



Confederation of Indian Industry



# **GreenPro Certification Standard for Construction Chemicals**

## **Version 1.0**

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## Acknowledgement

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We express our gratitude to all the members who had contributed to the development of this Standard. Our special thanks are due to the Chairman and Members, Technical Committee on Construction chemicals:

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## 1. **GreenPro Certification – Life Cycle Approach**

GreenPro adopts a holistic approach based on the 'Life Cycle' of the product. GreenPro 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. Procurement of Raw materials
3. Manufacturing
4. Use
5. Disposal / Recycling



## 2. **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 of waste etc., during the manufacturing process and hence enables increase in profitability
5. Acts as a driver for achieving environment excellence
6. Complements National & International Green Building Certification Systems

### For Users

Use of GreenPro certified Green products leads to significant tangible and intangible benefits for the end users.

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

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

### ***3. 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 also addresses *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.

#### **4. *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 the Green Products and Services Council.

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

#### **5. *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 improvement of the environmental performance 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 the use of re-cycled material 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 reduce the generation of 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 to reduce the overall life-cycle environmental impacts based on such an 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 / disposal
- 8. Innovation:** The Certification recognizes the innovative measures implemented by the product manufacturer which had resulted in substantial reduction in environment impact exceeding the threshold level specified in the Certification standard.

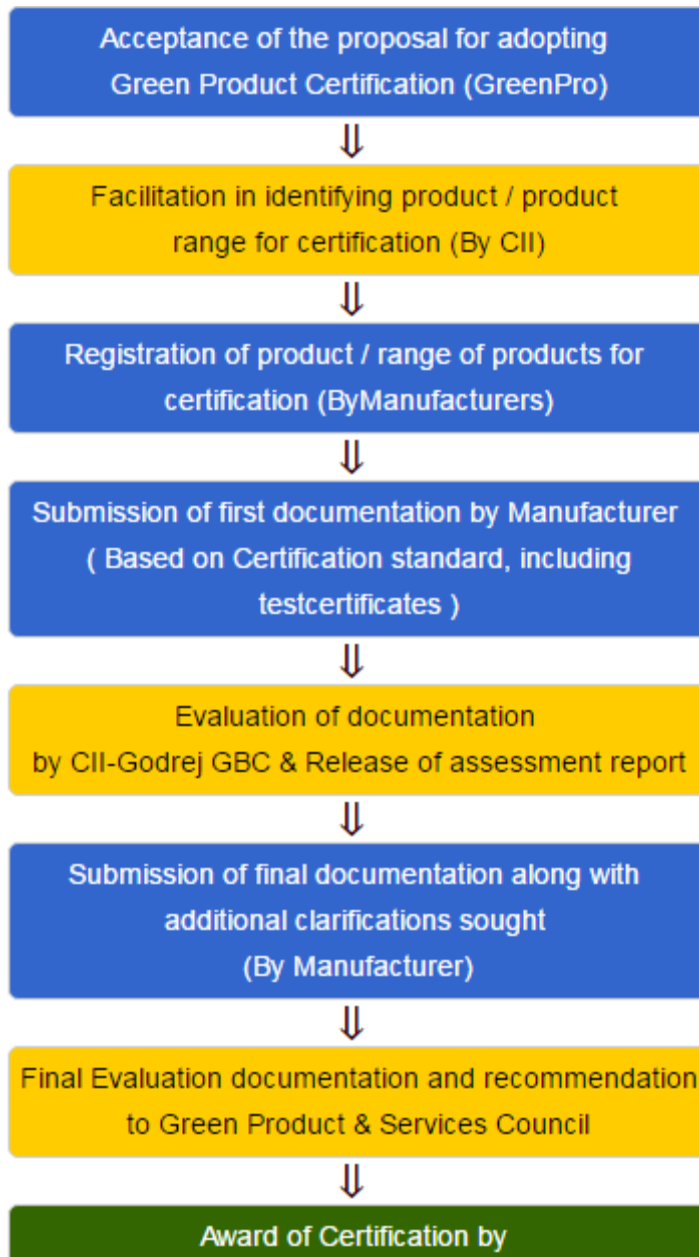
The approach and the Credit Modules for evaluation of products remain by and large the same for all the product categories. However, the credits as part of the individual Credit Modules and the weightage will vary depending upon the product categories and their significance.

**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 3<sup>rd</sup> party conformity agency appointed by CII-Godrej GBC.

Conformity agency is a competent 3<sup>rd</sup> 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 3<sup>rd</sup> 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 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.

## ***9. Updating the Standard***

GreenPro Certification Standard for construction chemicals is the result of Green Products 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.

| <b>GreenPro Certification - Construction Chemicals</b>   |   |                               |
|--|---|-------------------------------|
| <b>Scope: Admixtures, Adhesives &amp; sealants, Grouts, Protective coatings, water proofing coatings</b> |   |                               |
| <b>Credits</b>   | <b>Criteria</b>   | <b>Proposed Credit Points</b> |
| <b>1 Product Design</b>  |   |                               |
| <b>Credit 1.1</b>  | <i>Eco - Vision</i>   | 1                             |
|  | <i>Strategies adopted, resource allocation, stake holder engagement, Implemented measures &amp; Impacts</i> |                               |
|  | <i>- At design stage of the product</i>   | 2                             |
|  | <i>- At manufacturing stage of the product</i>  | 2                             |
| <i>Sub Total</i>   |   | <b>5</b>                      |
| <b>2 Product Performance</b>   |   |                               |
| <b>Credit 2.1</b>  | <b><i>Volatile organic compound</i></b>   | 20                            |
|  |   |                               |
| <b>Credit 2.2</b>  | <b><i>Flammability</i></b>  | 5                             |
|  |   |                               |
| <i>Sub Total</i>   |   | <b>25</b>                     |
| <b>3 Raw Material</b>  |   |                               |
| <b>Credit 3.1</b>  | <b><i>Prohibited Substances</i></b>   | 15                            |
|  | <i>Heavy metals including Lead, Chromium (VI), Cadmium, Mercury and Selenium</i>                            |                               |
|  |   |                               |
| <b>Credit 3.2</b>  | <b><i>Recycled content</i></b>  | 10                            |
|  |   |                               |
| <b>Credit 3.2</b>  | <b><i>Regional material</i></b>   | 5                             |
|  |   |                               |
| <i>Sub Total</i>   |   | <b>30</b>                     |
| <b>4 Manufacturing Process</b>   |   |                               |
| <b>Credit 4.1</b>  | <b><i>Energy Efficiency</i></b>   | <b>3</b>                      |
|  | <i>Reduction in specific energy consumption <math>\geq</math> 5%</i>  | 1                             |
|  | <i>Reduction in specific energy consumption <math>\geq</math> 10%</i>                                       | 2                             |
|  | <i>Reduction in specific energy consumption <math>\geq</math> 15%</i>                                       | 3                             |
|  |   |                               |
| <b>Credit 4.2</b>  | <b><i>Water Efficiency</i></b>  | <b>3</b>                      |
|  | <i>Reduction in specific water consumption</i>  | 1                             |
|  | <i>Implementation of rain water harvesting</i>  | 1                             |
|  | <i>Beyond the fence initiatives</i>   | 1                             |

|                               |  |           |
|-------------------------------|--|-----------|
| <b>Credit 4.3</b>             | <b>Renewable Energy</b>  | <b>4</b>  |
|                               | <i>On-site renewable energy generation (Both electrical &amp; thermal)</i>                       |           |
|                               | $\geq 2.5\% \leq 5\%$ substitution   | 2         |
|                               | $> 5\%$ substitution   | 4         |
|                               |  |           |
| <i>Sub Total</i>              |  | <b>10</b> |
| <b>5 Waste Management</b>     |  |           |
| <b>Mandatory Requirement*</b> | <i>Solid, Liquid and Gaseous Wastes : Compliance to local regulations</i>                        |           |
| <b>Credit 5.1</b>             | <i>Waste Utilisation &amp; Disposal</i>  |           |
|                               | <b>Non Hazardous waste</b>   |           |
|                               | <i>10% reduction in disposal of waste per unit of production</i>                                 | 1         |
|                               | <i>15% reduction in disposal of waste per unit of production</i>                                 | 2         |
|                               | <b>Hazardous Waste</b>   |           |
|                               | <i>&gt; 5% reduction in waste going to landfill</i>  | 1         |
|                               | <i>&gt; 10% reduction in waste going to landfill</i>   | 2         |
|                               | <i>&gt; 15% reduction in waste going to landfill</i>   | 3         |
| <i>Sub Total</i>              |  | <b>5</b>  |
| <b>6 Life Cycle Approach</b>  |  |           |
| <b>Credit 6.1</b>             | <i>Life Cycle Analysis</i>   | 4         |
|                               | <i>Measures taken &amp; Quantification of benefits achieved</i>                                  |           |
|                               | <i>- Implementation of at least one initiative</i>   | 1         |
|                               | <i>- 2% impact reduction</i>   | 2         |
|                               | <i>- 4% impact reduction</i>   | 3         |
|                               | <i>- 6% impact reduction</i>   | 4         |
|                               | <i>- 8% impact reduction</i>   | 5         |
|                               | <i>- 10% impact reduction</i>  | 6         |
| <i>Sub Total</i>              |  | <b>10</b> |
| <b>7 Product Stewardship</b>  |  |           |
| <b>Credit 7.1</b>             | <b>Education</b>   |           |
|                               | <i>Instruction for the safe and efficient use of the chemical</i>                                | 1         |
|                               | <i>Label shall carry symbols and information as required by the existing laws of the country</i> | 1         |
|                               |  |           |

|                   |   |            |
|-------------------|---|------------|
| <b>Credit 7.2</b> | <b>Quality Management System</b>  | <b>2</b>   |
|                   |   |            |
| <b>Credit 7.3</b> | <b>Extended Producer Responsibility</b>   |            |
|                   | <b>1) Product take back programme</b>   | <b>1</b>   |
|                   | <b>2) Packaging</b>   | <b>5</b>   |
|                   | <i>Packaging shall not contain PVC or other chlorinated polymers</i>                    |            |
|                   | <i>Primary packaging shall be made of recyclable material</i>                           |            |
|                   | <i>No heavy metals such as lead, Chromium and cadmium in the packing</i>                |            |
|                   | <i>Secondary packaging shall be used only for semi solid and liquid based chemicals</i> |            |
|                   | <i>All containers shall be marked for polimer identification as appropriate</i>         |            |
|                   | <i>Sub Total</i>  | <b>10</b>  |
|                   | <b>8 Innovation</b>   |            |
| <b>Credit 8.1</b> | <i>Innovations</i>  | <b>4</b>   |
|                   |   |            |
| <b>Credit 8.2</b> | <i>Other Credentials, Awards and Accolades</i>  | <b>1</b>   |
|                   | <i>Sub Total</i>  | <b>5</b>   |
|                   | <b>Total Points</b>   | <b>100</b> |

## **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. This may be demonstrated, for example, by providing copies of:

(a) Valid Consent to Operate under the Water (Prevention & Control of Pollution) Act & Air (Prevention & Control of Pollution) Act

(b) Valid Authorization under the Hazardous Waste (Management, Handling & Trans - boundary Movement) Rules

(c) Factory license under the Factories Act

(d) Valid licenses under the Petroleum Act, Gas Cylinder Rules, Static & Mobile Pressure Vessels Rules, Explosives Act , Boilers Act and Providing data to demonstrate continued compliance with the requirements of (a) to (d)

## 1.0 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 & wellbeing benefits.

- ❖ Eco-Vision statement
- ❖ Strategies adopted, resource allocation, stake holder engagement, Implemented measures & Impacts
  - At the design stage
  - At the manufacturing stage

| Credits           | Criteria  | Credit Points |
|-------------------|---|---------------|
|                   | <b>Product Design</b>   |               |
| <b>Credit 1.1</b> | <i>Eco - Vision statement</i>   | 1             |
|                   | <i>Strategies adopted, resource allocation, stake holder engagement, Implemented measures &amp; Impacts</i> |               |
|                   | <i>- At the design stage of the product</i>   | 2             |
|                   | <i>- At the manufacturing stage of the product</i>  | 2             |

#### Exemplary Performance:

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

#### Documentation Required:

1. Eco Vision statement
2. Strategies adopted at the design & the manufacturing stage to achieve eco vision

For Eg:

- a. Resource allocation for improving the design of the product & manufacturing of the product
  - b. Employees and stakeholders engaged
3. Details of measures implemented at the design stage and the manufacturing stage of the product with quantification of benefits



## 2.0 Product Performance

### Credit 2.1: Volatile Organic Compound

**Points: 20**

#### Intent:

Reduce exposure to volatile organic compounds, which evaporate during use and cause severe impact on the health of the occupants, and improve building indoor environment quality.

#### Mandatory requirement

VOC testing from NABL accredited laboratory.

#### Award of points:

Reduce the VOC content in the Construction chemicals and comply with the following criteria.

| No.                            | Adhesive                             | VOC g/L |
|--------------------------------|--------------------------------------|---------|
| (I) Architectural Applications |                                      |         |
| 1                              | Carpet pad adhesives                 | 50      |
| 2                              | Ceramic tile adhesives               | 65      |
| 3                              | Dry wall and panel adhesives         | 50      |
| 4                              | Multi-purpose construction adhesives | 70      |
| 5                              | Rubber flooring adhesives            | 60      |
| 6                              | Structural glazing adhesives         | 100     |
| 7                              | Subfloor adhesives                   | 50      |
| 8                              | VCT and asphalt tile adhesives       | 50      |
| 9                              | Indoor carper adhesives              | 50      |
| 10                             | Wood flooring adhesives              | 100     |

| (II) Adhesive Substrate Specific Applications |                                  |     |
|---|----------------------------------|-----|
| 1   | Adhesives for fibreglass         | 80  |
| 2   | Adhesives for metal              | 30  |
| 3   | Adhesives for plastic foams      | 50  |
| 4   | Adhesives for porous material    | 50  |
| 5   | Adhesives for wood               | 30  |
| 6   | PVC welding                      | 510 |
| 7   | Top & trim adhesive              | 250 |
| 8   | Special purpose contact adhesive | 250 |
| 9   | Contact Adhesives                | 250 |
| (III) Sealants                                |                                  |     |
| 1   | Architectural                    | 250 |
| 2   | Non membrane roof                | 300 |
| 3   | Roadway                          | 250 |
| 4   | Other                            | 420 |

| Credits                      | Criteria   | Credit Points |
|------------------------------|--|---------------|
|                              | <b>Product Performance</b>   |               |
| <b>Mandatory Requirement</b> | 1) <i>Product testing for minimum performance as per ASTM 6886 standards</i> |               |
| <b>Credit 2.1</b>            | <b><i>Volatile Organic Compound</i></b>                                      |               |
|                              | <i>- 5% reduction over baseline value</i>                                    | 5             |
|                              | <i>- 10% reduction over baseline value</i>                                   | 10            |
|                              | <i>- 15% reduction over baseline value</i>                                   | 15            |
|                              | <i>Over 20% reduction over baseline value</i>                                | 20            |

#### **Exemplary Performance:**

This credit is not eligible for exemplary performance

#### **Documentation Required:**

- Test certificate of products tested

**Credit 2.2: Flammability****Points: 5****Intent:**

To ensure that the construction chemicals do not catch fire / explode and lead to fire accident during storage or use

**Award of points:**

Test the flash point of the product as per standards ASTM D92 or IS 1448 – 69 (2013) or any other equivalent method and produce test results

| <b>Credits</b>    | <b>Criteria</b>  | <b>Credit Points</b> |
|-------------------|--|----------------------|
|                   | <b>Product Performance</b>   |                      |
| <b>Credit 2.2</b> | <b>Flammability</b>  | <b>5</b>             |
|                   | <i>Concentrate/Ready to use : flash point of the product tested as per IS Standard IS 1448 (P:69) should not be less than 65.5 °C (150 °F)</i> |                      |

**Exemplary Performance:**

This credit is not eligible for exemplary performance

**Documentation Required:**

- Test certificate for flash point of the products as per specified standards

### 3.0 Raw Materials

#### Credit 3.1: Prohibited Substances

**Points: 15**

##### Intent:

Eliminate exposure to prohibited substances that can lead to long term health effects either through respiration / direct contact.

##### Award of points:

The final product shall not contain the following prohibited ingredients. Being mandatory, the presence of even one such prohibited substance will bring down the credit to 0.

| No | Parameter<br>(unit of measurement) | Limit value | Remark with respect to parameters given in US and EU documents |
|----|------------------------------------|-------------|--|
| 1  | Arsenic (mg/l)                     | 0.2         | Toxicity   |
| 2  | Mercury (mg/l)                     | 0.01        | Heavy metal  |
| 3  | Lead (mg/l)                        | 0.1         | Heavy metal  |
| 4  | Cadmium (mg/l)                     | 2.0         | Heavy metal  |
| 5  | Chromium (mg/l)                    | 2.0         | Heavy metal  |

##### Exemplary Performance:

This credit is not eligible for exemplary performance

##### Documentation Required:

- Material safety data sheet for the products as per prescribed format; a declaration by the manufacturer on the presence or absence of the identified chemical substances in the final product

**Credit 3.2: Recycled content****Points: 10****Intent:**

Encourage the use of industrial waste in the manufacturing process to avoid dumping of waste in landfills, thereby reducing environmental impacts.

**Award of points:**

Utilization of recycled content in manufacturing of construction chemicals for more than 20% by weight will gain credit points as mentioned below.

| <b>Credits</b>    | <b>Criteria</b>                        | <b>Credit Points</b> |
|-------------------|--|----------------------|
|                   | <b>Raw Material</b>                    |                      |
| <b>Credit 3.2</b> | <b>Recycled Content</b>                |                      |
|                   | <i>Recycled content of 20%</i>         | 2                    |
|                   | <i>Recycled content &gt; 20% ≤ 25%</i> | 4                    |
|                   | <i>Recycled content &gt; 25% ≤ 30%</i> | 6                    |
|                   | <i>Recycled content &gt; 30% ≤ 35%</i> | 8                    |
|                   | <i>Recycled content &gt; 35%</i>       | 10                   |

**Exemplary Performance:**

This credit is eligible for exemplary performance under Innovation Credit, if the recycled content in manufacturing exceeds 40% by weight.

Credit points will be awarded in proportion to the increase in % of recycled content utilization.

**Documentation Required:**

1. Declaration by the manufacturer highlighting the % of recycled content by weight in the product / product range applied for Certification
2. Details of Annual production, quantity of purchased materials for recycling and raw materials purchased.

**Credit 3.3: Regional Materials****Points: 5****Intent:**

Encourage the use raw materials that are extracted or manufactured locally to reduce fossil fuels for transportation, thereby reducing associated environmental impacts.

**Award of points:**

Source the raw materials regionally within 250 kms from the place of manufacturing.

Credit points will be awarded for any additional sourcing of raw materials over and above 40% by weight which is a mandatory requirement.

Threshold limits for the award of credit points for sourcing of regional materials are as below.

|                   | <i>Criteria</i>                               | <b>Credit Points</b> |
|-------------------|---|----------------------|
|                   | <b>Raw Material</b>                           |                      |
| <b>Credit 3.2</b> | <b><i>Regional Materials</i></b>              |                      |
|                   | <i>Regional material content &gt;40%≤ 50%</i> | 1                    |
|                   | <i>Regional material content &gt;50%≤ 60%</i> | 2                    |
|                   | <i>Regional material content &gt;60%≤ 70%</i> | 3                    |
|                   | <i>Regional material content &gt;70%≤ 80%</i> | 4                    |
|                   | <i>Regional material content &gt;80%</i>      | 5                    |

**Exemplary Performance:**

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

**Documentation Required:**

1. Declaration by the manufacturer, highlighting the % of raw materials by weight sourced regionally
2. Details of the sources of the raw materials and the distance from the manufacturing facility.

## 4.0 Manufacturing Process

### Credit 4.1: 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

Implement energy efficiency improvement projects or technologies for reducing the energy consumption.

| Credits           | Criteria  | Credit Points |
|-------------------|---|---------------|
| <b>4</b>          | <b>Manufacturing Process</b>  |               |
| <b>Credit 4.1</b> | <b><i>Energy Efficiency (improvement in the last 3 years)</i></b>     | <b>3</b>      |
|                   | <i>Reduction in specific energy consumption <math>\geq</math> 5%</i>  | 1             |
|                   | <i>Reduction in specific energy consumption <math>\geq</math> 10%</i> | 2             |
|                   | <i>Reduction in specific energy consumption <math>\geq</math> 15%</i> | 3             |

#### Exemplary Performance:

This credit is eligible for exemplary performance under Innovation Credit, provided, the measures implemented for reducing the energy consumption are innovative and resulted in significant reduction in energy consumption

#### Documentation Required:

1. Details of annual production, energy consumption & specific energy consumption for the preceding 3 years
2. Details of National Benchmark & International Benchmark data with comparisons
3. 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 as highlighted in point no: 2.



**Credit 4.2: Water Efficiency****Points: 3****Intent:**

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

**Award of points:**

Implement water efficient measures & technologies and recycle\* waste water generated from the plant 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

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

| <b>Credits</b>    | <b>Criteria</b>   | <b>Credit Points</b> |
|-------------------|---|----------------------|
|                   | <b>Manufacturing Process</b>  |                      |
| <b>Credit 4.2</b> | <b>Water Efficiency</b>   |                      |
|                   | <b>Reduction in specific water consumption (improvement in the last 3 years)</b>            |                      |
|                   | <i>Reduction in specific water consumption <math>\geq</math> 5%</i>                         | 1                    |
|                   | <i>Reduction in specific water consumption <math>\geq</math> 10%</i>                        | 2                    |
|                   |   |                      |
|                   | <i>Rain water Harvesting - Harvest 95% rainwater run-off from Roof &amp; Non Roof areas</i> | 1                    |

\*- 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:**

1. Details of annual water consumption & Specific water consumption for 3 years

2. Details of National Benchmark & International Benchmark data with comparisons
3. Rain water harvesting system installed and quantity of water harvested annually
4. Details of the beyond the fence initiatives and the benefits

**Note:**

Manufacturing units which are in operation for less than 2 years need to demonstrate a system in place for specific water consumption monitoring and provide the Benchmarking details as highlighted in point no: 2.

**Credit 4.3: Renewable Energy****Points: 4****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.

| <b>Credits</b>    | <b>Criteria</b>  | <b>Credit Points</b> |
|-------------------|--|----------------------|
|                   | <b>Manufacturing Process</b>   |                      |
| <b>Credit 4.3</b> | <b>Renewable Energy</b>  |                      |
|                   | <i>On-site renewable energy generation (Both electrical &amp; thermal)</i> |                      |
|                   | $\geq 2.5\% \leq 5\%$ substitution   | 2                    |
|                   | $> 5\%$ substitution   | 4                    |

A company is eligible for claiming the allotted points to the threshold level of 5 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:**

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

## **5.0 Waste Management**

### **Mandatory requirements**

Compliance to local regulations on solid, liquid and gaseous wastes discharged from the manufacturing location.

### **Intent**

To ensure that the solid, liquid & gaseous wastes discharged from the plant complies with all local regulations.

### **Compliance options**

A copy of the Environmental Statement submitted to the State Pollution Control Board for the previous financial year (with the seal of receipt by the Board)

**Credit 5.1: Waste Utilization & Disposal****Points: 8****Intent:**

Encourage appropriate handling and disposal of waste during manufacturing, thereby reducing environmental impacts and enhance health & wellbeing of the society.

**Award of points:**

Minimize wastes through 'reduce, reuse and recycle' techniques. Reduce waste disposal to landfill / incineration (HWTSDf)

| <b>Credits</b>    | <b>Criteria</b>   | <b>Credit Points</b> |
|-------------------|---|----------------------|
|                   | <b>Waste Management</b>   |                      |
| <b>Credit 5.1</b> | <i>Waste Utilization &amp; Disposal (in the last 3 years)</i>               |                      |
|                   | <b>Non Hazardous waste</b>  |                      |
|                   | <i>10% reduction in disposal of waste per unit of production</i>            | 1                    |
|                   | <i>15% reduction in disposal of waste per unit of production</i>            | 2                    |
|                   | <i>20% reduction in disposal of waste per unit of production</i>            | 3                    |
|                   | <i>25% reduction in disposal of waste per unit of production</i>            | 4                    |
|                   | <b>Hazardous Waste</b>  |                      |
|                   | <i>&gt; 5%reduction in waste going to landfill/incineration (HWTSDf)</i>    | 1                    |
|                   | <i>&gt; 10%reduction in waste going to landfill/ incineration (HWTSDf)</i>  | 2                    |
|                   | <i>&gt; 15%reduction in waste going to landfill/ incineration (HWTSDf)</i>  | 3                    |
|                   | <i>&gt; 20% reduction in waste going to landfill/ incineration (HWTSDf)</i> | 4                    |

**Exemplary Performance:**

This credit is eligible for exemplary performance under Innovation Credit, if 100% of the waste generated is utilized through innovative ways and means with higher value addition.

**Documentation Required:**

Details of the following for the preceding 3 years:

1. Details of waste Generated and their quantity by weight or volume
2. Details of Utilization of the wastes and the process of utilization
3. Details of the wastes handed over to Approved Common Hazardous Wastes Treatment Storage and Disposal Facility (TSDF) for past 3 years

## 6.0 Life Cycle Approach

### Credit 6.1 Life Cycle Analysis

**Points: 10**

#### Intent:

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

#### Award of points:

Carry out Life cycle analysis of the product for the boundary conditions of Cradle to Grave/Cradle. i.e. from design to end-of-life of the product, through procurement, manufacturing, use and disposal of the manufactured products.

The product manufacturer can carry out the life cycle analysis with the support of external service provider or with internal expertise using a LCA software tool.

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

| Credits           | Criteria  | Credit Points |
|-------------------|---|---------------|
|                   | <b>Life Cycle Approach</b>                                      |               |
| <b>Credit 6.1</b> | <i>Life Cycle Analysis</i>                                      | 4             |
|                   | <i>Measures taken &amp; Quantification of benefits achieved</i> |               |
|                   | - Implementation of at least one initiative                     | 1             |
|                   | - 2% impact reduction   | 2             |
|                   | - 4% impact reduction   | 3             |
|                   | - 6% impact reduction   | 4             |
|                   | - 8% impact reduction   | 5             |
|                   | - 10% impact reduction  | 6             |

#### Exemplary Performance:

This credit is eligible for exemplary performance if the implemented measure is innovative and addresses any of the measure that has not been covered as part of the Certification system

**Documentation Required:**

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



## 7.0 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. Extended Producer Responsibility increasing the recycling or safer disposal of products
3. Packaging materials

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

**Credit 7.1: Education****Points: 3****Intent:**

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

**Award of Points:**

Companies to comply with the following options:

| <b>Credits</b>    | <b>Criteria</b>   | <b>Credit Points</b> |
|-------------------|---|----------------------|
| <b>7</b>          | <b>Product Stewardship</b>  |                      |
| <b>Credit 7.1</b> | <i>Education</i>  |                      |
|                   | <i>1) Instruction for the safe and efficient use of the cleaner<br/>i) dilution instructions, (ii) use instructions (that include information on incompatible surfaces) (iii) disposal instructions and (iv) safety symbols</i> | 2                    |
|                   | <i>2) Label shall carry symbols and information as required by the existing laws of the country</i>   | 1                    |

**Exemplary Performance:**

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

**Documentation Required:**

- Details of initiatives taken by the plant team for educating all the stake holders including distributors and end users.

## 7.2 Extended Producer Responsibility

**Points: 3**

### Intent

To encourage manufacturers to institute a mechanism for product take-back in case of product rejection / end of shelf life of the products for recycling or safe disposal.

### Award of Points:

| 7                 | Product Stewardship   |   |
|-------------------|---|---|
| <b>Credit 7.3</b> | <i>Extended Producer Responsibility</i>   | 3 |
|                   | Product take back programme and system in place for collection, treatment of collected products for reuse or recycling (or) dispose off in an environment friendly method |   |

### Exemplary Performance:

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

### Documentation Required:

- Details of the mechanism in place for product take back

### 7.3 Product Packaging

**Points: 3**

#### Intent

To encourage manufacturers to utilize environment friendly packaging materials and implement measures to reduce the overall environment impact due to product packaging.

#### Award of Points:

The manufacturers are encouraged to adopt the following in product packaging:

1. Packaging shall not contain PVC or Chlorinated polymers
2. Primary packaging shall be made of recyclable material
3. Primary packaging shall contain post-consumer materials
4. Aerosol packaging shall be recyclable
5. No phthalates, heavy metals like lead, mercury, cadmium, chromium (IV) in the packaging materials, including printed labels
6. Secondary packaging shall be used only for concentrates
7. All plastic containers and lids shall be marked for polymer identification as appropriate

| 7                 | Product Stewardship   |   |
|-------------------|---|---|
| <b>Credit 7.3</b> | <i>Product Packaging</i>  | 4 |
|                   | Utilization of environment friendly packaging materials and measures to implemented to minimize overall environment impact due to packaging |   |

#### Exemplary Performance:

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

#### Documentation Required:

- Details to demonstrate adoption of environment friendly packaging and details of measures implemented

## 8.0 Innovation

### Credit 8.1 Product Innovation

**Points: 5**

#### Intent:

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

#### Compliance options:

1. 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
2. Receipt of Eco labels, Awards & accolades

The points for innovative measures are as follows:

| Credits           | Criteria  | Credit Points |
|-------------------|---|---------------|
| <b>8</b>          | <b>Innovation</b>   |               |
| <b>Credit 8.1</b> | <i>Innovation : Each innovative measure implemented at any stage of Life cycle will gain 1 Credit Point</i> | 4             |
|                   | <i>Other Credentials, Awards and Accolades</i>  | 1             |

#### Documentation Required:

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