



IRRIGATION MAT

A SMART WATERING SOLUTION,
WATER SAVINGS UP TO 70%





A CONTRIBUTION TO SUSTAINABILITY

SAVES UP TO 70% WATER



ROOT ZONE IRRIGATION

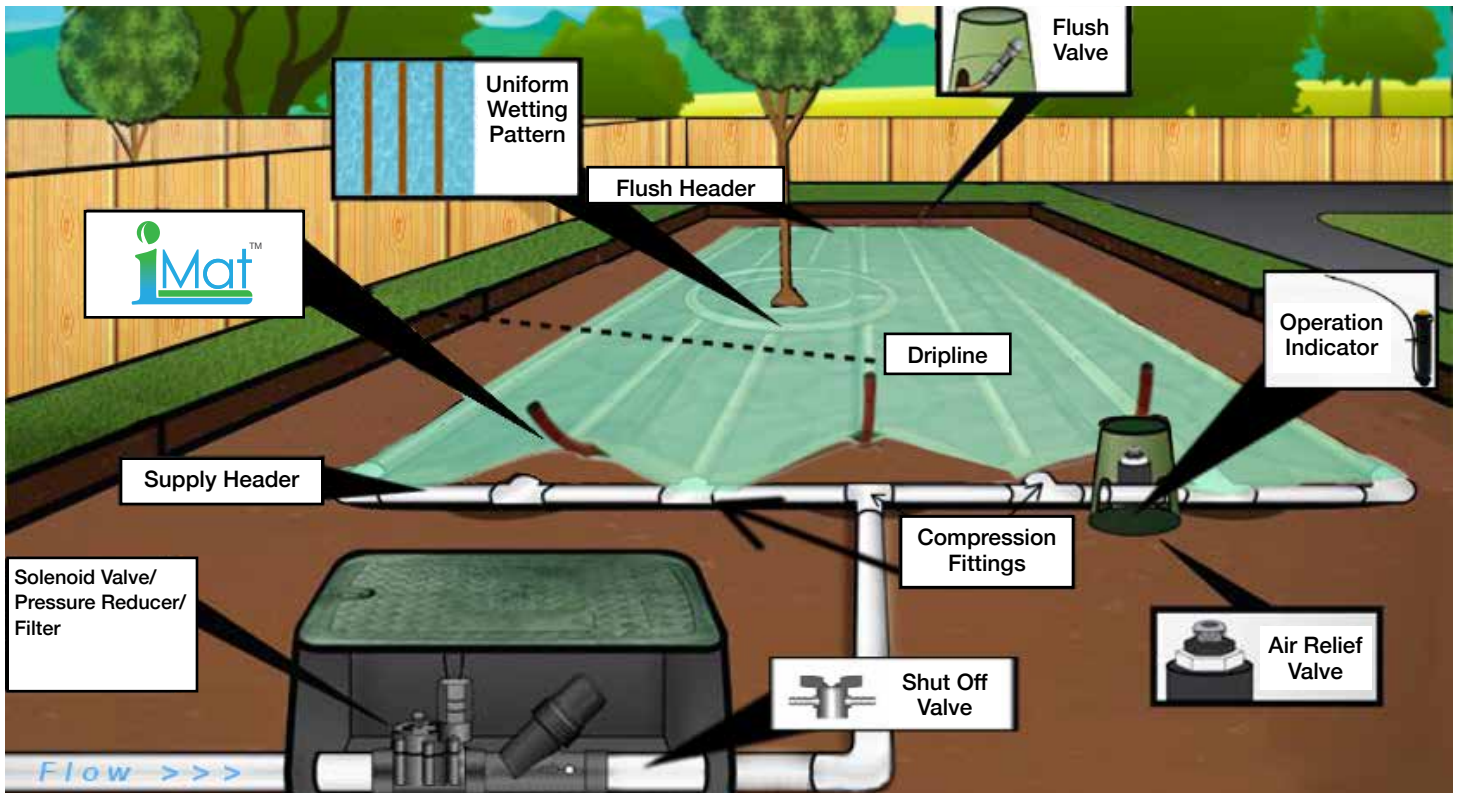
Water shortage is an issue that presents an imminent problem to our environment. We are facing a growing population combined with a change in climate; these problems call for water saving solutions and demand innovative products and technologies.

ECO Rain USA is proud to introduce its new Irrigation Mat, the latest German innovation in subsurface low pressure root zone irrigation technology. With water savings up to 70% compared to conventional irrigation methods, this system has a wide variety of applications, including golf courses and athletic fields, parks and commercial greens, homeowner communities, roof tops, agriculture and nutraceuticals. The potential for water conservation is significant and would make a difference to our water supply.

In addition, the Irrigation Mat is a valuable system for green building designs and complies with the Leadership in Energy and Environmental Design Programs (LEED).

TECHNICAL SPECIFICATIONS

EASY TO INSTALL AND MAINTAIN



DRIP LINE SPECIFICATIONS

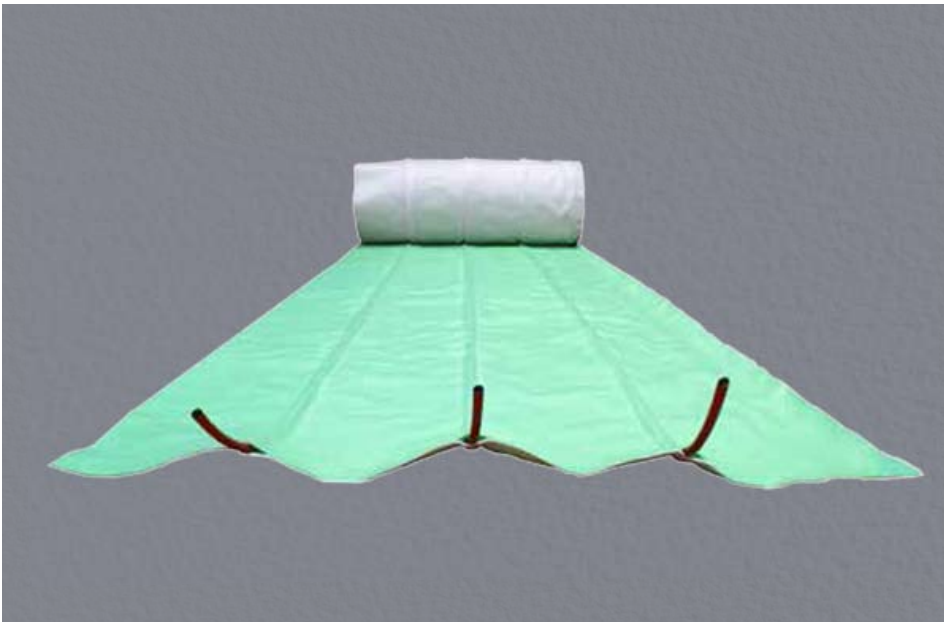
Outer Diameter: 0.634" (1.61cm)
Inner Diameter: 0.536" (1.36cm)
Spacing: 12" (30.5 cm)
Flow rate: 0.6 gal/h (2.3l/h)
Pressure: 8.5 - 60psi (0.59- 4.14 bar)
Required Filtration: 120 mesh

MAT DIMENSIONS

Small iMat: 0.8m wide x 50m long, 2 drip lines
2.62ft wide x 164ft long
40m² roll, 30kg or 66 pounds
430 sqft roll
Tube spacing: 35cm (13.8 inch)

Large iMat: 1.2m wide x 50m long, 3 drip lines
3.93ft wide x 164ft long
60m² roll, 45kg or 99.2 pounds
645 sqft roll
Tube spacing: 35cm (13.8 inch)

XXL iMat available (special order)



PRODUCT FEATURES

SUBSURFACE LOW PRESSURE IRRIGATION MAT (IMAT)
ADVANTAGES

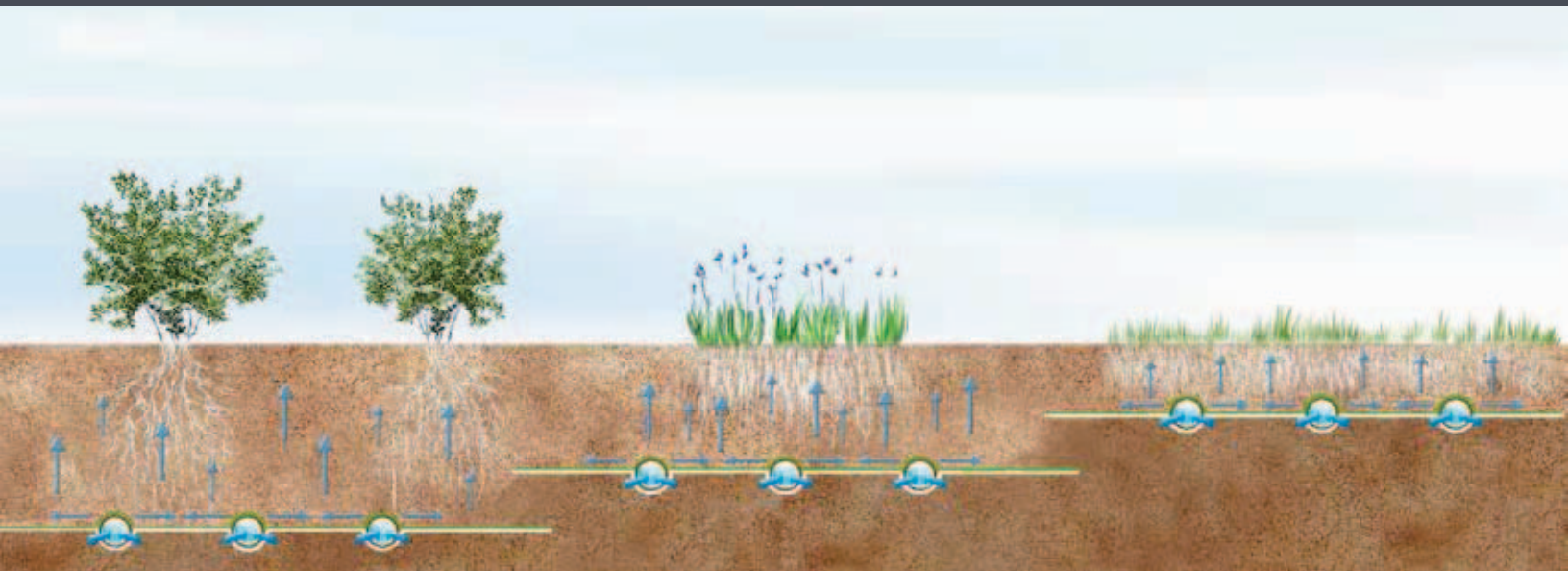
- LEED Compliant
- High water storage capacity
Water savings up to 70%.
- No water loss caused by evaporation, wind drift, overspray.
- Reduced maintenance costs caused by broken sprinkler heads.
- No damage to walkways, streets and walls.
- No sudden water pressure losses during peak watering hours.
- No unpleasant gray water odors.

CONTROLLED WATER, AIR AND FERTILIZER SUPPLY AT THE ROOT ZONE

- Allows controlled plant growth, important to plants and roots used for homeopathy, cosmetics or supplements.
- Leads to faster and healthier plant growth.

INSTALLATION DEPTH

The Eco Rain® Mat is suitable for irrigation of rolled grass and lawn sowing, perennials and small plantings, ground cover, small shrubs and copses. The average installation depth for grass sowing and rolled lawn is between 10 – 15 cm (4 – 6”) for grass sowing, rolled lawn and perennials between 15 – 30 cm (6 – 12”) and for small shrubs and perennials 30 cm – 40 cm (12-15.7”). For large trees a separate irrigation system needs to be installed, which can be integrated into the mat system.



DESIGN

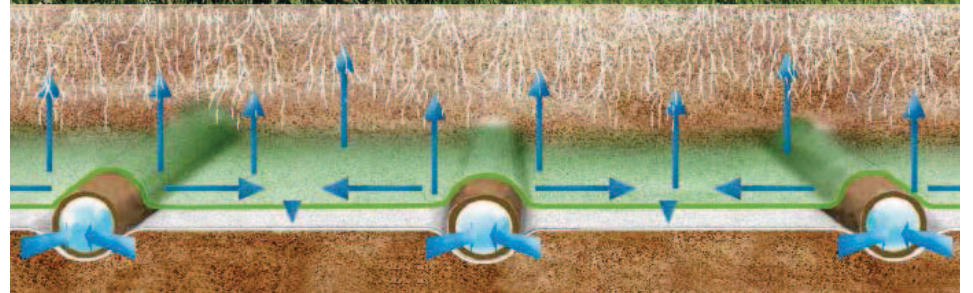
Prior to designing a system, the following information needs to be collected:

- Scaled plan of the site and area to be irrigated
- Point of connection information, including static pressure and available flow
- Irrigation water type (potable, non- potable, well, grey water, etc.)
- Soil type
- Proposed planting, including relative water needs of all species, sizes and maturity of plants
- Local conditions, including elevation

INSTALLATION

Prior to installation, the entire area needs to be excavated.

- Excavate the area to the specified installation depth
- Remove any stones or sharp edged objects and create an even subgrade
- Note the location of each valve, the mainline, trees, largest shrubs or other objects



STEEP AND VERTICAL GREENS

Vertical Greens are an important design element in Landscape Architecture and Interior Design.

EROSION CONTROL IN STEEP AND ANGLED SPACES

Subsurface Irrigation Mat Technology allows vegetation even in steep terrain.

It reinforces hillsides, banks and channels to help prevent erosion and encourage vegetation to grow roots.

When installing an Irrigation Mat on steep slopes, it is imperative to securely fix the system to the ground. This is done – depending on the type of construction project – by using ground stakes, ground nails or geo grids.



ROOFTOPS

REFERENCES



SUBSURFACE IRRIGATION TECHNOLOGY

Allows optimized irrigation due to low installation heights and increased water storage capacity. (Conventional irrigation requires higher soil or substrate heights to install and fasten sprinkler heads) Reduced soil height reduces weight and requirements on roof static. This irrigation technology allows rooftop installations even in arid and semi-arid climate zones, where subsurface and laterally dispersed irrigation is key to plant growth.

Qualifies for up to 15-20 LEED certification points from USGBC.

Acts as insulator and cools buildings (reduces utility costs in hot areas up to 30%).

Doubles to triples lifespan of roofs-protecting from contraction and expansion, UV exposure and material degradation.

Improves air quality, helps offset carbon footprint and reduces urban heat island effect. Creates habitat for birds and insects.

Acts as soundproofing barrier (up to 40 decibels).

Creates additional usable real estate.

ROOFTOPS



This application typically uses a freely draining lightweight planting media. The capillarity of this media is highly reduced, compared to topsoil and usually leads to water quickly moving down through the media into the drainage layer, resulting in water waste. The ability to distribute water laterally allows and eases the work with lightweight materials.

A rooftop detention system can be omitted.



PARKS AND GREENS



PARKS AND GREENS

Sculpted greenery is an important design element in landscape architecture but difficult to irrigate in the past.

Subsurface Irrigation Mat prevents overwatering, which can cause water damage on curbsides, streets and walls, especially in very small and angled spaces.

No more broken sprinkler heads.

There is no exposure to topically applied pesticides and fertilizer, avoiding the risk of health hazards for animals and children.

GREENS AROUND HOTELS AND COMMERCIAL BUILDINGS

Lawn areas can be used for special events and recreational purposes at any time without limitations – no irrigation down time.

No need for removal of furniture on grass, they won't get wet by sprinklers.

Special outdoor events like weddings or concerts may be set up at any time, no need to wait until grass is dry

Parties may take place at any time.



**FOOTBALL STADIUMS, ATHLETIC FIELDS,
GOLF COURSES AND PARKS**

Easier maintenance such as aeration and fertilization, no heavy machinery needed.

Gray water can be used without any risk of unpleasant odor.

Higher resistance to foot traffic due to healthy root growth.

Accessibility even during irrigation.

24/7 Usability



WHAT IS ?

The Leadership in Energy and Environmental Design (LEED) Green Building Rating System is a point based rating system to evaluate the environmental performance of a building over its life cycle.

LEED promotes a building approach to sustainability in five key areas:

sustainable sites, water savings, energy efficiency, materials selection and indoor environmental quality.

Detailed information on obtaining credits and the certification process is available from The United States Green Building Council (USGBC) on their website: www.usgbc.org

WATER EFFICIENCY

Credit 1.1

Water efficiency landscaping: Reduce water usage by 50% 2 points Intent :

- Limit or eliminate the use of potable water for landscape irrigation by 50% By the use of irrigation efficiency, captured rainwater, plant species, use of recycled wastewater.

When installing a green roof additional LEED points can be granted (up to 19 depending on the project) ENERGY EFFICIENCY and SUSTAINABLE SITES.

EA Credit 1: Optimize energy performance

Energy efficiency Credit: Vegetated roofs can aid to the reduction of the energy consumption of the building.

Sustainable Sites

SS Credit 5.1 Protect or Restore Habitat

Promote biodiversity, provide habitat, use native or adapted plants

SS Credit 5.2 Maximize Open Space : In urban areas

SS Credit 6.1 Storm water control: Quantity control

SS Credit 7.2 Reduce Heat Island Effect

NOTE BY ECO RAIN USA WHEN USING THE IMAT:

The designer on the LEED project needs to provide an irrigation plan and legend as well as calculations And a cut sheet of the irrigation system demonstrating how water consumption is reduced by 50%.

For roof tops energy efficiency: demonstrate percentage improvements in the proposed building performance rating compared with the baseline building performance



| info@ecorainusa.com



| www.ecorainusa.com

MADE IN GERMANY



Root exposure due to topical water supply – upward root development on small and large trees

HOA CHALLENGES AND WATER WASTE



Permanent over spray and water waste – Street and side walk damage – high maintenance costs



Wall damage from sprinklers



Overwatering with Subsurface Drip-Lines



Before Sidewalk damage from overspray



After Repaired sidewalk, high repetitive maintenance costs



Water pattern



Fungus development from heat and moisture