



John D. Catlett
Director

DEPARTMENT OF CODE ADMINISTRATION

301 King Street
Room-4200
Alexandria, Virginia 22314

Phone (703) 746-4200
Fax (703) 549-4589
alexandriava.gov

MOD # 2014 – 01

DATE: APRIL 1, 2014
TO: ALL CODE ADMINISTRATION STAFF AND CUSTOMERS
FROM: JOHN CATLETT, DIRECTOR
SUBJECT: BUILDING OFFICIAL'S MODIFICATION RESOLUTION – 2009 VIRGINIA RESIDENTIAL CODE TABLE M1601.1.1(2)

Subject – Single Family Dwelling Minimum Galvanized Duct Wall Thickness

Applicable Code Section - 2009 Virginia Residential Code (VRC), Table M1601.1.1(2)
2015 International Residential Code, Table M1601.1.1(2)

This code modification resolution or “standing modification” addresses the eminent changes to the 2015 International Residential Code (IRC) Table M1601.1.1(2) for minimum sheet metal duct thicknesses applicable for single family dwelling units and allows applicants to apply the 2015 VRC Table M1601.1.1(2) provisions to current submitted projects without a separate code modification request and approval. Refer to the following excerpts below for reference.

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Excerpt from 2009 Virginia Residential Code

TABLE M1601.1.1(2)
GAGES OF METAL DUCTS AND PLENUMS USED FOR HEATING OR COOLING

DUCT SIZE	GALVANIZED		ALUMINUM
	Minimum Thickness (inches)	Equivalent Galvanized Sheet No.	Minimum Thickness (inches)
Round ducts and enclosed rectangular ducts			
14 inches or less	0.0157	28	0.0175
16 and 18 inches	0.0187	26	0.018
20 inches and over	0.0236	24	0.023
Exposed rectangular ducts			
14 inches or less	0.0157	28	0.0175
Over 14 th inches	0.0187	26	0.018

For SI: 1 inch = 25.4 mm.
a. For duct gages and reinforcement requirements at static pressures of 1/2 inch, 1 inch and 2 inches w.g., SMACNA *Duct Construction Standard*, Tables 2-1; 2-2 and 2-3 shall apply.

2009 VIRGINIA RESIDENTIAL CODE 16-1

Excerpt from ICC 2013 Proposed Changes to the International Mechanical/plumbing Code
<http://www.iccsafe.org/cs/codes/Documents/2012-2014Cycle/Proposed-B/07-IRC-M.pdf>

RM47 – 13
Table M1601.1.1(2)

Proponent: David Hall CFM, Georgetown Texas representing the ICC PMG Code Action Committee (dave.hall@georgetown.org)

Delete table and substitute as follows:

TABLE M1601.1.1(2)
DUCT CONSTRUCTION MINIMUM SHEET METAL THICKNESSES FOR SINGLE DWELLING UNITS

DUCT SIZE	GALVANIZED		ALUMINUM MINIMUM THICKNESS (in.)
	Minimum thickness (in.)	Equivalent galvanized gauge gage no.	
Round ducts and enclosed rectangular ducts			
14 inches or less	0.0157	28	0.0145
16 and 18 inches	0.0187	26	0.018
20 inches and over	0.0236	24	0.023
Exposed rectangular ducts			
14 inches or less	0.0157	28	0.0145
Over 14 th inches	0.0187	26	0.018

For SI: 1 inch = 25.4 mm, 1 inch water gage = 249 Pa.
a. For duct gages and reinforcement requirements at static pressures of 1/2 inch, 1 inch and 2 inch w.g., SMACNA *HVAC Duct Construction Standards*, Tables 2-1, 2-2, and 2-3, shall apply.

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TABLE M1601.1.1(2)
DUCT CONSTRUCTION MINIMUM SHEET METAL THICKNESS FOR SINGLE DWELLING UNITS^a

ROUND DUCT DIAMETER (inches)	STATIC PRESSURE			
	½ INCH WATER GAGE THICKNESS (inches)		1 INCH WATER GAGE THICKNESS (inches)	
	GALVANIZED	ALUMINUM	GALVANIZED	ALUMINUM
≤ 12	0.013	0.018	0.013	0.018
12 to 14	0.013	0.018	0.016	0.023
15 to 17	0.016	0.023	0.019	0.027
18	0.016	0.023	0.024	0.034
19 to 20	0.019	0.027	0.024	0.034

RECTANGULAR DUCT DIMENSION (inches)				
≤ 8	0.013	0.018	0.013	0.018
9 to 10	0.013	0.018	0.016	0.023
11 to 12	0.016	0.023	0.019	0.027
13 to 16	0.019	0.027	0.019	0.027
17 to 18	0.019	0.027	0.024	0.034
19 to 20	0.024	0.034	0.024	0.034

For SI: 1 inch = 25.4 mm, 1 inch water gage = 249 Pa.
a. Ductwork that exceeds 20 inches by dimension or exceeds a pressure of 1 inch gage (250 Pa) shall be constructed in accordance with SMACNA HVAC Duct Construction Standards Metal and Flexible.

Reason: This revised table was approved for the 2015 IMC. The change that was previously made in the 2009 IRC (and carried forward to the 2012 IRC) unnecessarily increased the material thickness required for round sheet metal ducts. This proposed change seeks to return to the requirements of 2006 and previous IRC editions which have historically recognized 30 gauge sheet metal as being appropriate for round ducts 14 inches or less diameter in "Single Dwelling Units".

The changes to M1601.1.1(2) in the 2009 IRC (and carried forward to the 2012 IRC):

1. Increased cost for round sheet metal ducts
 2. Did not improve safety
 3. Did not improve energy performance
- Cost Impact:** This code change proposal will not increase the cost of construction.
- RM47-13**
Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF
- M1601.1.1(2)T #2-RM-HALL-PMGCAC

Excerpt from ICC Code Development Cycle, 2013 Final Action on Proposed Code Changes Group B- (<http://www.iccsafe.org/cs/codes/Documents/2012-2014Cycle/2013FAA/results/Summary-FinalActionGroupB.pdf>)

ICC CODE DEVELOPMENT CYCLE
2013 FINAL ACTION ON PROPOSED CODE CHANGES
GROUP B
ATLANTIC CITY, NJ OCTOBER 2-10, 2013

October 18, 2013

The following is a comprehensive list of final actions on the 2013 Proposed Changes to the ICC International Codes[®] considered at the Final Action Hearings in Atlantic City, NJ, October 2-10, 2013. Approved changes from the 2013 Code Change Cycle will be published in the 2015 Editions of the *International Codes*.

LEGEND: AS Approved as Submitted
D Disapproved
AM Approved as Modified by the Code Committee
AMPC Approved as Modified by a Public Comment
WP Withdrawn by Proponent
NU Number Not Used

CODE CHANGE NUMBER	COMMITTEE/ ASSEMBLY ACTION	CODE CHANGE NUMBER	COMMITTEE/ ASSEMBLY ACTION	CODE CHANGE NUMBER	COMMITTEE/ ASSEMBLY ACTION
RB418-13	AS	RB473-13	AS	RM47-13	AS
RB419-13	D	RB474-13	WP	RM48-13	AS
RB420-13	D	RB475-13	AM	RM49-13	WP

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