


DIVISION OF DRINKING WATER

POLICY/PROCEDURE

Title:	Pitless Adapters and Watertight Well Caps	M.OI
References:	Jim Hudson	
Contact:	Lead Secretary, Division of Drinking Water	
Effective Date:	09-08-93	
Supersedes:	N/A	
Approved:		Director, Division of Drinking Water

PURPOSE STATEMENT

Establish a policy to define standards for use of Pitless Adapters and Watertight Well Caps.

POLICY

Background

The Water Systems Council (WSC), a Chicago manufacturers group, and the NSF keep comparable standards covering the construction and installation of the pitless adapter and unit. These are shown as WSC Recommended Standards PAS-1, and NSF Standard #56. Also adopted was the standard for Watertight Well Caps, PAS-2. This was adopted in 1988 to set a minimum standard for the design, inspection and approval of Watertight Well Caps.

Policy

Pitless adapters and units shall comply with part 3.2.7.4 of the Ten State Standards, and with NSF standard #56 or WSC Recommended Standards PAS-1. Watertight Well Caps shall comply with WSC Recommended Standards PAS-2.

A comprehensive list of manufacturers who meet or exceed WSC Recommended Standards PAS-1 and PAS-2 is attached. The products listed have been certified to meet PAS-1 only, PAS-2 only, and both were specified. These products have been tested by both industry and non-industry personnel. All have been certified by the Drinking Water Division of the Water Systems Council. Apparently, the NSF does not maintain an approved list.

11.0 Pitless Units and Adapters

The well pit - for many years a common method of providing convenient access to underground lateral pipe connections below the freeze line on individual water systems - is frequently unsanitary. The pit sometimes allows drainage into the well from contaminated surface and near surface sources. Pitless well construction is one method of reducing the possibility of contaminated water entering the well and system.

Pitless Adapters and Pitless Units are devices designed for attachment to openings in the water well casing. They provide sanitary connections by preventing the entrance of contaminants from surface or near surface sources through such openings into the well or potable water supply, and permit termination of the well above the ground surface. Adapters and units also conduct water from the well, protect the water from temperature extremes, and permit access to the well and water systems parts within the well without exterior excavation or disruption of the earth.

Pitless Adapters and Pitless Units shall comply with part 3.2.7.4 of the Ten State Standards, and with NSF standard # 56 or WSC Recommended Standards PAS 1.

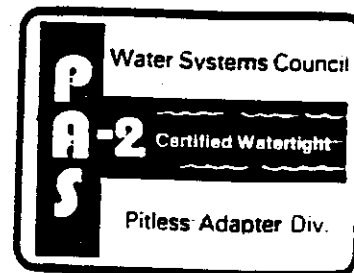
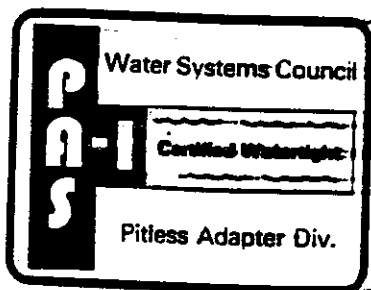
11.1 Watertight Well Caps

Wells must be vented to the atmosphere in order to prevent a vacuum being drawn on the casing and attachments to the casing including well caps, electrical conduit and pitless adapters. Most watertight well caps have provision for either a factory or field installed vent device.

Watertight well caps shall comply with Water Systems Council (WSC) standard PAS-2, "Standard for Watertight Well Caps".

11.2 Water System Council List of Certified Pitless Adapters, Pitless Units, and Watertight Well Caps

**CERTIFIED PITLESS ADAPTERS AND PITLESS UNITS
CERTIFIED WATERTIGHT WELL CAPS**



**Pitless Adapter Division
Water Systems Council
600 S. Federal Street, Suite 400
Chicago, IL 60605
Phone: 312/922-6222 FAX: 312/922-2734**

In 1966, a group of the manufacturers of pitless adapters and complete pitless units joined together to form the Pitless Adapter Division of the Water Systems Council (PAD). The Division's first objective was to define and promote, under **written standards**, sound principles of pitless equipment construction and installation that would protect the public health by:

1. Incorporating manufacturer, installer and sanitary agency experience in the design and installation of pitless equipment.
2. Providing minimum design and manufacturing standards for use by manufacturers in producing sanitary equipment to meet reasonable and practical tests.
3. Providing regulatory agencies, specifiers and installers with a uniform description and definition of pitless products -- products which may vary in appearance yet have their own unique and unusual features.
4. Providing a single standard for equipment evaluation by regulatory agencies.
5. Providing installers with modern equipment which is practical to install and maintain.
6. Providing consumers with adequate and economical equipment as part of the water system.

Division members felt strongly that any such Recommended Standards should be reasonable, workable, and clearly understood; that all terms be precisely defined; and that the Standards avoid the use of coined or misleading terms and phrases which might produce ambiguous meaning or arbitrary interpretation.

The result was the development of **Recommended Standards (PAS-1) and Installation Procedures for Sanitary Water Well Pitless Adapters and Units**. First adopted in 1966, PAS-1 was re-evaluated by the Division's Board of Examiners in 1971, 1974, 1977, 1980, 1983 and 1986. The sixth edition of PAS-1 was published in 1987.

In addition to PAS-1, Division members felt a need to develop a companion standard, **Pitless Adapter Standard No. 2 (PAS-2), Standard for Watertight Well Caps**. Development of that Standard began in 1985 and included input and comments from state health officials. This first edition of PAS-2 was approved and adopted in March, 1988.

PAS-1 defines design criteria and testing procedures for pitless well adapters. Over the years, it has become widely accepted that wells must be vented to the atmosphere in order to prevent a vacuum from being drawn on the casing and attachments to the casing, including well caps, electrical conduit and pitless adapter.

Most watertight well caps have provision for either a factory or field installed vent device; however, there had been no nationwide standard setting forth criteria for such a watertight cap until PAS-2 was adopted. PAS-2 was developed to set a minimum standard for the design, inspection and approval of watertight caps.

The Division publishes a listing (updated semi-annually) of products that have been tested under the provisions of its Recommended Standards.

Under PAS-1, adapters and units are tested for internal and external watertightness. Under PAS-2, caps that passed five inspection points are then tested for tamper resistance, vermin resistance and external watertightness.

These tests are conducted by an independent, private testing laboratory under the supervision of the Division's Board of Examiners which is composed of both industry and non-industry personnel. Based on the results of these tests, the products included on the Division's published listing meet or exceed the requirements of the above listed standards and, accordingly, have been so certified by the Division.

Full information on these standards, as well as information on the testing and certification program, are available through the Division Office. Copies of both PAS-1 and PAS-2 are available upon request.

CERTIFIED PITLESS ADAPTERS AND PITLESS UNITS CERTIFIED WATERTIGHT CAPS

September 1991

The following products have been tested and certified by the Pitless Adapter Division of the Water Systems Council to meet or exceed the provisions of Recommended Standards (PAS-1) and Installation Procedures for Sanitary Water Well Pitless Adapters and Units and/or PAS-2, Standard For Watertight Caps.

The Certified List is presented alphabetically, by company name and shows which products manufactured by each company have been certified to meet the provisions of PAS-1 only, PAS-2 only and BOTH Standards.

ADVANCE-MORRISON

Certified under BOTH PAS-1 and PAS-2

AMA-1

AMA-2

AMWTC Caps

D-8001-DWC-008A Series

ADVANCE-MORRISON Weld-On Adapter Series

AMERICAN GRANBY, INC.

PAS-1 Certified Products:

HARVARD: PT600, PT700, PT725, PT800, PT825, PT900 Pitless Adapters
HARVARD: SA Series Jiffy Clamp-on Pitless Adapters

PAS-2 Certified Products

HARVARD: WC Series watertight well caps
HARVARD: WTC Series watertight well caps

BAKER MANUFACTURING COMPANY

PAS-1 Certified Products

PS Units -- 3 to 20-in. Well Sizes
PJ Units -- Single Pipe Jets, Shallow Well 2-Pipe Jet, Packer Jet
PR Units -- 2 to 8-ft. Buried Depth
PL Clamp-on & Weld-on Adapters
BA -- Adapters Sub
SA Series Adapters, Harvard
Bulldog Adapters

PAS-2 Certified Products

WTC Series Cap
C4 Watertight Cap
WE Series Watertight Cap

CAMPBELL MANUFACTURING, INC.

PAS-1 Certified Products

"B" Series Adapters
"J" Series Adapters
"LP" Series Well Caps
"LSW-614" PVC Casing Cap
"LX" Series Well Caps
"S" Series Adapters
"WT" Series Well Caps
T SERIES Adapters -- T4x1, T4x1/4, T4-1/2x1, T4-1/2x1-1/4, T5x1, T5x1-1/4

PAS-2 Certified Products

WT Series Caps -- WT4, WT5
WTC Series Caps
LP, LX (SC4, SC4 1/2, SC5), LSW Series Caps

MAASS MANUFACTURING, INC.

PAS-1 Certified Products

Model B Weld-on Adapter
Model J Weld-on Adapter
Model JJ Weld-on Adapter
Model HC Pitless Adapter
Model BX Pitless Unit
Model JX Pitless Unit
Model JC Clamp-on Adapter

PAS-2 Certified Products

Model WT Watertight Well Cap

MERRILL MANUFACTURING COMPANY, INC.

PAS-1 Certified Products

CO Series Pitless Adapters
MB100 Series Pitless Adapters
MB200 Series Pitless Adapters
MHB Series Pitless Adapters
MCK Series Pitless Kits
SP Series Pitless Units
SPK Series Pitless Kits
SPP Series Pitless Units
V and VC Series Vent Caps
WC Series Watertight Caps
Model MB60, MB100, MHB100, MHB125, MHB300, MHB400

PAS-2 Certified Products

MERRILL WC Series Watertight Caps
MERRILL WCB Series Watertight Caps
MERRILL WCI and WCM Series Watertight Caps

Certified under BOTH PAS-1 and PAS-2

MCK Series Pitless Kits with WC Series Cap
MCK Series Pitless Kits with WCI and WCM Series Cap
MCK Series Pitless Kits with WCB Series Cap
SP Series Pitless Units with WCB Series Cap
SP Series Pitless Units with WC Series Cap
SPK Series Pitless Kits with WC Series Cap
SPK Series Pitless Kits with WC Series Cap
SPP Series Pitless Units with WC Series Cap
SPP Series Pitless Units with WCB Series Cap

MIDWEST DICKEN MANUFACTURING, DIVISION OF MAASS MFG., INC.

PAS-1 Certified Products

Model CW-Series Adapters (CW-4-10, CW-5-10, CW-6-10, CW-4-10WA,
CW-4-1/2-10WA, CW-5-10WA)

Model LD-S Series Adapters (LD-S-10, LD-S-10P, LD-S-12, LD-S-12P,
LD-S-10-CO, LD-S-12-CO)

Model S. Series Adapters (S-10, S-12, S-20, S-20-CO, LD-2X)
JR-S-10, JR-S-10P

KK410, KK510, KK610, KK412, KK512, KK612

Compression Coupling: SA 4"-5" Eccentric Standpipe Adapter

PAS-2 Certified Products

WTCC-6, WTCC-5, WTCC-4

Model WTCC Series Caps (WTCC-56, WTCC-66, WTCC-8, WTCC-4, WTCC-5,
WTCC-6)

SIMMONS MANUFACTURING COMPANY

PAS-1 Certified Products

Models 1820, 1821 -- 1" Unit

Models 1822, 1823 -- 1-1/4" Unit

Models 1840, 1841

Model 1850 -- 1" Unit

Model 1860 -- 1-1/4" Unit

WHITEWATER MANUFACTURING COMPANY

PAS-1 Certified Products

Series 1742 Clamp On

Series 1742 Compak

Series 1742-W Ace Try-Me

Series 1J (Wis. Code)

Series SS (Wis. Code)

Series SU (Model 52)

Duples

1060 PJ-C

1060 PJ-P

1060 SUB

1060 SUB CA

1060 SW

2000 PJ2-P

2000 SW2

2000 PJ2

2015 SUB

2015 SUB CA

2049 SUB 4

2050 SUB 4

2070 SUB

2175 SUB CA

PAS-2 Certified Products

Series 300 Watertight Seal

Series 200 Watertight Seal