COASTAL EROSION CONTROL SOLUTIONS

High-Strength Woven Geotextiles for Marine Applications

Introduction

Coastal erosion is a critical challenge affecting shorelines worldwide. Our specialized woven geotextiles provide durable, cost-effective solutions for coastal protection projects.

Product Specifications

MARINE-GRADE WOVEN GEOTEXTILES

Heavy Duty Coastal Protection Series:

- **GSM:** 400-800 gsm
- **Tensile Strength:** 100-200 kN/m (MD/XD)
- **Grab Strength:** 2000-4000 N
- **UV Resistance:** >95% strength retention after 1000 hours
- **Chemical Resistance:** Excellent resistance to saltwater and marine environment

Material: High-tenacity polypropylene yarns **Weave Type:** Plain weave for maximum strength **Color:** Black (UV stabilized) or Grey

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Applications

SEAWALL PROTECTION

- Placed behind riprap armor stone
- Prevents soil migration through stone voids
- Maintains structural integrity during storm events

REVETMENT SYSTEMS

- Slope protection for embankments
- Underlayment for concrete block systems
- Filter layer beneath stone armor

SHORELINE STABILIZATION

- Beach nourishment projects
- Dune reinforcement systems

- Breakwater construction

SCOUR PROTECTION

- Bridge pier protection
- Offshore structure foundations
- Pipeline protection

Design Guidelines

FABRIC SELECTION

1. **Wave Height Analysis:** Higher waves require heavier fabrics (600-800 GSM)
2. **Soil Conditions:** Fine soils need lower permittivity
3. **Installation Method:** Consider handling during placement

INSTALLATION PROCEDURES

1. **Site Preparation:**
   - Remove debris and sharp objects
   - Grade to design slopes
   - Compact subgrade
2. **Fabric Placement:**
   - Unroll parallel to shoreline
   - Minimum 300mm overlap at seams
   - Secure with pins every 1m
3. **Armor Placement:**
   - Place stone carefully to avoid fabric damage
   - Use gradation per design specifications
   - Maintain minimum stone thickness

Case Studies

PROJECT 1: Mumbai Coastline Protection

- **Location:** Worli Sea Face, Mumbai
- **Challenge:** Monsoon wave action causing embankment erosion
- **Solution:** 600 GSM woven geotextile with 1-2 ton riprap
- **Result:** 5+ years performance, zero maintenance

PROJECT 2: Goa Beach Resort Protection

- **Location:** Candolim Beach, Goa
- **Challenge:** Seasonal erosion threatening resort infrastructure
- **Solution:** 400 GSM geotextile with geobag system
- **Result:** Successful beach restoration, improved guest safety

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Installation Best Practices

DO's:

- Use proper lifting equipment for fabric handling
- Maintain continuous overlap at all seams
- Install anchor trenches at fabric edges
- Place armor stone carefully to avoid punctures

DON'Ts:

- Don't stretch fabric during installation
- Avoid driving equipment directly on fabric
- Don't install during high tide conditions
- Never use damaged or torn fabric

Quality Control

- Factory testing per ASTM D4595 (tensile strength)
- UV resistance testing per ASTM D4355
- Site inspection during installation
- Post-installation performance monitoring

Technical Support

Our marine engineering team provides:

- Site assessments and design review
- Installation supervision
- Performance monitoring
- Maintenance recommendations

Contact: marine@company.com | +91-XXX-XXX-XXXX

Protecting coastlines with proven geotextile solutions since 2010