

ICC-ES Evaluation Report

ESR-3356
Effective Date: February 2016
This report is subject to re-examination in one year.
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A Subsidiary of the International Code Council®

DIVISION: 06 00 00 – WOOD, PLASTICS, and COMPOSITES
Section: 06 52 00 – Plastic Structural Assemblies
DIVISION: 22 00 00 – PLUMBING
Section: 22 30 00 – Plumbing Equipment

The product and/or package must bear the manufacturer's name or trade mark, and Unit load rating (H-25). The ICC-ES PMG certification mark shall be placed on the product.

PRODUCT CERTIFICATION SYSTEM:

The ICC-ES product certification system includes testing samples taken from the market or supplier's stock, or a combination of both, to verify compliance with applicable codes and standards. The system also involves factory inspections, and assessment and surveillance of the supplier's quality system.

REPORT HOLDER:

Eco-Rain® Tank Systems of America, Inc.
 12400 Ventura Blvd. #167
 Studio City, CA 91604
www.ecoraintank.com

EVALUATION SUBJECT:

Modular Underground Stormwater Polypropylene Tanks

1. EVALUATION SCOPE

Compliance with the following codes:

- 2015, 2012, 2009 and 2006 *International Building Code*® (IBC)
- 2015, 2012 and 2009 *International Plumbing Code*® (IPC)
- 2015, 2012 and 2009 *International Residential Code*® (IRC)
- 2012 and 2009 *Uniform Plumbing Code*® (UPC)*

**Uniform Plumbing Code is a copyrighted publication of the International Association of Plumbing and Mechanical Officials*

Compliance with the following standards:

- Section 1610 of the IBC 2015
- IAPMO PS63-2014 Plastic Leaching Chambers
- ASTM D4101-2011 Standard Specification for Polypropylene Injection and Extrusion Materials
- AASHTO H-25 Highway Load - American Association of State Highway and Transportation Officials

2. IDENTIFICATION

3. INSTALLATION

Eco-Rain® Tank Systems of America, Inc. skeletons are installed underground outside of buildings. The EcoRain® skeletons are assembled on site, placed in the excavated earth and covered with a geotextile / liner (provided by others) prior to backfilling. Base of excavation must be smooth, level soil free of lumps or debris. The units must be installed in accordance with the manufacturer's installation instructions and the applicable codes.

4. MODELS

Eco-Rain® Tank Systems of America, Inc. produces underground tanks skeletons for temporary storage of storm water. The tank skeletons are made of Polypropylene conforming with ASTM D4101. Models are noted in Table 1.

5. CONDITIONS OF USE

- 5.1. Eco-Rain® Tank Systems of America's Underground Stormwater Polypropylene Tanks. must be installed underground outside of the building foundation and subject to a maximum load of H-25 by AASHTO. H-25 represents the earth load from a 25 ton semi-truck determined by AASHTO calculations.
- 5.2. Product can be installed to the maximum depth of 24 feet when stacked vertically, from the bottom of the lowest unit to the surface. There is no limitation or constraints for width or length installation of the Tanks.
- 5.3. Polypropylene Group 03, Class 3, Grade 0 and shall be in conformance with ASTM D4101.
- 5.4. Storm water piping must conform to the applicable plumbing code.
- 5.5. Eco-Rain® Tank Systems of America's Underground Stormwater Polypropylene Tanks. must have a minimum 24 inch burial depth, road base per civil Engineer to resist H-25 loads.
- 5.6. Eco-Rain® Tank Systems of America's Underground Stormwater Polypropylene Tanks are manufactured in Laredo, Texas and Nuevo Leon, Mexico under a quality control program with yearly inspections by ICC-ES.

Table 1

Eco-Rain Tank Systems of America, Inc. Model Dimensions (feet)

Model	Front		Side		Top	
	H	W	H	L	W	L
ET-1500 Eco-Rain Half Tank	0.79	1.34	0.79	2.25	1.34	2.25
ET-1501 Eco-Rain Single Tank	1.48	1.34	1.48	2.25	1.34	2.25
ET-1501.5 Eco-Rain Single + Half Tank	2.19	1.34	2.19	2.25	1.34	2.25
ET-1502 Eco-Rain Double Tank	2.89	1.34	2.89	2.25	1.34	2.25
ET-1502.5 Eco-Rain Double + Half Tank	3.60	1.34	3.60	2.25	1.34	2.25
ET-1503 Eco-Rain Triple Tank	4.30	1.34	4.30	2.25	1.34	2.25
ET-1503.5 Eco-Rain Triple + Half Tank	5.01	1.34	5.01	2.25	1.34	2.25
ET-1504 Eco-Rain Quad Tank	5.71	1.34	5.71	2.25	1.34	2.25
ET-1504.5 Eco-Rain Quad + Half Tank	6.42	1.34	6.42	2.25	1.34	2.25
ET-1505 Eco-Rain Pent Tank	7.12	1.34	7.12	2.25	1.34	2.25

MODULAR ECO-RAIN TANK INSTALLATION CHECKLIST

*****PLEASE READ ECO-RAIN® TANK SYSTEMS OF AMERICA INC. SUBMITTAL BEFORE START OF INSTALLATION***
SCOPE OF WORK/INSTALLATION CHECK LIST**

PROJECT NAME:
GROUND PREPARATION
1. Excavate trench larger than EcoRain Tank structure, level the ground & clean the area
2. Compact the area beneath the Tank to engineered percentage, screed the surface
3. Remove all stones, lumps, debris and sharp objects from sub-base
4. Place 2" clean sand on sub-base and level with screed
INDIVIDUAL TANK ASSEMBLY
5. Follow assembly instructions for specified size of Tank
6. Fully insert & space pins of Small & Large Plates evenly
7. Check to see that all Plates are connected securely and fully; multiples connected to each other; tap with dead weight hammer hitting a short piece of 2" x 4" over the pin areas to ensure full insertion of the pins
8. Do not use any broken Plates
INSTALLATION
9. Liner (if used) to be laid per manufacturer's instructions with underlayment
10. If using liner, backfill with a 6" layer of sand inside liner
11. Lay Geotextile fabric with enough fabric to fully cover Tanks with 6" overlap of seams
12. Lay out first row of individual Tanks of the application area with Large Plates facing outside to the width required *Exception in the area using Clean Out Portal/Plates
13. Position subsequent rows of individual Tanks perpendicular to the first row so that only the Large Plate sides of the Tanks face the outside perimeter *Exception in the area using Clean Out Portal Plates
14. Make sure there are no gaps between installed Tanks - abut to one another as tightly as possible
15. Position last row the same as the first row, with Large Plates facing the excavation wall, *Except at Clean Out Portal/Plates
16. The perimeter of the Tank must be installed with the Large Plates facing the excavation walls *Exception in the area using Clean Out Portal Plates
17. If any, reinforce exposed Small Plates using Large Plates or EcoRain Drainage Cells attached by cable or zip ties
18. Wrap Geotextile fabric around the Tanks & secure with HDPE tape
19. Minimum 6-inch (150mm) overlap of Geotextile fabric
20. Tape Geotextile fabric overlapped joints fully to prevent sand/fill from entering Tank
21. Do not allow soil to enter the Tank or get inside the Geotextile fabric during backfill operation
22. Tops of individual Tanks must be level with no uneven plates, Tanks do not "rock"

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INLET/OUTLET PIPE CONNECTION
Pipes smaller than 6 inches (150mm) diameter
23. Insert pipe into the Tank by cutting a hole in the Large Plate between two of the Small Plates
24. Cut and secure Geotextile fabric around the inserted pipe with boot, ties and tape to prevent sand/fill from entering Tank
Pipes larger than 6 inches (150mm) diameter
25. Do NOT cut hole or insert pipe over 6 inches diameter into the Tank
26. Place & secure one layer of EcoRain 2" Drainage Cells to Tank at pipe entry/exit point
27. In a second layer of EcoRain 2" Drainage Cells, cut a hole the diameter of the pipe at entry/exit point height
28. Place & secure the cut second layer of EcoRain 2" Drainage Cells against the first layer - insert pipe, abutting the side of Tanks
29. Cut and secure Geotextile fabric to the pipe with boot, ties and HDPE tape. Secure fabric to prevent sand/fill from entering Tank
BACKFILL
30. 8-inch (200 mm) maximum height of backfill drop from tractor scoop
31. Drop specified backfill material around the perimeter of the Tank in 8 inch (300mm) depths
32. Compact backfill per plan using compaction plate on opposite sides of the tank at the same time
33. Place plywood sheet upright between Tank & backfill to protect Tank side, Geotextile & liner (if used) from compaction plate
34. Compact in 8 inch (200mm) lifts to top of Tank
35. Compact sand/fill on top of Tank up to 24" with vibratory plate compactor or non-mechanical walk roller not more than 2,000 lbs or per plan
36. Mark perimeter of Tank with caution/barricade tape to keep out heavy equipment
37. Install all remaining backfill as described above or as specified by Engineer/Landscape Architect
<i>NOTE: Secure the area of application with barriers/ropes during the entire scope of work. Prohibit all vehicular traffic.</i>
Eco-Rain® Tank Systems of America Inc. DOES NOT accept liability for incorrect installation.