RTANK

Stormwater Management System

ACF ENVIRONMENTAL

Customer Focused, Environmentally Committed

R-TANK
Stormwater Management System

R-Tank™ stormwater detention, infiltration, and recycling systems provide underground storage of stormwater. This system is an alternative to stormwater basins and a more efficient, space saving alternative to other underground systems. After a rain event fills the R-Tank, stormwater can flow into the drainage system, infiltrate into the ground, or be reused.

Benefits

- High Capacity
  - 95% void internal area
- Modular Design Footprints
  - Available in any shape to efficiently use space
  - Vary height from 9 inches to 7 feet
- High Strength
  - Easily supports traffic loading from parking lots and roads
  - Backfill with sand - no stone required
- Increased Infiltration and Exfiltration
  - Outer shell is 95% open
  - Increases groundwater recharge, reducing post-construction runoff
- Easy to Transport
  - Can be supplied unassembled for reduced delivery costs
- Lightweight and Quick to Install
  - Installed by hand - no cranes required
  - Reduces site access delays
- Permanent and Maintainable Storage Volume
  - All storage volume is isolated inside filter fabric envelope
  - No reliance upon non-sustainable, temporary, assumed void space in crushed gravel backfill
- Recycled Content
  - Manufactured with recycled polypropylene

Applications

R-Tank can be used for a variety of applications including:

- Stormwater Retention/Infiltration
- Stormwater Detention
- Stormwater Recycling/Harvesting
- Pond Retrofits
- Dry Wells
- Bioretention

R-Tank is a modular system and can be assembled to a variety of heights from 9 1/2” to just under 7’. This rigid system can be placed beneath a variety of surfaces including:

- Parking Lots
- Streets and Access Roads
- Driveways
- Landscaping
- Athletic Fields/Playgrounds
- Swales and Channels

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Why Do You NEED Modular Versatility?

Vary the system shape to:
- Work around obstacles / utilities
- Fit the system to the constraints of your site
- Replace sloped pipes with a flat system

Eliminate header manifolds to:
- Reduce Costs
- Break the system into pieces to manage runoff close to the source

Add stone storage to:
- Take advantage of available space on site and reduce costs
- Cost effectively increase footprint size for faster infiltration

Vary the elevation of the top of the system to:
- Maintain cover beneath changing grades
- Change cover depths for different surface usage

Vary the elevation of the bottom of the system to:
- Avoid / jump underground utilities
- Create a WQV sump

Create construction phase flexibility to:
- Allow simple footprint changes on the fly without impacting storage volume
- Easily modify the system depth
- Account for unmarked utilities
- Help reduce the cost of change orders

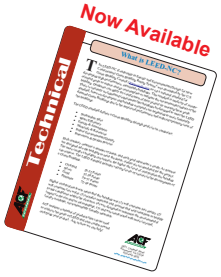
LEED™ Points

Using R-Tank in a project design can earn as many as 11 LEED credits for your project.

Sustainable Sites – 4 Credits
By temporarily storing large volumes of water in a small footprint, R-Tank allows you to maximize open space (credit 5.1) while minimizing the development footprint (credit 5.2). This will also reduce the total quantity of stormwater runoff (credit 6.1). Incorporating R-Tank as part of a bioretention system can help remove pollutants from runoff, as well (credit 6.2).

Water Efficiency – 5 Credits
R-Tank can be wrapped with a liner, allowing rain water or gray water stored in the system to be reused to irrigate the landscaping (credits 1.1, 1.2 and 2), resulting in reduced demand on the building's potable water resources (credits 3.1 and 3.2).

Materials and Resources – 2 Credits
R-Tanks are always made from 100% post-consumer recycled plastics (credits 4.1 and 4.2).



Technical

R-Tank Specifications

Dimensions

Module (Units)	Width (mm)	Width (inches)	Length (mm)	Length (inches)	Height (mm)	Height (inches)
Mini	400	15.75	715	28.15	240	9.45
Single (1)	400	15.75	715	28.15	440	17.32
Single + Mini (1.5)	400	15.75	715	28.15	660	25.98
Double (2)	400	15.75	715	28.15	860	33.86
Double + Mini (2.5)	400	15.75	715	28.15	1080	42.52
Triple (3)	400	15.75	715	28.15	1280	50.39
Triple + Mini (3.5)	400	15.75	715	28.15	1500	59.06
Quad (4)	400	15.75	715	28.15	1700	66.93
Quad + Mini (4.5)	400	15.75	715	28.15	1920	75.59
Pent (5)	400	15.75	715	28.15	2120	83.46

Details

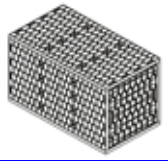
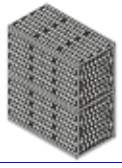
Module (Units)	Tank Volume (cf)	Storage Volume (cf)	# of Large Plates	# of Small Plates	# of Mini Sm/Lg Plates	Weight (lbs)
Mini	2.42	2.30	2	0	4 / 2	10.19
Single (1)	4.44	4.22	4	4	0 / 0	15.73
Single + Mini (1.5)	6.67	6.33	5	4	4 / 2	23.61
Double (2)	8.69	8.25	7	8	0 / 0	29.15
Double + Mini (2.5)	10.91	10.36	8	8	4 / 2	37.02
Triple (3)	12.93	12.28	10	12	0 / 0	42.56
Triple + Mini (3.5)	15.15	14.39	11	12	4 / 2	50.43
Quad (4)	17.17	16.31	13	16	0 / 0	55.97
Quad + Mini (4.5)	19.39	18.42	14	16	4 / 2	63.85
Pent (5)	21.41	20.34	16	20	0 / 0	69.38

Specifications

Item	Description			Value	Unit
Void Area	Area available for water storage vs. that made up of plastic			95	%
Surface Area Void	Open area where water may percolate into or out of the unit			95	%
Rib Thickness	Thickness of load-bearing members			0.18 (4.5)	inches (mm)
Unit Weight	Weight of plastic per cubic foot of tank			3.24	lbs / cf
Service Temperature	Operating temperatures where unit can be expected to perform adequately			-14 to 167	Degrees Fahrenheit
Unconfined Crush Strength*	Using a 5" x 5" load plate placed centrally over the unit will determine the pressure at which the top plate with bend to the point of failure			32.48	psi
Unconfined Crush Strength*	Using a full-size load plate that completely covers the top of the unit determines the pressure required to crush the entire unit			30.0	psi
Recycled Content	Percentage of product made from Recycled Polypropylene			100.0	%
180 Day Creep Testing	Used to determine the long-term performance of the system				
		Load Applied	Initial & Sustained	11.16	psi
		Creep Sustained	After 180 Days	0.20	inches
		Creep Sustained	After 180 Days	1.13	%
		Projected Creep	40 Years	1.72	%

***All crush tests performed on units with two internal plates.**

Product Pictures

Mini	Single	Double	Triple	Quad	Pent	Other
						Taller Modules May Be Available - Call for Details

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