



# Natura Geo Mat

Brief Note on the System,  
Functioning and Peripheries

# NG MAT

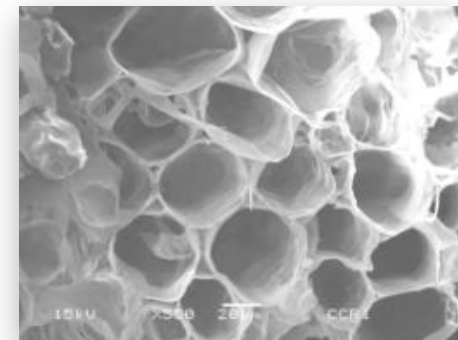
## • NG MAT (Natura Geo Mat)

- **Natura's NG Mat** is a non-woven Geo-textile manufactured with needle punch technology, using Natural Coir Fibre. The coir fibre matrix overlaid with High Density Poly Ethylene Scrim on one side.
- Retains up-to 1 time its weight in water.
- Porosity of the fiber matrix provides for excellent drainage, filtration, reinforcement & Separation.

NG MAT	
Density	800 grams/m <sup>2</sup> ± 10%
Thickness	10 mm ±5%
Moisture	6.5%
Width	0.5 mtr or 1mtr or 2mmtr
Length	10 mtrs
Biological & chemical resistance	Unaffected by molds
Indian standard	IS 15430



**NG Mat**



**Cross sectional view of coir fibre**

# NG MAT Plus 800

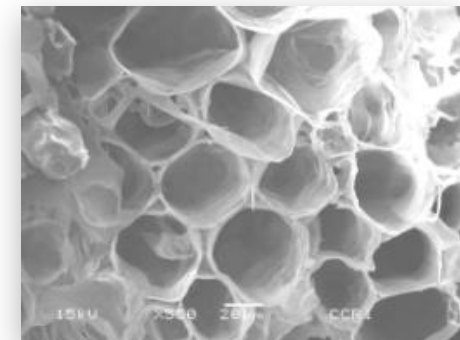
## • NG MAT (Natura Geo Mat) Plus

- Natura's NG mat is a non-woven Geo-textile manufactured with needle punch technology, using Natural Coir Fibre. The coir fibre matrix overlaid with High Density Poly Ethylene Scrim on one side and the other side with Poly propylene netting .
- Retains up-to 1 time its weight in water.
- Porosity of the fiber matrix provides for excellent drainage, filtration, reinforcement & Separation.



**NG Mat Plus**

NG MAT Plus	
Density	800 grams/m <sup>2</sup> ± 10%
Thickness	10 mm ±5%
Moisture	6.5%
Width	0.5 mtr or 1mtr
Length	10 mtrs
Biological & chemical resistance	Unaffected by molds
Indian standard	IS 15430



**Cross sectional view of coir fibre**

# NG MAT Plus 450

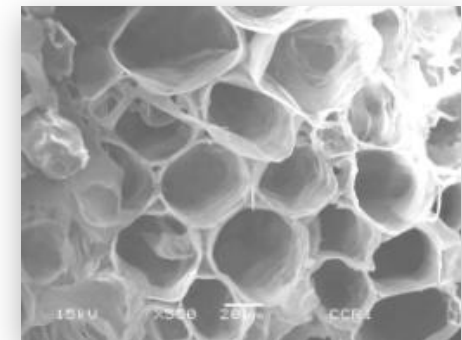
## • NG MAT (Natura Geo Mat) Plus

- Natura's NG mat is a non-woven Geo-textile manufactured with needle punch technology, using Natural Coir Fibre. The coir fibre matrix overlaid with High Density Poly Ethylene Scrim on one side and the other side with Poly propylene netting .
- Retains up-to 1 time its weight in water.
- Porosity of the fiber matrix provides for excellent drainage, filtration, reinforcement & Separation.



**NG Mat Plus**

NG MAT Plus	
Density	450 grams/m <sup>2</sup> ± 10%
Thickness	5 mm ±10%
Moisture	6.5%
Width	1 mtr or 2mtr
Length	10 /20/30 mtrs
Biological & chemical resistance	Unaffected by molds
Indian standard	IS 15430



**Cross sectional view of coir fibre**

# Functions

The NG mat and NG mat plus perform the following **Main Functions:**

- **Fluid Transmission (Drainage Function):** Natura Geo Mat's collect the liquid or gas and conveys it along its own plain. Thus providing smooth drainage/ fluid transmission.
- **Filtration:** Natura Geo Mats acts as a filter when it allows liquid to pass through its plain and prevents soil particles from being carried away.
- **Separation:** When placed between a fine soil and coarse material the NG Mats prevent the fine soil and coarse material from moving under the action of repeated applied loads.
- **Protection:** NG Mat protects material when it alleviates or distributes stresses and strain transmitted to the protected material like for surface protection in erosion control.

## **Growth Functions:**

- Protection against water and wind erosion.
- Absorbs and retains moisture for a large period of time.
- Reduces the velocity of water run-off by functioning as a series of mini check dams.
- Retains seeds even in steep terrain.
- Maintains humidity in the soil and atmosphere.
- Mitigates the extreme temperatures.
- Environment friendly as it is Bio-Degradable and hence adding mulch to the soil.

# Applications

## **Natura Geo Mat is well suited for the following applications:**

- Embankment Protection(High way, shore/stream)
- Dump /Land fill side Slope Stabilisation
- Road – Central Partition for Vegetative Growth.
- Landscape Application
  - Lawn
  - Planter box
  - FRP/ Plastic pots
  - Protective Root Cover for Trees, Plants & Shrubs
  - Reinforcement of Grass Pavers



# Dump /Land Fill Side Slope Stabilization & Embankment Protection

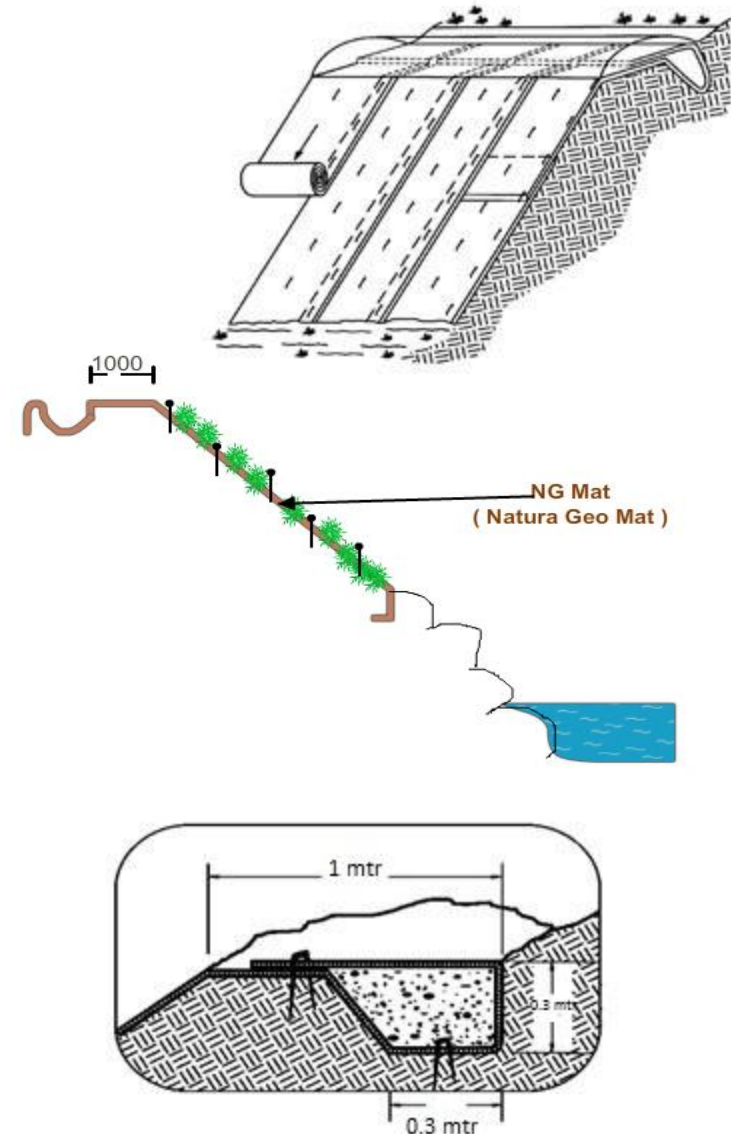
- Natura Geo Mat and Natura Geo Mat Plus are both effective Dump/Land fill side Slope Stabilization Blankets
- These blankets cover and pack the embankment and hence prevents soil run-off and erosion.
- Provides for immediate stabilization/ consolidation through effective laying techniques/ vegetative growth .
- Water retention capability allows for good spread of vegetation.
- Environment friendly as it is made from natural coir fibre.
- Helps to decrease water flow velocities.



# Dump /Land Fill Side Slope Stabilization & Embankment Protection

## Application Method for Existing Dumps and Embankments:

- The slope should be made free from undulations, soil slurry, mud and sharp projections and compacted with additional earth where ever necessary.
- Anchoring trenches should be excavated at the top and toe of the slope.
- NG Mat should be unrolled across the top trench and along the slope downward, caring to see that it touches the soil surface at all points.
- The mat should be laid such that there is an overlap of 150mm on the sides for anchoring by steel staples or wooden pegs.
- Stapling should be done normally at an interval of 1500 mm both in longitudinal and transverse directions. Special care should be taken to staple NG Mat within the anchoring trenches both at the top and bottom as well.
- The anchoring trenches should be filled up with brick-bats/soil for preventing displacement .

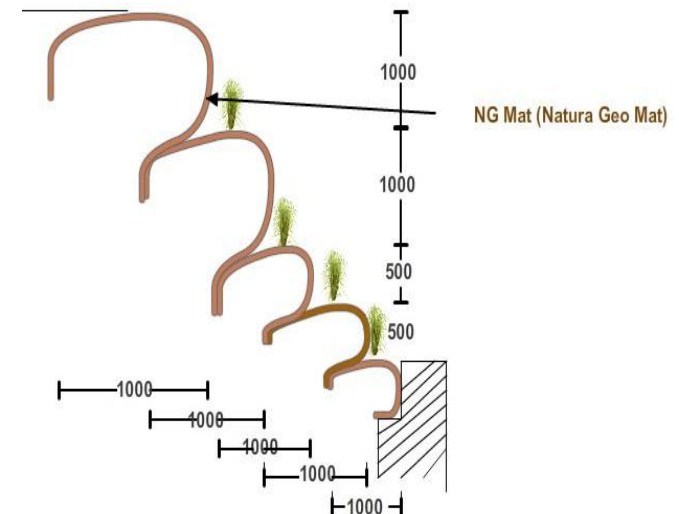




# Dump /Land Fill Side Slope Stabilization & Embankment Protection

## Application Method for New Dumps:

- The NG Mat is to be laid on the surface of the Virgin Land.
- Excavated soil to be placed on the mat to a height of 0.5 meters leaving 3 meters of the mat on either side for the purpose of folding.
- The mat is then folded upwards and inserted into the soil or stapled. This forms the bank of the dump.
- This is then followed by laying another NG Mat on the surface of the new 0.5 meter dump in a similar manner.
- Excavated soil is to be dumped on this surface to a height of 1 meter once again leaving 3 meters on either side for folding.
- This process is to be repeated until the desired height is achieved.



# Roads/ Flyovers – Central Planters

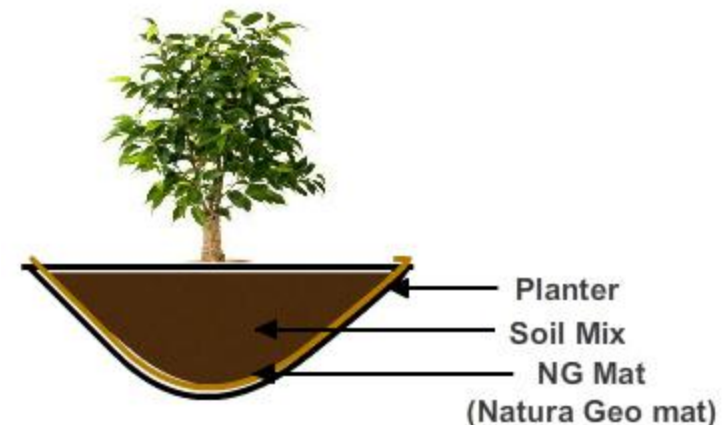
- The NG Mats provide for immediate stabilization/ consolidation of plants through effective laying techniques/ vegetative growth.
- Retains up-to 1 time its weight in water which allows for good spread of vegetation.
- Porosity of the fibre matrix in the NG mat provides for excellent aeration and capillary action.
- Incorporation of the NG mat increase plant health and longevity due to the water retention capability.
- Environment friendly as it is made from coir fibre.
- Performs as a thermal insulator and protects the planters and plants for excessive heat.



NG Mat application

## **Application Method:**

- The NG mat is supplied in the roll form
- The required NG Mat to be laid all round and at bottom of the planting area.
- The planting mix is then laid on top of the above mat.
- Lastly the required plants are planted and allowed to set.



# Landscape Application

- The NG Mat Retains up-to 1 time its weight in water which reduces the watering frequency and maintenance.
- Porosity of the fibre matrix in the NG mat provides for excellent aeration , filtration , reinforcement and capillary action ensuring the media mix receives adequate moisture..
- The NG mat helps the root system of the plant to settle and adjust to any new environment.
- Performs as a thermal insulator and protects the planters and plants from excessive heat.
- Incorporation of the NG mat increase plant health and longevity as it helps maintain temperature and moisture
- Environment friendly as it is made from coir fibre.



# Landscape Application

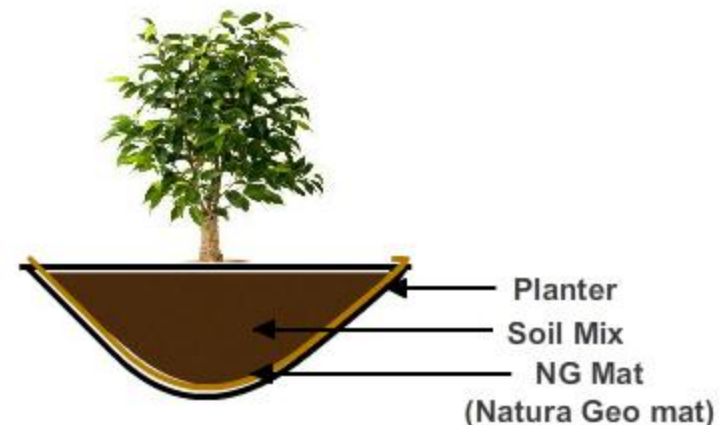
## Application Method for Planters:

- The NG mat is supplied in the roll form
- The required NG Mat to be laid all round and at bottom of the planting area.
- The planting mix is then laid on top of the above mat.
- Lastly the required plants are planted and allowed to set.



## Application Method for Ground Lawn & Ground Covers:

- The NG mat is supplied in the roll form
- The required NG Mat to be laid all round and at bottom of the planting area.
- The planting mix is then laid on top of the above mat.
- Lastly the required Lawn/plants are planted and allowed to set.



# Landscape Application

## **Application Method for Tree/ Plant Protection**

- The NG mat is cut as per the root size of the tree/ plant.
- The required NG Mat is then wrapped around the root system.
- The wrapped tree/plant is placed in the pre-excavated hole.
- The planting mix is then filled and consolidated.



## **Application Method for Grass Pavers**

- Excavation, even spreading and compacting of soil to be done first.
- The NG Mat is then laid over the required area.
- A layer of sand is then required to be laid over the NG Mat.
- Grass pavers are then placed over the sand bed.
- The required soil mixture is then spread over the pavers.
- The Lawn is then planted or dibbled into the paver slots and set.





## **LEED Certification Credits of Natura's Geo Mat**

- SS 5.1-Site Development: Protect or Restore Habitat.
- SS 5.2 Site Development: Maximize Open Space.
- SS 7.1 & 7.2 Heat Island effect.
- WE 1.1 & 1.2 Water efficient landscape.
- MR 5 & 6 Regional Materials & Rapidly Renewable Materials
- ID 1 Innovation in design



# Contact Us

## Natura:

- Is a landscape solutions company that specializes in Green Walls, Roof-top/ Podium gardens and general Landscape design, Implementation and maintenance.
- Natura uses a renewable material in Coir to achieve effective sustainability.

## Contact Us:

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