FILTRATION PADS

Boat Filtration Pads for Pressure-Washing Boat Hulls

Boatyard Filtration Pads

Blue Water Filtration Pads™ - NMMA 2007 Innovation Award

FINALLY ... A REAL & AFFORDABLE SOLUTION TO COMPLY TO THE CLEAN WATER ACT

Average Pad is good for 10-15 washings

Filtration Pads filters the copper, paint chips, biological growth, bottom sediment & containments & wash water through a doubled treated geosynthetic non-woven polyester fabrics down to very fine filtration. Ground water then passes through the black mesh pad, and the filtered water from the pressure washer is now free to flow into surface waters or ground water.The pad is then disposed properly as solid waste.

2007 NMMA INNOVATION AWARD WINNER

Pressure Washing Overview Most boat bottoms are coated with anti-fouling paints to prevent biological growth that can reduce boat speed and fuel economy. This bottom paint typically contains high concentrations of copper as its active ingredient. Copper is a very effective deterrent to bottom fouling, however it is has been found in certain concentrations to be harmful to marine organisms.

Even with a coat of bottom paint, most vessels have their hulls cleaned once a year to remove any biological growth. The most popular and efficient method is to power or pressure-wash the hull once the boat is hauled from the water by using a high-pressure stream of water over the boat bottom while the boat is situated over a travel-lift well or on a boat ramp. The resulting wash water contains fouling organisms and paint chips, and is usu- ally discharged directly into the surface waters or allowed to soak into the ground. This wastewater, if not properly managed, may contaminate sur- face water and groundwater.

The state of Maine conducted a study in 2002 to determine what contaminants are in the bottom paint, wash water, and bottom sediments sur- rounding the wash area. The study was performed at boatyards and marinas with marine railways that typically perform pressure washing in the in- tertidal zone where wash water flows directly and into the water. The Maine study revealed that in addition to the expected high copper levels, lead levels were unexpectedly high.

Current Regulations Most marinas or boatyards performing boat maintenance outdoors are required to have permit coverage under the National Pollutant Discharge Elimination System (NPDES) Storm water Multi-Sector General Permit for Industrial Activities. Marinas must follow the federal permit rules. The NPDES storm water permit specifically prohibits the inclusion of pressure wash water in storm water discharges. As a result, facilities need an indi- vidual NPDES permit, if the pressure wash water is discharged directly to coastal waters. If discharging onto a permeable surface, such as gravel, fa- cilities need a groundwater discharge permit. Regardless of the discharge option, these permits require significant pretreatment of the wastewater prior to discharge.

Filtration System - an Example Cape Ann Marina, a full service boatyard and marina in Gloucester, installed a pressure wash water collection and treatment system that discharges to the local sewage treatment plant. The system includes a reconstructed wash pad with a trench drain for collection of the raw wash water. Large particles, paint chips and biological growth settle on the wash pad or in the trench drain. The trench drain overflows into a large underground tank where some smaller solids settle out of suspension. The first tank flows into a second settling tank, allowing for additional settling. Wastewater flows from the second tank into the treatment system, and from the treatment system into the sanitary sewer.

As wastewater enters the system, a chemical is added that causes coagulation of the pollutants. A second chemical is then added that cause the co- agulated pollutants to clump together and settle out of solution. The liquid then goes into a settling tank. Clean treated water drains off the tops of the tank into the sewage system and the pollutant-laden sludge is drained from the bottom of the tank. The sludge is disposed as solid waste.

A Sample Cost Breakdown:

Treatment System Cost $44,000

Training $3,000

New Wash pads $15,000

Settling Tanks $4,000

Plumbing & Electrical $2,000

Engineering $2,000

Total $70,000

One additional requirement for the operation of this system is a “certified operator.” EPA designates any system that treats wastewater for discharge somewhere as a “wastewater treatment plant.” A person certified to operate the system must be present when discharging from such a system.

Filtration Pads Solution

Blue Water Marine Paint has taken an active alternative solution to a full filtration system that might become too costly for medium to smaller boatyards. Our product Filtration Pads filters the copper, paint chips, biological growth, bottom sediment & containments & wash water through a doubled treated geosynthetic non-woven polyester fabrics down to very fine filtration. Ground water then passes through the black mesh pad, and the filtered water from the pressure washer is now free to flow into surface waters or ground water. A boatyard lays a black pad; measuring 15’x 25‘ or 15' x 75'under the pressure cleaning of the boat hull, and after the boat is washed, allowed to dry. The pad is then disposed properly as solid waste.

NMMA gave Blue Water Filtration Pads the 2007 Innovation Award at the MAATS show in Las Vegas over 110 competitive entries.

Filtration Pads are a superior filtration system for pressure-washing boat hulls.