JPS Erosion Barriers

PART 1 - GENERAL

When erosion of your bank is an issue, and cost is a concern, JPS can be of service. JPS offers a custom fabricated Erosion Barrier. The JPS Erosion Barrier is fabricated from the same nylon based materials as our baffle systems, all with uniform rates of linear expansion, chemical and UV Resistance. The JPS Erosion Barrier is specifically designed to protect your embankment from the erosion caused by wave action, aeration turbulence and wind. Our Erosion Barrier is manufactured in pre-fabricated panels that are assembled on site. JPS can install our Erosion Barrier without draining your lagoon or temporarily shutting down your facility. The individual panels can also be removed for ease of access to your lagoon with equipment without causing any damage to the barrier.

1.01 Scope: The Contractor shall furnish and install a flexible erosion barrier in the areas shown on the Drawings. Sufficient material shall be furnished to cover all areas with one percent of length added to each panel to allow for shrinkage and wrinkles. The barrier shall be the Erosion Barrier as manufactured a by JPS Industries, Inc. or pre-approved equal.

1.02 Submittals: Submittals shall be furnished in 5-7 days after project is awarded.

1.03 Quality Assurance: The barrier manufacturer shall be experienced in the construction and installation of erosion barriers, and have a current installation with no less than 1 year satisfactory installation. Fifty foot sections will be the maximum length accepted to expedite future upgrading or relocation. Panel sections can also be unbolted and removed for ease of access to the lagoon with heavy equipment. Should there be any damage to the barrier it is only necessary to replace the damaged sections or send them for repairs. There is no need replace the entire barrier.

PART 2 –PRODUCTS

2.01 Materials: Base material for the barrier will be 3028 XR-5. (*Specifications on the chart to the right*)

- All materials used in construction of the erosion barrier shall be nylon based, certified to withstand chlorine, ultraviolet radiation, extreme temperatures, rips, abrasions, hydraulic shock and severe winds.
- All materials used in the erosion barriers construction which are subject to stress from temperature change, wave action due to aeration or wind must have a uniform rate of linear expansion, preventing unequal movement of tension members and base materials.
- All seams or splices shall be sewn to physically bond the base material scrim. Sewing shall also be used to bond the tension members with base material scrim. Any seams using only heat, or dielectric, sealing to bond the surface of the material will not be accepted.
- All hardware used for construction shall be 304 stainless steel. This shall include, but not be limited to, all nuts, bolts, washers, grommets, end fasteners.

3028 XR5 ® Specifications

Base - Type Fabric - Weight	Nylon 6.0oz./sq.yd.
Finished Coated Weight ASTM D751	+2 28.0-1 oz./sq.yd.
Tongue Tear ASTM D751 8" x 10" sample size @ 12"/minute	90/70 lbs.
Trapezoid Tear ASTM D1117	60/50 lbs.
Grab Tensile ASTM D751	600/500 lbs.
Strip Tensile ASTM D751 Procedure B	400/300 lbs./in.
Adhesion ASTM D751 Dielectric Seam	10lbs./in.
Hydrostatic Resistance ASTM D751 Procedure A	500psi
Dead Load Room Temperature 160°F / 71°C	2" seam 150 lbs. 75 lbs.
Low temperature ASTM D2138 LTC 1/8" Mandrel 4 hrs	Pass -30°F
Flame Resistance Method 5910 MFR	Not Consumed within 2 minutes
Roll Width Specifics Size	58" 100 yards
Bursting Strength ASTM D751	700 lbs.

We believe this information is the best currently available on the subject. It is offered as a possible helpful suggestion in experimentation you may care to undertake along these lines. It is subject to revision as additional knowledge and experience are ganied. We make no guarantee or results and assume no obligation or liability whatsoever in connection with this information.

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PART 3 – EXECUTION

3.02 Baffle Wall Construction: The erosion barrier shall be manufactured from 28 ounce, nylon reinforced, 3028 XR-5 material. The nylon reinforcing shall be in both directions and every 4th stitch shall be a rip stop to prevent the continuation of any accidental tear. All seams, joints and tension members shall be double lock-stitched with silicone treated nylon thread to physically bond all material together. The erosion barrier shall conform to the lagoon side slopes and bottom, field measurements to be taken by the manufacturer prior to fabrication. The erosion barrier shall be fabricated in 50 foot maximum section lengths. Each 50 foot section shall have its entire perimeter, top, bottom and ends reinforced with nylon web strapping having a minimum tensile strength of 12,000 lbs. The nylon webs are tension members and have a uniform rate of linear expansion as the material, as they are nylon based. This design is essential in preventing excessive loading points and unnecessary wear.The 50 foot sections shall be joined together via 304 stainless steel bolts that are bolted through 304 stainless steel grommets, pressed into the nylon web reinforced ends located on 12-inch centers in the vertical direction. A hot-dipped galvanized chain shall be sewn into the bottom of the barrier panels to provide ballast and positive bottom seal along the length of the barrier. This chain will be 5/8-inch. The ballast weight provided will be 3.85 lbs/foot. The chains are for ballast and bottom seal only, they shall not be connected in such a fashion that they act as tension members, as they do not have the same rate of linear expansion as the other base materials.

3.02 Mooring: The erosion barrier shall terminate at the bank side and be moored via trenching. The trench shall be 1 foot square and the barrier shall be buried in a 'U' shape in the trench. This trench shall be located beyond the high water line in an area of the bank side where the soil is dense enough to lend ample support and weight for mooring the barrier. The entire perimeter of the erosion barrier shall be moored in this fashion.

3.03 Inspection and Testing of Factory Seams: The fabricator shall perform 100% continuous visual inspection of each linear foot of seam as it is produced. Upon discovery of any defective seam, the fabricator shall stop production of panels used in his work and shall repair the seam, and determine and rectify the cause of the defect prior to continuation of the seaming process.

3.04 Size of Erosion Barrier: The barrier shall be constructed to the entire side slope of the lagoon. The depth and length of curtain shall be in accordance with details show on the engineer's drawings, and must be verified by the manufacturer with field measurements provided by the manufacturer's field crew.

3.05 Installation: The erosion barrier shall be installed as shown on the drawings by the manufacturer's field crew, which provides a 24 month 100% warranty on the installation by the manufacturer's field crew. Installation will take place while the lagoon is full and at the intended operating level. Dry installations shall not be acceptable. Prior to installation, the manufacturer's crew must evaluate and prep the side slope and trench.

3.06 Report: The manufacturer's field supervisor will provide a basic installation report when installation is complete. Report is to include: manufacturer's field rep name and contact information, duration of time on site and official start-up date of the barrier's completed installation. The erosion barrier's material and installation warranty are valid for 730 days from the start-up date.

3.07 Warranty: The erosion barrier shall have a material/craftsmanship warranty. The warranty shall be 100% for 24 months. Installation warranty shall be 100% for 24 months. Any warranty less than 24 months shall not be acceptable.

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