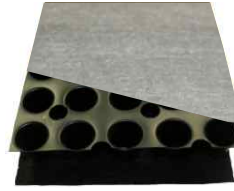


J-DRain®



Greenroof Drainage Systems

**New 100%
Post Consumer
Recycled
Fabric**



Residential Greenroof, Atlanta, GA
(Photo Courtesy David Butler Architects & Thomas Nichols, RLA)

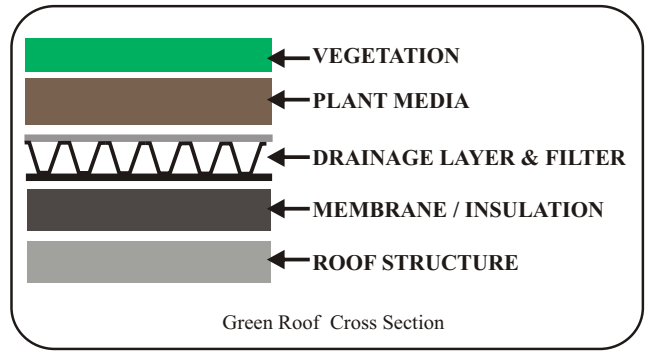
JDR Enterprises, Inc., believes greenroofs are about
‘Attitude & Altitude’

‘Attitude’: The wish for a better quality of life causes a change in thinking.

‘Altitude’: Greenroofs can be found today in nearly all large cities in the world.

JDR Enterprises, Inc.





Green Roof Cross Section



Residential Greenroof, Atlanta, GA
(Photo Courtesy David Butler Architects & Thomas Nichols, RLA)

Why is drainage important?

- Creates **drainage at base** of greenroof
- Ensures **aeration** of growing media
- Effective **water shedding** off roof
- No standing water at **plant layer**
- No ponding at **membrane layers**

Greenroof Design Considerations

A successful Greenroof design relies on a complete understanding of the system mechanics and the relationship between the various integrated components:

- **J-DRain** products are compatible with all waterproofing systems on the market today
- For optimum performance, we recommend engineered soils with minimum silt or organic that could clog the filter fabric
- Before the construction begins, it is imperative a licensed structural engineer or architect conduct a structural analysis for weight load considerations
- Depending on plant choices and root behavior, this root resistant fabric will prohibit most, but not all, root growth from typical Greenroof plants.
- This root resistant fabric is not to act as substitute for the root barrier that is required at the waterproofing membrane layer. Please consult your waterproofing company for this criterion.
- Direct UV/sunlight can damage **J-DRain** products and can cause deterioration. To alleviate UV/sunlight damage, the engineered soil should be installed to cover **J-DRain** products within 10-14 days.



New City Hall, Greensburg, Kansas

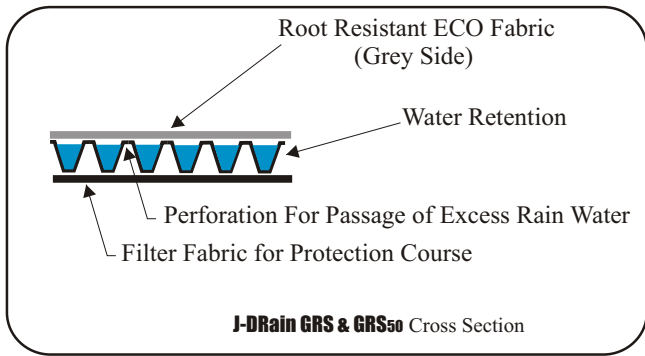
J-DRain can be used on all your greenroof applications:

- **Commercial & Residential Buildings**
- **Intensive & Extensive Greenroofs**
- **Flat & Low-Sloped Roofs**
- **Hardscaped Areas/Pavers**
- **Planters & Planted Areas**

info@j-drain.com



Greenroof Drainage Systems

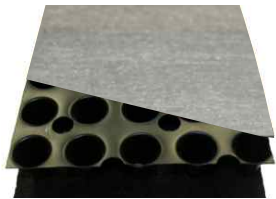


Choosing the right drain component:
a number of our products can easily be incorporated into your Greenroof.

Applications:

Advantages:

J-DRain GRS



- Under Vegetated Areas
- Non-Irrigated Roofs
- Flat Roofs
- Shallower Substrates
- Maximum Water Retention

- Pre-assembled drain system, easy install
- 100% Polystyrene Post-Industrial Regrind
- Water retention chambers
Retains: **(1.1 Gal/10 Sq.ft.)**
- Low Cost
- Prevents root penetration into drain layer
- Reduces weight of total Greenroof
- Filters fine particles
- Ensures drainage efficiency

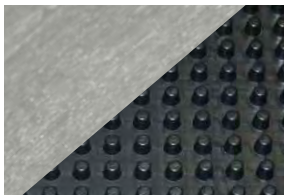
J-DRain GRS50



- Under Vegetated Areas
- Non-Irrigated Roofs
- Flat or Sloped Roofs
- All Substrates
- Water Retention

- Pre-assembled drain system, easy install
- Polypropylene drain core
- Water retention chambers
Retains: **(.42 Gal/10 Sq.ft.)**
- Low Cost
- Prevents root penetration into drain layer
- Reduces weight of total Greenroof
- Filters fine particles
- Ensures drainage efficiency

J-DRain 40ORB

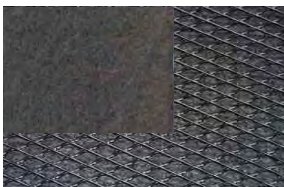


- Sloped Roofs
- Irrigated Roofs
- Deeper Soil Substrates

- Pre-assembled drain system, easy install
- Polypropylene drain core
- Low cost
- Prevents root penetration into drain layer
- Reduces weight of total Greenroof
- Filters fine particles
- Ensures drainage efficiency

J-DRain GRS, GRS50, & 40ORB are our most popular drain products under planted areas. They are pre-assembled drain cores with root resistant ECO fabric attached to the top layer. The ECO fabric prevents fine particles from being washed out and prevents roots from becoming saturated and affecting the efficiency of the drain layer.

J-DRain 302



- Under Slab
- Parking Decks
- Vehicular Traffic
- Between Roof Membrane & Insulation

- Extremely high compressive strength
- Flexible
- Excellent flow rate performance
- Perfect for heavy duty vehicular traffic
- Provides two sided drainage

We manufacture and supply many drain options for **hardscaped / paved areas** of your rooftop garden/plaza deck. **J-DRain 302** is our most popular and is a pre-assembled geonet with attached filter fabric.

J-DRain Greenroof Accessories

JDR Enterprises, Inc. supplies a range of accessories to ensure a perfect finish.

J-DRain Access Box

Product Size:

Height: 6"
 Flange: 18" x 18"
 Access Opening: 12" x 12"



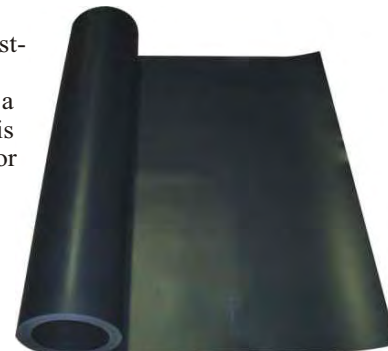
Product Description:

Powder Coated Aluminum Casting with removable, ventilated top and flanged base. Provides easy access and cover for inspection of floor drains in a Greenroof application.

J-Barrier

Product Description:

A solid sheet of 100% post-industrial polystyrene regrind. A root barrier is a required component and is generally located within or at the membrane.



Product Size:

Roll size: 4' x 100' roll
 Thickness: 20 mil (0.51mm)

Adhesives



- Underground waterproof seam tape
- Makes watertight junctions & connections
- Provides super stretchability
- Elongation: 200%
- Dielectric: 9000 Volts
- Thickness: 8 mil
- Tensile Strength: 20#/sq. inch



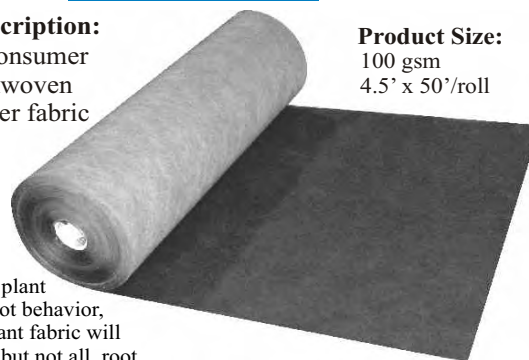
- Quick dry time
- High temperature resistance
- Very long working time
- Aggressive grab tack
- No clean-up or maintenance
- Can be used as a primer or adhesive
- Excellent adhesion to variety of substrates

ECO Fabric

Product Description:

100% post consumer recycled nonwoven polyester filter fabric

Product Size:
 100 gsm
 4.5' x 50'/roll



*Depending on plant choices and root behavior, this root resistant fabric will prohibit most, but not all, root growth from typical greenroof plants.

*Greenroof specifications are available @ www.j-drain.com

Physical Properties

Drainage Core

	Size (ft)	Thickness (in.) (ASTM D 1777)	Compression (psf) (ASTM D 1621)	Flow (gal/min/ft) (ASTM D 4716)	Fabric Type
GRS	4 x 50	1.0	9,500	30 (HG=1)	ECO (1 side) NW (1 side)
GRS50	4 x 50	0.40	15,000	21 (HG=1)	ECO (1 side) NW (1 side)
400	4, 6.5, 8 x 50	0.40	15,000	21 (HG=1)	NW (1 side)
400RB	4, 6.5, 8 x 50	0.40	15,000	21 (HG=1)	ECO (1 side)
302	4 x 75	0.25	40,000	8.5 (HG=1)	NW (2 sides)
700	4, 6.5, 8 x 50	0.40	21,000	23 (HG=1)	W (1 side)

Fabric

	ECO Fabric (ECO)	Non-woven Geotextile (NW)	Woven Geotextile (W)
AOS (U.S. Sieve) (ASTM D 4751)	70	70	40
Water Flow (gal/min/ft²) (ASTM D 4491)	250	140	60
Grab Tensile (lbs) (ASTM D 4632)	75	100	370
Grab Elongation (%) (ASTM D 4632)	40	60	15
CBR Puncture (lbs) (ASTM D 6241)	238	250	850

The information contained herein is believed by JDR Enterprises, Inc. to be accurate and is offered solely for the customer's consideration, investigation and verification. Determination of suitability for use is the responsibility of the user. JDR's Limitations, Limited Warranty, & Disclaimer along with Standard Terms & Conditions apply. See www.j-drain.com for more info. Limitations: J-DRain is resistant to chemicals in normal soil environments. However, some reagents may affect the performance of J-DRain. A JDR representative should be contacted for further information to determine the suitability of use of J-DRain in unusual soil environments. J-DRain should be limited to its exposure to ultra-violet sunlight. J-DRain should be backfilled or covered within seven days of installation. Disclaimer: All information, drawings and specifications are based on the latest published information at the time of printing. JDR reserves the right to make changes due to manufacturing improvements and engineering at any time. All physical properties are minimum average roll values (MARV). Standard variations of 10% in mechanical properties and 15% in hydraulic properties are normal.