



Gabion
Technologies
India Pvt. Ltd.

Jute Geotextiles

The Sturdy Solution for
Slope Erosion Control



Straight from the Specialists

We at Gabion, are a global service provider of geo-synthetics, geotechnical engineering and ground improvement techniques. We offer best-suited solutions for a variety of projects ranging from roads, railways, hydraulics, mining & geo-environment sector. Our headquarter is in New Delhi & we have our branch offices in 8 Indian states with a presence in Bhutan, Nepal & Bangladesh as well. Our manufacturing facilities are based in Himachal Pradesh & Nepal. ISO 9001 certifications held by us are a testament to our quality assurance systems that are considered industry benchmarks. Some of our reputed clientele involves several Government institutions & industry majors like L&T, Tata Projects, Vedanta.



Understanding JGT (Jute Geo-Textiles)

GTI GX Jute Geotextiles (JGT) is a natural variant of man-made geotextiles loosely called 'Geo-synthetics'. JGT has been used successfully to address a host of geo-technical problems encountered in road construction, riverbank erosion, slope erosion, embankment stabilization and soft soil consolidation.

GTI GX JGT is capable of reducing the erosive effects of raindrops while controlling soil washaway from exposed surfaces. JGT degrades naturally & forms mulch that fosters quick vegetative growth. Choosing the right type of JGT and plant species plays a critical role in achieving effective results.

Table 1 mentions different types of JGT with their salient properties that can be applied on embankment slopes of railways and of a hill along the railway tracks. This can control erosive effects of natural agents like the rain and wind.

Species of vegetation needs to be selected in sync with local soil and climatic conditions. GTI GX JGT incidentally, does not draw upon nitrogenous reserves with its degradation and its fibrous residue improves the soil structure. Trials indicate that JGT has a low C-factor (0.004 for 3:1 slope and 0.005 for a 1.5:1 slope on plying retention of soil to the extent of 99.6% and 99.5% respectively).



Different Types of Jute Geo-Textiles



Type 1 - 730 GSM



Type 2 - 500 GSM



Type 3 - 290 GSM



Technical Specifications of Jute Geo-Textiles (Table 1)

Sr	Characteristics	Type 1	Type 2	Type 3	Test Method
1	Material	100% Natural	Jute Fiber	-	-
2	Construction	Plain Weave	-	-	-
3	Weight at 20% MR (in GSM)	730	500	292	2387 : 1969
4	Maximum Length (Metre)	68	68	68	1954 : 1990
5	Width (cm)	122	122	122	1954 : 1990
6	Ends/dm	7	6.5	11	1963 : 1981
7	Picks/dm	7	4.5	12	1963 : 1981
8	Thickness (mm)	7	5	3	7702 : 1975
9	Aperture Size (mm)	12x12	13x20	8x7	2405 (Pt I) : 1980
10	Minimum Breaking Load (N/10 cm)				2405 (Pt II) : 1980
	a. Machine Direction (Warp-way)	1200	1040	1000	1969 : 1985
	b. Cross Direction (Weft-way)	1200	790	1000	1969 : 1985 (See Note 1)
11	Maximum Elongation at break (in percent)				
	a. Machine Direction (Warp-way)	10	11	12	1969 : 1985 (See Note-1)
	b. Cross Direction (Weft-way)	12	15	12	1969 : 1985 (See Note-1)



Comparison between Conventional method & GTI GX JGT

Stone Pitching/Concrete	Geomat Blanket
Stone & Cement are not environment friendly	Made from natural jute fibre which is environment friendly
Immediate stabilization, limited life of concrete and may need maintenance	Immediate stabilization that strengthens over time, longer life and maintenance free
Increases water velocities	Decreases water velocities
More likely to cause downstream erosion	Works with natural forces rather than fighting them
Vegetation cannot be grown on stones & concrete	A perfect medium for vegetation
Aesthetically displeasing	Aesthetically pleasing
Expensive	Economical & Sustainable





Accomplished Projects

01. Uttarakhand Disaster Recovery Project (UDRP)
 - Kapkot Sama Tejam Slope Protection Work Motor Road KM-77 (UID=4050)
 - Dobra Bhliyana Slope Protection Work Motor Road KM-10 (UID=4047)
02. Four laning of Devihalli Hassan Section from Km 110.000 to Km 189.5000 of NH – 48 in the state of Karnataka under NHDP Phase IIIA on DBFOT basis.
03. Four laning of Moradabad-Bareilly road section of NH-24 from Km 190 to Km 236.5 Uttar Pradesh
04. Strengthening and widening of existing 2 lane road to 4-lane dual carriageway from Km 12.6 to Km 84.7 of NH 3(Indore-Khalghat Section) in the state of Madhya Pradesh.
05. Supplying, stacking, spreading, and laying of blanket materials as per RDSO's specifications along with all other ancillary works between KM 77.00 to KM 93.00 including Jolaibari Station yard in connection with Agartala Sabroom, new BG Railway Line Project.
06. Supplying, stacking, spreading, and laying of blanket materials as per RDSO's specifications, spreading of ballast on finished formation, dismantling of MG track, linking of BG track along with all other ancillary works between KM 0.00 to KM 14.00 ie. between Agartala and Bishalgarh Railway Station in connection with Agartala - Sabroom, New Railway Line Project.
07. Supplying stacking, spreading, and laying of blanket materials as per RDSO's specifications along with all other ancillary works between KM 64.00 to KM 77.00 i.e. between Santirbazar - Belonia including Santirbazar & Belnonia station yard in connection with Agartala - Sabroom, New Railway Line Project.
08. Earthwork in the embankment in filling/ cutting to form formation profile as per BG Standard including mechanical compaction, construction of minor bridges at different locations and other ancillary work between Tetelia - Byrnihat (field Ch.0.00 Km to 16.00 KM) including triangular leg towards Digaru as measured from Tetelia in connection with the construction of the New Railway Line from Tetelia to Byrnihat.



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