CCI GEOTEXTILE TUBE

POLYPROPYLENE GEOTEXTILE TUBE

PRODUCT DESCRIPTION:

CCI Geotextile Tube is manufactured from woven high tenacity polypropylene multifilament yarns or flat monofilament yarns, which are woven into a stable network such that the yarns retain their relative position. It is inert to biological degradation and resistant to naturally encountered chemicals, alkalis, and acids. Geotextile Tubes are engineered geotextile structures designed for diverse environmental applications. It effectively protects coastlines from erosion, aid in sediment control and dewatering, support land reclamation projects, and serve as flood barriers. Constructed from high-quality materials, they offer durability and versatility. It is cost-effective, environmentally sustainable, and customizable to project needs, making them indispensable for modern environmental engineering challenges.

PROPERTIES:

1. **Material Composition:** Geotextile Tubes are typically made from high-quality woven or non-woven geotextile fabrics, which provide strength, durability, and resistance to environmental factors such as UV radiation, chemicals, and biological degradation.
2. **Permeability:** These tubes are designed to allow the controlled passage of water while retaining solid particles, making them ideal for dewatering applications, sediment control, and filtration.
3. **Strength and Stability:** Geotextile Tubes exhibit excellent tensile strength and stability, enabling them to withstand the stresses associated with hydraulic and geotechnical applications, including wave action, water currents, and soil erosion.
4. **Flexibility and Conformity:** They possess inherent flexibility, allowing them to conform to various shapes and contours of the terrain, making them suitable for lining irregular surfaces and forming barriers in coastal protection and land reclamation projects.
5. **Chemical Resistance:** Geotextile Tubes are resistant to degradation by a wide range of chemicals commonly found in soil and water, ensuring their long-term performance in demanding environmental conditions.
6. **Customizability:** These tubes are available in various sizes, diameters, and lengths, allowing for customization to suit specific project requirements, whether it be shoreline protection, sediment dewatering, or flood control.
7. **Ease of Installation:** Geotextile Tubes are typically easy to transport, handle, and install, enabling rapid deployment and minimizing construction time and costs.

APPLICATION:

1. **Dewatering and Solid Waste Management**: Geotextile tubes are extensively used for dewatering and managing solid waste in various industries such as mining, construction, and municipal wastewater treatment plants. They efficiently separate solids from liquids, allowing for the disposal or reuse of treated water and the safe containment of solid waste.
2. **Erosion Control and Slope Stabilization**: Geotextile tubes are employed in erosion control and slope stabilization projects to prevent soil erosion and reinforce embankments, slopes, and shorelines. Filled with appropriate materials such as sand, soil, or concrete, they provide structural support and mitigate the effects of water flow and weathering.
3. **Dredging and Sediment Containment**: During dredging operations in water bodies like rivers, lakes, or ports, geotextile tubes are utilized to contain and dewater dredged sediments. They efficiently capture sediments while allowing water to pass through, enabling the separation and disposal of solids and liquids.
4. **Flood Control and Stormwater Management**: Geotextile tubes play a vital role in flood control and stormwater management by creating temporary or permanent barriers to mitigate the impact of flooding. Installed along riverbanks, levees, or coastal areas, they help redirect floodwaters and protect critical infrastructure and communities.
5. **Land Reclamation and Shoreline Restoration**: Geotextile tubes are used in land reclamation projects to create new land areas or restore degraded shorelines and wetlands. By trapping sediments and promoting vegetation growth, they contribute to the rehabilitation of ecosystems and habitats.
6. **Pipeline Protection and Underground Constructions**: In pipeline construction and underground infrastructure projects, geotextile tubes are employed for pipeline protection, cushioning, and trench backfilling. They provide a stable and permeable layer around pipelines, reducing the risk of damage from external forces and improving long-term performance.

7. **Waste Containment and Landfill Capping**: Geotextile tubes are utilized in waste containment systems and landfill capping to provide a protective barrier against contaminants and prevent leachate migration. They are often used in conjunction with geomembranes and other geosynthetic materials to enhance the integrity and longevity of containment structures.

SIZE OF PACKAGE:

As per request

TECHNICAL PARAMETERS:

#	Parameter		Unit	Standard	Value
1.	Mass per unit area		g/m^2	300	308
2.	Breaking Strength	Longitudinal	kN/m	≥65	67
		Transverse		≥50	55
3.	Elongation at break	Longitudinal	%	≤25	18
		Transverse		≤15	11
4.	Trapezoidal Tearing Strength		kN	≥0.4	0.5
5.	Burst Strength		kN	≥3.0	3.2
6.	Sieve Size		Mm	0.1-0.6	0.3
7.	Vertical Permeability Coefficient		cm/s	$K\times(10^{-1}\text{-}10^{-2})$ K=1.0-9.9	$4.7x10^{-2}$
8.	Porosity Rate		%	4-8	8
9.	Tearing Strength	Longitudinal	kN	≥0.6	0.7
		Transverse		≥0.4	0.5
10.	UV Resistance		%	≥70	70
11.	Acid and Alkali Resistance		%	≥70	70

STORAGE:

- Store geotextile tubes in a flat, stable area away from potential hazards such as sharp objects, machinery, or excessive heat sources. Ideally, the storage area should be clean, dry, and free from exposure to direct sunlight.
- Cover the geotextile tubes with a UV-resistant tarp or wrap them in UV-resistant material to protect them from prolonged exposure to sunlight, which can degrade the fabric over time.
- Avoid stacking geotextile tubes directly on top of each other to prevent excessive pressure and potential damage to the lower tubes. Instead, store them horizontally in a single layer.
- Regularly inspect the stored geotextile tubes for any signs of damage, degradation, or environmental factors that may affect their performance. Address any issues promptly to prevent further damage.
- Handle geotextile tubes with care during storage to avoid tears, punctures, or other damage to the fabric. Use appropriate lifting equipment and techniques when moving or transporting the tubes.