Concrete with high flyash, GGBS or other industrial waste</i>	
	<i>High Volume Flyash / GGBS or combination thereof > 50 ≤ 65%</i>	10
	<i>High Volume Flyash / GGBS or combination thereof > 65 ≤ 80%</i>	15
	<i>High Volume Flyash / GGBS or combination thereof > 80%</i>	20
Credit 2.4	Pervious Concrete	
	<i>Concrete with high percolation rates</i>	
	<i>Percolation rates ≥ 200 lit/minute/m² < 300 lit/minute/m²</i>	5
	<i>Percolation rates ≥ 300 lit/minute/m² < 400 lit/minute/m²</i>	10
	<i>Percolation rates ≥ 400 lit/minute/m² < 500 lit/minute/m²</i>	15
	<i>Percolation rates ≥ 500 lit/minute/m²</i>	20
Credit 2.5	High Strength Concrete <i>Concrete with high grade strength M 60 to M 100</i>	20
	<i>Strength ≥ M60</i>	12
	<i>Strength ≥ M70</i>	14
	<i>Strength ≥ M80</i>	16
	<i>Strength ≥ M90</i>	18
	<i>Strength ≥ M100</i>	20
Credit 2.6	Durable Concrete*	20
	Water Penetration Test (DIN 1048)	
	<i>Water Penetration ≥ 20 <25 mm</i>	10
	<i>Water Penetration ≥ 15 <20 mm</i>	15
	<i>Water Penetration <15 mm</i>	20
	<i>OR</i>	
	Rapid Chloride Ion Permeability Test (RCPT ASTM C 1202)	
	<i>Coulombs ≥ 2000 < 4000</i>	10
	<i>Coulombs ≥ 1000 < 2000</i>	15
	<i>Coulombs < 1000</i>	20
	* Other durability test will also qualify for suitable marks, provided the tests are standardized by standard making bodies such as ASTM, EN, etc. and the same have been specified by customers	
	<i>Sub Total</i>	20

3	Raw Material	
	Mandatory Requirement	
	The raw materials should conform to IS requirements (or) equivalent international standards : <ul style="list-style-type: none"> • Flyash (IS 3812 Part 1) • GGBS (IS 16714) • Water (IS 456) • Aggregate Size (IS 383) • Silica Fume (IS 15388) • Chemical admixtures (IS 9103) • Metakaolin (IS 16354) • Rice Husk Ash • Ultrafine GGBS (IS 16715) 	
Credit 3.1	Overall use of supplementary cementitious material	
	Any combination of SCM substituting OPC greater than 20%	
	Substituting OPC \geq 20%	1
	Substituting OPC \geq 25%	3
	Substituting OPC \geq 30%	5
Credit 3.2	Use of recycled aggregates	
	Utilization of industrial waste in coarse aggregate Aggregate made of iron slag, steel slag or recycled concrete	
Credit 3.2.1	Iron Slag Aggregate	
	Plain Concrete	
	Percentage Substitution 5 – 25%	10
	Percentage Substitution 25 – 50 %	15
	Reinforced Concrete	
	Percentage Substitution 5 – 15%	10
	Percentage Substitution 15 – 25 %	15
	Lean Concrete(<M15 Grade)	
	Percentage Substitution 5 – 50%	10
	Percentage Substitution 50 – 100 %	15
Credit 3.2.2	Steel Slag Aggregate	
	Plain Concrete	
	Percentage Substitution 5 – 15%	10
	Percentage Substitution 15 – 25 %	15
	Lean Concrete(<M15 Grade)	
	Percentage Substitution 5 – 50%	10
	Percentage Substitution 50 – 100 %	15
Credit 3.2.3	Recycled Concrete Aggregate	
	Plain Concrete	
	Percentage Substitution 5 – 15%	10
	Percentage Substitution 15 – 25 %	15

	<i>Reinforced Concrete(Up to M25 Grade)</i>	
	<i>Percentage Substitution 5 – 10%</i>	<i>10</i>
	<i>Percentage Substitution 10 – 20 %</i>	<i>15</i>
	<i>Lean Concrete(<M15 Grade)</i>	
	<i>Percentage Substitution 5 – 50%</i>	<i>10</i>
	<i>Percentage Substitution 50 – 100 %</i>	<i>15</i>
Credit 3.2.4	<i>Recycled Aggregate</i>	
	<i>Lean Concrete(<M15 Grade)</i>	
	<i>Percentage Substitution 5 – 50%</i>	<i>10</i>
	<i>Percentage Substitution 50 – 100 %</i>	<i>15</i>
	<i>Bottom Ash from thermal power plants</i>	
	<i>Lean Concrete(<M15 Grade)</i>	
	<i>Percentage Substitution 5 – 15%</i>	<i>10</i>
	<i>Percentage Substitution 15 – 25 %</i>	<i>15</i>
Credit 3.3	<i>Fine Aggregate</i>	
	<i>Utilization of the following as fine aggregate in lieu of river sand or sand produced from pebbles</i> <i>Iron Slag Aggregate, Steel Slag Aggregate, Copper Slag Aggregate or recycled concrete aggregate</i>	
Credit 3.3.1	<i>Iron Slag Aggregate</i>	
	<i>Plain Concrete</i>	
	<i>Percentage Substitution 5 – 25%</i>	<i>5</i>
	<i>Percentage Substitution 25 – 50 %</i>	<i>10</i>
	<i>Reinforced Concrete</i>	
	<i>Percentage Substitution 5 – 15%</i>	<i>5</i>
	<i>Percentage Substitution 15 – 25 %</i>	<i>10</i>
	<i>Lean Concrete(<M15 Grade)</i>	
	<i>Percentage Substitution 5 – 50%</i>	<i>5</i>
	<i>Percentage Substitution 50 – 100 %</i>	<i>10</i>
Credit 3.3.2	<i>Steel Slag Aggregate</i>	
	<i>Plain Concrete</i>	
	<i>Percentage Substitution 5 – 15%</i>	<i>5</i>
	<i>Percentage Substitution 15 – 25 %</i>	<i>10</i>
	<i>Lean Concrete(<M15 Grade)</i>	
	<i>Percentage Substitution 5 – 50%</i>	<i>5</i>
	<i>Percentage Substitution 50 – 100 %</i>	<i>10</i>
Credit 3.3.3	<i>Copper Slag Aggregate</i>	
	<i>Plain Concrete</i>	
	<i>Percentage Substitution 5 – 25%</i>	<i>5</i>
	<i>Percentage Substitution 25 – 40 %</i>	<i>10</i>
	<i>Reinforced Concrete</i>	
	<i>Percentage Substitution 5 – 20%</i>	<i>5</i>
	<i>Percentage Substitution 20 – 35 %</i>	<i>10</i>

	<i>Lean Concrete(<M15 Grade)</i>	
	<i>Percentage Substitution 5 – 25%</i>	5
	<i>Percentage Substitution 25 – 50 %</i>	10
Credit 3.3.3	<i>Recycled Concrete Aggregate</i>	
	<i>Plain Concrete</i>	
	<i>Percentage Substitution 5 – 15%</i>	5
	<i>Percentage Substitution 15 – 25 %</i>	10
	<i>Reinforced Concrete(Up to M25 Grade)</i>	
	<i>Percentage Substitution 5 – 10%</i>	5
	<i>Percentage Substitution 10 – 20 %</i>	10
	<i>Lean Concrete(<M15 Grade)</i>	
	<i>Percentage Substitution 5 – 50%</i>	5
	<i>Percentage Substitution 50 – 100 %</i>	10
	<i>Sub Total</i>	30
4	CO₂ Emission per tonne of concrete over base year	
	<i>Reduction in CO₂ emission ≥ 2%</i>	2
	<i>Reduction in CO₂ emission ≥ 4%</i>	4
	<i>Reduction in CO₂ emission ≥ 6%</i>	6
	<i>Reduction in CO₂ emission ≥ 8%</i>	8
	<i>Reduction in CO₂ emission ≥ 10%</i>	10
	<i>Sub Total</i>	10
5	Manufacturing Process	
Credit 5.1	Energy Efficiency	3
	<i>ISO 50001 certified manufacturing plant</i>	1
	<i>Reduction in specific energy consumption ≥ 5 %</i>	1
	<i>Reduction in specific energy consumption ≥ 10 %</i>	2
Credit 5.2	Water Efficiency	8
	<i>Reduction in specific portable water consumption</i>	
	<i>Reduction 5 – 10 %</i>	1
	<i>Reduction 10 – 15 %</i>	2
	<i>Reduction 15 – 25 %</i>	3
	<i>Reduction ≥ 25%</i>	4
	<i>Rain Water Harvesting</i>	
	<i>Harvest 75% rainwater run-off from Roof & Non- Roof areas</i>	2
	<i>Minimize water use for washing transit mixture trucks</i>	1
	<i>Beyond the fence initiatives</i>	1
Credit 5.3	Particulate emission reduction <i>Measure the particulate emission within the plant premises</i>	4
	<i>Additional particulate emissions due to plant operation</i>	
	<i>PM 10: 60 – 100 ppm</i>	2
	<i>PM 2.5: 40 - 60 ppm</i>	2
Credit 5.4	Waste or Concrete Sludge Management	5
	<i>Reduction in quantity of sludge disposed over previous year</i>	

	<i>Reduction ≥ 10%</i>	<i>1</i>
	<i>Reduction ≥ 20%</i>	<i>3</i>
	<i>Reduction ≥ 30%</i>	<i>5</i>
Credit 5.5	<i>Renewable Power</i>	<i>5</i>
	<i>Use of on-site or off-site renewable sources for meeting the power requirements</i>	
	<i>≥ 2.5 % substitution</i>	<i>1</i>
	<i>≥ 5 % substitution</i>	<i>3</i>
	<i>≥ 10 % substitution</i>	<i>5</i>
	<i>Sub Total</i>	<i>25</i>
6	<i>Product Stewardship</i>	
<i>Credit 6.1</i>	<i>Education</i>	
	<i>≥ 10% of people involved in handling the product after dispatch and users</i>	<i>1</i>
	<i>≥ 20% of people involved in handling the product after dispatch and users</i>	<i>2</i>
<i>Credit 6.2</i>	<i>Quality Management System</i>	<i>1</i>
	<i>Quality management system after dispatch of the product</i>	
<i>Credit 6.3</i>	<i>Extended Producer Responsibility: Institute a system for product take-back for recycling or safe disposal</i>	<i>1</i>
	<i>Encourage recycling of concrete at end of life</i>	<i>1</i>
	<i>Sub Total</i>	<i>5</i>
7	<i>Innovation</i>	
<i>Credit 7.1</i>	<i>Innovation</i>	<i>4</i>
<i>Credit 7.2</i>	<i>Other Credentials, Awards and Accolades</i>	<i>1</i>
	<i>Sub Total</i>	<i>5</i>
<i>Total Points</i>		<i>100</i>

**GREENPRO CERTIFICATION STANDARD
FOR READY MIX CONCRETE**

Mandatory Requirement

For a product to be taken up for GreenPro certification, the manufacturer shall comply with the applicable acts & rules related to environment and health & safety (demonstrated, for example, by providing copies of:

- (a) Valid Certificate of consent to operate the plant by the local Municipal Corporation.
- (b) Valid consent to operate under the water (Prevention & Control of pollution) Act & Air (Prevention & Control of pollution) Act
- (c) Valid authorization under the hazardous waste (management, handling & trans-boundary movement) rules
- (d) Health & Safety compliance as per the norms of RMCMA & National Safety Council
- (e) Approval from Central Ground Water Authority for drawing water if the manufacturer is drawing water from own source (Borewell etc.) or compliance from external agencies which supply water to the plant .
- (e) Data to demonstrate continued compliance with the requirements of (a) to (e)

Minimum Equipment and System Requirement

The plant shall meet the following to demonstrate that minimum equipment and systems are in place for manufacturing concrete with acceptable quality.

The plant should have the RMC Capability Certification under Ready Mix Concrete (RMC) Plant Certification Scheme (QCI) and provide

- a. The details of compliance every 6 months

(OR)

The plant team shall provide information on the following along with details of capacity and test labs. CII team shall carry out internal audit of the plant to ensure compliance to the following requirements:

- b. Details of plant equipment and utilities
- c. Material storage and handling
- d. Batching and mixing control
- e. Delivery fleet inspection
- f. Laboratory
- g. Key personnel
- h. Control on quality of incoming materials
- i. Concrete Mix design
- j. Production and Delivery
- k. Complaints
- l. Feedback

Credit 1: Product Design

Eco-Vision

Points: 5

Intent:

To design the product holistically considering all the environmental attributes, so as to minimize associated impacts

Award of points:

Provide the details of the Eco Vision to action as per the following for achieving excellence in design of the products that would result in environmental, health & well-being benefits.

- ❖ Eco-Vision statement
- ❖ Strategies adopted, environment improvement measures/green measures at design and manufacturing stage of the following products:
 - Low Density Concrete
 - Self-Compacting Concrete
 - Concrete with high SCM (Supplementary Cementitious Material)
 - Pervious Concrete
 - High Strength Concrete
 - Durable Concrete
 - Any other concrete with green features

Credits	Criteria	Proposed Credit Points
1	Product Design	
Credit 1.1	<i>Eco - Vision</i>	1
	<i>Strategies adopted, environment improvement measures/ green measures implemented</i>	
	<i>- At design stage of the product</i>	2
	<i>- At manufacturing stage of the product</i>	1
	<i>- ISO 14001 Certified manufacturing plant</i>	1
	<i>Sub Total</i>	5

Exemplary Performance:

This credit is not eligible for exemplary performance under Innovation Credit.

Documentation Required:

1. Eco Vision statement
2. Type of green concrete manufactured
3. Strategies adopted and the details of measures implemented during product design and manufacturing of green concrete.

Credit 2. Concrete Performance

Points: 20

Intent:

Enhance the performance of the concrete to reduce the environmental impact during its use.

Award of points:

Points under this criterion would be awarded on the basis of concrete properties which reduce the environmental impact during its use.

Low Density Concrete:

a) Non Structural Application :

Encourage use of low density insulating material (Ex: Fly ash, GGBS, EPS, Foam Concrete), leading to increased thermal insulation for the building envelope.

b) Structural Application :

Low Density Concrete for Structural Applications using sintered Fly Ash or Bloated Clay Aggregate

Self- Compacting Concrete

Encourage use of low-fine SCC and conventional SCC (as per EFNARC specifications) having high workability and flowable mix concrete, eliminating the use of vibrators. Contributes to savings in material, energy and reduction in noise.

High SCM (Supplementary Cementitious Material) Concrete & Controlled Low Strength Concrete

Substitution of OPC with flyash, GGBS or other cementitious material encouraging use of industrial waste.

High Strength Concrete

High Grade strength to reduce the overall use of concrete material during construction

Pervious Concrete

Concrete with high percolation rates contributing to rain water harvesting during its application in pavers etc.

High Strength Concrete

Encourage use of high-Grade strength concrete to reduce the overall use of concrete material and enhance the life of construction.

Durable Concrete

Durable concrete can resist chloride-induced or carbonation-induced corrosion, weathering action, chemical attack, , or any other process of deterioration.

2	Concrete Performance	
	Concrete Performance	Credits
Credit 2.1	Low Density Concrete for Non- Structural Applications (using Flyash, GGBS, EPS, Perlite, Foam etc.)	
	Concrete Density > 1000 kg/m ³ ≤ 1200 kg/m ³	5
	Concrete Density > 800 kg/m ³ ≤ 1000 kg/m ³	10
	Concrete Density > 600 kg/m ³ ≤ 800 kg/m ³	15
	Concrete Density ≤ 600 kg/m ³	20
Credit 2.1	Low Density Concrete for Structural Applications (using sintered Fly Ash or Bloated Clay Aggregates, etc)	
	Concrete Density > 1800 ≤ 1900 kg/m ³	20
	Concrete Density > 1900 ≤ 2000 kg/m ³	15
	Concrete Density > 2000 ≤ 2200 kg/m ³	10
Credit 2.2	Self-Compacting Concrete(SCC)	
	High-fines SCC requiring low-level of compaction of concrete	15
	Conventional SCC requiring no compaction at all (as per EFNARC Guidelines)	20
Credit 2.3.1	Concrete with high SCM (Supplementary Cementitious Material) Concrete	
	Substitution of OPC with flyash, GGBS or other industrial waste	
	High Volume Fly ash > 40 ≤ 45%	10
	High Volume fly ash > 45 ≤ 50%	15
	High Volume fly ash > 50 %	20
	(or)	
	High Volume GGBS > 50 ≤ 60%	10
	High Volume GGBS > 60 ≤ 70%	15
	High Volume GGBS > 70%	20
	(or)	
	Any combination of SCM substituting OPC greater than 40%	
	Substituting OPC > 40 ≤ 45%	10
	Substituting OPC > 45 ≤ 50%	15
	Substituting OPC > 50%	20
	(or)	
Credit 2.3.2	Controlled Low Strength Materials (CLSM) Concrete with high flyash, GGBS or other industrial waste	
	High Volume Flyash / GGBS or combination thereof > 50 ≤ 65%	10
	High Volume Flyash / GGBS or combination thereof > 65 ≤ 80%	15
	High Volume Flyash / GGBS or combination thereof > 80%	20

Credit 2.4	Pervious Concrete	
	Concrete with high percolation rates	
	Percolation rates ≥ 200 lit/minute/m ² < 300 lit/minute/m ²	5
	Percolation rates ≥ 300 lit/minute/m ² < 400 lit/minute/m ²	10
	Percolation rates ≥ 400 lit/minute/m ² < 500 lit/minute/m ²	15
	Percolation rates ≥ 500 lit/minute/m ²	20
Credit 2.5	High Strength Concrete	20
	Concrete with high grade strength M 60 to M 100	
	Strength \geq M60	12
	Strength \geq M70	14
	Strength \geq M80	16
	Strength \geq M90	18
	Strength \geq M100	20
Credit 2.6	Durable Concrete*	20
	Water Penetration Test (DIN 1048)	
	Water Penetration ≥ 20 <25 mm	10
	Water Penetration ≥ 15 <20 mm	15
	Water Penetration <15 mm	20
	OR	
	Rapid Chloride Ion Permeability Test (RCPT ASTM C 1202)	
	Coulombs ≥ 2000 < 4000	10
	Coulombs ≥ 1000 < 2000	15
	Coulombs < 1000	20
	* Other durability test will also qualify for suitable marks, provided the tests are standardized by standard making bodies such as ASTM, EN, etc. and the same have been specified by customers	
	Sub Total	20

Documentation Required:

- Quantity of concrete produced in each category for the past three years
- Performance test reports of the concrete where applicable

Note: The following test results would be required for durable Concrete

- Water Penetration test as per DIN 1048 (56 Days)
- Rapid Chloride Ion Permeability Test as per ASTM C 1202 (56 Days)
- Other durability test will also qualify for suitable marks, provided the tests are standardized by standard making bodies such as ASTM, EN, etc. and the same have been specified by customers

Credit 3: Utilization of alternate raw materials**Points: 30****Intent:**

To minimize the environmental impacts associated with the use of virgin materials by use of alternate materials like industrial waste.

Mandatory Requirement:

The raw materials should conform to IS requirements (or) equivalent international standards:

- Flyash (IS 3812 Part 1)
- Slag (IS 16714)
- Water (IS 456)
- Aggregate Size (IS 383)
- Silica Fume (IS 15388)
- Chemical admixtures (IS 9103)
- Metakaolin (IS 16354)
- Rice Husk Ash
- Ultrafine GGBS (IS 16715)

Award of points:**3.1 Use of Supplementary Cementous Materials (SCM's).****Intent:**

To encourage use of Supplementary Cementous Materials (SCM's) in concrete production.

3	Raw Material	
	<i>Mandatory Requirement</i>	
	<i>The raw materials should conform to IS requirements (or) equivalent international standards :</i>	
	<ul style="list-style-type: none"> • Flyash (IS 3812 Part 1) • GGBS (IS 16714) • Water (IS 456) • Aggregate Size (IS 383) • Silica Fume (IS 15388) • Chemical admixtures (IS 9103) • Metakaolin (IS 16354) • Rice Husk Ash • Ultrafine GGBS (IS 16715) 	
Credit 3.1	<i>Overall use of supplementary cementitious material</i>	
	<i>Any combination of SCM substituting OPC greater than 20%</i>	
	<i>Substituting OPC ≥ 20%</i>	1
	<i>Substituting OPC ≥ 25%</i>	3
	<i>Substituting OPC ≥ 30%</i>	5

Documentation Required:

Production details of the following concrete for the past one year and the quantity of supplementary cementitious materials used in each type.

3.2 Use of Recycled Aggregates**Mandatory Requirement:**

- a) Compliance to local authorities and state governments norms for the use of river sand

Credit 3.2	<i>Use of recycled aggregates</i>	
	<i>Utilization of industrial waste in coarse aggregate</i> <i>Aggregate made of iron slag or steel slag</i> <i>Recycled Concrete Aggregates</i>	
Credit 3.2.1	<i>Iron Slag Aggregate</i>	
	<i>Plain Concrete</i>	
	<i>Percentage Substitution 5 – 25%</i>	10
	<i>Percentage Substitution 25 – 50 %</i>	15
	<i>Reinforced Concrete</i>	
	<i>Percentage Substitution 5 – 15%</i>	10
	<i>Percentage Substitution 15 – 25 %</i>	15
	<i>Lean Concrete(<M15 Grade)</i>	
	<i>Percentage Substitution 5 – 50%</i>	10
	<i>Percentage Substitution 50 – 100 %</i>	15
Credit 3.2.2	<i>Steel Slag Aggregate</i>	
	<i>Plain Concrete</i>	
	<i>Percentage Substitution 5 – 15%</i>	10
	<i>Percentage Substitution 15 – 25 %</i>	15
	<i>Lean Concrete(<M15 Grade)</i>	
	<i>Percentage Substitution 5 – 50%</i>	10
	<i>Percentage Substitution 50 – 100 %</i>	15
Credit 3.2.3	<i>Recycled Concrete Aggregate</i>	
	<i>Plain Concrete</i>	
	<i>Percentage Substitution 5 – 15%</i>	10
	<i>Percentage Substitution 15 – 25 %</i>	15
	<i>Reinforced Concrete(Up to M25 Grade)</i>	
	<i>Percentage Substitution 5 – 10%</i>	10
	<i>Percentage Substitution 10 – 20 %</i>	15
	<i>Lean Concrete(<M15 Grade)</i>	
	<i>Percentage Substitution 5 – 50%</i>	10
	<i>Percentage Substitution 50 – 100 %</i>	15

Credit 3.2.4	Recycled Aggregate	
	<i>Lean Concrete(<M15 Grade)</i>	
	<i>Percentage Substitution 5 – 50%</i>	10
	<i>Percentage Substitution 50 – 100 %</i>	15
	Bottom Ash from thermal power plants	
	<i>Lean Concrete(<M15 Grade)</i>	
	<i>Percentage Substitution 5 – 15%</i>	10
	<i>Percentage Substitution 15 – 25 %</i>	15
Credit 3.3	Fine Aggregate	
	Utilization of the following as fine aggregate in lieu of river sand or sand produced from pebbles <i>Iron Slag Aggregate, Steel Slag Aggregate, Copper Slag Aggregate or recycled concrete aggregate</i>	
Credit 3.3.1	Iron Slag Aggregate	
	<i>Plain Concrete</i>	
	<i>Percentage Substitution 5 – 25%</i>	5
	<i>Percentage Substitution 25 – 50 %</i>	10
	<i>Reinforced Concrete</i>	
	<i>Percentage Substitution 5 – 15%</i>	5
	<i>Percentage Substitution 15 – 25 %</i>	10
	<i>Lean Concrete(<M15 Grade)</i>	
	<i>Percentage Substitution 5 – 50%</i>	5
	<i>Percentage Substitution 50 – 100 %</i>	10
Credit 3.3.2	Steel Slag Aggregate	
	<i>Plain Concrete</i>	
	<i>Percentage Substitution 5 – 15%</i>	5
	<i>Percentage Substitution 15 – 25 %</i>	10
	<i>Lean Concrete(<M15 Grade)</i>	
	<i>Percentage Substitution 5 – 50%</i>	5
	<i>Percentage Substitution 50 – 100 %</i>	10
Credit 3.3.3	Copper Slag Aggregate	
	<i>Plain Concrete</i>	
	<i>Percentage Substitution 5 – 25%</i>	5
	<i>Percentage Substitution 25 – 40 %</i>	10
	<i>Reinforced Concrete</i>	
	<i>Percentage Substitution 5 – 20%</i>	5
	<i>Percentage Substitution 20 – 35 %</i>	10
	<i>Lean Concrete(<M15 Grade)</i>	
	<i>Percentage Substitution 5 – 25%</i>	5
	<i>Percentage Substitution 25 – 50 %</i>	10

Credit 3.3.4	<i>Recycled Concrete Aggregate</i>	
	<i>Plain Concrete</i>	
	<i>Percentage Substitution 5 – 15%</i>	<i>5</i>
	<i>Percentage Substitution 15 – 25 %</i>	<i>10</i>
	<i>Reinforced Concrete(Up to M25 Grade)</i>	
	<i>Percentage Substitution 5 – 10%</i>	<i>5</i>
	<i>Percentage Substitution 10 – 20 %</i>	<i>10</i>
	<i>Lean Concrete(<M15 Grade)</i>	
	<i>Percentage Substitution 5 – 50%</i>	<i>5</i>
	<i>Percentage Substitution 50 – 100 %</i>	<i>10</i>
	<i>Sub Total</i>	<i>30</i>

Documentation Required:

- Types of coarse and fine aggregates used for manufacturing concrete.
- Quantity of recycled aggregate (Coarse and fine) used in each type of concrete.

Credit 4: CO₂ Emission per ton of Concrete

Points: 10

Intent:

To reduce CO₂ emissions per tonne of concrete produced over the base year and thereby reduce the associated environmental impacts.

Requirement:

- Estimate CO₂ emission per tonne of concrete as per CO₂ accounting

Award of points:

The award of points would be based on the reduction of emission per tonne of concrete as shown below:

4	CO ₂ Emission per tonne of concrete	Credits
	<i>Reduction in CO₂ emission ≥ 2%</i>	2
	<i>Reduction in CO₂ emission ≥ 4%</i>	4
	<i>Reduction in CO₂ emission ≥ 6%</i>	6
	<i>Reduction in CO₂ emission ≥ 8%</i>	8
	<i>Reduction in CO₂ emission ≥ 10%</i>	10

Exemplary Performance:

This credit is eligible for exemplary performance. If the % reduction in CO₂ emission exceeds the threshold limits, additional one credit point will be allocated as part of the innovation credit.

Documentation Required:

- Carbon foot print report for the past 3 years as per CO₂ accounting and reporting standard for concrete industry.
- CO₂ emission factors are considered based on average values for Indian Cement Industry.

Credit 5: Manufacturing Process

Credit 5.1: Energy Efficiency

Points: 3

Intent:

Enhance energy efficiency in the manufacturing process of the product, to reduce environmental impacts.

Award of points:

Establish specific consumption of the plant and monitor on a continuous basis. Eg: specific electrical energy consumption in KWh / Tonne of concrete produced and specific thermal energy consumption in Kcal/Tonne of concrete produced.

Implement projects for improving energy efficiency in the process, various equipment and recovery waste heat for improving internal power generation and reducing the specific energy consumption of the plant.

Carryout benchmarking at national and international level.

5	Manufacturing Process	Credits
Credit 5.1	Energy Efficiency	
	<i>ISO 50001 certified manufacturing plant</i>	1
	<i>Reduction in specific energy consumption $\geq 5\%$</i>	1
	<i>Reduction in specific energy consumption $\geq 10\%$</i>	2
	<i>Sub Total</i>	3

Exemplary Performance:

This credit is eligible for exemplary performance under Innovation Credit, provided, the measures implemented for reducing the energy consumption have exceeded the specified threshold limits

Documentation Required:

- Details of annual production, energy consumption & specific energy consumption for the preceding 2 years
- Details of implementation of energy efficiency improvement measures with actual benefits achieved

Note:

Manufacturing units which are in operation for less than 2 years need to demonstrate a system in place for specific energy consumption monitoring and provide the benchmarking details.

Credit 5.2: Water Efficiency**Points: 8****Intent:**

Incorporate water efficiency measures in the manufacturing process to reduce the specific portable water consumption and implement measures to benefit the society at large.

Award of points:

Implement water efficient measures like re-use of water from settlement tank to reduce the fresh water consumption

Harvest or Capture minimum of 95% of rain water runoff from roof & non roof areas of the manufacturing facility

Disposal of concrete process water, having high PH, in a safer way

Implement measures for improving the availability of portable water beyond the fence for the benefit of the local community

Credit 5.2	Water Efficiency	Credits
	<i>Reduction in specific portable water consumption</i>	
	<i>Reduction 5 – 10 %</i>	1
	<i>Reduction 10 – 15 %</i>	2
	<i>Reduction 15 – 25 %</i>	3
	<i>Reduction ≥ 25%</i>	4
	<i>Rain Water Harvesting</i>	
	<i>Harvest 75% rainwater run-off from Roof & Non- Roof areas</i>	2
	<i>Minimize water use for washing transit mixture trucks</i>	1
	<i>Beyond the fence initiatives</i>	1
	<i>Sub Total</i>	8

*Recycling of water can be factored into the reduction in specific water consumption

Exemplary Performance:

This credit is eligible for exemplary performance under Innovation, if the facility achieves the status of “Zero effluent Discharge”

(OR)

The measures taken exceed the threshold mentioned in the compliance options.

Documentation Required:

- Details of annual water consumption & specific water consumption for 2 years
- Rain water harvesting system installed and quantity of water harvested annually
- Details of water utilized for cleaning transit trucks and measures implemented to reduce them
- Details of re-use of recovered water from the settlement tanks
- Details of the beyond the fence initiatives and the benefits

Credit 5.3: Particulate Emission Reduction**Points: 4****Intent:**

Reduce particulate emissions within the plant premises and surroundings to reduce the related health impacts.

Award of points:

The award of points for the use of alternate fuel would be based as below:

Credit 5.3	<i>Particulate emission reduction</i> <i>Measure the particulate emission within the plant premises</i>	<i>Credits</i>
	<i>Additional particulate emissions due to plant operation</i>	
	<i>PM 10: 60 - 100 ppm</i>	2
	<i>PM 2.5: 40 - 60 ppm</i>	2
	<i>Sub Total</i>	4

Note:

Additional particulate emissions in the plant premises should not exceed the threshold limits of 100 ppm for PM 10 and 60 ppm for PM 2.5, when compared with the base level when the plant is not in running condition. The credits will be awarded if the particulate emissions in the plant conform with the prescribed level of emissions.

Documentation Required:

Measure of particulate emissions within the plant premises and produce the results.

Credit 5.4: Concrete Sludge Management**Points: 5****Intent:**

Reduce the quantity of concrete sludge generated and maximize the reuse to minimize the environmental impacts associated with its disposal.

Award of points:

Estimate the reduction of sludge generated and re-use of waste sludge in concrete

The award of points would be based as below:

<i>Credit 5.4</i>	<i>Waste or Concrete Sludge Management</i>	<i>Credits</i>
	<i>Reduction in quantity of sludge disposed over previous year (Specific Reduction)</i>	
	<i>Reduction \geq 10%</i>	<i>1</i>
	<i>Reduction \geq 20%</i>	<i>3</i>
	<i>Reduction \geq 30%</i>	<i>5</i>
	<i>Sub Total</i>	<i>5</i>

Exemplary Performance:

This credit is eligible for exemplary performance under Innovation Credit, provided, 100% of sludge generated is re-used.

Documentation Required:

Reduction in quantity of sludge disposed of over the previous year.

Credit 5.5: Renewable Power**Points: 5****Intent:**

Encourage the use of on-site & off site renewable energy sources to reduce the dependence on fossil fuels and their associated environmental impacts.

Award of points:

Install on-site & off-site renewable energy system to reduce dependence on fossil fuels.

Credit 5.5	<i>Renewable Power</i>	Credits
	<i>Use of on-site or off-site renewable sources for meeting the power requirements</i>	
	<i>≥ 5% substitution</i>	1
	<i>≥ 10% substitution</i>	2
	<i>Sub Total</i>	2

A company is eligible for claiming the allotted points to the threshold level of 2 Credits if they have done exceedingly in either on-site or off site renewable energy generation.

Exemplary Performance:

This credit is eligible for exemplary performance under Innovation Credit, if the contribution from the renewable energy sources is more than 40% of the annual energy requirement of the manufacturing facility

Documentation Required:

- Details of installation of onsite and offsite renewable power generation Certification sources including the technology, installed capacity and location with photographs of installations.
- Details of total power consumption in the manufacturing facility and renewable power produced in kWh

Credit 6: Product Stewardship

Product stewardship advocates that all those involved in the Life Cycle of product share responsibility for reducing its health and environmental impacts with producers bearing the primary responsibility.

In the Green Product Certification, Product Stewardship credit focuses on the following:

1. Education for the Stake holders on Green Products for reaping the intended benefits fully
2. Quality management system for minimizing the rejection rate after product dispatch
3. Extended producer responsibility increasing the concrete recycling or safer disposal

The credit points are allotted for the focus areas as applicable for the individual product categories.

In case of Green Concrete all the three aspects such as education of stake holders, Quality management system after dispatch of products and extended producer responsibility are considered.

Credit 6.1: Education**Points: 2****Intent:**

Educate those involved in handling the product at every stage post-dispatch, so as to reap the intended environmental benefits of the green product fully.

Award of points:

Companies to develop and implement stake holder specific awareness and information sharing programmes for reaping the benefits of Green products at every stage after dispatch of the product.

Credits	Criteria	Credit Points
6	Product Stewardship	
Credit 6.1	<i>Education</i>	
	<i>≥ 10% of people involved in handling the product after dispatch and users</i>	1
	<i>≥ 20% of people involved in handling the product after dispatch and users</i>	1

Exemplary Performance:

This credit is not eligible for exemplary performance under innovation criteria.

Documentation Required:

- Details of the stake holders specific awareness or information dissemination programmes about the Green Products, its features and their roles to reap the intended benefits
- Estimation of % of stake holders covered

Credit 6.2: Quality management system**Points: 1****Intent:**

Intent of quality management system is to reduce rejection & waste during dispatch & storage

Award of points:

Establish a quality management system for monitoring the quality of the product after dispatch till the use.

6	Product Stewardship	Credits
Credit 6.2	<i>Quality management system after dispatch of the product</i>	1

Documentation Required:

- Details of in place to oversee the quality of the product during distribution up to the user end.

Credit 6.3 Extended Producer Responsibility

Points: 2

Intent

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

Compliance options:

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

- ❖ Collection
- ❖ Environmentally sound treatment of 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

6	Product Stewardship	Credits
Credit 6.3	<i>Extended Producer Responsibility : Institute a system for product take-back for recycling or safe disposal</i>	1
	<i>Encourage recycling of concrete at end of life</i>	1

Exemplary Performance:

This credit is not eligible for exemplary performance under innovation criteria.

Documentation Required:

1. Details of the mechanism in place for product take back
2. Quantity of reduction in product take back.

Credit 7 : Innovation

Product Innovation

Points: 5

Intent:

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

Award of points:

- As part of the credit, the product manufacturer can apply for four 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
- Receipt of Eco labels, Awards & accolades

The points for innovative measures are as follows:

7	Innovation	Credits
Credit 7.1	<i>Innovation : Each innovative measure implemented at any stage of Life cycle will gain 1 Credit Point</i>	4
Credit 7.2	<i>Other Credentials, Awards and Accolades</i>	1

Note: Use of emission reduction devices from DG sets shall be encouraged

Documentation Required:

- Details of the innovative measures highlighting the Intent and the measured Impacts
- Copy of the certificates for the details of Eco-labels, Awards & accolades obtained

About CII

The Confederation of Indian Industry (CII) works to create and sustain an environment conducive to the development of India, partnering industry, Government, and civil society, through advisory and consultative processes.

CII is a non-government, not-for-profit, industry-led and industry-managed organization, playing a proactive role in India's development process. Founded in 1895, India's premier business association has over 8000 members, from the private as well as public sectors, including SMEs and MNCs, and an indirect membership of over 200,000 enterprises from around 240 national and regional sectoral industry bodies.

CII charts change by working closely with Government on policy issues, interfacing with thought leaders, and enhancing efficiency, competitiveness and business opportunities for industry through a range of specialized services and strategic global linkages. It also provides a platform for consensus-building and networking on key issues.

About IFC

IFC - a sister organization of the World Bank and member of the World Bank Group - is the largest global development institution focused on the private sector in emerging markets. We work with more than 2,000 businesses worldwide, using our capital, expertise, and influence to create markets and opportunities in the toughest areas of the world. In fiscal year 2018, we delivered more than \$23 billion in long-term financing for developing countries, leveraging the power of the private sector to end extreme poverty and boost shared prosperity. For more information, visit www.ifc.org

Providing advice is a critical part of IFC's strategy to create markets and mobilize private investment. Through this work, we help establish the necessary conditions that will attract the most private capital, enabling the private sector to grow. Advisory helps companies attract private investors and partners, enter new markets and increase their impact. We provide tailored market insights as well as advice on adopting good practices and standards to increase competitiveness and productivity, leading to improved operational performance and sustainability. Green buildings advisory works with companies to construct buildings that use energy, water, and materials more efficiently, by offering tools and training. We help establish frame works on construction material across the construction value chain as well as work with government on policy. We also work with banks to launch green-finance products. IFC's work for this program is supported by our donors - The Sustainable Development Investment Partnership (SDIP) under Department of Foreign Affairs and Trade (DFAT), Government of Australia and the Canada IFC Partnership Fund, Government of Canada.

For further details, please contact:



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