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#### **CONSTRUCTION WORKS**



SLAB AND BUILDING FOUNDATIONBASIN3032

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## FIELD OF GEOSYNTHETICS

Development and manufacturing of nonwoven fabrics for geotechnical, acoustic, horticultural, thermal and industrial applications, as well as distribution of environmental protection solutions. Creating strategic partnerships promotes the marketing of our innovations.

Together, we have chosen to manage our resources in a responsible manner, to contribute to the development of future generations.

### **SECTORS**



**ROAD WORKS** 



**LANDSCAPING** 





**HYDRAULIC WORKS** 







## TEMPORARY ROADWAY



Geotextiles and geogrids are used in temporary roadways to improve the structural behaviour of the in situ foundation's materials.

The main functions of geosynthetics for this application are separation and reinforcement.





Preventing the contamination of the foundation's

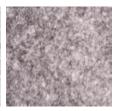
Due to their three-dimensional construction and their filtration opening size, nonwoven geotextiles provide an improved permeability over woven geotextile.

#### TX-80, TX-90 OR TX-170 NONWOVEN GEOTEXTILE

· The choice of geotextile will be made by taking into account the thickness, burst strength and tear properties needed.







A separator can preserve the foundation but offers no significant reinforcement in the presence of soils with low bearing capacity.



### REINFORCEMENT

Improves the soil bearing capacity by distributing the load over a larger area.

#### TX-F NONWOVEN MATERIAL USED IN FORESTRY

- An ideal solution for ballasting at the ends of culvert and for developing forestry roads.
- A separator specifically designed for the **forest industry** that meets their minimal requirements for tensile strength and filtering opening size.
- · Reduces erosion and inflow of particles in streams.
- · Extends the life of completed work near culverts.

#### TX-R GEOCOMPOSITE

REINFORCEMENT OF UNSTABLE SOIL

- · Used as reinforcement when work site constraints are judged to be **important**.
- TX-R improves the soil bearing capacity, while decreasing the thickness of the fill required for a given load.
- · A geocomposite combining a nonwoven geotextile reinforced with a woven geotextile.





#### **BX2000 OR BX3000 BIAXIAL GEOGRIDS**

QUICK AND EASY INSTALLATION

- · Biaxial geogrids are used as reinforcement when work site constraints are considered severe.
- They distribute loads over a larger area, reducing the vertical pressure applied to the ground.
- This economic and effective alternative, compared to conventional methods of stabilization, strengthens the pavement structure and increases the durability of the roadway surface, while allowing the reduction of the thickness of the granular layer.



- Their quick and easy installation facilitates access to the work site under difficult conditions.
- · When the geogrid is used at the interface of two different materials, it is recommended to also use a geotextile separator.



\*\* Several factors such as work site constraints, traffic loading, type of infrastructure soil and foundation materials will guide the choice of



# PERMANENT PUBLIC ROADWAY



Geotextiles and geogrids are used in permanent public roadways to preserve and increase the efficiency of granular materials from a mechanical and hydraulic point of view.

The main functions of geosynthetics for this application are separation, reinforcement, drainage and concrete curing.

**SEPARATION** Preventing the contamination of the foundation's granular materials at the infrastructure line.

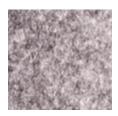
Due to their three-dimensional construction and their filtration opening size, nonwoven geotextiles provide an improved permeability over woven geotextile.

#### TX-70, TX-90 OR TX-170 NONWOVEN GEOTEXTILE

• The choice of geotextile will be made by taking into account the thickness, burst strength and tear properties needed.







A separator can preserve the foundation but offers no significant reinforcement in the presence of soils with low bearing capacity.

It is also possible to use the concept of drainage trench for road drainage. Please refer to the Drainage trench section of this brochure.



### REINFORCEMENT

Improves the soil bearing capacity by distributing the load over a larger area.

#### **TX-R GEOCOMPOSITE**

REINFORCEMENT OF UNSTABLE SOIL

- · Used as reinforcement when work site constraints are judged to be important.
- TX-R improves the soil bearing capacity, while decreasing the thickness of the fill required for a given load.
- combining Geocomposite nonwoven geotextile reinforced with a woven geotextile.
- · It provides some transmissivity, which helps to convey surface water to the edge of the road.



#### **BX2000 OR BX3000 BIAXIAL GEOGRIDS**

QUICK AND EASY INSTALLATION

- Biaxial geogrids are used as reinforcement when work site constraints are considered severe.
- · They distribute loads over a larger area, reducing the vertical pressure applied to the ground.
- · This economic and effective alternative, compared to conventional methods of stabilization,

strengthens the pavement structure and increases the durability of the roadway surface, while allowing the reduction of the thickness of the granular layer.

- · By facilitating the nesting of the aggregates, they also limit the lateral movement of foundation materials.
- · Their quick and easy installation facilitates access to the work site under difficult conditions.
- · When the geogrid is used at the interface of two different materials, it is recommended to also use a geotextile sepa-





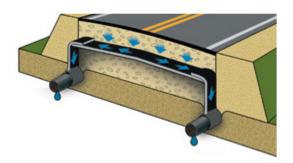
#### DRAINCOTEX GEOCOMPOSITE

VERTICAL DRAINAGE

DRAINCOTEX geocomposite was especially designed to direct water vertically towards a collecting pipe. DRAINCOTEX is composed of two nonwoven geotextiles wrapped around a geotextile core having a **higher discharge capacity than the surrounding soil**. A filtering envelope (sheath) is provided at the lower end for insertion of the perforated pipe. Inside the sheath is a nylon cord to facilitate insertion of the selected pipe.



DRAINCOTEX system also separates the foundation from the shoulder soil and protects the soil from the margin effect. It may be used alone or with the DRAINATEX horizontal drainage system.



#### **DRAINATEX GEOCOMPOSITE**

HORIZONTAL DRAINAGE

DRAINATEX geocomposite eliminates hydrostatic suppression beneath the road surface and accelerates the evacuation of infiltrated water towards the DRAINCOTEX vertical drainage elements.

DRAINATEX maintains much higher hydraulic transmissivity than the in situ soil, even with the weight of the roadway, due to its durable composition and high mechanical strength.

#### **BENEFITS**

- Allows a significant reduction of the water content in the pavement by creating a water barrier and moving the water to the outside of the pavement structure.
- Provides superior mechanical strength and flexibility.
- · Reduces small particle migration.
- · Increases the service life of roads and highways.



### **CONCRETE CURING**

#### **TX-200B NONWOVEN GEOTEXTILE**

ABSORBENT FABRIC FOR CONCRETE CURE

- TX-200B is designed to maintain optimum hydration of concrete, preventing evaporation during the curing period.
- It increases the quality of curing, helps to reduce cracking problems and improves durability and appearance of surface concrete when used immediately after the finishing operations of a concrete surface.
- TX-200B provides superior resistance to freeze and thaw cycles as well as de-icing salts.
- Superior to jute, the TX-200B's structure allows it to effectively retain moisture, reducing the
  constant need to water the concrete during its cure.
- Reusable, it can be factory-sewn to reduce its installation time



<sup>\*\*</sup> Several factors such as work site constraints, traffic loading, type of infrastructure soil and foundation materials will guide the choice of geosynthetics to use. For more information, please contact your Soleno representative.





## PERMANENT PRIVATE ROADWAY



Geotextiles and geogrids are used in permanent private roadways to improve the structural behaviour of the foundation's granular materials.

The main functions of geosynthetics for this application are separation and reinforcement.

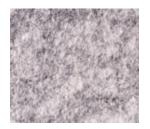


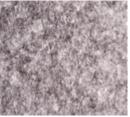
Preventing the contamination of the foundation's granular materials at the infrastructure line.

Due to their three-dimensional construction and their filtration opening size, nonwoven geotextiles provide an **improved permeability** over woven geotextile.

#### TX-90 OR TX-170 NONWOVEN GEOTEXTILE

• The choice of geotextile will be made by taking into account the thickness, burst strength and tear properties needed.





A separator can preserve the foundation but offers no significant reinforcement in the presence of soils with low bearing capacity.



### REINFORCEMENT

Improves the soil bearing capacity by distributing the load over a larger area.

#### TX-R GEOCOMPOSITE

REINFORCEMENT OF UNSTABLE SOIL

- Used as reinforcement when work site constraints are judged to be important.
- TX-R improves the soil bearing capacity, while decreasing the thickness of the fill required for a given load.
- Geocomposite combining a nonwoven geotextile reinforced with a woven geotextile.
- It provides some transmissivity, which helps to convey surface water to the edge of the road.



### • They distribute loads over a lar-

constraints

severe.

Biaxial geogrids are used as

reinforcement when work site

are

- ger area, reducing the vertical pressure applied to the ground.
- This economic and effective alternative, compared to conventional methods of stabilization, strengthens the pavement structure and increases the durability of the roadway surface, while allowing the reduction of the thickness of the granular layer.

considered

- By facilitating the nesting of the aggregates, they also limit the lateral movement of foundation materials.
- Their **quick and easy installation** facilitates access to the work site under difficult conditions.
- When the geogrid is used at the interface of two different materials, it is recommended to also use a geotextile separator.



\*\* Several factors such as work site constraints, traffic loading, type of infrastructure soil and foundation materials will guide the choice of geosynthetics to use. For more information, please contact your Soleno representative.







## PUBLIC ACCESS ROAD



Geotextiles and geogrids are used in public access roads, such as municipal parks and access roads for emergency vehicles, to improve the mechanical behaviour of the foundation's granular materials.

The main functions of geosynthetics for this application are separation and reinforcement.

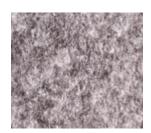


**SEPARATION** Preventing the contamination of the foundation's granular materials at the infrastructure line.

Due to their three-dimensional construction and their filtration opening size, nonwoven geotextiles provide an **improved permeability** over woven geotextile.

#### TX-90 OR TX-170 NONWOVEN GEOTEXTILE

· The choice of geotextile will be made by taking into account the thickness, burst strength and tear properties needed.





A separator can preserve the foundation but offers no significant reinforcement in the presence of soils with low bearing capacity.



### REINFORCEMENT

Improves the soil bearing capacity by distributing the load over a larger area.

#### **TX-R GEOCOMPOSITE**

REINFORCEMENT OF UNSTABLE SOIL

- Used as reinforcement when work site constraints are judged to be important.
- TX-R improves the soil bearing capacity, while decreasing the thickness of the fill required for a given load.
- Geocomposite combining a nonwoven geotextile reinforced with a woven geotextile.
- It provides some transmissivity, which helps to convey surface water to the edge of the road.

#### **GEOCELLS**

#### FILLING WITH IN SITU MATERIALS

- Cellular confinement system made of polyethylene honeycomb structure, lightweight and flexible with three-dimensional cells.
- Used for the reinforcement of roads, by confining the materials in place or for non-compactable materials, such as clean stone.



- They help stabilize low-bearing soils using a single layer of material, by effectively distributing applied loads.
- Resistant to lateral movement, they can transform a poor quality fill into stable bearing surfaces.

#### **BX2000 OR BX3000 BIAXIAL GEOGRIDS**

QUICK AND EASY INSTALLATION

- Biaxial geogrids are used as reinforcement when work site constraints are considered severe.
- They distribute loads over a larger area, reducing the vertical pressure applied to the ground.
- XX
- This economic and effective alternative, compared to conventional methods of stabilization, strengthens the pavement structure and increases the durability of the roadway surface, while allowing the reduction of the thickness of the granular layer.
- By facilitating the nesting of the aggregates, they also limit the lateral movement of foundation materials.
- Their quick and easy installation facilitates access to the work site under difficult conditions.
- When the geogrid is used at the interface of two different materials, it is recommended to also use a geotextile separator.

\*\* Several factors such as work site constraints, traffic loading, type of infrastructure soil and foundation materials will guide the choice of geosynthetics to use. For more information, please contact your Soleno representative.



## COMMERCIAL PARKING AREAS

Geotextiles and geogrids are used in commercial parking areas to improve the mechanical behaviour of the foundation's granular materials.



The main functions of geosynthetics for this application are separation and reinforcement.



**SEPARATION** Preventing the contamination of the foundation's granular materials at the infrastructure line.

Due to their three-dimensional construction and their filtration opening size, nonwoven geotextiles provide an improved permeability over woven geotextile.

#### TX-90 OR TX-170 NONWOVEN GEOTEXTILE

• The choice of geotextile will be made by taking into account the thickness, burst strength and tear properties needed.





A separator can preserve the foundation but offers no significant reinforcement in the presence of soils with low bearing capacity.



### REINFORCEMENT

Improves the soil bearing capacity by distributing the load over a larger area.

#### **TX-R GEOCOMPOSITE**

REINFORCEMENT OF UNSTABLE SOIL

- Used as reinforcement when work site constraints are judged to be important.
- TX-R improves the soil bearing capacity, while decreasing the thickness of the fill required for a given load.
- Geocomposite combining nonwoven geotextile reinforced with a woven geotextile.
- It provides some transmissivity, which helps to convey surface water to the edge of the road.

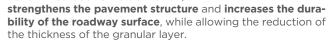




### **BX2000 OR BX3000 BIAXIAL GEOGRIDS**

QUICK AND EASY INSTALLATION

- Biaxial geogrids are used as reinforcement when work site constraints are considered severe.
- They distribute loads over a larger area, reducing the vertical pressure applied to the ground.
- This economic and effective alternative, compared to conventional methods of stabilization,



- By facilitating the nesting of the aggregates, they also limit the lateral movement of foundation materials.
- Their quick and easy installation facilitates access to the work site under difficult conditions.
- · When the geogrid is used at the interface of two different materials, it is recommended to also use a geotextile separator.



\*\* Several factors such as work site constraints, traffic loading, type of infrastructure soil and foundation materials will guide the choice of geosynthetics to use. For more information, please contact your Soleno representative.



# STORAGE AND LOADING AREAS





The main functions of geosynthetics for this application are separation and reinforcement.



**SEPARATION** Preventing the contamination of the foundation's granular materials at the infrastructure line.

Due to their three-dimensional construction and their filtration opening size, nonwoven geotextiles provide an improved permeability over woven geotextile.

#### TX-90 OR TX-170 NONWOVEN GEOTEXTILE

• The choice of geotextile will be made by taking into account the thickness, burst strength and tear properties needed.





A separator can preserve the foundation but offers no significant reinforcement in the presence of soils with low bearing capacity.



### REINFORCEMENT

Improves the soil bearing capacity by distributing the load over a larger area.

#### **TX-R GEOCOMPOSITE**

REINFORCEMENT OF UNSTABLE SOIL

- Used as reinforcement when work site constraints are judged to be important.
- TX-R improves the soil bearing capacity, while decreasing the thickness of the fill required for a aiven load.
- Geocomposite combining nonwoven geotextile reinforced with a woven geotextile.
- It provides some transmissivity, which helps to convey surface water to the edge of the road.

#### 2002W, 2004W OR 2006W WOVEN GEOTEXTILE REINFORCEMENT AND SOIL SEPARATION

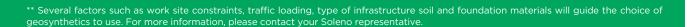
- · Used as reinforcement when work site constraints are judged to be important.
- · Woven geotextiles improves the soil bearing capacity, while decreasing the thickness of the fill required for a given load.



#### **BX2000 OR BX3000 BIAXIAL GEOGRIDS**

QUICK AND EASY INSTALLATION

- Biaxial geogrids are used as reinforcement when work site constraints are considered severe.
- They distribute loads over a larger area, reducing the vertical pressure applied to the ground.
- · This economic and effective alternative, compared to conventional methods of stabilization, strengthens the pavement structure and increases the durability of the roadway surface, while allowing the reduction of the thickness of the granular laver.
- By facilitating the nesting of the aggregates, they also limit the lateral movement of foundation materials.
- Their quick and easy installation facilitates access to the work site under difficult conditions.
- · When the geogrid is used at the interface of two different materials, it is recommended to also use a geotextile separator.







## ROADWAY WIDENING



Geotextiles and geogrids are used in roadway widening works to preserve and increase the efficiency of granular materials from a mechanical and hydraulic point of view.

The main functions of geosynthetics for this application are separation, reinforcement and drainage.



Preventing the contamination of the foundation's granular materials at the infrastructure line.

Due to their three-dimensional construction and their filtration opening size, nonwoven geotextiles provide an **improved permeability** over woven geotextile.

#### TX-70, TX-90 OR TX-170 NONWOVEN GEOTEXTILE

• The choice of geotextile will be made by taking into account the thickness, burst strength and tear properties needed.







A separator can preserve the foundation but offers no significant reinforcement in the presence of soils with low bearing capacity.



### REINFORCEMENT

Improves the soil bearing capacity by distributing the load over a larger area.

#### **TX-R GEOCOMPOSITE**

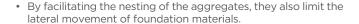
REINFORCEMENT OF UNSTABLE SOIL

- Used as reinforcement when work site constraints are judged to be important.
- TX-R improves the soil bearing capacity, while decreasing the thickness of the fill required for a given load.
- Geocomposite combining a nonwoven geotextile reinforced with a woven geotextile.
- It provides some **transmissivity**, which helps to convey surface water to the edge of the road.

Soleno also offers products comply with standards of the following canadian provinces: ON, PE, NB, NL and NS. For more information, please contact your Soleno representative.



- Biaxial geogrids are used as reinforcement when work site constraints are considered severe.
- They distribute loads over a larger area, reducing the vertical pressure applied to the ground.
- This economic and effective alternative, compared to conventional methods of stabilization, strengthens the pavement structure and increases the durability of the roadway surface, while allowing the reduction of the thickness of the granular layer.



- Their quick and easy installation facilitates access to the work site under difficult conditions.
- When the geogrid is used at the interface of two different materials, it is recommended to also use a geotextile separator.



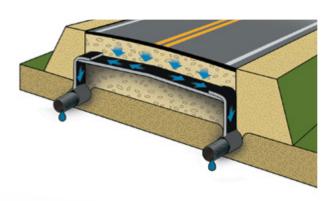
#### **DRAINCOTEX GEOCOMPOSITE**

VERTICAL DRAINAGE

DRAINCOTEX geocomposite was especially designed to direct water vertically towards a collecting pipe. DRAINCOTEX is composed of two nonwoven geotextiles wrapped around a geotextile core having a **higher discharge** capacity than the surrounding soil. A filtering envelope (sheath) is provided at the lower end for insertion of the perforated pipe. Inside the sheath is a nylon cord to facilitate insertion of the selected pipe.



DRAINCOTEX system also separates the foundation from the shoulder soil and protects the soil from the margin effect. It may be used alone or with the DRAINATEX horizontal drainage system.



#### **DRAINATEX GEOCOMPOSITE**

HORIZONTAL DRAINAGE

DRAINATEX geocomposite eliminates hydrostatic suppression beneath the road surface and accelerates the evacuation of infiltrated water towards the DRAINCOTEX vertical drainage elements.

DRAINATEX maintains much higher hydraulic transmissivity than the in situ soil, even with the weight of the roadway, due to its durable composition and high mechanical strength.

#### **BENEFITS:**

- Allows a significant reduction of the water content in the pavement by creating a water barrier and moving the water to the outside of the pavement structure.
- · Provides superior mechanical strength and flexibility.
- Reduces small particle migration.
- Increases the service life of roads and highways.

\*\* Several factors such as work site constraints, traffic loading, type of infrastructure soil and foundation materials will guide the choice of geosynthetics to use. For more information, please contact your Soleno representative.





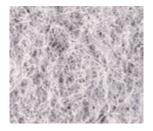
The geocomposite installed around the perimeter of a manhole or a catch basin increases the structure's lifespan.



PROTECTION Reduces the effects of frost heave on catch basins and concrete manholes.

#### **TX-MP GEOCOMPOSITE**

- · Consisting of a nonwoven material laminated to a PVC geomembrane which surrounds the concrete manhole, it helps in the evacuation of water while restricting surface movement and heaving due to frost action.
- TX-MP, whose core in contact with the concrete manhole, allows the evacuation of infiltrated water between the frame and the paving, while the PVC geomembrane creates a discontinuity between the ground and the manhole, thanks to its low coefficient of friction.
- It prevents the vertical movement of concrete manhole sections upon frost heaving of the ground that would cause it to become higher relative to the roadway grade.







## AIRPORT RUNWAYS



Geotextiles and geogrids are used in airport runways to preserve and increase the efficiency of granular materials from a mechanical and hydraulic point of view.

The main functions of geosynthetics for this application are separation, reinforcement, drainage and concrete curing.

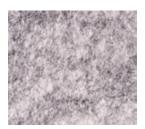


Preventing the contamination of the foundation's granular materials at the infrastructure line.

Due to their three-dimensional construction and their filtration opening size, nonwoven geotextiles provide an **improved permeability** over woven geotextile.

#### TX-90 OR TX-170 NONWOVEN GEOTEXTILE

• The choice of geotextile will be made by taking into account the thickness, burst strength and tear properties needed.





A separator can preserve the foundation but offers no significant reinforcement in the presence of soils with low bearing capacity.



### REINFORCEMENT

Improves the soil bearing capacity by distributing the load over a larger area.

### TX-R GEOCOMPOSITE REINFORCEMENT OF UNSTABLE SOIL

- Used as reinforcement when work site constraints are judged to be important.
- TX-R improves the soil bearing capacity, while decreasing the thickness of the fill required for a given load.
- Geocomposite combining a nonwoven geotextile reinforced with a woven geotextile.
- It provides some transmissivity, which helps to convey surface water to the edge of the road.





#### **BX2000 OR BX3000 BIAXIAL GEOGRIDS**

QUICK AND EASY INSTALLATION

- Biaxial geogrids are used as reinforcement when work site constraints are considered severe.
- They distribute loads over a larger area, reducing the vertical pressure applied to the ground.
- This economic and effective alternative, compared to conventional methods of stabilization, strengthens the pavement structure and increases the durability of the roadway surface, while allowing the reduction of the thickness of the granular layer.
- By facilitating the nesting of the aggregates, they also limit the lateral movement of foundation materials.
- Their quick and easy installation facilitates access to the work site under difficult conditions.
- When the geogrid is used at the interface of two different materials, it is recommended to also use a geotextile separator





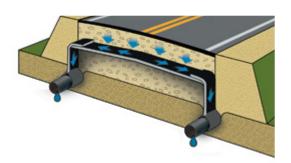
#### **DRAINCOTEX GEOCOMPOSITE**

VERTICAL DRAINAGE

DRAINCOTEX geocomposite was especially designed to direct water vertically towards a collecting pipe. DRAINCOTEX is composed of two nonwoven geotextiles wrapped around a geotextile core having a **higher discharge** capacity than the surrounding soil. A filtering envelope (sheath) is provided at the lower end for insertion of the perforated pipe. Inside the sheath is a nylon cord to facilitate insertion of the selected pipe.



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#### **DRAINATEX GEOCOMPOSITE**

HORIZONTAL DRAINAGE

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DRAINATEX maintains much higher hydraulic transmissivity than the in situ soil, even with the weight of the roadway, due to its durable composition and high mechanical strength.

#### **BENEFITS:**

- Allows a significant reduction of the water content in the pavement by creating a water barrier and moving the water to the outside of the pavement structure.
- · Provides superior mechanical strength and flexibility.
- Reduces small particle migration.
- · Increases the service life of roads and highways.



## **CONCRETE CURING**

#### **TX-200B NONWOVEN GEOTEXTILE**

ABSORBENT FABRIC FOR CONCRETE CURE

- TX-200B is designed to maintain optimum hydration of concrete, preventing evaporation during the curing period.
- It increases the quality of curing, helps to reduce cracking problems and improves durability and appearance of surface concrete when used immediately after the finishing operations of a concrete surface.
- TX-200B provides superior resistance to freeze and thaw cycles as well as de-icing salts.
- Superior to jute, the TX-200B's structure allows it to effectively retain moisture, reducing the
  constant need to water the concrete during its cure.
- Reusable, it can be factory-sewn to reduce its installation time.



\*\* Several factors such as work site constraints, traffic loading, type of infrastructure soil and foundation materials will guide the choice of geosynthetics to use. For more information, please contact your Soleno representative.





## RAILWAY TRACKS



Geotextiles and geogrids are used to improve the structural behaviour underneath railways.

The main functions of geosynthetics for this application are separation and reinforcement.



Preventing the contamination of the foundation's

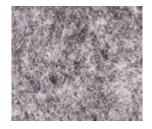
Due to their three-dimensional construction and their filtration opening size, nonwoven geotextiles provide an improved permeability over woven geotextile.

#### **TX-300 NONWOVEN GEOTEXTILE**

GOOD RESISTANCE TO BURSTING

• Provides greater burst strength and tear resistance that might be caused by the vibrations of moving trains.

A separator can preserve the foundation but offers no significant reinforcement in the presence of soils with low bearing capacity.





### REINFORCEMENT

Improves the soil bearing capacity by distributing the load over a larger area.

#### TX-800 OR TX-1600 NONWOVEN GEOTEXTILE

- TX-800 and TX-1600 improve the soil bearing capacity and provide long-term stability for foundation layers.
- Provide increased protection against perforation.





#### TX-R GEOCOMPOSITE

REINFORCEMENT OF UNSTABLE SOIL

- Used as reinforcement when work site constraints are judged to be important.
- TX-R improves the soil bearing capacity, while decreasing the thickness of the fill required for a given load.
- Geocomposite combining nonwoven geotextile reinforced with a woven geotextile.
- · It provides some transmissivity, which helps to convey surface water to the edge of the road.



#### **BX2000 OR BX3000 BIAXIAL GEOGRIDS**

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- · By facilitating the nesting of the aggregates, they also limit the lateral movement of foundation materials.
- · Their quick and easy installation facilitates access to the work site under difficult conditions.
- · When the geogrid is used at the interface of two different materials, it is recommended to also use a geotextile separator.



\*\* Several factors such as work site constraints, traffic loading, type of infrastructure soil and foundation materials will guide the choice of geosynthetics to use. For more information, please contact your Soleno representative.



## SLAB AND BUILDING FOUNDATION



A filtration geotextile to protect the building foundation drainage system, a geocomposite for draining water from the surface of structures, and a geotextile to improve the cure of poured concrete are used during construction of slab and building foundation.

The main functions of geotextiles for this application are filtration, drainage and curing concrete.





The composition of geotextiles can restrict the flow of particles carried by the movement of ground water.

Due to their three-dimensional construction and their filtration opening size, nonwoven geotextiles provide an **improved permeability** over woven geotextile.

#### TX-70, TX-80 OR TX-110 NONWOVEN GEOTEXTILE

- Filtering geotextile installed around the clean stone placed around the foundation drain.
- TX-110 is used where high permeability is required.









### **DRAINAGE**

Prefabricated drainage systems that promote the drainage of water from the surface of building foundations.

#### DRAINATEX AND DRAINCOTEX GEOCOMPOSITE

VERTICAL DRAINAGE

DRAINATEX geocomposite **eliminates hydrostatic suppression** under a concrete slab or on foundation walls.

DRAINATEX maintains much higher hydraulic transmissivity than the surrounding soil, even with the weight of the fill, due to its durable composition and high mechanical strength.

#### **BENEFITS**

- Allows a significant reduction of the water content on the surface of the structure by creating a water barrier and by keeping the water away from the slab or foundation walls.
- Provides superior mechanical strength and flexibility.
- Increases the service life of roads and highways.





### **CONCRETE CURING**

#### **TX-200B NONWOVEN GEOTEXTILE**

ABSORBENT FABRIC FOR CONCRETE CURE

- TX-200B is designed to **maintain optimum hydration of concrete**, preventing evaporation during the curing period.
- It increases the quality of curing, helps to reduce cracking problems and improves durability and appearance of surface concrete when used immediately after the finishing operations of a concrete surface.
- TX-200B provides superior resistance to freeze and thaw cycles as well as de-icing salts.
- Superior to jute, the TX-200B's structure allows it to effectively retain moisture, reducing the constant need to water the concrete during its cure.
- Reusable, it can be factory-sewn to reduce its installation time.



<sup>\*\*</sup> Several factors such as work site constraints, type of in situ soil and fill materials will guide the choice of geosynthetics to use. For more information, please contact your Soleno representative.



A geotextile used for separating the natural soil from granular materials placed at the bottom and on slopes of a non-watertight basin. A geotextile provides protection against geomembrane puncture in watertight basin applications.

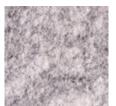


**SEPARATION** Preventing the contamination of the foundation's granular materials at the infrastructure line.

Due to their three-dimensional construction and their filtration opening size, nonwoven geotextiles provide an **improved permeability** over woven geotextile.

#### TX-90 OR TX-170 NONWOVEN GEOTEXTILE

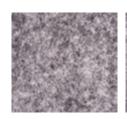
 The choice of geotextile will be made by taking into account the thickness, burst strength and tear properties needed.





### TX-300, TX-800 OR TX-1600 NONWOVEN GEOTEXTILE GOOD RESISTANCE TO BURSTING

- · Provide greater burst strength and tear resistance.
- In a non-watertight basin, geotextiles are used to counter soil leaching under the riprap.
- Can replace a sand cushion.









## **PROTECTION**

Protecting the geomembrane against constraints or damage in a watertight basin.

#### TX-300, TX-800 OR TX-1600 NONWOVEN GEOTEXTILE

GOOD RESISTANCE TO BURSTING

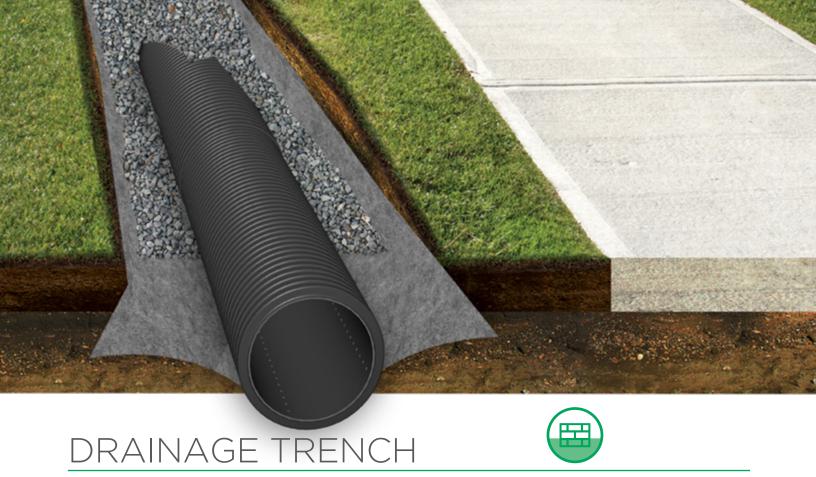
- The choice of geotextile will be made by taking into account the thickness, burst strength and tear properties needed.
- In an watertight basin, geotextiles are used on each side of a geomembrane in order to protect the liner against puncturing.
- Can replace a sand cushion.







\*\* Several factors such as work site constraints, type of in situ soil and fill materials or type of riprap will guide the choice of geosynthetics to use. For more information, please contact your Soleno representative.



A geotextile enclosing draining granular materials, used to filter fine particles and separate different particle size materials.

Due to their three-dimensional construction and their filtration opening size, nonwoven geotextiles provide an **improved permeability** over woven geotextile.



## **FILTRATION AND SEPARATION**

The composition of geotextiles can restrict the flow of particles carried by the movement of ground water, while preventing the mixture of different particle size materials.

#### TX-70, TX-80 OR TX-110 NONWOVEN GEOTEXTILE

- Filtering geotextile installed around the clean stone placed around the drain.
- TX-110 is used where high permeability is required.







Soleno also offers products comply with standards of the following canadian provinces: ON, PE, NB, NL and NS. For more information, please contact your Soleno representative.

\*\* Several factors such as work site constraints, type of in situ soil, and foundation or fill materials will guide the choice of geosynthetics to use. For more information, please contact your Soleno representative.



Geotextiles are used in residential parking areas to improve the mechanical behaviour of the foundation's granular materials.

Due to their three-dimensional construction and their filtration opening size, nonwoven geotextiles provide an improved permeability over woven geotextile.



SEPARATION Preventing contamination of foundation's granular materials by in situ materials. granular materials by in situ materials.

#### TX-80 OR TX-90 NONWOVEN GEOTEXTILE

• The choice of geotextile will be made by taking into account the thickness, burst strength and tear properties needed.





\*\* Several factors such as work site constraints, traffic loading, type of infrastructure soil and foundation materials will guide the choice of geosynthetics to use. For more information, please contact your Soleno representative.



## RETAINING WALLS, EMBANKMENTS AND BERMS



Geosynthetic materials with varied properties that can be used for preservation of the drainage properties of granular materials, or for erosion control purposes in berms and internal reinforcement for embankments and retaining walls.

The main functions of geosynthetics for this application are filtration, separation, reinforcement, protection and control.





## **FILTRATION AND SEPARATION**

The composition of geotextiles can restrict the flow of particles carried by the movement of ground water, while preventing the mixture of different particle size materials.

Due to their three-dimensional construction and their filtration opening size, nonwoven geotextiles provide an **improved permeability** over woven geotextile.

#### TX-70 OR TX-80 NONWOVEN GEOTEXTILE

• Filtering geotextile which is applied between clean stone and in situ soil.





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## PROTECTION

System for protecting and stabilizing steep berms.

#### **GABIONS**

#### GRAVITY RETAINING WALL SYSTEM

- Rectangular wire mesh baskets which, when filled with stones on site, form adaptable and permeable monolithic structures.
- Gabions are used for any situation where a retaining structure is necessary but which must also be good looking and environmentally friendly.
- Easy to set up, a lacing thread is used to assemble and interconnect empty gabions before filling.
- Gabions transportation and assembling are simple, require no skilled labour and installation is easy.

- Gabions are made from woven wire mesh in an hexagonal pattern and are doubly twisted.
- The double-twisted woven mesh ensures the integrity, strength and continuity of the structure and provides it with a resistance to fraying that prevents accidental damage.
- The galvanized mild steel wire can be covered with a PVC coating for optimal protection against corrosion.
- Allows the construction of huge and durable structures with a positive ecological aspect.



#### **GEOCELLS**

### FILLING WITH IN SITU MATERIALS

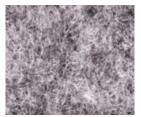
- Cellular confinement system made of polyethylene honeycomb structure, **lightweight and flexible** with three-dimensional cells.
- · Helps stabilize the surface materials of a berm, such as topsoil, clean stone or other top material.





#### TX-800 OR TX-1600 NONWOVEN GEOTEXTILE

 Geotextiles with high mechanical properties for the internal reinforcement of embankments.









## **CONTROL**

Limit sediment movement and effects of erosion in berms and ditches.

#### WOOD FIBERS LOGS TO CONTROL EROSION AND GROW VEGETATION

ECONOMICAL AND ECOLOGICAL SOLUTION

- The logs **stabilize soil, trap sediment** and require no maintenance once installed.
- They reduce damage that can occur during the construction of roadway and forestry roads; they prevent shoreline erosion and trap sediments that leach during landscaping work.
- Consisting mainly of wood fibers, the logs slow the water flow and retain the sludge released by works upstream.
- The logs provide a medium conducive to rooting of riparian plants and an immediate protection against erosion while providing an outstanding landscaping integration.
- Easy to install, they are resistant to higher water flows during heavy rains.
- The absorbent roll can hold up to 7 times its weight in water.

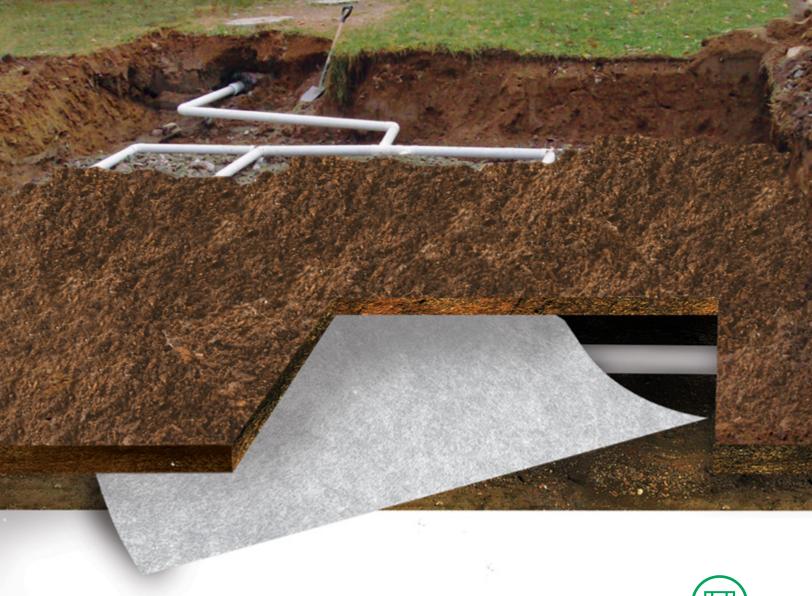


#### **EROSION CONTROL BLANKETS**

- Blankets in wood, coir or straw fibers, for erosion control **promote rapid revegetation** of berms and riverbanks.
- Lightweight and easy to install, they diminish the impact of rainwater, prevent the formation of gullies and reduce the flow of water on sloped surfaces.
- · Blankets for erosion control protect the soil from drying and from wind erosion.
- They allow the development of a good root system by keeping the soil particles in place and by providing good moisture retention, thus facilitating rapid revegetation.



\*\* Several factors such as work site constraints, type of in situ soil and fill materials will guide the choice of geosynthetics to use. For more information, please contact your Soleno representative.



# SEPTIC FIELDS



Geotextile that facilitates evapotranspiration and oxygen transfer in septic fields applications.



PROTECTION Preventing contamination of materials, while facilitating evapotranspiration and oxygen transfer.

#### **EPURTEX**

- EPURTEX is used in septic fields as a separator covering the stone bed. It facilitates the evapotranspiration and the transfer of oxygen in absorption trenches; microorganisms that digest waste need oxygen to survive and function, such as cardboard and straw.
- · Due to its construction type, this calendared geotextile replaces blotting paper which is too fragile and other materials unsuitable to oxygen transfer.
- · Made from synthetic fibers, the EPURTEX geotextile will not rot and is resistant to soil acids, while allowing the vital passage of oxygen for the proper functioning of the absorption field.





# GROW VEGETATION AREAS



Geosynthetic materials for erosion control and protection of seeding in berms. Anti-root and anti-vegetative ground cover used to stop the growth of weeds.

The main functions of geosynthetics for this application are protection and control.





#### **MICROFAB GEOTEXTILE**

#### ANTI-VEGETATIVE AND ANTI-ROOT

- Created exclusively for suppressing roots migration towards the surface without the use of chemicals, the MICROFAB microperforated geotextile reduces maintenance for rock gardens and flower beds.
- MICROFAB is a woven geotextile covered with a polyethylene coating, is highly resistant to tears and punctures, and its opacity prevents photosynthesis.
- Multiple perforated pinholes, this coating allows water, air and fertilizer to infiltrate more easily the the plant roots.
- MICROFAB is non-biodegradable and resistant to ultraviolet rays.





## **CONTROL**

Limit the effects of erosion and sediment movement in grow vegetation areas.

## WOOD FIBERS LOGS TO CONTROL EROSION AND GROW VEGETATION

ECONOMICAL AND ECOLOGICAL SOLUTION

- The logs stabilize soil, trap sediment and require no maintenance once installed.
- They reduce damage that can occur during the construction of roadway and forestry roads; they prevent shoreline erosion and trap sediments that leach during landscaping work.



- Consisting mainly of wood fibers, the logs slow the water flow and retain the sludge released by works upstream.
- The logs provide a medium conducive to rooting of riparian plants and an immediate protection against erosion while providing an outstanding landscaping integration.
- Easy to install, they are resistant to higher water flows during heavy rains.
- The absorbent roll can hold up to 7 times its weight in water.

#### **EROSION CONTROL BLANKETS**

- Blankets in wood, coir or straw fibers, for erosion control promote rapid revegetation of berms and riverbanks.
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- Blankets for erosion control protect the soil from drying and from wind erosion.
- They allow the development of a good root system by keeping the soil particles in place and by providing good moisture retention, thus facilitating rapid revegetation.



## WINTER PROTECTION



Nonwoven geotextile used for winter protection of trees, shrubs and lawn.

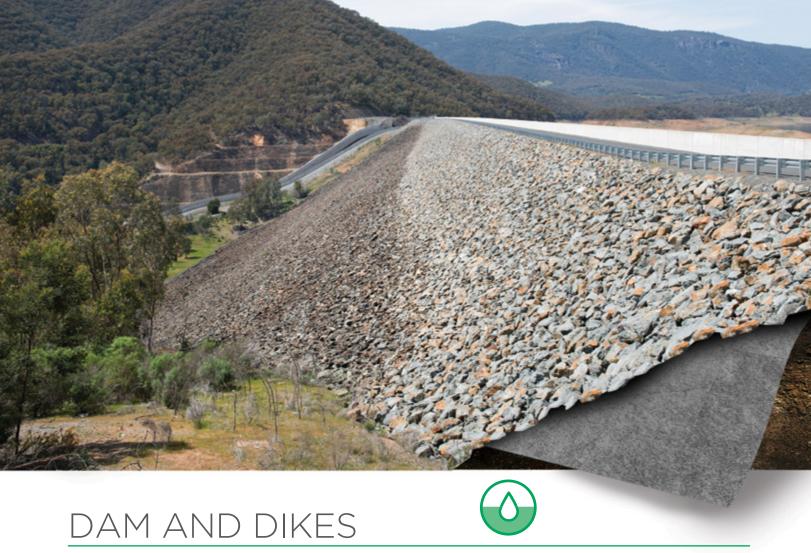


PROTECTION Protecting the trees, shrubs and lawn that can sustain constraints or damage during the winter season.

#### **HIBERTEX**

- HIBERTEX winter protection product creates a microclimate that mitigates sudden changes in temperature and prevents shrubs from drying.
- · Used as an insulating element to preserve plants that are not hardy, some conifers as well as bulbs and perennials that can easily freeze for lack of snow cover or from large temperature fluctuations.
- · Used around shrubs, this glossy geotextile can withstand the weight of snow, ice and rain and prevents branches from breaking.
- · HIBERTEX protects shrubs and hedges from plowed snow, as well as from salt, salt spray and road abrasives.
- · Used on the lawn during the winter period, HIBERTEX facilitates the spring pickup of debris and sand. Its unique design, which allows water and air to flow freely, promotes early greening of turf in the spring, while reducing the occurrence of yellowed areas.
- With its green colour, HIBERTEX blends well with the surrounding landscape.





Geotextile installed under the installed riprap in the construction of dams and dikes.

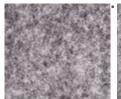
Due to their three-dimensional construction and their filtration opening size, nonwoven geotextiles provide an improved permeability over woven geotextile.



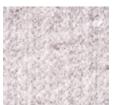
PROTECTION Protecting dams and dikes from constraints or damage.

### TX-300, TX-800 OR TX-1600 NONWOVEN GEOTEXTILE GOOD RESISTANCE TO BURSTING

- The choice of geotextile will be made by taking into account the thickness, burst strength and tear properties needed.
- · Used under the riprap to counteract leaching.







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\*\* Several factors such as work site constraints, type of in situ soil and fill materials will guide the choice of geosynthetics to use. For more information, please contact your Soleno representative.



# BANK PROTECTION

Nonwoven geotextile placed underneath the river banks' riprap, in streams or open water, to prevent the erosion of the natural ground.

Geosynthetics for this application are used for protection.





Due to their three-dimensional construction and their filtration opening size, nonwoven geotextiles provide an improved permeability over woven geotextile.

### TX-300, TX-800 OR TX-1600 NONWOVEN GEOTEXTILE GOOD RESISTANCE TO BURSTING

- · Used under the riprap to counteract leaching.
- The choice of geotextile will be made by taking into account the thickness, burst strength and tear properties needed.







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#### **GABIONS**

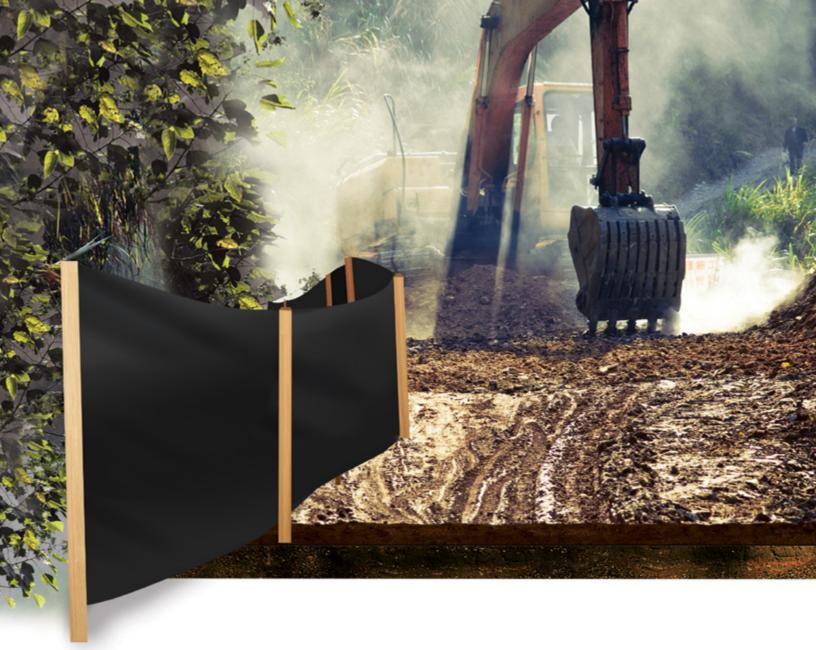
#### GRAVITY RETAINING WALL SYSTEM

- · Rectangular wire mesh baskets which, when filled with stones on site, form adaptable and permeable monolithic structures.
- Gabions are used for any situation where a retaining structure is necessary but which must also be good looking and environmentally friendly.



- Easy to set up, a lacing thread is used to assemble and interconnect empty gabions before filling.
- Gabions transportation and assembling are simple, require no skilled labour and installation is easy.
- · Gabions are made from woven wire mesh in an hexagonal pattern and are doubly twisted.
- · The double-twisted woven mesh ensures the integrity, strength and continuity of the structure and provides it with a resistance to fraying that prevents accidental damage.
- · The galvanized mild steel wire can be covered with a PVC coating for optimal protection against corrosion.
- Allows the construction of huge and durable structures with a positive ecological aspect.

\*\* Several factors such as work site constraints, type of in situ soil and fill materials will guide the choice of geosynthetics to use. For more information, please contact your Soleno representative.



# SEDIMENT RETENTION



Specialized geotextile for the control and limitation of sediment silting at construction sites, in streams or lakes.

The main functions of geosynthetics for this application are protection and control.

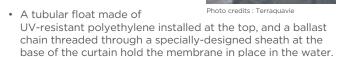


PROTECTION Protecting the environment that can sustain constraints or damage by trapping sediment in place.

### **TURBIDITY CURTAIN 400W**

FLOATING BARRIER

- · Placed in stretch of water, the turbidity curtain minimizes sediment movement caused by a local disturbance, by enclosing the space where the work is done to create a confinement space.
- It allows the settling of most sediment in the water.







Soleno also offers products comply with standards of the following canadian provinces: ON, PE, NB, NL and NS. For more information, please contact your Soleno representative.

#### **TEXGUARD** I AND BARRIER

- · An economical solution for the protection of the environment during construction where the in situ soil can be easily washed away by
- The sediment barrier is specially designed for **ensure the retention** of harmful sediment that could contaminate the surrounding environment.



- · As a filter, the silt fence controls the leaching of soil and retaining particles of sediment.
- · Its composition allows water to pass freely through the filtering fabric, while reducing its velocity.
- · With its very high durability, the silt barrier is resistant, lightweight and easy to install.



Limit the effects of erosion and sediment movement in the environment.

#### WOOD FIBERS LOGS TO CONTROL EROSION AND GROW VEGETATION

ECONOMICAL AND ECOLOGICAL SOLUTION

- The logs stabilize soil, trap sediment and require no maintenance once installed.
- · They reduce damage that can occur during the construction of roadway and forestry roads; they prevent shoreline erosion and trap sediments that leach during landscaping work.
- · Consisting mainly of wood fibers, the logs slow the water flow and retain the sludge released by works upstream.
- · The logs provide a medium conducive to rooting of riparian plants and an immediate protection against erosion while providing an outstanding landscaping integration.
- Easy to install, they are resistant to higher water flows during heavy rains.
- The absorbent roll can hold up to 7 times its weight in water.



# SELECTION GUIDE

APPLICATION SECTORS	APPLICATIONS	FILTRATION	SEPARATION
ROAD WORKS	Temporary roadway	-	TX-80 / TX-90 / TX-170
	Permanent public roadway	-	ROUTEX IV / TX-90 / TX-170
	Permanent private roadway	-	TX-90 / TX-170
	Public access road	-	TX-90 / TX-170
	Commercial parking areas	-	TX-90 / TX-170
	Storage and loading areas	-	TX-90 / TX-170
	Roadway widening	-	ROUTEX IV/ TX-90 / TX-170
	Catch basins and concrete manholes protection	-	-
	Airport runways	-	TX-90 / TX-170
	Railway tracks	-	TX-300
CONSTRUCTION WORKS	Slab and building foundation	TX-70 / TX-80 / TX-110	-
	Basin	-	TX-90 / TX-170 / TX-300 TX-800 / TX-1600
LANDSCAPING	Drainage trench	ROUTEX IV / TX-70 TX-80 / TX-110	ROUTEX IV / TX-70 TX-80 / TX-110
	Residential parking areas	-	TX-80 / TX-90
	Retaining walls and embankments	ROUTEX IV TX-70 / TX-80	ROUTEX IV TX-70 / TX-80
	Septic fields	-	
	Grow vegetation areas	-	-
	Winter protection	-	-
$\bigcirc$	Dams and dikes	-	-
	Bank protection	-	-
HYDRAULIC WORKS	Sediment retention	-	-





REINFORCEMENT	DRAINAGE	PROTECTION	CONTROL
TX-F / TX-R / BX2000 / BX3000	-	-	-
TX-R / ROUTEX II BX2000 / BX3000	DRAINCOTEX / DRAINATEX	-	TX-200B (concrete curing)
TX-R / BX2000 / BX3000	-	-	-
TX-R / BX2000 / BX3000 GEOCELLS	-	-	-
TX-R / BX2000 / BX3000	-	-	-
TX-R / BX2000 / BX3000 2002W / 2004W / 2006W	-	-	-
TX-R / ROUTEX II BX2000 / BX3000	DRAINCOTEX / DRAINATEX	-	-
-	-	TX-MP	-
TX-R / BX2000 / BX3000	DRAINCOTEX / DRAINATEX	-	TX-200B (concrete curing)
TX-800 / TX-1600 / TX-R BX2000 / BX3000	-	-	-
-	DRAINCOTEX / DRAINATEX	-	TX-200B (concrete curing)
-	-	TX-300 / TX-800 / TX-1600	-
-	-	-	-
-	-	-	-
TX-800 / TX-1600	-	GABIONS / GEOCELLS	WOOD FIBERS LOGS BLANKETS FOR EROSION
-	-	EPURTEX	-
-	-	MICROFAB	WOOD FIBERS LOGS BLANKETS FOR EROSION
-	-	HIBERTEX	-
-	-	TX-300 / TX-800 / TX-1600	-
-	-	TX-300 / TX-800 / TX-1600 GABIONS	-
-	-	TURBIDITY CURTAIN 400W TEXGUARD / ROUTEXGUARD	WOOD FIBERS LOGS



**REINFORCEMENT** | Improve the bearing capacity of the soil



**PROTECTION** | Protect the structures and the environment from constraints or damages





**CONTROL** | Limit the effects of erosion, sediment movement and growth of weeds





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### Partners, members and organizations:





