



Natura Roof & Podium Solutions

Brief Note on the System,
Functioning and Peripheries



Roof & Podium Landscaping

- Building structures with wide construction spans have a limitation on roof loads. There exists a requirement for light weight green roof solutions.
- Natura Roof Mat & Natura Drainage Cell in a combined form provide the required solution.
- Natura's system weight approximately 5-8kgs/ SFT and consumes 500 ml/ sq foot of water.

Applicability of Natura's Product:

1. Light Weight Roof Lawns
2. Light Weight Green Roofs
3. Light Weight Podium Lawns
4. Light Weight Green Podiums

Roof & Podium Site Requirements

Site Requirement:

1. 150 mm Sunken slab or 150 mm skirting to contain the system
2. Waterproofing on the application area.
3. Water source for irrigation. Minimum 2.5 – 4.5 kgs/cm² of water pressure required if rotor sprinklers are to be incorporated.
4. Access for Maintenance

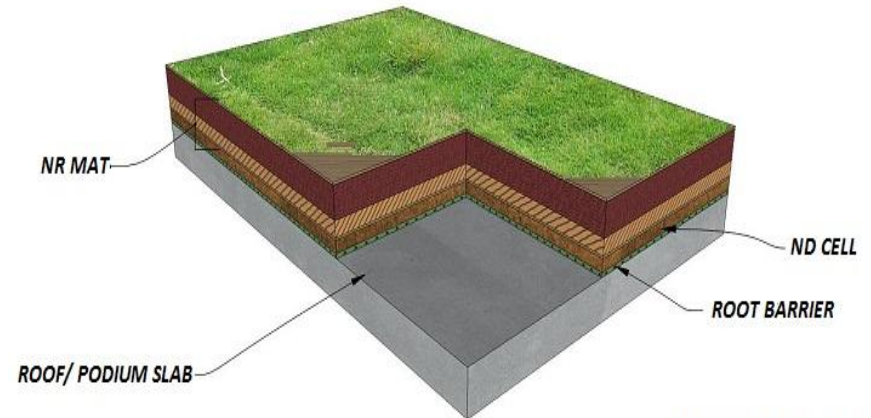
Light Weight Roof Lawns

Natura's System:

- The green roof and roof lawn system consists of the following products:
 - HDPE Root Barrier Sheet
 - ND Cell (Natura Drain Cell)
 - NR Mat (Natura Roof Mat)
 - Lawn or Ground Covers

Laying Methodology for Roof Lawns:

- A thin water proof/ Root Barrier Sheet is laid on the waterproofed roof surface.
- The ND Cell is then laid on top of the above root barrier sheet.
- NR Mat – Manufactured by a combination of NG Mat (Natura Geo Mat) and the NSAP (Natura Super Absorbent Polymer) substrate in a tile form consolidated with Scrim.
- Finally the Mexican Sod Lawn is laid on top and the system is then watered
- The compressed Super absorbent natural polymer present in the NR Mat expands 5 times to its normal size and retains water and helps the roots to set.



ND CELL: Natura Drain Cell
NR MAT: Natura Roof Mat



Light Weight Green Roofs

Natura's System:

- The green roof and roof lawn system consists of the following products:
 - HDPE Root Barrier Sheet
 - ND Cell (Natura Drain Cell)
 - NR Mat (Natura Roof Mat)
 - Lawn or Ground Covers

Laying Methodology for Roof Lawns:

- A thin water proof/ Root Barrier Sheet is laid on the waterproofed roof surface.
- The ND Cell is then laid on top of the above root barrier sheet.
- NR Mat – Manufactured by a combination of NG Mat (Natura Geo Mat) and the NSAP (Natura Super Absorbent Polymer) substrate in a tile form consolidated with Scrim.
- The system is then watered
- The compressed Super absorbent natural polymer present in the NR Mat expands 5 times to its normal size and retains water and helps the roots to set.
- Selected Ground Cover Plants are then dibbled into the substrate and set.



Light Weight Podium Lawns

Natura's System:

- The green roof and roof lawn system consists of the following products:
 - HDPE Root Barrier Sheet
 - NG Mat (Natura Geo Mat) (Optional - ND Cell (Natura Drain Cell))
 - NR Mat (Natura Roof Mat)
 - Lawn or Ground Covers

Laying Methodology for Roof Lawns:

- A thin water proof/ Root Barrier Sheet is laid on the waterproofed roof surface.
- The NG Mat is then laid on top of the above root barrier sheet.
- NR Mat – Manufactured by a combination of NG Mat (Natura Geo Mat) and the NSAP (Natura Super Absorbent Polymer) substrate in a tile form consolidated with Scrim.
- Finally the Mexican Sod Lawn is laid on top and the system is then watered
- The compressed Super absorbent natural polymer present in the NR Mat expands 5 times to its normal size and retains water and helps the roots to set.



Light Weight Green Podium

Natura's System:

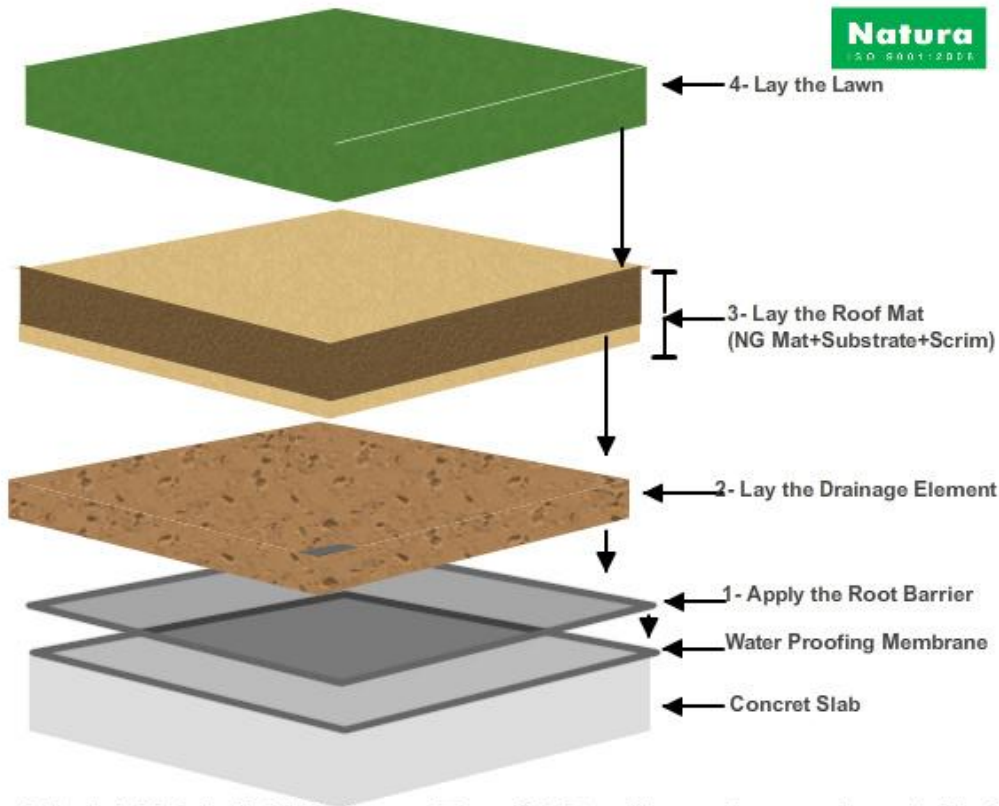
- The green roof and roof lawn system consists of the following products:
 - HDPE Root Barrier Sheet
 - NG Mat (Natura Geo Mat) (Optional - ND Cell (Natura Drain Cell))
 - NR Mat (Natura Roof Mat)
 - Lawn or Ground Covers

Laying Methodology for Roof Lawns:

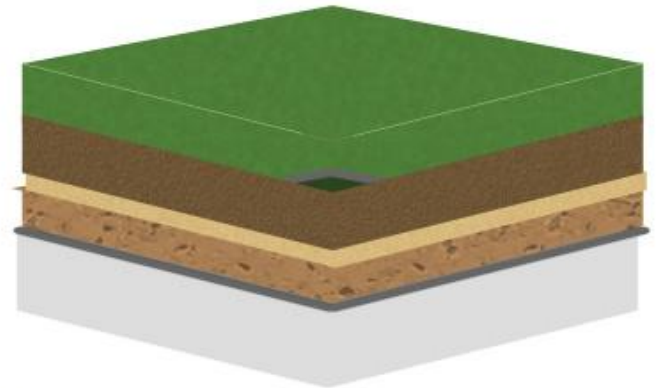
- A thin water proof/ Root Barrier Sheet is laid on the waterproofed roof surface.
- The NG Mat is then laid on top of the above root barrier sheet.
- NR Mat – Manufactured by a combination of NG Mat (Natura Geo Mat) and the NSAP (Natura Super Absorbent Polymer) substrate in a tile form consolidated with Scrim.
- The system is then watered
- The compressed Super absorbent natural polymer present in the NR Mat expands 5 times to its normal size and retains water and helps the roots to set.
- Selected Ground Cover Plants are then dibbled into the substrate and set.



LIGHT WEIGHT ROOF LAWN INTENSIVE GRADE -1



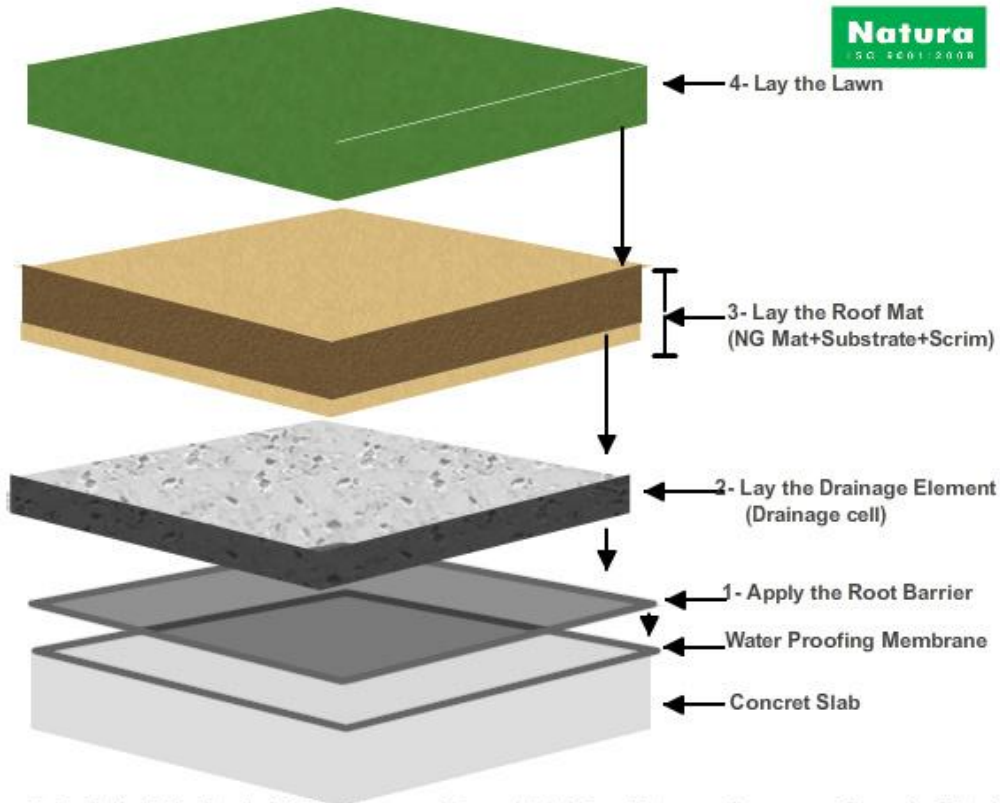
- Organic
- Capillary action
- Sunk is only 100mm
- Weight-8kgs/sft(wet)



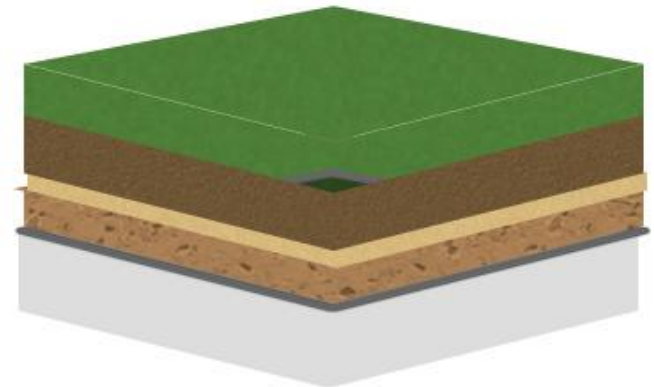
Light Weight Natura Roof / Podium Lawn Installation

Strutural load- 80 kgs/sft

LIGHT WEIGHT ROOF LAWN INTENSIVE GRADE -2



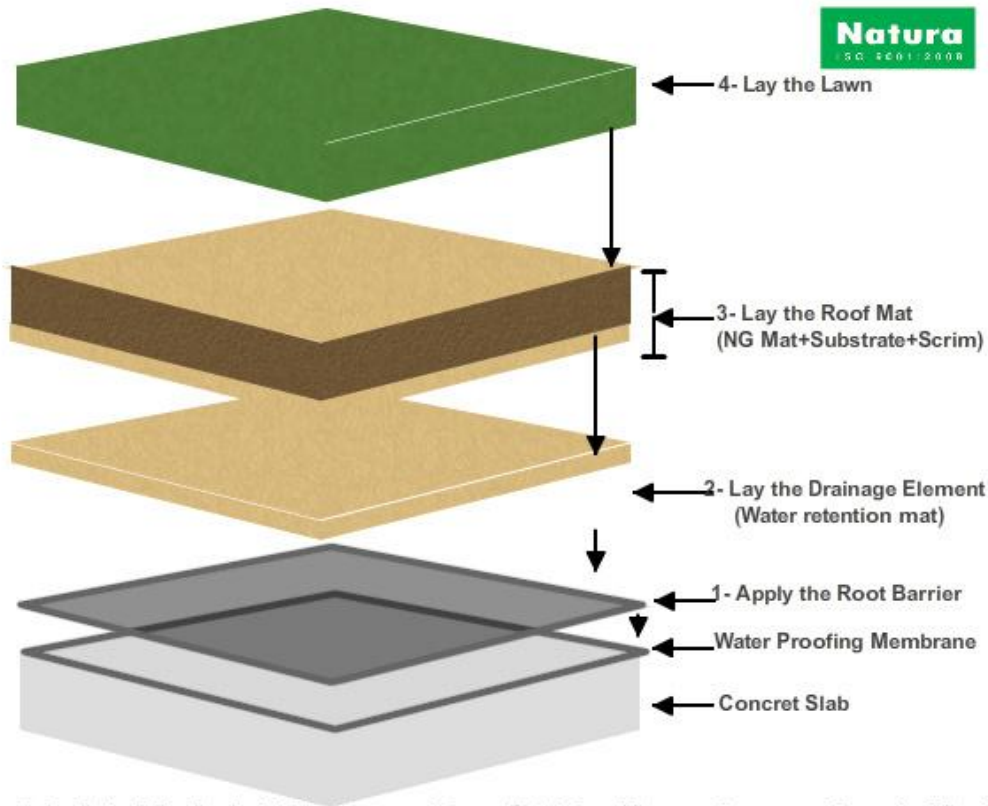
- Capillary action
- Plastic drain cell
- Sunk is only 100mm
- Weight-8kgs/sft(wet)



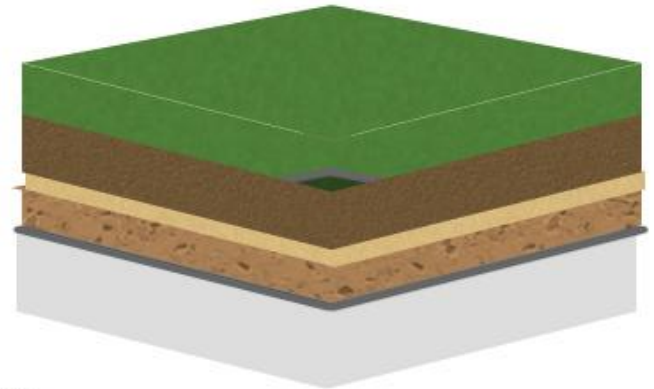
Light Weight Natura Roof / Podium Lawn Installation

Strutural load- 80 kgs/sft

LIGHT WEIGHT ROOF LAWN INTENSIVE GRADE -3



- Organic
- Capillary action
- Sunk is only 100mm
- Weight-8kgs/sft(wet)



Light Weight Natura Roof / Podium Lawn Installation

Strutural load- 80 kgs/sft

Technical Specification

Parameters	Natura's System
<i>Weight</i>	5-8 Kgs/ Sft
<i>Layer Height</i>	Wet: 100 mm - 150 mm Dry: 65 mm – 75 mm
<i>Roof Pitch</i>	1-5°
<i>Vegetation Form</i>	Mexican Sod Lawn, Ground Covers & selected grasses
<i>Water Consumption</i>	500 ml/ SFT
<i>Watering Frequency</i>	Once every 2 days
<i>Run-Off Discharge</i>	Slow Release
<i>Modulus of Rupture (Min)</i>	16 N/mm ²

Comparative Study

Parameters	Conventional System	Natura's System
<i>Structural Weight</i>	80 Kgs/ Sft	5-8 Kgs/ Sft
<i>Depth Required</i>	300 mm Minimum	100 - 150 mm Maximum
<i>Growing Media</i>	Soil	Natura Substrate
<i>Drainage Layer</i>	Plastic	Natura Drain Cell
<i>Slab Protection</i>	No Capillary Action	Capillary Action
<i>Filter Membrane</i>	Plastic	Natura Geo Mat
<i>Filter Process</i>	Blockage Possible	No Blockage
<i>Storm Water</i>	Flooding	Gradual Release
<i>Water Requirement</i>	6 Ltrs/ Sft	0.5 Ltr/ Sft
<i>Texture</i>	Hard Lawn	Soft Lawn

BOQ Specification

Specification to be mentioned in a BOQ:

1. BOQ for Grade 1 Light Weight Green Roof and Roof Lawns:

- Supply of light weight Green roof/ Roof Lawn system which consists of a HDPE root barrier sheet, 16 mm **Natura** Drain cell (Dry size), 25mm **Natura** Roof Mat (Dry Size) consisting of 15mm Super **Natura** Absorbent Polymer Substrate & 10 mm **Natura** Geo Mat in a tile form consolidated with Scrim expanding to 50 mm with the addition of 4.25 ltrs of water/SFT, covered with Mexican Sod Lawn of 50 mm Thickness or Selected Ground Covers.
- Entire system to weigh 8 kgs/ SFT $\pm 10\%$ in the wet form and have a height of 120 mm $\pm 10\%$

2. BOQ for Grade 1 Light Weight Podium Lawns and Green Podiums:

- Supply of light weight Podium Lawn or Green Podium system which consists of a HDPE root barrier sheet, 6 mm **Natura** Drain cell (Dry size), 25mm **Natura** Roof Mat (Dry Size) consisting of 15mm **Natura** Super Absorbent Polymer Substrate & 10 mm **Natura** Geo Mat in a tile form consolidated with Scrim expanding to 50 mm with the addition of 4.25 ltrs of water/SFT, covered with Mexican Sod Lawn of 50 mm Thickness or Selected Ground Covers.
- Entire system to weigh 8 kgs/ SFT $\pm 10\%$ in the wet form and have a height of 100 mm $\pm 10\%$

BOQ Specification

Specification to be mentioned in a BOQ:

1. BOQ for Grade 2 Light Weight Green Roof and Roof Lawns:

- Supply of light weight Green roof/ Roof Lawn system which consists of a HDPE root barrier sheet, 6 mm **Natura** Drain cell (Dry size), 25mm **Natura** Roof Mat (Dry Size) consisting of 15mm Super **Natura** Absorbent Polymer Substrate & 10 mm **Natura** Geo Mat in a tile form consolidated with Scrim expanding to 50 mm with the addition of 4.25 ltrs of water/SFT, covered with Mexican Sod Lawn of 50 mm Thickness or Selected Ground Covers.
- Entire system to weigh 8 kgs/ SFT $\pm 10\%$ in the wet form and have a height of 100 mm $\pm 10\%$

2. BOQ for Grade 2 Light Weight Podium Lawns and Green Podiums:

- Supply of light weight Podium Lawn or Green Podium system which consists of a HDPE root barrier sheet, 10 mm **Natura** Geo Mat (Dry size), 25mm **Natura** Roof Mat (Dry Size) consisting of 15mm **Natura** Super Absorbent Polymer Substrate & 10 mm **Natura** Geo Mat in a tile form consolidated with Scrim expanding to 50 mm with the addition of 4.25 ltrs of water/SFT, covered with Mexican Sod Lawn of 50 mm Thickness or Selected Ground Covers.
- Entire system to weigh 8 kgs/ SFT $\pm 10\%$ in the wet form and have a height of 120 mm $\pm 10\%$

Benefits of Natura's Roof and Podium solutions:

- Reduced structural requirements. Lower steel and concrete consumption for slab.
- Reduction in water consumption.
- Reduction in maintenance.
- Thermal Insulation provides for reduction in energy consumption.
- Increase in ceiling height of podiums and building
- Added utility area for end user.
- Aesthetic utilization of Roof Tops & Podiums.
- Better breathing environments.

LEED Certification Credits of Natura's Roof and Podium solutions:

- SS 6.1 & 6.2 Storm water design –Quality control.
- SS 7.1 & 7.2 Heat Island effect.
- WE 1.1 & 1.2 Water efficient landscape.
- MR 4 & 6 Materials and Resources
- ID 1 Innovation in design

Contact Us

Natura:

- Is a landscape solutions company that specializes in Green Walls, Roof-top and Podium Lawns, Green Roofs, Terrace and Balcony gardens and design oriented landscaping.
- Natura uses a renewable material in Coir to achieve effective sustainability thorough water and energy conservation.

Contact Us:

Naturaflex Pvt Ltd

#44, 1st Floor, Ramya Royal Apartments,
Nandidurga Road, Bangalore – 560046

www.naturaindia.com

Ph: 080 41105536

Tommy Mathew - +91 9845075406

Sudhakaran Pillai - +91 9845136615

Abishek Thomas - +91 9900096104