



GOVERNMENT OF KERALA

Abstract

Local Self Government Department – Green Rating and Green building Certification of Buildings in Kerala- Guidelines on Grading- Approved- Orders issued.

LOCAL SELF GOVERNMENT (RD) DEPARTMENT

G.O.(Ms)No. 39 /2022/LSGD

Dated, Thiruvananthapuram 25/02/2022

- Read:-*
- 1 G.O(Ms)No.50/2021/LSGD dated 18/2/2021
 - 2 Letter No.TCPCTP/53/2021-E3 dated 27/05/2021

ORDER

In the Budget Speech for 2021-22, Finance Minister, Government of Kerala announced the formulation of a policy for encouraging eco-friendly construction of buildings in the State. As part of this, Government of Kerala, vide Government Order read above, introduced Green rating and green building certification to buildings based on green standards. In the order it was mentioned that detailed guidelines regarding the grading will be issued subsequently.

2. Accordingly, the Chief Town Planner, vide letter read above, has submitted draft guidelines regarding green rating and green building certification.

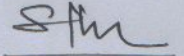
3. Government have examined the matter in detail and are pleased to approve the guidelines for granting Green rating and Green Building Certification to buildings based on green standards, as appended Annexure to this Government order.

(By order of the Governor)
SARADA MURALEEDHARAN IAS
ADDITIONAL CHIEF SECRETARY

To

1. The Chief Town Planner, Thiruvananthapuram.
2. The Panchayat Director, Thiruvananthapuram.
3. The Urban Director, Thiruvananthapuram.
4. The Land Revenue Commissioner, Thiruvananthapuram.
5. The Chairman, Kerala State Pollution Control Board, Thiruvananthapuram.
6. The Director ANERT, Thiruvananthapuram.
7. The Director, Energy Management Centre, Thiruvananthapuram.
8. The Chief Electrical Inspector, Department of Electrical Inspectorate
9. The Inspector General, Registration Department.
10. All District Town Planners (through Chief town Planner)
11. The Executive Director, IKM, Swaraj Bhavan, Thiruvananthapuram (to publish in all Government website and Local Self Government Department website).
12. Stock File/Office Copy.

Forwarded/ By order,



Section Officer

Copy To,

1. Finance Department
2. Power Department
3. Environment Department
4. GA(SC) Department (vide item No.575 dated. 23/02/2022)
5. CA to Additional Chief Secretary, LSGD

GREEN RATING & GREEN BUILDING CERTIFICATION FOR THE STATE

A. Green Building

'Green building' means the one which ensures optimum utilization of water & energy, conserves natural resources, generate less waste and provide healthier spaces for occupants, as compared to a conventional building. By providing green building and sustainability provisions in buildings, it is expected to reduce the energy and water consumption to less than half of the present consumption in conventional buildings, and complete elimination of the construction and operational waste through recycling and reuse. The green concepts and techniques in the building sector can help address concerns related to water and energy efficiency, and reduction in fossil fuel use, handling of consumer waste and conserving natural resources. Most importantly, these concepts can enhance occupant's health and well-being, which is assuming greater importance.

Green building design is rooted in an understanding of natural systems and the behavior of eco-systems, facilitating and preserving the relationship between nature and buildings. It encompasses the whole process of planning and design (pre-building phase), construction, operation and maintenance (building phase), and demolition/disposal (post-building phase), spanning over the whole life cycle of the building. It strives to make judicious use of the resources in order to create a harmonious environment and excellent living space for the dwellers, while minimizing the environmental impacts and carbon footprints.

Adoption of nature-driven technology (solar/wind protection, daylight, thermal envelope, renewable resources, reuse and air quality control). - Adoption of technology-driven strategy (site selection, building materials, heating, cooling, recycling, HVAC control, etc.) are the two aspects covered under Green rating.

Components of Green Building norms are Energy Efficiency and Renewable Energy, Water Efficiency, Environmentally Preferable Building Materials and Specifications, Waste Reduction, Toxics Reduction, Indoor Air Quality, Smart Growth and Sustainable Development.

B. Green Rating for Green building certification

Rating of the buildings based on the green norms are termed as green rating. Globally, green building rating systems are largely voluntary in nature and have been instrumental in raising awareness and popularizing green building designs. The concept of a rating is an attempt to achieve National Level priorities such as Water Efficiency, Handling of Waste, Energy Efficiency, Reduced Use of Fossil Fuels, Reduced Dependency on Virgin Materials, and Occupational Health. As per rule 10.3 of MBBL by Ministry of Housing and Urban affairs, the State Governments may prepare their separate Green Rating systems for buildings by selectively combining/adopting/amending the provisions between the following guidelines:

1. IGBC guidelines by the Confederation of Indian Industries
2. GRIHA Rating system

Accordingly the sustainable aspects of Green rating systems for the State are selected and clubbed under the following modules. The following module has additional components which has to be quantified through a point based evaluation system.

1. Site planning and construction management
 - a. Site Selection
 - b. Low impact design-Preserve and protect existing landscape during construction
 - c. Air and water pollution control measures adopted during construction .
 - d. Labour safety and sanitation
2. Provisions under Water Conservation and Management

- a. Rain Water Harvesting (*storm water/surface run-off water management*)
 - b. Low Water Consumption Plumbing Fixtures
 - c. Waste Water Recycle and Reuse
 - d. Reduction of Hardscape
 - e. Automatic water level controllers
3. Provisions under Solar Energy Utilization
- a. Installation of Solar Photovoltaic Panels
 - b. Installation of Solar Assisted Water Heating Systems
4. Provisions under Energy Efficiency
- a. Low Energy Consumption electrical fixtures (Electrical Appliances – BEE Standard Energy Efficient Appliances)
 - b. Energy Efficiency in HVAC systems.
 - c. Smart metering and monitoring
 - d. *Building Envelop considerations in ECBC*
 - e. Minimize Heat Exposure – Roof
 - f. Non –fossil fuelling facility for electric cars
5. Provisions under Waste Management
- a. Organic Waste Management/treatment
 - b. E-waste Management
 - c. Plastic Waste Management
6. Occupant comfort and well being
- a. No Smoking in Common Areas
 - b. Facilities for Health & Wellbeing
 - c. Maintaining good IAQ (indoor air quality) through sufficient ventilation
 - d. Dedicated facilities for service staff
 - e. Green education for occupants
 - f. Design for Differently abled/children.
 - g. *Integrated Building management system(operations)*

7 .Sustainable building materials

- a. *Locally available materials or techniques*
- b. *Rapidly renewable or recycled*
- c. *Low Emitting finishes*

The buildings are broadly classified in to four categories viz Single family residential buildings below 200sqm & above 200sqm, Apartment buildings, Industrial buildings and Other category buildings for green rating. A green rating chart depicting the rating criteria and the points assigned against each criterion, grading of buildings (in to GRADE A and GRADE B) based on the total points so obtained is ANNEXED (Annexure I – Green rating chart for new constructions, Annexure-II-Green rating chart for existing buildings). In addition to that buildings having *IGBC* or *GRIHA* or *ASSOCHAM GEM* or *other International certification, like USGBC-LEED, BREEAM, CASBEE* etc will be considered as Grade A green buildings as per this process. Grade A buildings receives the maximum incentive declared by the Government for green buildings whereas Grade B buildings are eligible for 50% of the incentive declared by the Government .

C. Suggested Incentives for Green buildings

Incentives

- Reduction in one time building tax

This applies to buildings newly constructed after the date of this government order. A reduction of 50 %in one time building tax will be given to all the four category buildings, coming under Grade A rating.

A reduction of 25 % in one time building tax will be given to all the four category buildings, coming under Grade B rating.

- Reduction on stamp duty during transaction

This reduction will apply to the sale of properties with green rated buildings subject to the Registration rules in force. This reduction will be

applicable to the buildings existing on the date of this order as well as the newly constructed buildings, both conforming to Green ratings and is restricted to the value of the building and not to the entire property. During the transaction of a green rated building, a reduction of 1% stamp duty will be made applicable for Grade A rated buildings whereas 0.5 % reduction will be applicable for Grade B rated buildings.

If the construction and certification of green building happens after transaction of the property (where transaction occurs on or after the date of issue of this guideline) incentive equivalent to prescribed reduction in stamp duty based on the value of the existing green building as per valuation certificate calculated as per CPWD rate is applicable. This incentive shall be 1% reduction in stamp duty in case of Grade A rated buildings and 0.5% reduction in stamp duty for Grade B rated buildings.

Also, the incentive on stamp duty is applicable only to the original transaction succeeding a certification unless there is a change in the grade of the green building.

- Reduction in Property tax

The owners of property will be entitled to a property tax rebate for a period of two years on securing the Occupancy Certificate (OC) in the case of new constructions based on the green building certificate. The owners of the existing buildings are also eligible for building tax rebate from the date of certification of the building as Green building by the empanelled consultants. The owner of a property having Grade A rating would get a rebate of 20 per cent in property / building tax while those with Grade B ratings would get a rebate of 10 per cent, respectively in the property/ building tax.

After two years, the applicant has to submit a certificate of compliance for availing the rebate further. The LSGs will have to maintain the list of green buildings for which tax rebate is given, to ensure that the property tax rebate are reflected directly into the tax invoice.

Incentives in brief:

		Grade A	Grade B	Remarks
1	One time building tax	50% reduction	25% reduction	This is applicable for newly constructed green buildings. Hence is not applicable to existing buildings.
2	Stamp duty	1% reduction	0.5 % reduction	If the construction and certification of green building happens after transaction of the property (where transaction occurs on or after the date of issue of this guideline) , <i>incentive equivalent to prescribed reduction in stamp duty based on the value of the existing green building as per valuation certificate calculated as per CPWD rate is applicable</i>
3	Property tax	20% reduction	10% reduction	This rebate is for two years. <i>After two years, the applicant has to submit a certificate of compliance for availing the rebate further</i>

D. Certification Process

1. Empanelled Consultants

Empanelling of consultants for green building certification shall be done by EMC. The qualification criteria and the procedure for the selection of empanelled consultants will be decided by EMC. The applicants successfully completing training conducted by EMC will be enrolled as empanelled consultant for green building certification. Registration fees and Course fees for the empanelling of consultants will be decided by EMC from time to time. Trainings for these empanelling of consultants will be done by EMC in collaboration with the various engineering colleges in the state.

2. Submission of Application and Green Certification.

The developer/owner has to submit an application before the empanelled consultant for getting the green building certification and rating. The Empanelled consultant licensee for green building rating shall evaluate the application after the verification of site and building and check on compliance of the criteria for green rating and issue the green building certification with rating within 60 days. An evaluation fee shall be charged by the Empanelled consultant for green building certification and rating. The evaluation fee for certification shall be 50% of the permit fee prescribed in the building rules subject to a **maximum** of Rs.5000 (for residential buildings) and **minimum** of Rs 5000 (for other buildings)".

3. Validity of Certification

The Green building certification obtained as per this process will be valid for a period of 2 years. On completion of 2 years, the certificate can be validated/renewed based on the then prevailing criteria for green certification.

The validity of the IGBC or GRIHA or ASSOCHAM GEM or other internationally accepted certification, *like USGBC-LEED, BREEAM, CASBEE etc.* will be as per the norms of IGBC or GRIHA certification as

the case may be. If the validity of IGBC or GRIHA or ASSOCHAM GEM certification has expired at time of application the application will be considered only in Grade B category.

4. Availing of Incentives

For availing the benefits as noted in the C(Suggested Incentives for Green buildings) above, the certification issued by the empanelled Consultant shall be produced before the respective departments.

E. Grievance Redressal and Monitoring

1. District Level Committee

A District level Committee for grievance redressal and for monitoring the certification process etc shall be constituted in each District. The committee consists of the following members

- a. District Town Planner, LSGD Planning (Chairman and Convener)
- b. District Engineer, Agency for Non - Conventional Energy and Rural Technology (ANERT)
- c. Official from Energy Management Centre (EMC)
- d. Electrical Inspector, Department of Electrical Inspectorate
- e. Environmental Engineer from District office of the pollution control board
- f. Assistant Associate Professor (Civil/ Architecture) from Govt/Aided Engineering College

Three members shall be the minimum quorum for convening the meeting. If there is any grievance against the decision of the District Level Committee, appeal may be placed before the State Nodal Agency.

The details on the Certified Green buildings with ratings shall be submitted to the Committee by the empanelled consultants after certification. The committee may randomly select buildings for appraisal. If the Committee feels necessary, the site and building may be physically verified by the members of the Committee or person authorized to check for compliance of any criteria for green rating.

Any grievance against any of the empanelled consultants or any certification issued by the empanelled consultant shall be dealt by this committee as per the procedures laid down and its decision will be final.

2. State Nodal Mechanism

The state nodal mechanism is to be set up for redressal of grievances , co-ordinating the activities of Energy Management Centre and District Committees, making proposals and for giving advice to Government.

The State level nodal agency shall consist of the following members:

1. Director, Energy Management Centre (EMC).....Chairman and Convener
2. Director, Agency for Non - Conventional Energy and Rural Technology (ANERT) – Member
3. Chief Town Planner, LSGD Planning, LSGD – Member
4. Chief Electrical Inspector, Department of Electrical Inspectorate – Member
5. Chief Environmental Engineer from District office of the Pollution Control Board – Member

Annexure I- GREEN RATING CHART FOR NEW CONSTRUCTIONS

Sl no	Aspect	Criteria	Standard and point (Point is given in the bracket)	Document to be submitted for verification	Applicability			
					Single family residential building	Residential apartments	Industrial buildings	Other buildings
1	Site planning and construction management	<p>1.Site Selection</p> <p>2.Low impact design- Preserve and protect landscape during construction</p> <p>3.Air and water pollution control during construction on site</p>	<p>1. No land fill/no cutting/no filling up of water body/no diversion existing natural streams..(3)</p> <p>2. 25 % of the construction plot area needs land fill/no cutting/no filling up of water body/no diversion existing natural streams (2)</p> <p>(3) Others (0)</p> <p>% of existing vegetation/ existing water bodies /other topographical features like boulders etc. removed for construction</p> <p>1. 0-10%(2)</p> <p>2. 10 - 25 %(1)</p> <p>3. More than 25%(0)</p> <p>Provision of 3 meter high barricading around the construction area. Covering of fine aggregate and excavated earth on site with plastic/geotextile sheets. Water sprinkling on fine aggregate (sand) and excavated earth. All diesel gensets on site to have proper chimneys with their outlet facing away from the site</p> <p>1.Compliance of the above.....(2)</p>	<p>Contour map/photo graph and video of original ground and finished ground.</p> <p>Map/photo graph and video of original ground showing the vegetation cover etc and that of finished ground.</p> <p>Photographs and video with description of the measures implemented and signed by the licensee.</p>	Yes	Yes	Yes	Yes

2	Water Conservation and Management	<p>4. Labour safety and sanitation</p> <p>5. Management of construction and demolition waste.</p> <p>6. Rain Water Harvesting</p> <p>7. Low Water Consumption Plumbing Fixtures</p> <p>8. Waste Water Recycle and Reuse</p>	<p>Ensure safe, healthy and hygienic working & living conditions for construction workers working in the project as per Health and safety manual published by labour department.</p> <p>1. Compliance of the above.....(2)</p> <p>Rule 79(A) details out the action for management of construction and demolition waste.</p> <p>1. Compliance of Rule 79(A)(3)</p> <p>As per rule 76, all new buildings except storage and Hazardous buildings shall be provided with rainwater harvesting facilities.</p> <p>1. Compliance of Rule 76(3)</p> <p>Aerators for taps and Shower heads, Water closets with dual flush.</p> <p>1. 100% of the fixtures are covered.....(3)</p> <p>2. 100- 50% of the fixtures are covered(2)</p> <p>3. At least 25% of the fixtures are covered.....(1)</p> <p>As per rule 79(6), residential and special residential buildings exceeding 2000 sqm area Educational, Hospital, Assembly, Office, Commercial buildings exceeding 5000sqm area, all industrial and hazardous buildings shall be provided with facilities for recycling and reuse of waste water.</p>	<p>Photographs, with description of the measures implemented and signed by the district labour officer</p> <p>A certificate in this regard signed by the owner and licensee shall be submitted.</p> <p>Occupancy certificate for buildings for which it is a mandatory provision. Others submit photographs of the same and invoices</p> <p>Photographs and Invoices of fixtures</p> <p>Occupancy certificate for buildings for which it is a mandatory provision. Others submit photographs of the same and invoices</p>	- <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>	Yes <p>Yes</p> <p>Yes</p> <p>Yes</p>	Yes <p>Yes</p> <p>Yes</p> <p>Yes</p>	Yes <p>Yes</p> <p>Yes</p> <p>Yes</p>
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		<p>1. Compliance of Rule 79(6)(3)</p>	<p>Rule 76(3) stipulates that for all buildings except single family residential buildings tree shall be planted at the rate of minimum one tree per 450 sqm of plot area....(1)</p> <p>Not more than 50% of the mandatory open space around the building shall be paved with tiles (Rule 26(8)).....(1)</p>	<p>Calculation sheet describing total site area, Paved area, number of newly planted tree.</p>	-	Yes	Yes	Yes
9.Reduction of Hardscape	10. Automatic water level controllers	Install Water level Controllers on the overhead tanks(1)	Photographs and Invoices.	Yes	Yes	Yes	Yes	Yes
3	Provisions under Solar Energy Utilization	11. Installation of Solar Photovoltaic Panels	<p>As per rule 77, Residential buildings, special residential buildings, Hospitals and Assembly buildings exceeding 500 sqm area and single family residential buildings exceeding 400 sqm area shall be provided with roof top solar panels in minimum 50% of the roof area.</p> <p>1. Compliance of Rule 76(3)(1)</p> <p>2. Upto 50% of the connected load in the case of single family residential building(5)</p> <p>3. Upto 25% of the connected load in the case of single family residential building(4)</p>	Occupancy certificate for buildings for which it is a mandatory provision. Others submit photographs of the same and invoices	Yes	Yes	Yes	Yes
	12. Installation of	As per rule 78, Residential buildings,	Occupancy	Yes	Yes	Yes	-	Applicab

		Solar Assisted Water Heating Systems	special residential buildings, Hospitals and Assembly buildings exceeding 500 sqm area and single family residential buildings exceeding 400 sqm area shall be provided with solar assisted water heating system. 1. Compliance of Rule 78(3)(3)	certificate for buildings for which it is a mandatory provision. Others submit photographs of the same and invoices			le only to hospitals/hotels/restaurants
4	Provisions under Energy Efficiency	13.Low Energy Consumption Lighting Fixtures (Electrical Appliances - BEE Star and Energy Efficient Appliances)	As per rule 5(5) Special Residential, Education, Hospital, Commercial, Office, Assembly, Storage and Multiplex Complex buildings with connected load of 100 KW or greater, contract demand of 120 kVA or greater, Air Conditioned Area of 500 sqm or greater shall comply with the provisions of ECBC. 1. Compliance of Rule 5(5)(2) 2. For others at least 50% of the lighting fixtures are low energy consumption..... (3), atleast 25% of the lighting fixtures are low energy consumption.....(1)	Occupancy certificate for buildings for which it is a mandatory provision. Others submit photographs of the same, invoices and calculation sheet showing the total number of lighting fixtures and that with low energy consumption.			Yes
	14.Energy Efficiency in HVAC systems and air conditioners		Zero use of chlorofluorocarbon (CFC) refrigerants in Heating, Ventilation & Air-conditioning (HVAC) equipment and Unitary Air-Conditioners installed in the building and Use minimum BEE 5 star rated Air	Photographs and Invoices.			Yes

			Conditioners . 1. 100% of the equipment are complying(3) 2. At least 50% of the of the equipment are complying(2)						
	15.Smart metering and monitoring	Ensure regular monitoring of project's energy consumption by installing digital meters at utility grid, onsite renewable energy system, diesel genset, each building level.	List of Energy meters installed with supporting photographs.	Yes	Yes	Yes	Yes		Yes
	16.Minimize Heat Exposure – Roof	Compliance of the above.....(2) Exposed roof is covered with White coloured mosaic tiles/Painted white/Vegetation. 100 % covered(2) 100- 50% covered(1)	Calculation sheet describing total roof Area&covered area.	Yes	Yes	Yes	Yes		Yes
	17.Charging facility for electric cars	Provided as per standard prescribed by govt.....(2)	Photographs	-	Yes	Yes	Yes		Yes
5	Provisions under Waste Management	Rule 79 (1) to 79 (5) stipulates provision for waste disposal. 1. Compliance of Rule 79 (1) to 79 (5)...(3)	Occupancy certificate for buildings for which it is a mandatory provision. Others submit photographs of the same and invoices	Yes	Yes	Yes	Yes		Yes
	19.E-waste Management	Encourage recycling / effective disposal of E-waste, so as to prevent such hazardous waste being sent to land-fills. 1. Identify and have a contract in place with a PCB listed hauler for	Copy of the contract and relevant photographs.	-	Yes	Yes	Yes		Yes

			<p>collection and disposal of E-waste, at least once in three months from the society(1)</p> <p>Encourage recycling/ effective disposal of Plastic waste generated</p> <ol style="list-style-type: none"> Identify and have an agreement in place with an agency for periodic collection and safe disposal/ recycling of the plastic waste(1) 	<p>Copy of the agreement with the agency entrusted for plastic waste collection</p>	-	Yes	Yes	Yes
6	Occupant comfort and well being	<p>20. Plastic Waste Management</p> <p>21.No Smoking in Common Areas</p>	<p>Minimise exposure of non-smokers to the adverse health impacts arising due to passive smoking in the Society</p> <ol style="list-style-type: none"> Declaration letter from the Resident's association describing the "No Smoking" policy. Display 'no smoking zone' signage boards in all common areas in the project. <p>Compliance of the above.....(1)</p>	<p>Photographs of signage boards installed and Declaration letter</p>	-	Yes	Yes	Yes
	22.Facilities for Health & Wellbeing		<ol style="list-style-type: none"> Provide recreational facilities (any 2) such as Gymnasium, Yoga / Meditation Center, Indoor games, Swimming Pool, Outdoor Sports <p>Compliance of any three of the above.....(3)</p>	<p>Photographs of the facility</p>	-	Yes	-	Yes
	23.Dedicated facilities for service staff		<p>Promote provision of resting spaces and toilets dedicated for project's service staff.</p> <ol style="list-style-type: none"> Provide W/C @ 25 male Provide W/C @ 15fe male Urinals 1 for 20 male 	<p>1.Submit drawings demarcating the location of various toilets and/or resting rooms for service</p>	-	-	Yes	Yes

		4. Separate resting area for male and female Compliance of all the above.....(3) Compliance of any 2(2)	2. photographs, with description, of the measures implemented				
24. Green education for occupants	Provide occupants with descriptive guidelines that educate and help them implement and maintain green design features. Publish green guidelines / brochure to help residents implement the green features Compliance of the above.....(1)	1. A copy of the guidelines circulated amongst the residents/ building users	Yes	Yes	Yes		Yes
25. Design for Differently Abled/ elderly and children	Rule 42 stipulates the provisions for differently abled/elderly and children. 1. Compliance of Rule 42.....(3)	Occupancy certificate for buildings for which it is a mandatory provision. Others submit photographs of the same and invoices	Yes	Yes	Yes		Yes

Based on total points obtained, buildings are graded as GRADE A or GRADE B .

TOTAL POINTS			
	Single family res building	Residential apartments	Other buildings
GRADE A	24-18	53-48	50-45
GRADE B	17-10	47-37	44-34
			56-51
			50-40

Annexure II- GREEN RATING CHART FOR EXISTING BUILDINGS

Sl no	Aspect	Criteria	Standard and point (Point is given in the bracket)	Document to be submitted for verification	Applicability			
					Single family building	Residential apartments	Industrial buildings	Other buildings
1	Water Conservation and Management	1.Rain Water Harvesting	As per rule 76, all new buildings except storage and Hazardous buildings shall be provided with rainwater harvesting facilities. 2. Compliance of Rule 76 (3)	Occupancy certificate for buildings for which it is a mandatory provision. Others submit photographs of the same and description	Yes	Yes	Yes	Yes
		2.Low Water Consumption Plumbing Fixtures	Aerators for taps and Shower heads, Water closets with dual flush. 1.100% of the fixtures are covered..... (3) 2.100- 50% of the fixtures are covered(2) 3.At least 25% of the fixtures are covered.....(1)	Photographs and description of fixtures	Yes	Yes	Yes	Yes
		3.Waste Water Recycle and Reuse	As per rule 79(6), residential and special residential buildings exceeding 2000 sqm area Educational, Hospital, Assembly, Office, Commercial buildings exceeding 5000sqm area, all industrial and hazardous buildings shall be provided with facilities for recycling and reuse of waste water. 1. Compliance of Rule 79(6)(3)	Occupancy certificate for buildings for which it is a mandatory provision. Others submit photographs of the same and description	Yes	Yes	Yes	Yes
		4.Reduction of	Rule 76(3) stipulates that for all	Calculation sheet	-	Yes	Yes	Yes

2	Provisions under Solar Energy Utilization	<p>Hardscape</p> <p>5. Automatic water level controllers</p> <p>6. Installation of Solar Photovoltaic Panels</p> <p>7. Installation of Solar Assisted Water Heating Systems</p>	<p>buildings except single family residential buildings tree shall be planted at the rate of minimum one tree per 450 sqm of plot area....(1)</p> <p>Not more than 50% of the mandatory open space around the building shall be paved with tiles (Rule 26(8)).....(1)</p> <p>Install Water level Controllers on the overhead tanks(1)</p> <p>As per rule 77, Residential buildings, special residential buildings, Hospitals and Assembly buildings exceeding 500 sqm area and single family residential buildings exceeding 400 sqm area shall be provided with roof top solar panels in minimum 50% of the roof area.</p> <ol style="list-style-type: none"> 1. Compliance of Rule 76(3)(1) 2. Upto 50% of the connected load in the case of single family residential building(5) 3. Upto 25% of the connected load in the case of single family residential building(4) <p>As per rule 78, Residential buildings, special residential buildings, Hospitals and Assembly buildings exceeding 500 sqm area and single family</p>	<p>describing total site area, Paved area, number of newly planted tree.</p> <p>Photographs and description</p> <p>Occupancy certificate for buildings for which it is a mandatory provision. Others submit photographs of the same and description</p> <p>Occupancy certificate for buildings for which it is a mandatory</p>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>	<p>Applicable only to hospital</p>
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	Provisions under Energy Efficiency	8.Low Energy Consumption Lighting Fixtures (Electrical Appliances - BEE Star and Energy Efficient Appliances)	residential buildings exceeding 400 sqm area shall be provided with solar assisted water heating system. 1. Compliance of Rule 78(3)(3)	provision. Others submit photographs of the same and description	Yes	Yes	s/ hotels/ resta nt
3			<p>As per rule 5(5) Special Residential, Education, Hospital, Commercial, Office, Assembly, Storage and Multiplex Complex buildings with connected load of 100 KW or greater, contract demand of 120 kVA or greater, Air Conditioned Area of 500 sqm or greater shall comply with the provisions of ECBC.</p> <ol style="list-style-type: none"> 1. Compliance of Rule 5(5)(2) 2. For others at least 50% of the lighting fixtures are low energy consumption..... (3), atleast 25% of the lighting fixtures are low energy consumption.....(1) 	<p>Occupancy certificate for buildings for which it is a mandatory provision. Others submit photographs of the same, description and calculation sheet showing the total number of lighting fixtures and that with low energy consumption.</p>	-		
	9.Energy Efficiency in HVAC systems and air conditioners		Zero use of chlorofluorocarbon (CFC) refrigerants in Heating, Ventilation & Air-conditioning (HVAC) equipment and Unitary Air-Conditioners installed in the building and Use minimum BEE 5 star rated Air Conditioners . 1. 100% of the equipment are complying(3)	Photographs and description	-	Yes	Yes

	<p>2. At least 50% of the equipment are complying(2)</p>							
<p>10. Smart metering and monitoring</p>	<p>Ensure regular monitoring of project's energy consumption by installing digital meters at utility grid, onsite renewable energy system, diesel genset, each building level.</p>		<p>List of Energy meters installed with supporting photographs.</p>					
<p>11. Minimize Heat Exposure - Roof</p>	<p>Compliance of the above.....(2) Exposed roof is covered with White coloured mosaic tiles/Painted white/Vegetation. 100 % covered(2) 100- 50% covered(1)</p>		<p>Calculation sheet describing total roof Area & covered area.</p>					
<p>12. Charging facility for electric cars</p>	<p>Provided as per standard prescribed by govt.....(2)</p>		<p>Photographs</p>					
<p>4 Provisions under Waste Management</p>	<p>13. Segregation of Waste, Provision of treatment plant, Organic Waste Management/treatment etc.</p>	<p>Rule 79 (1) to 79 (5) stipulates provision for waste disposal. 1. Compliance of Rule 79 (1) to 79 (5)....(3)</p>	<p>Occupancy certificate for buildings for which it is a mandatory provision. Others submit photographs of the same and description</p>					
	<p>14. E-waste Management</p>	<p>Encourage recycling / effective disposal to E-waste, so as to prevent such hazardous waste being sent to land-fills. 1. Identify and have a contract in place with a PCB listed hauler for collection and disposal of E-waste, at least once in three months</p>	<p>Copy of the contract and relevant photographs.</p>					

5	Occupant comfort and well being	15. Plastic Waste Management	from the society(1) Encourage recycling/ effective disposal of Plastic waste generated 2. Identify and have an agreement in place with an agency for periodic collection and safe disposal/ recycling of the plastic waste(1)	Copy of the agreement with the agency entrusted for plastic waste collection	Yes
		16.No Smoking in Common Areas	Minimise exposure of non-smokers to the adverse health impacts arising due to passive smoking in the Society 1. Declaration letter from the Resident's association describing the "No Smoking" policy. 2. Display 'no smoking zone' signage boards in all common areas in the project. Compliance of the above.....(1)	Photographs of signage boards installed and Declaration letter	Yes
		17.Facilities for Health & Well being	1. Provide recreational facilities (any 2) such as Gymnasium, Yoga / Meditation Center, Indoor games, Swimming Pool, Outdoor Sports Compliance of any three of the above.....(3)	Photographs of the facility	Yes
		18.Dedicated facilities for service staff	Promote provision of resting spaces and toilets dedicated for project's service staff. 1. Provide W/C @ 25 male 2. Provide W/C @ 15fe male 3. Urinals 1 for 20 male 4. Separate resting area for male and	1. Submit drawings demarcating the location of various toilets and/or resting rooms for service 2. photographs,	Yes

	female	Compliance of all the above.....(3) Compliance of any 2(2)	with description, of the measures implemented				
19.Green education for occupants	Provide occupants with descriptive guidelines that educate and help them implement and maintain green design features. Publish green guidelines / brochure to help residents implement the green features Compliance of the above.....(1)	-	1.A copy of the guidelines circulated amongst the residents/ building users	Yes	Yes	Yes	Yes
20.Design for Differently Abled/ elderly and children	Rule 42 stipulates the provisions for differently abled/elderly and children. 1. Compliance of Rule 42.....(3)	-	Occupancy certificate for buildings for which it is a mandatory provision. Others submit photographs of the same and description	Yes	Yes	Yes	Yes

Based on total points obtained, buildings are graded as GRADE A or GRADE B

TOTAL POINTS			
	Single family res building	Residential apartments	Industrial buildings
GRADE A	23-18	41-36	38-33
GRADE B	17-10	35-25	32-22
			Other buildings
			44-39
			38-28