

## Aaron Miller

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**From:** Fred Grable [fgrable@iccsafe.org]  
**Sent:** Monday, August 25, 2008 10:47 AM  
**To:** aaron@texasinspector.com  
**Cc:** Lis Valdemarsen  
**Subject:** RE: 03 IRC P2801.5 (FG)

August 25, 2008

Subject: 03 IRC P2801.5

Aaron,

Thank you for your inquiry. I have rephrased your question to enable me to provide an answer with clarity.

Q1-Where a storage type water heater is located in a garage such that damage to the building could occur, is a safety drip pan required?

A1-Yes. If water leakage from the water heater could come in contact with and could cause damage to any part of the permanent portion of the building, a drain pan is required. It is irrelevant that the water heater is located in a garage. For example, if a water heater is located in a garage and rests on the garage floor that slopes to the exterior through a garage door opening, and the perimeter walls at the floor level of the garage are of concrete block construction (without any insulation or drywall applied), water heater leakage could flow to the outdoors without the need for a drain pan. The code is not concerned about damage to an occupant's property that might be on the floor of the garage. However, if the perimeter walls of the garage are of wood construction (with or without insulation and drywall) that rests directly upon the floor of the garage, the potential for damage from water heater leakage to the building exists. Although it might be argued that the slope of the garage floor would convey the water out the garage door to the outdoors before contacting the walls, concrete floors are rarely perfectly sloped and an occupant's property within the space might cause diversion of the water towards the walls to cause damage to the structure.

In your specific referenced application of a water heater on the same level (on the same continuous slab) as the floor of the dwelling unit, leakage from the water heater will have a high probability of contacting the wood framing, insulation and drywall of the adjacent dwelling unit walls. A drain pan with drain must be installed.

If you need further information or have questions on the above, please contact me directly by email or telephone.

This opinion is based on the information which you have provided. We have made no independent effort to verify the accuracy of this information nor have we conducted a review beyond the scope of your question. As this opinion is only advisory, the final decision is the responsibility of the designated authority charged with the administration and enforcement of this code.

Respectfully,

Fred Grable, P.E.  
Staff Engineer  
Chicago District Office  
International Code Council  
PH: 1.888.422.7233 ext 4359  
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-----Original Message-----

From: Lis Valdemarsen  
Sent: Thursday, August 21, 2008 1:30 PM  
To: Fred Grable  
Cc: 'aaron@texasinspector.com'  
Subject: 03 IRC P2801.5 (FG)

Aaron,

I have forwarded your request to Fred Grable.

If you have any questions regarding the status of your reply to your code opinion question, please contact me by either phone or email.

Sincerely,

Lis Valdemarsen  
Administrative Assistant  
International Code Council, Inc.  
Los Angeles District Office  
5360 Workman Mill Rd  
Whittier, CA 90601-2298  
Phone: (562) 699-0541 ext 3201  
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For code questions go to the ICC website, <http://www2.iccsafe.org/cs/interps/>

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-----Original Message-----

From: ICC Webmaster [mailto:webmaster@iccsafe.org]  
Sent: Thursday, August 21, 2008 3:05 AM  
To: Lis Valdemarsen  
Subject: 03 IRC P2801.5 (FG)

This information was just submitted via the ICC site:  
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Member Information:

Member Name: Miller Aaron D  
Member Number: 5082671  
Contact Name: Aaron D. Miller  
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Phone: 214-616-0112  
E-mail: aaron@texasinspector.com  
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Code Question:

Code Edition: IRC 2003  
Code Section: P2801.5  
Code Question:  
"P2801.5 Required pan.

Where water heaters or hot water storage tanks are installed in locations where leakage of the tanks or connections will cause damage, the tank or water heater shall be installed in a galvanized steel pan .  
. ."

In the Dallas/Fort Worth area many of the AHJs are in the habit of allowing installation of water heaters in garages without auxiliary pans to prevent damage from leakage. Their reasoning usually involves the fact that the garage floor is sloped to drain away from the house, so leakage will follow suit.

The problem is that most of the foundations here are slab-on-grade where the garage floor consists of a flat and level "shelf" adjacent to the wall that is contiguous with the interior of the house, and then the stepped-down lower sloped portion of the floor upon which the automobiles are intended to be parked. The water heaters are always installed right against the common wall with the house on the shelf that is level with the floor of the interior of the house. So, when leakage occurs, the water runs under the wall and damages the flooring in the adjacent living space.

During hundreds of forensic inspections I have seen significant damage incurred by homeowners due to this type of installation. All of this could have been prevented by the simple and inexpensive installation of a drained metal pan.

My question then is this: If the water heater is installed in a garage on a floor that is both level and on the same elevation with the interior floor of the house does the water heater require a drained pan as per P2801.5?

Thank you for your time and consideration,

Aaron D. Miller  
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