SKAPS INDUSTRIES

RIP-RAP
WOVEN & NON-WOVEN
GEOTEXTILES

INSTALLATION INSTRUCTION GUIDE

SKAPS INDUSTRIES

SKAPS Industries, a high-quality leading manufacturer and supplier of Geosynthetic products and Fiberglass fabric, holds a strong market presence in over 60 countries.

Our wealth of manufacturing experience enables us to offer the broadest line of products across all divisions. Through our exclusive manufacturing process, we cater to the demands of even the largest orders and adhere to the most rigorous schedules. Customer satisfaction is of utmost importance to us and us at SKAPS ensure it by providing excellent customer service.

Our primary focus is to supply quality products with site-specific performance that satisfy the most demanding civil, environmental and industrial applications.

Geotextiles provide three important key functions when properly installed. These important functions are separation, drainage/filtration, and reinforcement. SKAPS Industries geotextiles can be used in most weather and climate conditions.

The successful use of geotextiles in these applications require proper installation which begins with site preparation during subgrade groundwork. This success is followed with proper geotextile installation, and aggregate placement and compaction.

The intention of this installation instruction guide is to provide recommendations for installation of geotextiles in stabilization and separation applications. These guidelines are to be used to assist the general contractor responsible for installing the specific geotextile fabrics. Site specific guidelines, conditions, design requirements, and/or other variables may require additional action in regards to what is mentioned in these said guidelines.

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THE INSTRUCTIONS BELOW ARE INTENDED AS A GENERAL INSTALLATION GUIDELINE. PLEASE REFER TO THE PROJECT DETAIL SPECIFICATIONS FOR TECHNICAL GUIDANCE, IF AVAILABLE.

SITE PREPATATION:

1. Prepare your site by smoothly grading the surface to the approved elevation as per the project engineer's instruction.
2. Make sure that the surface is smooth and free of any protruding debris and vegetation.
3. Densely compact the fill material surrounding the undisturbed soil.
4. Be sure to excavate enough for both filter and rip-rap fabrics.

APPROPRIATE GEOTEXTILE SELECTION:

1. For fine-grained sands, it is recommended to use SKAPS Woven Monofilament products.
2. For coarse-sands, silts, and clays, it is recommended to use SKAPS nonwoven geotextiles.

PLACEMENT OF GEOTEXTILE:

1. Place the selected rip-rap geotextile without wrinkles or folds.
2. Avoid overstretching, tearing, or any deformation to the fabric.
3. When installing, always place the geotextile with the machine-direction parallel to the direction of water flow.
    a. Erosion Control Run-off and Wave Impact
        i. Place parallel to the slope
    b. Stream Bank and Channel Protection
        i. Place parallel to the stream or channel.
4. If required by the site conditions, use key trenches at the crest and toe of the slope to anchor down the ends of the geotextile with stable fill material. Key trenches should be backfilled and compacted on completion of the geotextile installation. Key trenches are recommended to be at least 1.5 times the design thickness of riprap and extend a horizontal distance equal to the design thickness.
    a. 18+ inch anchoring pins may be used as an option instead to expedite the installation process.

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JOINING ADJACENT RIP-RAP GOETEXTILES:

1. Soil CBR will typically determines if overlapping or sewing is the correct option. AASHTO offers general guidelines for sewing versus overlapping:

Soil CBR > 3	Overlap of 1.0 to 1.5 feet
Soil CBR 1-3	Overlap of 2.0 to 3.25 feet
Soil CBR < 0.5	Must be sewn

2. Installed rip-rap geotextile must be overlapped upstream over downstream and/or over down slope in a "shingle effect". Overlap must be a minimum of 1 foot in all instances except when placed underwater. In that case, overlap must be at least 3 feet.

RIP-RAP PLACEMENT:

1. Begin the rip-rap placement at the toe and proceed up the slope.
   a. Rip-rap weighing less than 220 lbs. may be placed directly onto the rip-rap geotextile fabric selected. Please make sure not to drop the rip-rap onto the geotextile material.
   b. Lifts should be dropped from a height not exceeding 3 feet if the geotextile is protected by a 6 inch or greater aggregate bedding layer.
   c. Field monitoring is recommended to observe for any damage during the installation process.
   d. Backfill all voids in the rip-rap with smaller stone to ensure the geotextile if fully covered.
2. After placement of the rip-rap, avoid any grading above the geotextile that results in movement or shifting of the rip-rap.

END OF SECTION

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