Marcus Kenna
TWIN CITY HOSE INC
20615 COMMERCE BLVD
ROGERS MN 55374-9335

Date:	2018/07/24
Subscriber:	100014412
PartySite:	697983
File No:	MH59973
Project No:	4788581650
PD No:	18O33381
Type:	R
PO Number:	BOULLIOND 7112018

Subject: **Procedure And/Or Report Material**

The following material resulting from the investigation under the above numbers is enclosed.

Issue Date	Vol	Sec	Pages	Revised Date
	1		Revised Index Page(s) 1	2018/07/20
	1		Revised Special Appendix Page(s) B1,B2	2018/07/20
2014/04/08	1	1	Cert of Compliance	
2014/04/08	1	1	Revised Description Page(s) 1	2018/07/20
2014/04/08	1	1	New Description Page(s) 5,6,7,8	2018/07/20
2014/04/08	1	1	Revised Description Page(s) 1,1A,2,2A,3,4	2018/07/20
2014/04/08	1	1	Revised Illustration(s) 1,2	2018/07/20
2014/04/08	1		New Test Record 5	2018/07/20
2018/07/20	2	1	Cert of Compliance	
2018/07/20	2	1	Add New Volume	
2018/07/20			Add New Indep Report	

Inspections at your plant will be conducted under the supervision of Jesse Harmer, UL INSPECTION CENTER UPPER MIDWEST AREA OFFICE, UL LLC, 333 Pfingsten Road, Northbrook, IL 60062, PHONE: 605-231-0446, EMAIL: jesse.harmer@ul.com

Please file revised pages and illustrations in place of material of like identity. New material should be filed in its proper numerical order.

NOTE: Follow-Up Service Procedure revisions DO NOT include Cover Pages, Test Records and Conclusion Pages. Report revisions DO NOT include Authorization Pages, Indices, Section General Pages and Appendixes.

Please review this material and report any inaccuracies to UL's Customer Service Professionals. Contact information for all of UL's global offices can be found at http://ul.com/aboutul/locations.

If you'd like to receive updated materials FASTER, UL offers electronic access and/or delivery of this material. For more details, contact UL's Customer Service Professionals as shown above.

This material is provided on behalf of UL LLC(UL) or any authorized licensee of UL.

NBK File

UL INSPECTION CENTER 634

INDEX

USC, CNC – all product(s) investigated to US and Canadian Standard NSF/ANSI 61 and NSF/ANSI 372

Drinking Water System Components (FDNP)
Pb Content Verification of Products in Contact with Potable Water (QNVB)

SAMPLES TO BE SELECTED:

Select all required samples for all CCNs identified. If multiple samples are selected, samples shall be clearly identified, labeled, or packaged to prevent commingling with other samples. If required by the sample requirements, please include documentation containing the following information where the sample FUS Tag does not clearly identify it:

> Appropriate part numbers, part description, material supplier, trade name of raw material or material designation.

Include MSDS sheets as needed.

NSF 61 (FDNP) Samples Required

Year	Sample
***Even years starting in 2020**	QTY (2) 4” - “U” SS hose and braid with carbon steel flanged end, built per smallest standard movement offering of 2”
	QTY (2) 4” - “U” SS hose and braid with stainless steel flanged end, built per smallest standard movement offering of 2”
***Odd years starting in 2019**	QTY (2) 1/2” - “U” SS hose and braid with carbon steel Male NPT, built per largest standard movement offering available, 6” preferred.
	QTY (2) 1/2” - “U” SS hose and braid with stainless steel Male NPT, built per largest standard movement offering of 6”

Drinking Water System Components (FDNP)
Pb Content Verification of Products in Contact with Potable Water (QNVB)

NSF 372 (QNVB) Samples Required

Additional Instructions for NSF 372 Samples:

In the event that the specific part number is not available for sampling, a different part may be selected provided that it is made of the same material. Where a brass casting supplier is specified, any alternate parts must be from the same casting location and of the same alloy designation.

Year	Part	Material	Supplier	Method
2018, 2021, 2024, etc.	Hose and Braid	"321" Stainless Steel (UNS S32100)	Omegaflex	XRF
2016, 2019, 2022, etc.	90* Elbow	ASTM A234 Grade B	Columbia Pipe & Supply Co.	XRF
*2016, 2019, 2022, etc.	90* Elbow	ASTM A403	Columbia Pipe & Supply Co.	XRF
*2018, 2021, 2024, etc.	Pipe	ASTM A312	Columbia Pipe & Supply Co.	XRF

Quantity of samples to be collected shall adhere to the following criteria for XRF testing:

- The sample shall have a flat surface area with a minimum 1cm x 3cm, or it shall be easily manipulated to provide a 1cm x 3cm area.
- If the flat surface area of the entire wetted part is less than 1cm x 3cm then the quantity of samples collected shall be adequate to cover the said surface area.]

DESCRIPTION

PRODUCT COVERED:

V's, U's, and Straight Flexible Connectors	V's and U's Standard Movement	Straights
2" - 12" ID SS hose and braid with carbon steel Flanged	+/- 2", 3", 4"and 6" in all planes	Max 30" OAL*
2" - 12" ID SS hose and braid with carbon steel Grooved	+/- 2", 3", 4"and 6" in all planes	Max 30" OAL
2" - 12" ID SS hose and braid with carbon steel Weld End	+/- 2", 3", 4"and 6" in all planes	Max 30" OAL
2" - 12" ID SS hose and braid with stainless steel Flanged	+/- 2", 3", 4"and 6" in all planes	Max 30" OAL
2" - 12" ID SS hose and braid with stainless steel Grooved	+/- 2", 3", 4"and 6" in all planes	Max 30" OAL
2" - 12" ID SS hose and braid with stainless steel Weld End	+/- 2", 3", 4"and 6" in all planes	Max 30" OAL
*½" - 4" SS hose and braid with carbon steel Male NPT	+/- 2", 3", 4"and 6" in all planes	Max 30" OAL
*½" - 4" SS hose and braid with stainless steel Male NPT	+/- 2", 3", 4"and 6" in all planes	Max 30" OAL

*OAL = overall length

USC, CNC – All product(s) investigated to US and Canadian Standards NSF/ANSI 61 and NSF/ANSI 372

GENERAL CHARACTER AND USE:

These product(s) are pipes Classified in accordance with NSF/ANSI 61 and NSF/ANSI 372. They are supplied in the form of a V's, U's, and Straight Flexible Connectors.

MANUFACTURING PROCESS:

Pipe components are purchased or manufactured on site. Components are assembled, inspected, and shipped.

*__This Replaces Entire Page 1A__

PRODUCT MATERIALS

NSF/ANSI 61 and 372

* The products covered are manufactured in whole or in part with the components indicated on the Authorized Wetted Parts List **shown below.**

Authorized Wetted Parts List for 2" to 12" V, U, and Straight Flexible Connectors

Description	Tradename	Material	Wetted Area (cm^2)	Qty	Supplier
90* Elbow	ASTM A234 Grade B	Carbon Steel	489.6	4	Columbia Pipe & Supply Co. (T12388)
End	ASTM A105	Carbon Steel	115.78	2	Columbia Pipe & Supply Co. (T12388) (alternate)
End	304 SS	Stainless Steel	115.75	2	Columbia Pipe & Supply Co. (T12388)
Hose	"321" SS (UNS S32100)	Stainless Steel	1290.68	1	Omegaflex (T12387)
Pipe	ASTM A53	Carbon Steel	324.29	1	Columbia Pipe & Supply Co. (T12388)

*__This Replaces Entire Page 2A__

Authorized Wetted Parts List for 1/2" to 4" V, U, and Straight Flexible Connectors

Description	Tradename	Material	Wetted Area (cm2)	Qty	Supplier
90* Elbow	ASTM A403	Stainless Steel	18.91	4	(alternate) Columbia Pipe & Supply Co. (T12388)
90* Elbow	ASTM A234 Grade B	Carbon Steel	18.91	4	(alternate) Columbia Pipe & Supply Co. (T12388)
End	304 SS	Stainless Steel	12.68	2	(alternate) Columbia Pipe & Supply Co. (T12388)
End	ASTM A105	Carbon Steel	12.68	2	(alternate) Columbia Pipe & Supply Co. (T12388)
Hose	"321" SS (UNS S32100)	Stainless Steel	131.47	1	(alternate) Omegaflex (T12387)
Pipe	ASTM A312	Stainless Steel	50.75	1	Columbia Pipe & Supply Co. (T12388)
Pipe	ASTM A53	Carbon Steel	50.75	1	(alternate) Columbia Pipe & Supply Co. (T12388)

Leaded materials or materials with more than 10% wetted surface area have been identified in the table below.

Part	Material	Supplier	Max Pb Content Spec. (%)
*Hose	"321" Stainless Steel (UNS S32100)	Omegaflex	0.0
90* Elbow	ASTM A234 Grade B	Columbia Pipe & Supply Co.	0.0
90 Elbow	ASTM A403	Columbia Pipe & Supply Co.	0.0
Pipe	ASTM A312	Columbia Pipe & Supply Co.	0.0

*

MANUFACTURER'S QUALITY CONTROL/QUALITY ASSURANCE PROGRAM:

Product: V's, U's, and Straight Flexible Connectors

1. Material verification
Method: Material verification through purchasing records retention
Documentation: Material purchasing records
Frequency: Upon receipt of materials
Accept/reject criteria: Materials match wetted parts list

TECHNICAL CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

The following information is intended to provide guidance to those testing samples selected as part of UL's Follow-Up Service Inspection Program.

NSF/ANSI 61

A. 4" - "U" SS hose and braid with carbon steel flanged end, built per smallest standard movement offering of 2"
B. 4" - "U" SS hose and braid with stainless steel flanged end, built per smallest standard movement offering of 2"
C. 1/2" - "U" SS hose and braid with carbon steel Male NPT, built per largest standard movement offering of 6"
D. 1/2" - "U" SS hose and braid with stainless steel Male NPT, built per largest standard movement offering of 6"

Test Method - ANSI/NSF Standard 61, Pipes and Related

Test Parameter – Reg-metals only as there are no organics. Also include hex chrome and additional metals: Mn, V, Mo, and Zn.

Normalization -

½" – 4" Models:
Test ½"
SAL = 1 product (283.22 cm2)
SAF = 189 cm2 (6% of 0.5" system)
VL = 1 product (extend to 1 liter total volume)
VF = 1 product
Compare to TAC

2" – 12" Models:
Test 4"
SAL = 1 product (3804.93 cm2)
SAF = 7.87 cm2 (2% of 4" system)
VL = 1 product
VF = 1 product
Compare to SPAC

NSF/ANSI 372

Part	Material	Supplier	Method
*Hose	"321" Stainless Steel (UNS S32100)	Omegaflex	XRF
90* Elbow	ASTM A234 Grade B	Columbia Pipe & Supply Co.	XRF
90* Elbow	ASTM A403	Columbia Pipe & Supply Co.	XRF
Pipe	ASTM A312	Columbia Pipe & Supply Co.	XRF

Test Method – NSF/ANSI 372 – Lead (Pb) Content Testing

Test Parameter – Lead via XRF

MARKING:

Products covered by this Report are considered UL Classified when they bear the UL Classification Marking, the name of the Classified Company, the designation of the product, and the maximum temperature application indicated below:

Product	Maximum Use Temperature, °C
V's, U's, and Straight Flexible Connectors	23

The marking may be inked or painted onto the container of the product or printed on a label applied to the product or its container.

ALTERNATIVE MARKING:

As an alternative to the application of the UL Classification Mark onto the container of the product, a certificate conforming to UL requirements may be utilized.

Replacement Page

Replacement Page

CERTIFICATE OF COMPLIANCE

Certificate Number	20180724-MH59973
Report Reference	MH59973-20140408
Issue Date	2018-JULY-24
Issued to:	TWIN CITY HOSE INC 20615 Commerce Blvd Rogers MN 55374-9335
This is to certify that representative samples of	DRINKING WATER SYSTEM COMPONENTS; LEAD CONTENT VERIFICATION OF PRODUCTS IN CONTACT WITH POTABLE WATER See Next Page
	Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.
Standard(s) for Safety:	See Next Page
Additional Information:	See the UL Online Certifications Directory at www.ul.com/database for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's Certification and Follow-Up Service.

Look for the UL Certification Mark on the product.

Bruce Mahrenholz, Director North American Certification Program

UL LLC

CERTIFICATE OF COMPLIANCE

Certificate Number	20180724-MH59973
Report Reference	MH59973-20140408
Issue Date	2018-JULY-24

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Models/Product

V's, U's, and Straight Flexible Connectors
2" - 12" ID SS hose and braid with carbon steel Flanged
2" - 12" ID SS hose and braid with carbon steel Grooved
2" - 12" ID SS hose and braid with carbon steel Weld End
2" - 12" ID SS hose and braid with stainless steel Flanged
2" - 12" ID SS hose and braid with stainless steel Grooved
2" - 12" ID SS hose and braid with stainless steel Weld End
½" - 4" SS hose and braid with carbon steel Male NPT
½" - 4" SS hose and braid with stainless steel Male NPT

Standards:

ANSI/NSF 61-2016 and ANSI/NSF 372-2011 - Drinking Water System Components - Health Effects
NSF 61, Annex G - Drinking Water System Components - Health Effects
NSF 372 - Drinking Water System Components - Lead Content

Bruce Mahrenholz, Director North American Certification Program

UL LLC

DESCRIPTION

PRODUCT COVERED:

V's, U's, and Straight Flexible Connectors	V's and U's Standard Movement	Straights
2" - 12" ID SS hose and braid with carbon steel Flanged	+/- 2", 3", 4"and 6" in all planes	Max 30" OAL*
2" - 12" ID SS hose and braid with carbon steel Grooved	+/- 2", 3", 4"and 6" in all planes	Max 30" OAL
2" - 12" ID SS hose and braid with carbon steel Weld End	+/- 2", 3", 4"and 6" in all planes	Max 30" OAL
2" - 12" ID SS hose and braid with stainless steel Flanged	+/- 2", 3", 4"and 6" in all planes	Max 30" OAL
2" - 12" ID SS hose and braid with stainless steel Grooved	+/- 2", 3", 4"and 6" in all planes	Max 30" OAL
2" - 12" ID SS hose and braid with stainless steel Weld End	+/- 2", 3", 4"and 6" in all planes	Max 30" OAL
*½" - 4" SS hose and braid with carbon steel Male NPT	+/- 2", 3", 4"and 6" in all planes	Max 30" OAL
*½" - 4" SS hose and braid with stainless steel Male NPT	+/- 2", 3", 4"and 6" in all planes	Max 30" OAL

*OAL = Overall Length

USC, CNC – All product(s) investigated to US and Canadian Standards NSF/ANSI 61 and NSF/ANSI 372

GENERAL CHARACTER AND USE:

These product(s) are pipes Classified in accordance with NSF/ANSI 61 and NSF/ANSI 372. They are supplied in the form of a V's, U's, and Straight Flexible Connectors.

FACTORY LOCATION:

Twin City Hoses
Rogers, Minnesota

PRODUCT RATINGS:

Product	Maximum Use Temperature, °C
V's, U's, and Straight Flexible Connectors	23

TEST RECORD NO. 5

GENERAL:

This test record covers the removal of NSF/ANSI 61 from the "½" - 4" Bronze hose and braid with copper sweat end" product. It will now be listed to NSF/ANSI 372 only in Volume 2. Another product, "½" - 4" SS hose and braid with copper sweat end" was also removed on the client's request. No additional testing was considered necessary.

TEST RECORD SUMMARY:

The results of this investigation, including construction review and testing, indicate that the products evaluated comply with the applicable requirements in ANSI/NSF 61-2016 and ANSI/NSF 372-2011 and, therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report.

Test Record by:	Reviewed by:
Charles Erickson	Jason Carlson
Sr. Project Engineer	Staff Chemist

Follow-Up Service Procedure

DO NOT DISCARD THIS PAGE

It is important to keep UL Procedures and Test Reports up-to-date as new or revised pages are received.
Correct maintenance will decrease the amount of time the UL Representative spends when visiting your facility.

UL LLC offers MyHome @UL, a dedicated website providing secure access to online tools and databases that can help simplify your compliance activities. You can customize your personal MyHome @UL page to include the content needed most, including timely information about certification updates and links to other Web sites you visit regularly. Visit http://my.home.ul.com/ to sign up today!

PAGES (in content order)	FUNCTION	HOW TO UPDATE
Authorization Page	Displays the Product Category, the type of Follow-Up Service (Type R=Reexamination / Type L=Label), the File Number and the Volume Number associated with each Applicant's, Manufacturer's and Listee's company name and address.	Replace existing page by matching the UL File Number and Volume Number. Discard the older page (refer to "Issued" or "Revised" date).
Addendum to Authorization Page*	Lists the additional names and addresses of manufacturing locations, when multiple locations exist	Replace existing page by matching the UL File Number and Volume Number. Discard the older page (refer to "Issued" or "Revised" date).
Listing Mark Data (LMD), Classification Mark Data (CMD) or Recognized Component Mark Data (RCMD) Pages*#	Used only for products covered under Type R Service. Displays the correct LMD, CMD, or RCMD Mark, the Control Number for Listed and Classified categories and additional information regarding minimum size, application, procurement, and any other optional markings, in addition to the UL Mark.	Replace existing page by matching the UL File Number and Volume Number. Discard the older page (refer to "Issued" or "Revised" date).
Multiple Listing (ML) Correlation Sheet*	Correlates product model numbers between those products made by a Manufacturer for the Basic Applicant and those supplied to another company, the Multiple Listee.	Replace, add or delete page(s) with most current "Issued" or "Revised" date.
Index*	Catalogs the contents of the Procedure by some logical means, i.e. Section Number, Report Reference Number, or Issue Date.	Replace present page by matching the UL File Number, Volume Number, Page Number and most current "Revised" date.
Appendices (App.)*#	Contains instructions for the Manufacturer and UL Representative concerning specific responsibilities and required periodic tests. May also outline tests to be conducted on samples to be forwarded to UL's facilities.	Replace present page by matching the UL File Number, Volume Number, Appendix letter (eg. App. A), Page Number and most current "Revised" date.
	Standardized Appendix Pages are the same for all manufacturers within a particular product category.	Replace present page by matching the Appendix letter (eg. App. A), Page Number and most current "Revised" date.
Follow-Up Inspection Instructions (FUII) Pages*	Contains information similar to that in the Appendices. FUII Pages are issued as part of the Procedure when a UL Standard is used in conjunction with the Procedure, and are the same for all manufacturers within a particular category.	Replace present pages by matching the Page Number and most current "Issued" or "Revised" date.
Section General (Sec. Gen.)*#	Contains description, requirements, identifications and/or specifications that are common to all products covered by the entire volume and supplements the information provided in the Description Section.	Replace present page by matching the UL File Number, Volume Number, Page Number and most current "Revised" date.
Description, or Section (Sec.)*	Contains the specific description of one or more products or systems. This includes written text supplemented by photographs, drawings, etc., as necessary, to define features that affect compliance with the applicable requirements.	Replace present page by matching the UL File Number, Volume Number, Section Number, Page Number and most current "Issued" date.

***** The above page(s) may not appear in all UL Follow-Up Service Procedures; UL's Conformity Assessment Services staff determines their inclusion.
# These pages are combined in the **Generic Inspection Instructions** for International Style Reports, identified, as example by Vol. X1, X2, etc.

PLEASE NOTIFY YOUR LOCAL UL OFFICE OF ANY CHANGES IN CONTACT NAME, COMPANY NAME OR ADDRESS, SO THIS MATERIAL AND IMPORTANT INFORMATION CONTINUES TO BE DELIVERED TO YOUR FACILITY WITHOUT INTERRUPTION.

FOLLOW-UP SERVICE PROCEDURE
(TYPE R)

LEAD CONTENT VERIFICATION OF PRODUCTS IN CONTACT WITH POTABLE WATER
(QNVB,QNVB7)

Manufacturer:	SEE ADDENDUM FOR MANUFACTURER LOCATIONS
Applicant: (100014-412)	697983 (Party Site) TWIN CITY HOSE INC 20615 Commerce Blvd Rogers MN 55374-9335
Listee/Classified Co.: (100014-412)	697983 (Party Site) SAME AS APPLICANT

This Follow-Up Service Procedure authorizes the above Manufacturer(s) to use the marking specified by UL LLC, or any authorized licensee of UL LLC, including the UL Contracting Party, only on products when constructed, tested and found to be in compliance with the requirements of this Follow-Up Service Procedure and in accordance with the terms of the applicable service agreement with UL Contracting Party and any applicable Service Terms. The UL Contracting Party for Follow-Up Services is listed on addendum to this Follow-Up Service Procedure ("UL Contracting Party"). UL Contracting Party and UL LLC are referred to jointly herein as "UL."

UL further defines responsibilities, duties and requirements for both Manufacturers and UL representatives in the document titled, "UL Mark Surveillance Requirements" that can be located at the following web-site: http://www.ul.com/fus and in the document titled "UL and Subscriber Responsibilities" that can be located at the following website: http://www.ul.com/responsibilities. Manufacturers without Internet access may obtain the current version of these documents from their local UL customer service representative or UL field representative. For assistance, or to obtain a paper copy of these documents or the applicable Service Terms, please contact UL's Customer Service at http://ul.com/aboutul/locations/, select a location and enter your request, or call the number listed for that location.

The Applicant, the specified Manufacturer(s) and any Listee/Classified Co. in this Follow-Up Service Procedure must agree to receive Follow-Up Services from UL Contracting Party. If your applicable agreement is a Global Services Agreement ("GSA") with an effective date of January 1, 2012 or later and this Follow-Up Service Procedure is issued on or after that effective date, the Applicant, the specified Manufacturer(s) and any Listee/Classified Co. will be bound to a Service Agreement for Follow-Up Services upon the earliest by any Subscriber of use of the prescribed UL Mark, acceptance of the factory inspection, or payment of the Follow-Up Service fees which will incorporate such GSA, this Follow-Up Service Procedure and the Follow-Up Service Terms which can be accessed by clicking here: http://www.ul.com/contracts/Terms-After-12-31-2011. In all other events, Follow-Up Services will be governed by and incorporate the terms of your applicable service agreement and this Follow-Up Service Procedure.

It is the responsibility of the Listee/Classified Co. to make sure that only the products meeting the aforementioned requirements bear the authorized Marks of UL LLC, or any authorized licensee of UL LLC.

This Follow-Up Service Procedure contains information for the use of the above Manufacturer(s) and representatives of UL and is not to be used for any other purpose. It is provided to the Manufacturer with the understanding that it will be returned upon request and is not to be copied in whole or in part.

This Follow-Up Service Procedure, and any subsequent revisions, is the property of UL and is not transferable. This Follow-Up Service Procedure contains confidential information for use only by the above named Manufacturer(s) and representatives of UL and is not to be used for any other purpose. It is provided to the Subscribers with the understanding that it is not to be copied, either wholly or in part unless specifically allowed, and that it will be returned to UL, upon request.

Capitalized terms used but not defined herein have the meanings set forth in the GSA and the applicable Service Terms or any other applicable UL service agreement.

UL shall not incur any obligation or liability for any loss, expense or damages, including incidental, consequential or punitive damages arising out of or in connection with the use or reliance upon this Follow-Up Service Procedure to anyone other than the above Manufacturer(s) as provided in the agreement between UL LLC or an authorized licensee of UL LLC, including UL Contracting Party, and the Manufacturer(s).

UL LLC has signed below solely in its capacity as the accredited entity to indicate that this Follow-Up Service Procedure is in compliance with the accreditation requirements.

Bruce A. Mahrenholz
Director
North American Certification Program

LOCATION

697983 (Party Site)
(100014-412) TWIN CITY HOSE INC
20615 Commerce Blvd
Rogers MN 55374-9335
Factory ID: None
UL Contracting Party for above site is: UL LLC

Classification Mark Data Page

(FILE IMMEDIATELY AFTER AUTHORIZATION PAGE)

CLASSIFICATION MARK

COMPOSITION AND ELEMENT

The Classification Mark shall consist of the following and shall appear on the product or on the smallest unit container in which the product is packaged. For process media shipped in bulk quantities, the Classification Mark may appear on a Bill of Lading or a Bulk Shipment Certificate.

[PRODUCT IDENTITY*]
IN ACCORDANCE WITH NSF/ANSI 372
< MH59973 >

*** VALVE, FAUCET,** or other appropriate product identity as shown in the individual Classifications

The Classification Mark may be abbreviated as follows:

UND. LAB. CLASSIFIED
IN ACCORDANCE WITH NSF/ANSI 372
< MH59973 >

or

UND. LAB. CLFD
IN ACCORDANCE WITH NSF/ANSI 372
< MH59973 >

The words "AS TO ≤0.25% Pb ONLY" may be used in lieu of "IN ACCORDANCE WITH NSF/ANSI 372" described above until July 1, 2013. After July 1, 2013, the words "IN ACCORDANCE WITH NSF/ANSI 372" shall be used.

For products that are also Listed or Classified by UL under another category, as an alternative to the complete Classification Mark described above, the words "ALSO CLASSIFIED" (or "ALSO CLFD") and the text "IN ACCORDANCE WITH NSF/ANSI 372" may be used adjacent to the applicable UL Mark.

MARKING

The following symbol shall be located adjacent to or in close proximity to the regular Classification Mark as shown above.

The minimum height of the registered trademark symbol ® shall be 3/64 of an inch. When the overall diameter of the UL Mark is less than 3/8 of an inch, the trademark symbol may be omitted if it is not legible. Camera-ready artwork and relative proportions are available online at www.ul.com.

PROCUREMENT

The manufacturer may reproduce the Mark or obtain it from an authorized label supplier. Authorized label suppliers can be found online at www.ul.com.

Canadian Classification Mark Data Page

(FILE IMMEDIATELY AFTER AUTHORIZATION PAGE)

CLASSIFICATION MARK

COMPOSITION AND ELEMENT

The Classification Mark shall consist of the following and shall appear on the product or on the smallest unit container in which the product is packaged. For process media shipped in bulk quantities, the Classification Mark may appear on a Bill of Lading or a Bulk Shipment Certificate.

[PRODUCT IDENTITY*]
IN ACCORDANCE WITH NSF/ANSI 372
< MH59973 >

*** VALVE, FAUCET,** or other appropriate product identity as shown in the individual Classifications

The Classification Mark may be abbreviated as follows:

UND. LAB. CLASSIFIED
IN ACCORDANCE WITH NSF/ANSI 372
< MH59973 R>

or

UND. LAB. CLFD
IN ACCORDANCE WITH NSF/ANSI 372
< MH59973 >

The words "AS TO ≤0.25% Pb ONLY" may be used in lieu of "IN ACCORDANCE WITH NSF/ANSI 372" described above until July 1, 2013. After July 1, 2013, the words "IN ACCORDANCE WITH NSF/ANSI 372" shall be used.

For products that are also Listed or Classified by UL under another category, as an alternative to the complete Classification Mark described above, the words "ALSO CLASSIFIED" (or "ALSO CLFD") and the text "IN ACCORDANCE WITH NSF/ANSI 372" may be used adjacent to the applicable UL Mark.

MARKING

The following symbols shall be located adjacent to or in close proximity to the regular Classification Mark as shown above.

The Canadian/US symbol shall be used if both Canadian and US coverage is authorized:

The Canadian symbol shall be used if only Canadian coverage is authorized:

The minimum height of the registered trademark symbol ® shall be 3/64 of an inch. When the overall diameter of the UL Mark is less than 3/8 of an inch, the trademark symbol may be omitted if it is not legible. Camera-ready artwork and relative proportions are available online at www.ul.com.

PROCUREMENT

The manufacturer may reproduce the Mark or obtain it from an authorized label supplier. Authorized label suppliers can be found online at www.ul.com.

INDEX

USC, CNC – all product(s) investigated to US and Canadian Standard NSF/ANSI 372

STANDARDIZED APPENDIX PAGES
Subject 1983
Subject 6875

FDNP – Drinking Water System Components

FDNP2 – Drinking Water System Component Materials – Component

FDNP3 – Drinking Water System Component Materials – Unlisted Component

FDNP7 – Drinking Water System Components Certified for Canada

QNVB – Lead Content Verification of Products in Contact with Potable Water

QNVB7 – Lead Content Verification of Products in Contact with Potable Water Certified for Canada

FDQR - Rainwater Catchment System Components

FDNL7 – Safety of Products and Materials in Contact with Drinking Water

Drinking Water System Components (FDNP, 2, 7, 8), Lead Content Verification of Products in Contact with Potable Water (QNVB, 7), Rainwater Catchment System Components (FDQR), Safety of Products and Materials in Contact with Drinking Water (FDNL7)

STANDARDIZED APPENDIX PAGES

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APPENDIX A - FIELD ENGINEER'S RESPONSIBILITIES AND INSTRUCTIONS FOR EXAMINATION OF THE PRODUCT

FIELD ENGINEER'S RESPONSIBILITIES

The Field Engineer's general responsibilities, as part of the Follow-Up Services Procedure, are as noted in the published document titled, "UL Mark Surveillance Requirements", and is available through UL's secure customer portal MyHome@UL.com and/or through UL's internet site www.UL.com. Manufacturers that do not have Internet access may obtain the current version of these requirements from their local UL Customer Service Representative or UL Field Engineer.

PROCEDURE IN THE EVENT OF NONCONFORMANCE

When a product does not comply with the Follow-Up Service Procedure, require that the manufacturer implement appropriate action as outlined in the "UL Variation Notice and Corrective Action Requirements" document.

CONSTRUCTION CONSIDERATIONS AND INSTRUCTION FOR INSPECTION OF THE PRODUCT:

The Field Engineer is required to examine production bearing, or intended to bear, the UL Mark or Markings to determine compliance with the product requirements and any other requirements expressed in this Procedure.

At each inspection, conduct a production walk-through to verify that all chemical ingredient, materials and/or components used, the manufacturing process, the Marking of the finished product and the Manufacturer's Quality Control/Quality Assurance Program are as specified in the applicable Section and the Manufacturers Responsibilities covered in Appendix D. A process audit approach can be used to verify a system is in place to maintain compliance with UL requirements. The Field Engineer is not required to witness QC test, mixing, or manufacturer or product, however may elect to do so. All alternate materials and components, including alternate suppliers or molders, shall be specifically included in the UL Procedure for authorized use or unless identified where any supplier is acceptable. Use of alternate materials and components is prohibited without authorization from Conformity Assessment Services. All Markings shall be as specified in the applicable Sections of this Procedure.

If there has been UL Certified production since the last inspection visit, audit the manufacturing process and records pertaining to the UL Certified production to verify compliance with the FUS Procedure.

If there has not been UL Certified production since the last inspection visit, audit the manufacturing process and records to verify a system is in place that complies with the intent of the FUS Procedure. Indicate in the Inspection Report that there has been no UL Certified production since the last inspection. In the absence of UL Marked or Intended to be Marked

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Product, see the sample selection requirements in Appendix B - Samples in the Absence of UL Marked or Intended to be Marked Product.

Verify the UL Certified product in production, in stock, or produced since the last visit, complies with the "UL Authorized Formulation List" (AFL) or "UL Authorized Wetted Parts List" (WPL) either referenced or described in the FUS Procedure. In some FUS Procedures, instead of the complete formulation being described, there is only a reference made to the UL AFL/WPL in a supplement illustration to the FUS Procedure. This document shall be used to verify the finished product formulation.

Observe general cleanliness of the facility and confirm that there are no obvious sources of chemical cross contamination within the process. Mixing tools and vessels shall be regularly cleaned or designated for the production of the certified product being inspected.

Verification of the formulation shall be accomplished by comparing the manufactures records (batch sheets, suppliers list, etc.) with the UL AFL/WPL. Consideration shall be given to suppliers, ingredients, concentrations, amounts, etc.

All materials/components or suppliers used in the manufacture of a UL Certified product must be authorized in the UL AFL/WPL. Generic coverage for materials/components or suppliers, e.g., any 304 stainless steel, may be authorized as specified in the UL Procedure. In these cases, any specified ratings shall be verified for acceptable use of these material/component suppliers. Where this is not specified, a CAS evaluation is required before authorizing new materials/components or suppliers, even if the materials/components or suppliers are UL Certified, NSF Certified, or Certified by another organization.

Generally the materials/components authorized in the UL AFL/WPL or FUS Procedure are received directly from the supplier listed in the FUS Procedure. Materials may be received from a distributor or transporter, providing the supplier's material has not been altered and providing that the material bears the suppliers original marking/identification. If materials are received from a distributor, it must be discernible that the supplier is as shown in the FUS Procedure and the product has not been altered in anyway. If the incoming material is required to be UL Certified or NSF Certified, the location from which it was shipped from must be a location shown in the UL or NSF certifications directory. If the FUS Procedure shows a specific location(s), the material shall have been shipped to the UL covered manufacturing site from that location.

Note the following exception:

> If the deficiency identified is a supplier's name change only and the Field Engineer can verify this, or the supplier's listing has changed from NSF to UL with the same product ratings, then the Field Engineer shall document the nonconformance on a Variation Notice and temporarily accept the item pending CAS review.

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APPENDIX B - INSTRUCTIONS FOR FIELD ENGINEER'S SAMPLE SELECTION

GENERAL:

FDNP/QNVB:

Products covered by this Procedure employ constructions or materials requiring Follow-Up Tests at UL. Samples of the components or materials identified in Special Appendix B shall be selected from production tagged, marked with the appropriate identification, and forwarded to the appropriate Office in the quantities and sizes indicated.

Samples shall be selected from labeled production, production intended to bear the UL mark, from components and materials that can be used for UL Production, or components and materials that are representative of those that can be used for UL Production. This Appendix contains specific guidelines describing the procedure for selecting samples and the written records required to accompany them. Read this entire Appendix before beginning to select samples.

Samples shall be identified and tagged with the applicable information using a Sample Tag. Unless otherwise stated, the Field Engineer shall inform the manufacturer that the samples are to be forwarded to the Test Office(s) as designated on the service profile.

Samples in the Absence of UL Marked or Intended to be Marked Product:

Representative samples are to be selected from product indicated by the manufacturer or identified by the Field Engineer, that could be used to fill a UL Certified product order. For evaluation purposes, these samples are considered representative of UL Certified product.

SAMPLE SELECTION REQUIREMENTS:

Each year, the samples specified in Special Appendix B shall be selected for Follow-Up Tests at UL. REPRESENTATIVE SAMPLES SHALL BE SELECTED REGARDLESS OF WHETHER A UL CERTIFICATIONMARK IS BEING USED OR NOT.

Special instructions for time sensitive samples required for NSF/ANSI 61 Follow-Up testing (cured coatings, grouts, etc.): Samples shall be shipped overnight to UL as soon as possible after the minimum cure time. The sample tag for overnight shipped samples shall be marked "RUSH - TEST IMMEDIATELY." An email shall be sent to BarrierMaterialAlert@ul.com immediately upon sample selection to indicate the scheduled date of arrival at the appropriate office.

Sample Container for Process Media (e.g. Sand, Granular Carbon, etc.): All samples selected shall be stored and shipped in an air-tight, moisture-proof, high density polyethylene container supplied by the manufacturer.

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Sample Container for Liquids: Samples selected shall be stored and shipped in a sealable, moisture resistant container, supplied by the manufacturer. It is important that samples of liquids be provided in proper containers. Containers should be new, never before used, clean and contain a locking top to prevent leakage in shipment. Plastic bottles with narrow throats may be used for liquid samples that remain in the liquid state at ambient temperatures. Metal containers with wide throats should be used for liquids that cure to a solid state at ambient temperatures. The wider throat is necessary to remove the sample in its solid form. The metal container permits the heating of the sample to a liquid state.

Further for liquids, the manufacturer must provide the appropriate Material Safety Data Sheet (MSDS) prepared in accordance with the United States Occupational Safety and Health Administration (OSHA) Guidelines and assure that it is packaged with the sample. Whenever possible, attach the MSDS to the sample container with tape or rubber bands. If a MSDS is not required the manufacturer must provide supporting documents showing that the liquid in question is exempt from MSDS requirements.

Sample Container for all other Components/Materials: All other component/material samples shall be packaged as the manufacturer deems appropriate.

Sample Container Labels: All liquid samples shall be sealed with the UL "Sealed Sample" sticker on the container or final packaging. All liquid samples shall be identified with the following information directly on the container or packaging:

1. The manufacturer's name and file number
2. The material designation

Sample information shall include the lot number or unique identification and the location of sampling on the back of the FUS Tag.

Where required by Special Appendix B, indicate the material supplier and other requested information on the back of the FUS Tag. Alternatively a batch or formulation sheet with this information may be sent in attached to the sample tag. In this case, the UL Field Engineer shall reference the attached formulation information on the back of the sample tag.

Additional Instructions for NSF 372 Samples: In the event that the specific part number is not available for sampling, a different part may be selected provided that it is made of the same material. Where a brass casting supplier is specified, any alternate parts must be from the same casting location and of the same alloy designation.

FDNL7/FDQR:

Certification to BNQ 3660-950 or NSF P151 is good for 5 years. Check the procedure page and most recent test record summary for the expiration date. Remind the customer of an up-coming expiration date and to contact waterquote@ul.com to open a re-certification project.

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APPENDIX C - INSTRUCTIONS FOR FOLLOW-UP TESTS AT UL

GENERAL

The samples forwarded by the Field Engineer to UL in accordance with Appendix B shall be subjected to the applicable tests described below.

NSF/ANSI 61 Samples (FDNP) – Health Effects Testing

Samples shall be conditioned and exposed in accordance with the applicable section of ANSI/NSF 61, Drinking Water System Components – Health Effects. The resulting exposure waters shall then be subjected to the analytical tests specified in the applicable Sections of this Procedure. Data obtained from these tests shall be normalized and the results shall be in compliance with the requirements of NSF/ANSI 61.

NSF/ANSI 372 Samples (QNVB) - Lead (Pb) Content Testing

Samples shall be evaluated in accordance with the test identified in NSF 372, Drinking Water System Components – Lead Content. Test methods include Screening and Destructive Testing. The methods and results of these tests shall comply with the appropriate requirements in NSF 372.

FDNL7/FDQR:

No annual samples taken for BNQ 3660-950 or NSF P151. Recertification is required after 5 years.

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APPENDIX D - MANUFACTURER'S RESPONSIBILITIES, PROCESS AND/OR FORMULATION CONSIDERATIONS, AND REQUIREMENTS FOR FACTORY TESTS

The Follow-Up Service Procedure covering the product is loaned to the manufacturer and constitutes the basis on which the product is judged for compliance with the applicable requirements.

The terms manufacturer, factory, process, and production in this document apply to the location and process covered by the UL Follow-Up Services Procedure. This includes processes such as repackaging, diluting, blending, or relabeling product.

The terms manufacturer, process, and production are used in these guidelines. These terms are intended to represent the location and process covered by the FUS Procedure. In example, for a FUS Procedure covering a repackaging process, the term manufacturer applies to the repackager.

MANUFACTURER' S RESPONSIBILITIES

The Manufacturer’s general responsibilities, as part of the Follow-Up Services Procedure, are as noted in the published document titled, “UL Mark Surveillance Requirements”, and is available through UL’s secure customer portal MyHome@UL.com and/or through UL’s internet site www.UL.com. Manufacturers that do not have Internet access may obtain the current version of these requirements from their local UL Customer Service Representative or UL Field Engineer.

Establish and maintain a program of production, inspection and tests to verify compliance with UL's requirements. The program shall be aimed primarily at detecting any nonconformity during production that would result in the product not complying with UL requirements, and implementing the means to prevent its reoccurrence. It is the manufacturer’s responsibility Verify compliance with the applicable descriptions and requirements contained in this Procedure and to assure that production complies with these requirements.

Accessories Parts and Accessories - Such items packaged with the product that are in potable water contact shall be specifically described in the Procedure.

Required Records - Records shall be kept for all materials and component parts used to manufacture certified products covered by this Follow-Up Service Procedure. This includes records for procurement control of incoming chemicals and components, quality assurance procedures and testing, nonconforming materials, components or products, and shipping. Procurement control of incoming materials and components records shall include the supplier’s name, the supplier’s location, the designation/part number/material name, and where applicable documentation of tests or others means of determining the acceptability of incoming materials/component. Shipping records shall include the finished product designation, shipping date, and destination. Traceability shall be maintained throughout the manufacturing process, capturing the amounts and sources of

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materials/components used from incoming materials to finished product destinations. Records shall be maintained for a minimum of 36 months and shall be readily available for review by the UL Field Engineer.

Production-Line Tests & QC Tests - When the FUS Procedure requires quality control tests to be performed, maintain a system to conduct the tests and store records on the tests performed. Unless indicated otherwise in the Procedure, the records shall include item identity, lot number or unique identification, type of inspection or test performed, test results, acceptance criteria, date that the inspection or test was performed, identification of equipment used, review signature, accept or reject decision, and any other information required by the FUS Procedure.

Product that is outside of the manufacturer’s specifications and is amenable to being reworked to bring it within the manufacturers specifications shall be done so within the guidelines and restrictions of the FUS Procedure.

Verification of Certified Materials/Components - Where the Sections of this Procedure indicate that materials or component parts used to manufacture products covered by this Procedure are certified by UL or another certification organization (i.e., NSF, or other), the manufacturer shall provide evidence of current certification of these materials and components consistent with those methods required by the applicable certification agency to identify products covered under its service. Such methods may include, depending on the certification agency, the use of a certification mark on the product, product packaging or accompanying documentation.

Maintain overall cleanliness of the facility and eliminate obvious sources of chemical cross contamination within the process. Mixing tools and vessels shall be regularly cleaned or designated for the production of the certified product being inspected. Use care with residual cleaning solvents, processing chemicals, and packaging materials as they may contribute to contaminant detections under low level (part per billion) chemical analysis.

Maintain a system to identify, segregate, and prevent nonconforming materials/components from being released into production and nonconforming finished product from being released for shipment bearing reference to UL. Records of nonconforming materials/components shall include all information required by the FUS Procedure, including the cause of the nonconformance and the disposition of the nonconforming materials/components. Nonconforming product is any product that does not comply with the requirements of the FUS Procedure. This includes product that has been contaminated during production or storage. The nonconforming product shall be clearly identified and segregated to prevent its use. Identification shall include or be traceable to the product designation, lot number or unique identification, and reason for nonconformance.

Storage, Handling, Packaging, and Shipping – Maintain a system to properly store and handle materials/components and product throughout the manufacturing process to prevent contamination. In addition, maintain a system to properly package and ship products in containers or packaging to prevent contamination. If products are shipped in reusable containers,

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maintain cleaning procedures and cleaning records correlating to the reusable containers, including wash certificates if applicable.

Shipping records shall include the finished product designation, lot number or unique identification of the finished product, shipping date, and destination. If a lot number or unique identification is not assigned for outgoing product, shipping records shall contain sufficient information to achieve traceability from the shipping destination to the specific product used to fill the order. Records are required to be kept for every shipment of product bearing the UL Mark or being represented as UL Certified product by such ways as shipping with a Bill of Lading. It must be discernible which shipments were marked or represented as UL Certified.

Material Revisions – Prior to making any revisions to materials, the manufacturer shall notify UL Conformity Assessment Services. Only after UL Conformity Assessment Services has completed the evaluation and notified the manufacturer of approval for the revision, may revisions such as these be implemented.

Non-conforming Follow-Up Samples – If a representative sample was pulled and found to be non-conforming, the manufacture is obligated to take corrective actions. Non-conforming results considered to represent UL Certified product have the same consequences as results from product bearing the UL Mark, including potential withdraw of product Certifications.

Pb Content Verification of Products in Contact with Potable Water (QNVB)

SAMPLES TO BE SELECTED:

Select all required samples for all CCNs identified. If multiple samples are selected, samples shall be clearly identified, labeled, or packaged to prevent commingling with other samples. If required by the sample requirements, please include documentation containing the following information where the sample FUS Tag does not clearly identify it:

> Appropriate part numbers, part description, material supplier, trade name of raw material or material designation.

Include MSDS sheets as needed.

NSF 372 (QNVB) Samples Required

Additional Instructions for NSF 372 Samples:

In the event that the specific part number is not available for sampling, a different part may be selected provided that it is made of the same material. Where a brass casting supplier is specified, any alternate parts must be from the same casting location and of the same alloy designation.

Year	Part	Material	Supplier	Method
2017, 2020, 2023, etc.	End	Copper Alloy C12200	Columbia Pipe & Supply Co.	XRF
All	Hose and Braid	BRONZE COPPER ALLOY C51000 (95/5)	Omegaflex	XRF

Quantity of samples to be collected shall adhere to the following criteria for XRF testing:

- The sample shall have a flat surface area with a minimum 1cm x 3cm, or it shall be easily manipulated to provide a 1cm x 3cm area.
- If the flat surface area of the entire wetted part is less than 1cm x 3cm then the quantity of samples collected shall be adequate to cover the said surface area.]

DESCRIPTION

PRODUCT COVERED:

V's, U's, and Straight Flexible Connectors	V's and U's Standard Movement	Straights
½" - 4" Bronze hose and braid with copper sweat end	+/- 2", 3", 4"and 6" in all planes	Max 30" OAL

*OAL = overall length

USC, CNC – All product(s) investigated to US and Canadian Standards NSF/ANSI 372

GENERAL CHARACTER AND USE:

These product(s) are pipes Classified in accordance with NSF/ANSI 372. They are supplied in the form of a V's, U's, and Straight Flexible Connectors.

MANUFACTURING PROCESS:

Pipe components are purchased or manufactured on site. Components are assembled, inspected, and shipped.

PRODUCT MATERIALS

NSF/ANSI 372

The products covered are manufactured in whole or in part with the components indicated on the Authorized Wetted Parts List shown below.

Authorized Wetted Parts List for 1/2" to 4" V, U, and Straight Flexible Connectors

This document must be available for review by the UL Field Representative upon request

Description	Tradename	Material	Wetted Area (cm^2)	Qty	Supplier
90* Elbow	Copper Alloy C12200	Copper	18.91	4	Columbia Pipe & Supply Co. (T12388)
End	Copper Alloy C12200	Copper	12.68	2	(alternate) Columbia Pipe & Supply Co. (T12388)
Hose	Bronze Copper Alloy C51000 (95/5)	Bronze	131.47	1	Omegaflex (T12387)
Pipe	Copper Alloy C12200	Copper	50.75	1	(alternate) Columbia Pipe & Supply Co. (T12388)

Leaded materials or materials with more than 10% wetted surface area have been identified in the table below.

Part	Material	Supplier	Max Pb Content Spec. (%)
End	Copper Alloy C12200	Columbia Pipe & Supply Co.	0.0
Hose	BRONZE COPPER ALLOY C51000 (95/5)	Omegaflex	0.05

MANUFACTURER'S QUALITY CONTROL/QUALITY ASSURANCE PROGRAM:

Product: V's, U's, and Straight Flexible Connectors

1. Material verification
Method: Material verification through purchasing records retention
Documentation: Material purchasing records
Frequency: Upon receipt of materials
Accept/reject criteria: Materials match wetted parts list

TECHNICAL CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

The following information is intended to provide guidance to those testing samples selected as part of UL's Follow-Up Service Inspection Program.

NSF/ANSI 372

Part	Material	Supplier	Method
End	Copper Alloy C12200	Columbia Pipe & Supply Co.	XRF
Hose	BRONZE COPPER ALLOY C51000 (95/5)	Omegaflex	XRF

Test Method – NSF/ANSI 372 – Lead (Pb) Content Testing

Test Parameter – Lead via XRF

MARKING:

Products covered by this Report are considered UL Classified when they bear the UL Classification Marking, the name of the Classified Company and the designation of the product.

The marking may be inked or painted onto the container of the product or printed on a label applied to the product or its container.

ALTERNATIVE MARKING:

As an alternative to the application of the UL Classification Mark onto the container of the product, a certificate conforming to UL requirements may be utilized.

CERTIFICATE OF COMPLIANCE

Certificate Number	20180724-MH59973
Report Reference	MH59973-20180720
Issue Date	2018-JULY-24
Issued to:	TWIN CITY HOSE INC 20615 Commerce Blvd Rogers MN 55374-9335
This is to certify that representative samples of	LEAD CONTENT VERIFICATION OF PRODUCTS IN CONTACT WITH POTABLE WATER V's, U's, and Straight Flexible Connectors ½" - 4" Bronze hose and braid with copper sweat end Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.
Standard(s) for Safety:	ANSI/NSF 372-2011 - Drinking Water System Components - Lead Content
Additional Information:	See the UL Online Certifications Directory at www.ul.com/database for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's Certification and Follow-Up Service.

Look for the UL Certification Mark on the product.

Bruce Mahrenholz, Director North American Certification Program

UL LLC

File MH59973
Project 4788581650

Issued: July 20, 2018

REPORT

on

Drinking Water Treatment Chemicals

Under the

CLASSIFICATION PROGRAM

TWIN CITY HOSES
Rogers, Minnesota

DESCRIPTION

PRODUCT COVERED:

V's, U's, and Straight Flexible Connectors	V's and U's Standard Movement	Straights
½" - 4" Bronze hose and braid with copper sweat end	+/- 2", 3", 4"and 6" in all planes	Max 30" OAL

*OAL = Overall Length

USC, CNC – All product(s) investigated to US and Canadian Standards NSF/ANSI 372

GENERAL CHARACTER AND USE:

These product(s) are pipes Classified in accordance with NSF/ANSI 372. They are supplied in the form of a V's, U's, and Straight Flexible Connectors.

FACTORY LOCATION:

Twin City Hoses
Rogers, Minnesota

PRODUCT RATINGS:

Product	Maximum Use Temperature, °C
V's, U's, and Straight Flexible Connectors	23

TEST RECORD NO. 1

GENERAL:

This test record covers the removal of NSF/ANSI 61 from the "½" - 4" Bronze hose and braid with copper sweat end" product, Volume 1. It will now be listed to NSF/ANSI 372 only in Volume 2, this volume. No additional testing was considered necessary.

TEST RECORD SUMMARY:

The results of this investigation, including construction review and testing, indicate that the products evaluated comply with the applicable requirements in ANSI/NSF 372-2011, therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report.

Test Record by:	Reviewed by:
Charles Erickson	Jason Carlson
Sr. Project Engineer	Staff Chemist

CONCLUSION

Samples of the products covered by this Report have been found to comply with the requirements of NSF/ANSI 372, Drinking Water System Components – Lead Content and the products are found to comply with UL's applicable requirements. The description and test result in this Report are only applicable to the sample(s) investigated by UL and does not signify the product(s) described as being covered under UL's Follow-Up Service Program. When covered under UL's Follow-Up Service Program, the manufacturer is authorized to use the UL Classification Mark on such products which comply with UL's Follow-Up Service Procedure and any other application requirements of UL LLC. The Classification Mark of UL LLC on the product, or the UL symbol on the product and the Classification Mark on the smallest unit container in which the product is packaged, is the only method to identify products investigated by UL to published requirements and manufactured under UL's Classification and Follow-Up Service.

This Report is intended solely for the use of UL and the Applicant for establishment of UL certification coverage of the product under UL's Follow-Up Service. Any use of the Report other than to indicate that the sample(s) of the product covered by the Report has been found to comply with UL's applicable requirements is not authorized and renders the Report null and void. UL shall not incur any obligation or liability for any loss, expense, or punitive damages, arising out of or in connection with the use or reliance upon the contents of this Report to anyone other than the Applicant as provided in the agreement between UL and Applicant. Any use or reference to UL's name or certification mark(s) by anyone other than the Applicant in accordance with the agreement is prohibited without the express written approval of UL. Any information and documentation provided to you involving UL Mark services are provided on behalf of UL LLC.

Report by:	Reviewed by:
Charles Erickson	Jason Carlson
Sr. Project Engineer	Staff Chemist