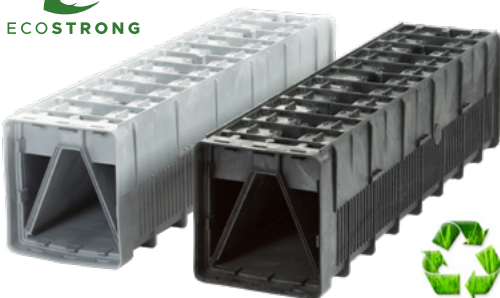


# Leopold<sup>®</sup> Type S Underdrain - Environmentally Responsible Recycled Material

REDUCES ENVIRONMENTAL IMPACT WHILE MAINTAINING DURABILITY  
FOR WASTEWATER APPLICATIONS



## Green, But Committed To Quality

Type S underdrain, fabricated from recycled HDPE materials, meets the **same stringent tests as the original Type S in strength, durability, reliability and performance.**

## Leopold Type S From Recycled Materials, Reliable, Resilient, Responsible and Robust

At Xylem, we define sustainability, as responsible practices that strengthen the environment, global economy and society, creating a safer and more equitable world.



As an advocate of environmental stewardship and the needs of our customers, we embed sustainability throughout our products' life-cycle, including the development, manufacture and proper disposal of used electronic equipment. We take a holistic view of recycling and waste minimization and apply this philosophy to our products from the outset, beginning in the design stage by creating compact, efficient products that use high-recycling-value materials wherever possible.



The Type S recycled underdrain is manufactured from post-consumer recycled resins which reduces greenhouse gas emissions by **71% for HDPE**. The use of recycled plastic reduces total energy consumption by **88% for HDPE**.\*



Some sobering facts to support our usage of recycled materials:

in 2016 the World Economic Forum predicted that by 2050, oceans could have more plastic than fish. And, the amount of plastics that enter landfills and the environment is sufficient for rebuilding the currently standing Great Wall of China with a span of 6000 km187 every 12 months.



\* APR Study Quantifies Benefits of Recycled Resin

# Features and Applications of the Leopold Type S Recycled Materials Underdrain

## Materials Testing Results Exceed Original Underdrain

The recycled and original HDPE underdrains were comparatively tested for both short-term and long-term, simulating the worst-case applications.

Short-term testing: recycled HDPE performed the same as new material in cosmetic, strength, flexural, hardness and chloride exposure testing. The recycled version exceeded the performance of the original material in the tensile test. Long-term testing: recycled HDPE passed modulus, rupture, strain and oxidation testing while the results exceeded the U.V. resistance test.

## Applications

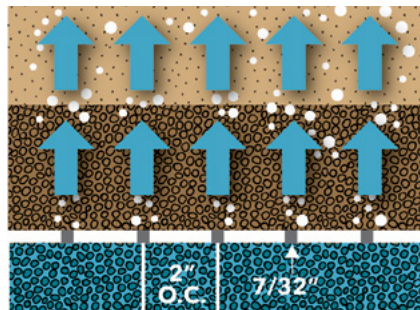
The Type S is ideal for installations requiring longer laterals and applications with wide ranges of air and water combination. It features superior air scouring and water backwash performance. It's well suited for wastewater treatment solids removal and denitrification filters (elimi-NITE®).



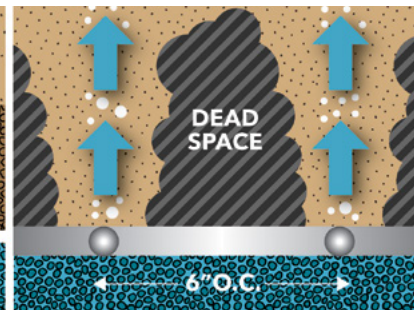
### Superior Media Cleaning

The Type S design addresses low pressure zones clogging the orifices through a patented built-in water recovery channel; this ensures uniform and continuous airflow across all the top-deck orifices allowing water to re-enter and equalize the low-pressure areas.

Underdrain



Nozzles



The wide, uniform air distribution enables collapse pulse cleaning during a concurrent backwash.



Type S recycled underdrain passes the grouted internal burst strength test



Type S recycled underdrain passes the downward loading test

## Cost-Saving Installation and Operation

Forgiving installation tolerances means simpler installation and lower construction costs. Improved filter performance provides cleaner water and longer runs between backwashing which impacts lower operating costs of filtered water required.

## Dimensions

Length = 48" (1219 mm)  
Width = 11" (279.4 mm)  
Height = 12" (305 mm)  
Center flume = 96" (2438 mm)  
Front flume = 48" (1219 mm)  
Weight = 25 lbs (11.34 kg)

## Forgiving Level Tolerances

Older underdrains required a levelness of  $\pm 1/8$  inch (3.2 mm). The Type S underdrain's internal baffles reduce level sensitivity and can be installed to a level tolerance of  $\pm 1/4$  inch (6.4 mm). The reduced level sensitivity is ideal for retrofit installations.

- Underdrain height gravel installation = 12" (305 mm)
- Underdrain height with I.M.S 1000 media retainer at 7/8" (22.2 mm) = 13 3/8" (339.7 mm)

**xylem**  
Treatment Solutions

Xylem, Inc.  
1 Jinye St. Door of the City  
Room 605, Building D  
Xian, China  
tel 86 29 8833 7330  
www.xylem.com



[www.xylem.com](http://www.xylem.com)