LEOPOLD	ENGINEERING GUIDELINES	UNDERDRAIN	
	OPOLD IDENTIFICATION AND REPAIR OF LEAKS FOR UNDERDRAIN BELL & SPIGOT JOINTS	REV.	0
		APRIL 17, 2012	
a xylem brand		1 of 3	

IDENTIFICATION AND REPAIR OF LEAKS FOR UNDERDRAIN BELL & SPIGOT JOINTS

©2009 - 2012 Xylem Water Solutions Zelienople LLC. All rights reserved.

No part of this publication may be reproduced in any material form whether by photocopying or storing in any medium by electronic means without the prior written consent of the copyright owner.

Xylem 227 South Division Street Zelienople, PA 16063 USA Phone: (724) 452-6300 Fax: (724) 452-1377 www.FBLeopold.com

	ENGINEERING GUIDELINES	UNDERDRAIN	
LEOPOLD	IDENTIFICATION AND REPAIR OF LEAKS FOR UNDERDRAIN BELL & SPIGOT JOINTS	REV.	0
		APRIL 17, 2012	
a xylem brand		2 of 3	

General

The following procedure will be used for identification and repair of leaks of bell & spigot joints for Leopold Type S^{TM} underdrains and Type SL^{TM} underdrains in filters.

Material and Labor

- Tools---Minimum required:
 - 2---wire brushes with long handles
 - o 1---masonry hammers
 - o 1---1"-wide masonry chisels
 - o 1---shopvac
 - o 2---margin trowels
- All other equipment to do the repairs---Minimum required:
 - Epoxy Hilti-Hit HY 150 or equal
 - o Mixing containers
 - o Ladder
 - o Portable lights
 - o Rope and hook
 - o 2---5 gallon bucks
 - o Duct tape

Procedure for Identification of Leaking Bell and Spigot Joints using Air

- 1. Remove filter media from filter.
- 2. Put about 2-inches of water covering the caps. Using the air blower, introduce air to the filter underdrain at the normal design air rate.
- 3. Observe the bell & spigots to check for air leaks. If a leak is identified, mark the locations for repair.
- 4. Drain the water from the filter.

Procedure for Identification of Leaking Bell and Spigot Joints using Water

(This procedure will not work if all the media is not removed from the filter)

- 1. If there is no air blower available, then spread about ½" of filter media over the joints in question.
- 2. Slowly bring water into filter until water is just above the underdrain. Then increase the backwash rate to the design high backwash rate and hold for about 1 minute.

	ENGINEERING GUIDELINES	UNDERDRAIN	
LEOPOLD		REV.	0
	UNDERDRAIN BELL & SPIGOT JOINTS	APRIL 17, 2012	
a xylem brand		3 of 3	

- 3. Drain the water from the filter.
- 4. Examine the bell and spigot joints of the underdrain for areas where the filter media was displaced by the backwash water. If filter media is displaced at any joint, then mark the locations for repair.

Procedure for Sealing Leaking Bell and Spigot Joints

- 1. Clean all media and debris from the bell and spigot joints of the underdrain. Use a wire brush or high pressure washer to remove scale and deposits at the bell and spigot joints and to roughen the surface.
- 2. Vacuum dirt from joints.
- 3. Using epoxy Hilti-Hit HY 150 or equal, mix the epoxy per manufacturer's instructions for mixing and application.
- 4. Install epoxy over the bell and spigot joints working it into all the grooves and recesses. If there are I.M.S. Caps, then fill to near top of caps.
- 5. After the epoxy has cured, test the bell & spigot joint as per instructions above for leaks.
- 6. After completing repairs then the filter should be ready for installation of filter media and disinfection.

END OF DOCUMENT

ATTACHMENT A SEALING BELL & SPIGOT JOINTS WITH EPOXY GROUT





