



# J•DRAIN GRS

## Greenroof Drainage Systems



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

**‘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.



# J•DRAIN

## *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**



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

## *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**



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

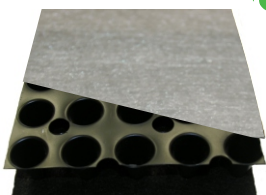
# Greenroof Drainage Systems



## Applications:

## Advantages:

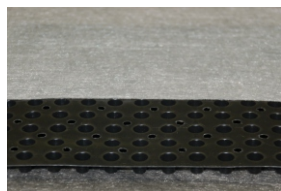
### J-DRAIN GRS



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

- Pre-assembled drain system, easy install
- Polypropylene drain core
- Water retention chambers  
Retains: **(1.1 Gal/10 Sq.ft.)**
- Low Cost
- Prevents root penetration into drain layer

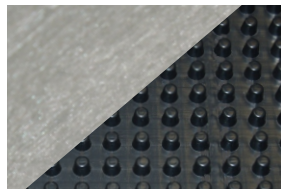
### J-DRAIN GRS50



- 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

### J-DRAIN 400RB

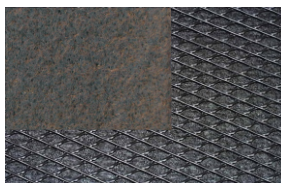


- Sloped Roofs
- Irrigated Roofs
- Deeper Soil Substrates

- Pre-assembled drain system, easy install
- Polypropylene drain core
- Low cost
- Prevents root penetration into drain layer

**J-DRAIN GRS, GRS50, & 400RB** are our most popular drain products under planted areas. They are pre-assembled drain cores with root resistant fabric attached to the top layer. The 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

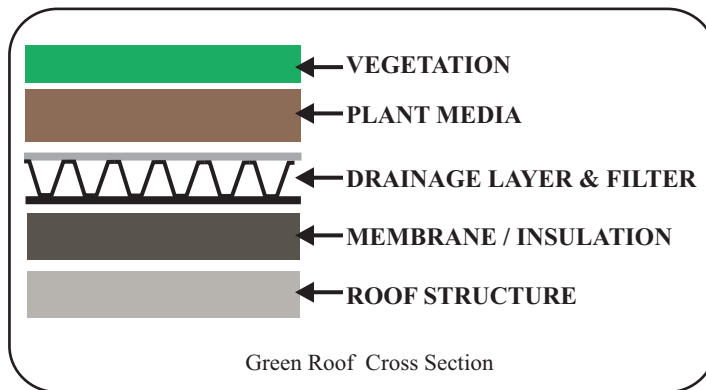
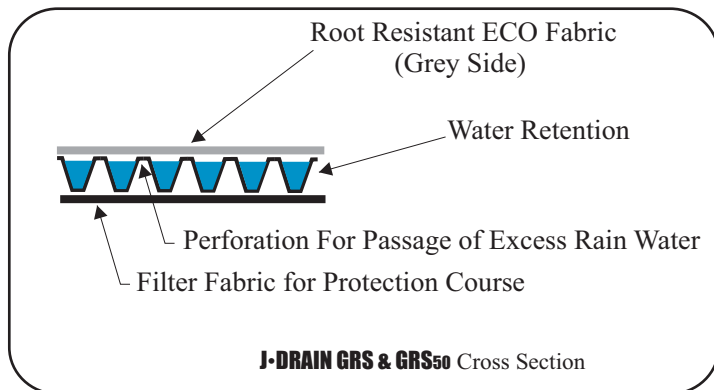
- Extremely high compressive strength
- Flexible
- Excellent flow rate performance

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 GRS

## Greenroof Drainage Systems



## 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)	RR (1 side) NW (1 side)
GRS50	4 x 50	0.40	15,000	21 (HG=1)	RR (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

	Root Resistant Geotextile (RR)	Non- woven Geotextile (NW)	Woven Geotextile (W)
AOS (U.S. Sieve) (ASTM D 4751)	50	70	40
Water Flow (gal/min/ft <sup>2</sup> ) (ASTM D 4491)	165	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)	160	250	850

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