Fuels Safety Program	Ref. No.: FS –187 - 11	Rev. No.:
ADVISORY	Date: June 2011	Date:

Subject: Navien Instantaneous Hot Water Heaters – Models: CR-180(A), CR-210(A), CR-240(A), CC-180(A), CC-210(A), CC-240(A)

Sent to: Posted on TSSA Web-Site, Navien America Inc, Canadian Standards Association (CSA), Union Gas, Enbridge Gas, Kingston Utilities, Kitchener Utilities, Code Adoption RRG, Natural Gas Advisory Council, Propane Advisory Council, TSSA Propane Risk Reduction Group, Canadian Propane Association (CPA), Health Canada, Inter-Provincial Advisory Council (IGAC), Hearth Patio and Barbecue Association of Canada

Section 4.5.2 of the CAN/CSA-B149.1-05 – "Natural Gas and Propane Installation Code" states that the use of any gas-fired appliances, accessories, components and equipment shall be prohibited where a hazard is created.

It has been brought to the attention of The Technical Standards and Safety Authority (TSSA) that the connection between the vent collar and the vent pipe on a limited production run of instantaneous (tankless) water heaters manufactured by Navien may not have fused properly during the installation. The affected water heaters were manufactured between February 29, 2008 and December 31, 2008. These water heaters were supplied with a vent collar fabricated from Nylon 66 material. The manufacturing year can be determined by the 16 digit serial number. Letters 5 through 8 identify the year, example **XXXX2008XXXXXXXX**.

Any connection of the venting system not properly fused has the potential to expel flue products into the living space. These flue products may include Carbon Monoxide (CO).

CO is a colourless gas produced when fuels such as natural gas, propane and oil burn incompletely. CO itself is odourless and tasteless but may be accompanied by an abnormal odour of incomplete fuel combustion. Symptoms of CO poisoning include nausea, vomiting, dizziness, burning eyes, difficulty breathing, confusion and loss of consciousness.

All Navien water heaters manufactured between February 29, 2008 and December 31, 2008 currently installed must be re-inspected to ensure all joints of the entire venting system are properly fused. If any joint is not properly fused corrective action must be taken immediately. The findings and corrective action taken for all water heaters inspected must to be reported to Navien.

Additional Information
Refer to attachment #1 for an important notice regarding these water heaters.

DISTRIBUTOR/INSTALLER/SERVICE CONTRACTOR ADVISORY

NAVIEN WATER HEATER VENT PIPE & COLLAR (SOCKET) INSTALLATION

Navien has become aware that pipes used to vent exhaust from Navien water heaters may not have been properly fused during some installations. Such lack of fusing could have occurred in sections of the exhaust piping, or more frequently, at the water heater collar connection. This could allow those connections to inadvertently separate completely if they are subject to impact. Although no such impact induced separations have been observed, they could pose a carbon monoxide (CO) safety hazard. The lack of fusing is related to an inadequate application of cement, but the condition has been observed primarily in installations of product manufactured by Navien through the end of December 2008.

At TSSA's request, we are requesting that installers inspect any Navien water heaters they installed which have been manufactured through the end of December 2008 to confirm that all collar and exhaust sections are properly fused. It is also requested that any service contractor also inspect these water heaters. You can identify the year of manufacture by looking at positions 5 – 8 in the 16 digit serial number found on the product and recorded in sales and installation documents, i.e., XXXX**2008**XXXXXXXX. If any collar and exhaust sections are not fused, application of ULC S636 compliant cement in accordance with the cement manufacturer's instructions is required.

Service contractors and installers are asked to report back to the distributor from whom the water heater was purchased regarding the number of inspections undertaken and the number of remediations undertaken as a result. TSSA is requesting regular updates, through Navien, regarding your responsive efforts, including on the inspections and retrofit work conducted.

Navien has tested and approved the use of IPEX System 636™ and Royal Group GVS-65 cements for fusing Navien water heater collars (sockets) to PVC venting pipes.[1] Carefully review the installation instructions on the relevant website and follow the application instructions on the adhesive container. For IPEX, go to www.ipexinc.com and enter the words "System 636 Installation" in the Search box to connect to the installation instructions. For Royal Group, go to www.royalbuildingproducts.com and choose "Installation Guides" under Resources for GVS-65 Royal Pipe Systems.

Of particular note, the following general important installation steps are highlighted:

- Clean and dry your selected PVC vent pipe and the Navien water heater collar (socket).
- Apply an even layer of cement on the exterior of the pipe to its insertion depth into the collar (socket).
- Apply a matching layer of cement to the interior of the collar (socket)
- All gaps between the two connecting pieces need to be filled. If necessary, apply additional cement to ensure a complete seal.
- Assemble while the cement is wet. If it dries, re-coat the parts before assembly.
- Push the pipe into the collar (socket) until it bottoms into the socket fitting. Twist 1/4 turn. Hold for 30 seconds to obtain initial set. Full cure can take up to 24 hours.

[1] Navien has tested the cement using standard industrial pvc pipe and found it to obtain the necessary fusing without the use of proprietary pvc pipes.

- Note that if the installation is done at or below 0°C, Primer is required to coat both surfaces before applying the adhesive.

The listed points are for highlighting only. You should be fully familiar with the cement manufacturer's instructions to ensure a safe installation.

In addition, ensure that all sections of the PVC venting pipe are properly fused pursuant to the vent pipe manufacturer's instructions. (NOTE: The venting pipes are not Navien products).

Installers should also remind their customers that Navien's Owner's Operation Manual instructs owners to have the water heater and vent piping inspected annually to ensure safe operation including checking for the integrity of all exhaust connections.

Navien's addendum regarding the proper application of adhesive is attached. If you have any questions regarding this Advisory, contact Navien Technical Support at 949-420-0420.

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Venting Installation Addendum

This is an addendum to the "Venting Section" in the Installation Manual. Please refer to the Installation Manual for all other venting information.

1 Cementing—Water Heater Collar (Socket) to Vent Pipe

■ Either the IPEX System 636™ or Royal Group GVS-65 ™ adhesives **must** be used for connecting Navien water heater collars (sockets) to PVC venting pipes.

- Carefully review the relevant website and follow the application instructions on the adhesive containers. For IPEX, go to www.ipexinc.com and enter the words "System 636 Installation" in the Search box to connect to connect to the IPEX Installation Manual. For Royal Group, go to www.royalbuildingproducts.com and choose "Installation Guides" under the Resources tab for GVS-65 Royal Pipe Systems.

■ The following steps for cement application are highlighted:

- Clean and dry your selected PVC vent pipe and Navien water heater collar (socket).
- Apply an even layer of cement on the exterior of the pipe to its insertion depth into the collar (socket). See #1 below.
- Apply a matching layer of cement to the interior of the collar (socket). See # 2 below.
- All gaps need to be filled. If necessary, apply a second layer of cement to the exterior of the pipe. See #3 below.
- Assemble while the cement is wet. If it dries first, re-coat the parts before assembly. See #4 below.
- Push the pipe into the collar (socket) until it bottoms into the socket fitting. See #5 below.
- Twist 1/8 to 1/4 turn. Hold for 30 seconds to obtain initial set. Full cure occurs in 24 hours.

■ System 636 PVC/PVC or GVS-65 primer is required to coat both surfaces before applying the respective cements if the installation is done at or below 0°C. See Installation Manuals for both products.

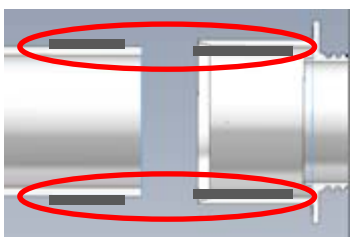
#1

Cement Exterior of Pipe

#2

Cement Interior of Navien collar (socket)

#3

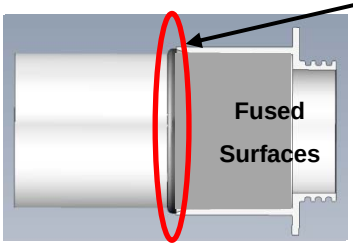


Cement Coatings Must Fill All Gaps

#4

Assemble while cement is wet & soft

#5



2 Installing Additional Venting to Terminator

■ Minimize the length and number of joints in the exhaust venting pipes to limit the opportunity for exhaust gas leaks.

■ Navien does not sell PVC piping. Thus, the exhaust pipe venting must be installed in accordance with the instructions provided by IPEX or Royal Group. See the relevant Installation Instructions for detailed instructions. Instructions vary by weather conditions and by provincial jurisdiction.

June 2, 2011