FREEDOM Showers
Level Entry System APVLES6048

Installation Guide
for
Wood Construction

The Level Entry Shower System
Create Spa-Like, Accessible, Curbless Showers
FreedomShowers.com

ICC ES C PMG
Code Approved

Level Entry Shower System APVLES6048

About the Product

The **LEVEL ENTRY SHOWER SYSTEM** or **"LES"** as we will refer to it in this installation manual has been engineered to the highest standards available. It has been designed to be user friendly and is quickly becoming the preferred method to install curbless showers. The **LEVEL ENTRY SHOWER SYSTEM** does not require cutting of any structural floor system supports and is compatible with traditional joist systems, I-Joists, engineered truss systems and concrete floor applications.

The APVLES6048 pan is made from clean, recycled ABS plastic and can be field cut to fit almost any shower configuration. In the event that your installation requires cutting of the pan, we have included reinforced screw guides and additional bracing under the pan for strength. The cut lines and screw guides are easily located via dimple marks on the top of the pan. Additionally, we have included a pre-textured surface on our pan to create a strong mechanical bond between our pan and the waterproofing membrane applied to it.

The LES-2012 drain assembly is made from ABS plastic conforming to cell class 20211 and ASTM D3965. Our drain is one of the strongest and easiest to install in the industry. The LES-20171 strainer adjuster allows for thin or thick tile installations and our LES-20131 cup assembly allows quick and confident connections to 2" or 3" PVC, Cast Iron, Copper and ABS pipe.

Tile showers created using traditional PVC shower pan membranes are more susceptible to leaking due to numerous penetrations made through the membrane during construction. Anyone that has ever owned a tile shower created using this method has most likely had to deal with it leaking at some point. Our superior waterproofing products combined with our installation procedure help form a durable, water tight barrier that is sure to give many years of leak free showering.

Our Complete Kit (APVLES6048LEVEL ENTRY SHOWER SYSTEM) has been tested and certified to meet the requirements of the LC-1030-2011 and ICC-ES-PMG Listing # PMG-1094. We have included a copy of our code compliance in this manual for your reference. For the most current copy, please visit our website, www.vimproducts.com.

Level Entry Shower System APVLES6048

Before You Begin

Items Needed

Phillips Head Screwdriver
Hammer
Level
Scissors
Carpenters Square
(2) 5 Gallon Buckets
Sheers or Grinder
(to Cut Tile Backer Board)
Skill Saw
Reciprocating Saw
Hand Drill w/ #2 bit
Staple Gun
Tape Measure
Pencil / Marker
Drywall Trowel
1/4" & 1/2" Tile Trowel
Heavy Duty Mixer
Sponge
5lb Plumbers Putty
Drain Test Plug

Key Notes

1. It is recommended that floor elevations and tile thicknesses are known before starting to ensure the best finished results. When considering elevations, remember that our LES pan sits on top of the existing floor supports and is only 7/8" thick at its thickest point.
2. When designing a shower, it is recommended that the slope of the floor extend a few inches past the showering foot print.
3. Tile no larger than 4"x4" should be used for the shower pan area
4. Epoxy grout should be used on the shower pan area.
5. Any penetration made through the showers waterproofing membrane for shower doors, glass panels, etc... must be thoroughly cleaned and then filled with 100% GE Silicone to ensure full coverage.
6. Always follow the TCNA (Tile Counsel of North America) recommended procedures for tile installation methods.
7. Always follow manufacturer's recommended procedures for waterproofing methods.
8. Always follow national and local plumbing codes.
9. Shower spray patterns should always be taken into consideration when laying out your new shower system. A downward shower flow pattern works best.

IMPORTANT: When the tile installation begins, the bathroom floor tile should be installed before the shower pan tile. In some instances, depending on the tile thickness used, a secondary pitch from the bathroom floor tile to the shower pan may be required. If this re-pitch is required, once dry, the repitched area should be coated with waterproofing prior to tile being installed.

Level Entry Shower System

Installation

The following procedures will guide you through the installation of the **LEVEL ENTRY SHOWER SYSTEM.**

STEP #1 - Pan Layout

If space allows, lay your pan on the floor and mark the drain opening. Make sure there are no structural members below that interfere with the required 8" diameter hole opening for the drain assembly. If your shower space does not allow you to lay the entire pan in your shower area , the pan may be cut with a skill saw using a standard wood cutting blade. Note that the pan can be placed tight to the wall, or if cut, it should be pulled out away from the adjoining wall approx. 3"- 4" . The pan should always be positioned so there is positive slope past the "shower opening" by at least 2".

Tip: The slope of the shower floor can be extended with a quick setting patch material (See step #9) such as Laticrete's NXT-Patch or Mapei's Mapecum Quick Patch. Always follow the manufacturers installation instruction when using either of these products.

STEP #2 - Floor Cut

Once the pan has been positioned and the floor marked, cut the floor area out with a skill saw. Set your saw blade just deep enough to cut the sub-floor, taking care to not cut anything below the sub-floor.

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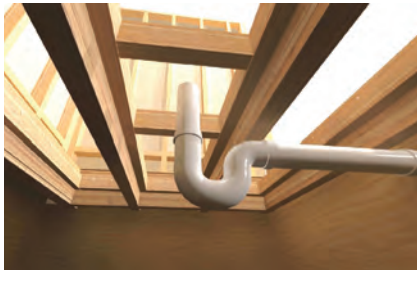
STEP #3 - Joist Sistering

Measure and cut 2x4's to picture frame the opening between the joists. Apply construction adhesive and screw or nail the 2x4's to the sides of the joists. The 2x4's should be held 3/4" below the top of the joist. Install (2) cross support 2x4's near the drain opening. These pieces can lay horizontally and should be positioned leaving clearance for the required 8" diameter opening for the drain assembly.

STEP #4 - Drain Installation

For installations without access below, set the pan in place and pull measurements to the center of your drain opening. Remove the pan and install your drainage waste pipe, stubbing the pipe above the subfloor level.



Tip: The waste pipe can extend above the floor and be cut at a later time. The final height of the drain pipe should be approx. 1.25" below the top of the LES2012 Drain Cup.

STEP #5 - Plywood Sub-Floor

Cut 3/4" plywood to fit between the joists and on top of the 2x4's. Apply construction adhesive to the top of the 2x4's, insert the plywood and screw or nail into place.

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STEP #6 - Drain Cup Install

Using the 1 oz. tube of silicone provided, coat the entire bottom (highlighted in yellow) of the LES-20131 Drain Cup insuring full coverage around the screw hole areas. Insert the LES-20131 cup into the pan. Rotate the cup until it drops into the alignment groves, hand tighten with the (6) screws provided. Immediately clean all excess silicone from the pan. Once dry, remove any silicone residue remaining on the pan surface.

STEP #7 - Setting the Pan

Mix latex modified thinset according to the package label and trowel into the recessed pan opening. The thinset should be thicker at the outside edge tapering towards the drain. Set the LES-6048 pan into place, over the drainage waste pipe. Verify the pan is setting level and insert (4) #14-1.1/2" screws (not provided) into the pre-drilled holes located near the drain. Carefully screw the remaining perimeter screws into place checking for levelness as you go.

Tip: In the event that the floor is not level, additional thin-set can be applied to the low side to level up pan. Always allow thin-set to set up before standing on pan.

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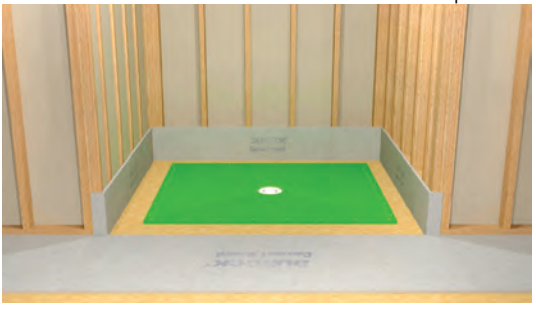
STEP #8 - Tile Backer Board

Cut 1/2" tile backer board approx 12" - 18" high and screw to the walls. Determine the thickness of floor backer board and install so the slope from the backer board to the pan will be a min. of 1/4"per ft. On a typical 3/4" sub-floor installation, our 7/8" thick APV-LES6048 pan will sit 1/8" higher than the surrounding sub-floor. Therefore, if you are installing 1/4" backer board keep it 6" away from the pan.

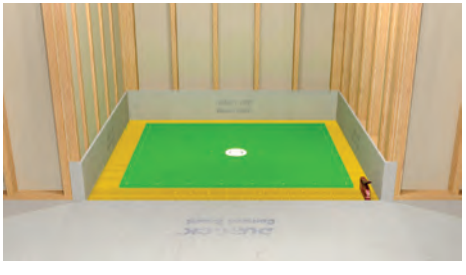


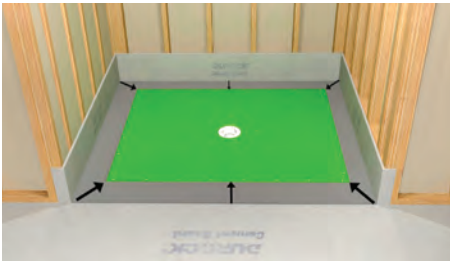
STEP #9 - Floor Sloping (if required)

Measure, cut and place the mesh provided into any areas that require sloping. Mix fast drying patch according to the package label and trowel into the recessed areas. Install the patch* ensuring that all potential "wet areas" slope back towards the pan and drain.

TIP: The fast setting patch dries quickly and the waterproofing membrane can be applied immediately after drying. Due to their quick drying properties, patch should only be installed by experience installers. The following patches are acceptable to use for sloping and filling voids. **Do NOT use thinset as a patch material.** North American NA-500 Patch (Feather to 1/2" thickness), Mapei Mapecem "Quick Patch" (Feather to 3") or Laticrete NXT-Patch for (1/8" – 1-1/2") slopes.
If patch is being installed over anything other than plywood, pre-treat the area with waterproofing provided, allow to completely dry and then install the patch material.

***Always follow the patch manufacturer's installation instructions.**





STEP #10 - Seam Waterproofing

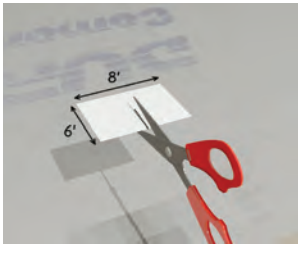
Before starting - Insure that the entire area to be waterproofed is wiped clean of all debris and that no silicone residue remains on the pan. Precut 6" wide strips of reinforcement fabric before waterproofing is applied. Apply the waterproofing membrane provided with a 4" wide paint brush to all corners and seams. Cover approximately 5" on both sides of seams. This first coat will be absorbed quickly.

Apply a 2nd coat of waterproofing to the seams. Fold the precut 6" wide reinforcement fabric strips in half and position into place while the waterproofing is still wet. Tuck the reinforcement fabric into place ensuring all corners are tight and not rolled in the corners.

Waterproof over the top of the fabric and let it dry thoroughly following the manufacturers instructions.

TIP: Always install fabrics while waterproofing is still wet. Cut any bubbles with a razor knifre, press flat and re-apply waterproofing over the area.

Cut a piece of the 6" fabric approx, 8" long. Cut this piece 3" up the 6" length and fold to creat a corner dam as shown. Apply waterproofing to the corners, insert the corner piece and waterproof over again.



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STEP #11 - Pan Waterproofing

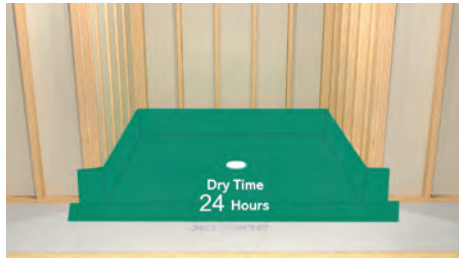
Starting at the rear of the shower, precut strips of the large reinforcement fabric wide enough to cover the shower area, holding it 1/2" off the walls. Apply thin, even layers of waterproofing with the 4" wide paint brush provided to an area slightly larger than the reinforcement fabric will cover. **The fabric is no longer required to roll up the walls as shown below.**

Avoid waterproofing over the (6) open female grommets. Lay the fabric into position, smoothing it with your hands. The fabric should always be installed into a wet layer of waterproofing. Once in place, waterproof over the top of the fabric and move to the next section.

Follow the same procedure for the remaining sections of the pan. Let the waterproofing dry and re-coat the entire shower area again. This coat should dry for approx. 30 minutes. This entire process can typically be completed in one day however, first installations may take slightly longer. Re-coat the entire pan and let it to sit for approx. 24hrs or until completely dry.

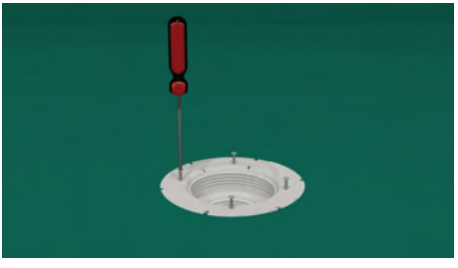
Temperature and humidity can shorten or increase dry times. Follow the manufacturer's instructions included with the waterproofing.

Once complete, the waterproofing should be about the thickness of a credit card or 0.5–0.8 mm thick when cured.



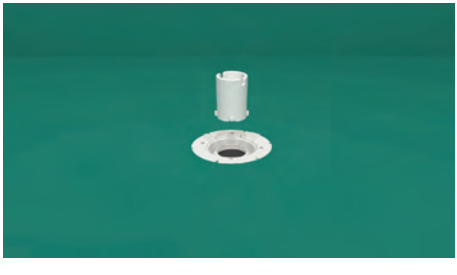
STEP #12 - Insert and Drain Connection

Locate the LES cup outer edge with your fingers and carefully cut the fabric using a utility knife. This cut should be made so the fabric is tucked at least 1/2" under the Insert piece. Rotate the Insert until it drops into the alignment groves, hand tighten with the (6) screws provided. The fabric should be under the Insert at least 1/2" and all exterior weep holes should be clean. **IMPORTANT - Do NOT use silicone on this piece.**



We are now ready to complete the drain seal. When complete, the waste pipe should extend up slightly higher than the gasket even with the flat part of the drain cup. This pipe can be cut using an inside PVC pipe cutter shown below and should be cut even with the top of the lock ring threads. Remove any debris that may be present where the gasket inserts prior to installing the gasket. This must be a clean seal. Remove any burrs from the pipe, apply a small amount of gasket grease to the gasket and firmly press into place **(beveled side up)**. Screw the gasket lock ring into place **(beveled end down)** and tighten with the lock ring tightening tool provided.

TIP: The lock ring tightening tool has been designed so it can be flipped over to aid in pressing the gasket into place.



Inside Pipe Cutter

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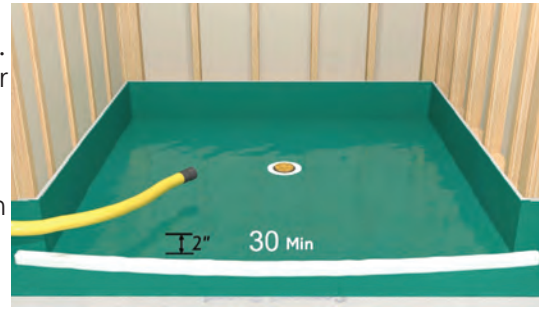
STEP #13 - Testing

Seal the drain opening with a test plug and create a temporary dam at the front of the shower using plumbers putty. For larger showers, flexible molding can be used with putty to help create the dam. Fill the shower with 2" of water for 30 minutes or as long as local codes require. Once complete, pull the test plug and remove all the putty from the shower floor and walls.



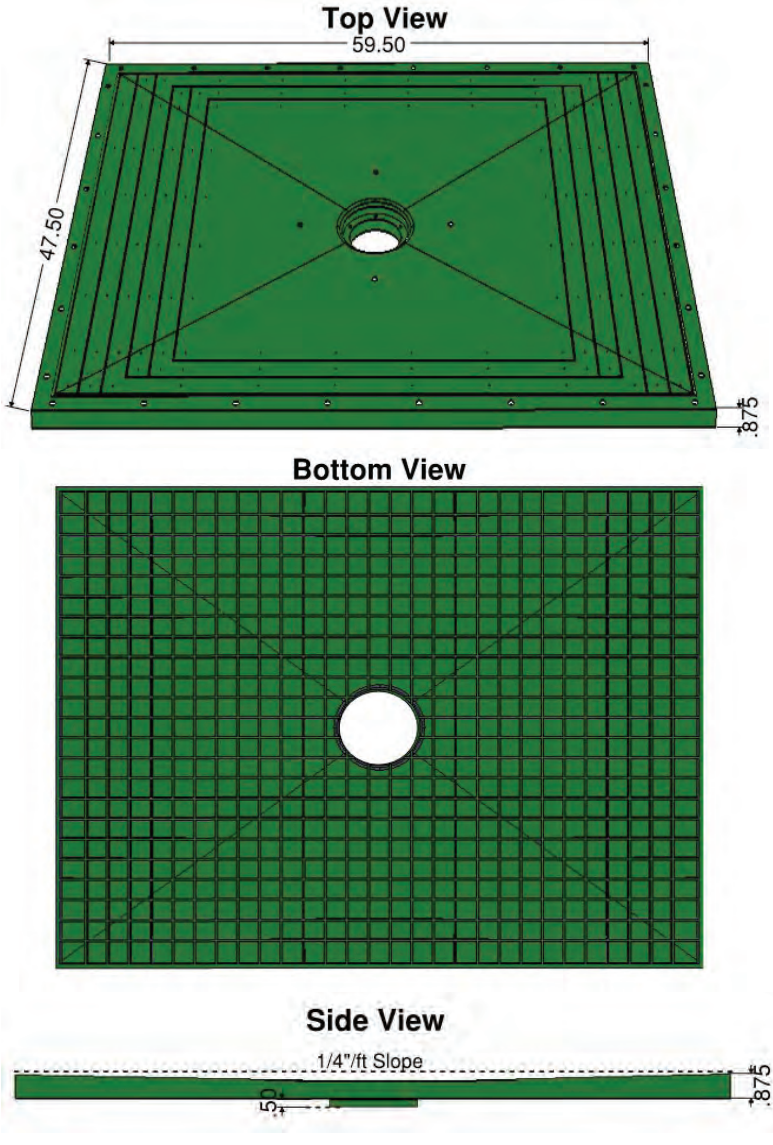
STEP #14 - Adjuster, Retainer and Grate Installation

Thread the LES-20171 adjuster into the insert. Verify the LES-20191 retainer o-ring is seated properly in the grate retainer and press into the adjuster. These two pieces may be seperated during the tile process should the finished grate height need to be adjusted up or down. Once the final grate retainer height is achieved, apply a supporting bed of thinset under the grate retainer and press firmly into the adjuster.

CONGRATULATIONS!

Your LEVEL ENTRY SHOWER SYSTEM is installed!

Parts Breakdown



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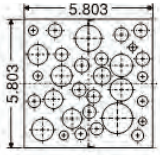
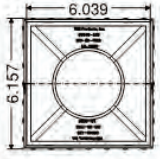
LES-Strainer



Retainer #20191



O-ring #20181

Adjuster #20171

(6) M4x1.25mm
Stainless Steel Screws
#20161-6

Insert #20161

Lock ring #20151

(6) M6x1.25mm
Stainless Steel Screws
#20131-6

Drain Gasket #20141

Cup #20131

Silicone Sealant

Gasket Grease

Lock Ring Tightening Tool

Grate Removal Tool

Level Entry Shower System

ICC EVALUATION SERVICE

Most Widely Accepted and Trusted

ICC-ES PMG Listing **PMG-1094**

Effective Date: August 2015

This listing is subject to re-examination in one year.

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CSI: DIVISION: 22 00 00 — PLUMBING
Section: 22 40 00 — Shower Pan Liners

DIVISION: 09 00 00 — FINISHES
Section: 09 30 00 — Tiling

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.

Product: Tileable Shower Kit

Listee: VIM Products
5060 Trademark Drive
Raleigh, North Carolina 27610
www.vimproducts.com

Compliance with the following codes:

2015, 2012 and 2009 *International Residential Code®* (IRC)
2015, 2012 and 2009 *International Plumbing Code®* (IPC)
2015, 2012 and 2009 *Uniform Plumbing Code®* (UPC)*
2012 North Carolina Plumbing Code (2009 IPC with North Carolina Amendments)
248 CMR, *Massachusetts Fuel Gas and Plumbing Code*
2010 *National Plumbing Code of Canada* (NPC)**
2011 *Uniform Plumbing Code – India* (UPC-I)

**Uniform Plumbing Code* is a copyrighted publication of the International Association of Plumbing and Mechanical Officials
***National Plumbing Code of Canada* is a copyrighted publication of the National Research Council Canada

Compliance with the following standard:

ANSI A 118.10-2008, Specification for Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone Installation.
LC1030-2011 PMG Listing Criteria for Prefabricated, Tileable Shower Receptor
ASME A112.18.2/CSA B125.2-2011, Plumbing Waste Fittings

Identification:

6048-LES Tileable Shower Kit described in this listing must be identified by a stamp bearing the manufacturer's name or trademark, the model number and the ICC-ES PMG listing mark.

Level Entry Shower System

Installation:

Each Tileable Shower Kit must be installed in accordance with the manufacturer's published instructions and the applicable codes.

The Tileable Shower Kit surfaces to be covered shall be smooth and free of irregularities that would make installation covering uneven. The size and slope shall conform to the requirements of the latest editions of the International Plumbing Code, International Residential Code and Uniform Plumbing Code. Provision shall exist to allow movement of water along the prefabricated, tilable shower receptor into drain.

The Shower Lining membrane shall conform to ANSI A118.10 and shall have a current listing with an approved third-party certification agency. Provisions shall exist to allow movement of water along the shower lining membrane into the drain. Attachment of the membrane to the shower kit, in the field, shall be made in accordance with the manufacturer's published installation instructions.

The shower drain shall conform to the applicable material and performance requirements in ASME A112.18.2/CSA B125.2 and shall have a current listing with an approved third-party certification agency. Attachment of the drain to the receptor, in the field, shall be made in accordance with the manufacturer's published installation instructions.

Models:

6048-LES: Level Entry Tileable Shower Kit

Conditions of Listing:

1. Shower floors shall be sloped toward the shower drain.
2. Level Entry Shower Receptor Kits are produced by VIM in Raleigh, North Carolina, under a quality control program with annual surveillance inspections by ICC-ES.