**From:** Art Grace <[art.clearwater@gmail.com](mailto:art.clearwater@gmail.com)>  
**Date:** November 25, 2019 at 3:25:20 PM EST  
**To:** Chris Ferriss <[splash4repair@aol.com](mailto:splash4repair@aol.com)>, "Choe, Sung" <[choe@nsf.org](mailto:choe@nsf.org)>, [beninatijohn@yahoo.com](mailto:beninatijohn@yahoo.com), [tomasint@rochesterhills.org](mailto:tomasint@rochesterhills.org), [lcolegrove@shelbytwp.org](mailto:lcolegrove@shelbytwp.org), [dlowry@shelbytwp.org](mailto:dlowry@shelbytwp.org)  
**Subject:** **Fwd:  Pumps**

﻿

All,

Please see the response below from Pentair regarding factory installed bonding lugs.

---------- Forwarded message ---------  
From: **Pickard, Zack** <[Zack.Pickard@pentair.com](mailto:Zack.Pickard@pentair.com)>  
Date: Thu, Nov 21, 2019 at 4:05 PM  
Subject: RE: Pumps  
To: Art Grace <[art.clearwater@gmail.com](mailto:art.clearwater@gmail.com)>  
Cc: Diepholz, Ingo <[Ingo.Diepholz@pentair.com](mailto:Ingo.Diepholz@pentair.com)>

Mr. Grace,

Pentair has conducted considerable research into this topic with our team of Electrical and Mechanical Engineers and oversight from our Compliance and Safety Manager. We also consulted with an external expert who holds a master’s degree in Electrical Engineering and a PhD; this gentleman also sits on the technical committee of the APSP and serves on Code Making Panel CMP-17 of the National Electrical Code. Using our internal and external experts as resources, the NEC documentation was reviewed and the team was able to reach a conclusion.

First, please note that the equipment in question is approved to be installed outdoors, and the bonding lugs on the equipment are factory-installed as opposed to being field-installed. The equipment does not require the installation of any additional bonding lugs in the field, and therefore the equipment and factory-installed bonding lugs have been approved as such.

Also please note that the NEC did make changes associated with corrosive environments that does affect bonding lugs, specifically in section 680.7 starting in 2017.  We would like to point out that those changes distinguish between lugs that are supplied with the equipment, making a distinction between them and field-installed lugs. It states: “*Field-installed grounding and bonding connections in a damp, wet, or corrosive environment shall be composed of copper, copper alloy, or stainless steel.*”

A key distinction in that preceding section is in the words “field installed” which means that the *factory-installed* bonding lugs on Pentair equipment are incorporated and covered in the equipment listing. Conversely, if someone was supplying field-installed bonding lugs, then those field-installed lugs would need to meet the material requirements in 680.7, whereas factory-installed lugs do not. In summary, the equipment in question fully-complies with relevant code as-is, including the bonding lugs.

We would like to sincerely thank you for your concern and would also like to reassure you that everyone at Pentair has taken this matter seriously.  As such, we took the time to understand the issue properly at a technical level and we involved an NEC expert to provide clarification to ensure that our equipment is fully-compliant.  We hope that you will share this response with anyone else who shared your initial concern.

**Zack Pickard**

Sr. Manager, Global Product Management

**Pentair**

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