

PROPOSED PMG LISTING CRITERIA FOR ROOF DRAINS WITH INTEGRAL OVERFLOW DRAIN OR AIR VENT

LC1021

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PREFACE

Plumbing, mechanical and fuel gas (PMG) listings issued by ICC Evaluation Service, Inc. (ICC-ES), are based upon performance features of the *International Plumbing Code*®, *International Mechanical Code*®, *International Residential Code*®, *Uniform Plumbing Code* and *Uniform Mechanical Code*. Section 105.2 of the *International Plumbing Code*® reads as follows:

Alternative materials, methods and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any method of construction not specifically prescribed by this code, provided that any such alternative has been approved. An alternative material or method of construction shall be approved where the code official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety.

Similar provisions are contained in the Uniform Codes.

ICC-ES may consider alternate listing criteria, provided the listing applicant submits valid data demonstrating that the alternate listing criteria are at least equivalent to the listing criteria set forth in this document, and otherwise demonstrate compliance with the performance features of the codes. Notwithstanding that a product, material, or type or method of construction meets the requirements of the criteria set forth in this document, or that it can be demonstrated that valid alternate criteria are equivalent to the criteria in this document and otherwise demonstrate compliance with the performance features of the codes, ICC-ES retains the right to refuse to issue or renew a listing, if the product, material, or type or method of construction is such that either unusual care with its installation or use must be exercised for satisfactory performance, or if malfunctioning is apt to cause unreasonable property damage or personal injury or sickness relative to the benefits to be achieved by the use of the product, material, or type or method of construction.

Listing criteria are developed solely for use by ICC-ES for purposes of issuing ICC-ES PMG listings.

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1.0 INTRODUCTION

1.1 Purpose: The purpose of this listing criteria is to establish general requirements for roof drains with an integral overflow drain or air vent to be recognized in an ICC Evaluation Service, Inc. (ICC-ES), listing.

1.2 Scope: This listing criteria covers minimum standards for materials in the construction of roof drains with integral overflow drains or air vents, and prescribes minimum requirements for the performance of roof drains with an integral overflow drain or air vent.

1.2.1 Roof Drains with Integral Overflow Drain: This product is a manufactured receptacle that incorporates the overflow drain within the structure of the primary roof drain, each having separate discharge connections. The drain is designed to receive and convey rainwater from the roof area to the primary drainage system and to convey the water to the overflow system only when required.

1.2.2 Roof Drains with Air Vent: This product is a manufactured receptacle that incorporates an air vent within the structure of the primary roof drain, each having separate discharge connections. The roof drain is designed to receive and convey rainwater from the roof area to the primary drainage system while the vent pipe works independently for air ventilation to the drain.

1.3 Codes and Referenced Standards

Note: Any standard referenced herein shall be the current edition of that standard. In instances where the applicable code references a different edition of a given standard, the applicant shall also provide documentation of conformance with the code-referenced standard edition.

1.3.1 2006 *International Plumbing Code*[®] (IPC), Chapter 9, Vents, Chapter 11, Storm Drainage. International Code Council.

1.3.2 2006 *Uniform Plumbing Code*[™] (UPC), Chapter 9, Vents, Chapter 11, Storm Drainage. International Association of Plumbing and Mechanical Officials.

1.3.3 ASME A112.21.2M (*Note: shown as superseded by 1.3.4 on ASME web site*), Roof Drains. American Society of Mechanical Engineers.

1.3.4 ASME A112.6.4 (*Note: referenced in the 2006 UPC not the 2006 IPC*), Roof, Deck, and Balcony Drains. American Society of Mechanical Engineers.

1.3.5 ASTM A 74, Cast Iron Soil Pipe and Fittings. ASTM International.

1.3.6 ASTM A 888, Hubless Cast Iron Pipe and Fittings. ASTM International.

1.3.7 ASTM C 564, Rubber Gaskets for Cast Iron Soil Pipe and Fittings. ASTM International.

2.0 BASIC INFORMATION

The following basic information shall be provided:

2.1 Product Description: Complete information regarding material specifications, thickness and sizes, installation instructions and height above the roof.

2.2 Installation Instructions: Product shall be installed in accordance with the manufacturer's instructions and the requirements of the applicable codes and reference standards in Section 1.3.

2.3 Product and Packaging Identification: The unit and the package shall be permanently and legibly marked with the manufacturer's name or trademark, and the model number. The product shall also bear the PMG[®] listing mark. The ICC-ES listing number shall be placed on the listed product's packaging or installation instructions.

3.0 GENERAL REQUIREMENTS

3.1 Drains covered under this standard shall comply with ASME A112.6.4 (*Note: according to the ASME web site, ASME A112.6.4 replaces ASME A112.21.2M*)

3.2 Primary roof drains shall have a strainer (available inlet) of not less than 1.5 times the area of the conductor or leader to which the drain is connected.

3.3 The riser pipe will be of separate construction from the sump or other connections so as to facilitate replacement of the pipe if it is damaged or there is a building redesign. The gasket at the connection of the riser pipe and sump or vent pipe shall comply with the requirements of ASTM C 564.

3.4 Casted Drain Bodies: Drain bodies (sump) which are casted shall be one complete unit and shall also include the outlet connections within the casting. The outlet dimensions shall meet the requirements of Section 4.1 of this listing criteria.

4.0 TEST METHODS AND PERFORMANCE REQUIREMENTS

4.1 Connections shall comply with the dimensional requirements noted in Section 2 of ASME A112.6.4, Section 7 of ASTM A 888, or Section 7 of ASTM A 74.

4.2 Strainers shall comply with the dimensional requirements noted in Section 3.1 of ASME A112.6.4.

4.3 The minimum primary sump area shall be in accordance with Table 1. The area will be measured from the (overflow/vent) standpipe to the nearest obstruction in the sump

TABLE 1—PRIMARY SUMP AREA

Drain Pipe ID (inches)	Pipe ID Area (inches square)	Minimum Free Primary Sump Area (inches square)
2	3.14	15
3	7.07	25
4	12.57	30
5	19.63	50
6	28.27	70
8	50.27	140

SI: 1 inch = 25.4 mm

5.0 LISTING RECOGNITION

5.1 Primary and secondary roof drain systems shall be designed and sized in accordance with the applicable code.

5.2 The vent pipe, when used, shall be sized and extend above the roof as required by the applicable code.

5.3 The vent pipe extension shall be permanently identified as vent pipe.

5.4 The vent pipe extension material shall conform to the applicable plumbing code.