

**SUBSURFACE DRAINAGE WITH GEOSYNTHETIC FOR SEPARATION,  
FILTRATION & DRAINAGE**

**Project Description**

- Project:** Construction of Link Road between Paithan Road to Nagar Road CH 0/000 to 4/041 including Bridge at CH 3/270 to 3/340 Tal & Dist. -Aurangabad
- Client:** Maharashtra State Road Development Corporation (MSRDC), Aurangabad.
- Contractor:** Eagle Infra India Ltd., Ulhasnagar, Dist.-Thane
- Product:** TFI PR-25 Non-woven Needle Punched Geotextile for Separation, Filtration & Drainage as per IRC: SP: 59-2002 & MORTH Clause-700
- Manufacturer:** TechFab (India) Industries Ltd.
- Design Concept:** TechFab (India) Industries Ltd.
- Carriageway:** Four Lane



Subgrade Preparation (Stage-I)



Subgrade Preparation (Stage-II)

**Problem:**

Link road between Paithan road to Nagar road CH 0/000 to 4/041 including bridge at CH 3/270 to 3/340 Tal & Dist.-Aurangabad passes through an agriculture land of sugarcane, rich black cotton soil having a very low CBR value and erosion occurred due to cross-drain & water logged areas. The road was subjected to heavy vehicular traffic intensity because of connectivity between Nagar & Paithan Road and was also surrounded by the irrigable land on both sides.



**Subgrade Stabilization**



**Laying of TFI PR-25**



**Visit of Geotextile Expert Team with Consultant & Department**



**Placing of WMM Layer over PR-25**

Maharashtra State Road Development Corporation (MSRDC), thereby awarded the construction of Road from Paithan to Nagar Road 0/000 to 4/041 including Bridge at CH 3/270 to 3/340 Tal & Dist.-Aurangabad respectively.

While proposing, following problems were considered - (a) Existence of black cotton soil at construction site, (b) Water logging problems during heavy rain and (c) Increasing traffic intensity in upcoming years. Black cotton soil contains montmorillonite mineral due to which soil becomes very slushy when comes in contact with water and it gets brittle on drying. These alternate cycles of wetting and drying makes it highly unsuitable for any type of construction. Conventional solution may require very high crust thickness to overcome the above mentioned problems - which makes it uneconomical.

**The Solution:**

There is a need of construction of new road (By Pass) connecting Aurangabad-Paithan & Aurangabad-Ahmednagar road to divert heavy vehicular traffic of both MIDC's situated on Paithan road & Walung to Nagar road. With the construction of link road frequent jams at Nagar naka road is almost vanished & also saves precious time to cover approx. 10-15Km. This new connectivity passes through rich BC soil and agriculture land on both sides and heavy loaded vehicular traffic of MIDC.

To avoid further failure of road in terms of settlement, unevenness, cracking, etc., TechFab (India) Industries Ltd suggested the use of TFI - PR-25 for the subsurface drainage of the existing road stretches comprising of black cotton soil, high traffic intensity & water logging.



After Completion of Project



After 1.5Yrs of Period

TechGeo PR series Nonwoven Geotextile is strong, flexible and dimensionally stable fabric structure, with optimum pore sizes and high permeability. TechGeo PR Geotextile can be used as a separator, filter & drainage purpose. These engineered geotextiles is used, where less severe condition is prevailed, with high water level, it has been recommended to use of TechGeo Nonwoven Geotextile.

**Benefits of TechGeo Nonwoven Geotextile:**

1. Acts as a “Filter” by preventing the backfill material from being washed out from structure.
2. Acts as a “Separator” between the fill material and the pavement and thereby prevents the mixing of both.

For further details kindly contact:

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