

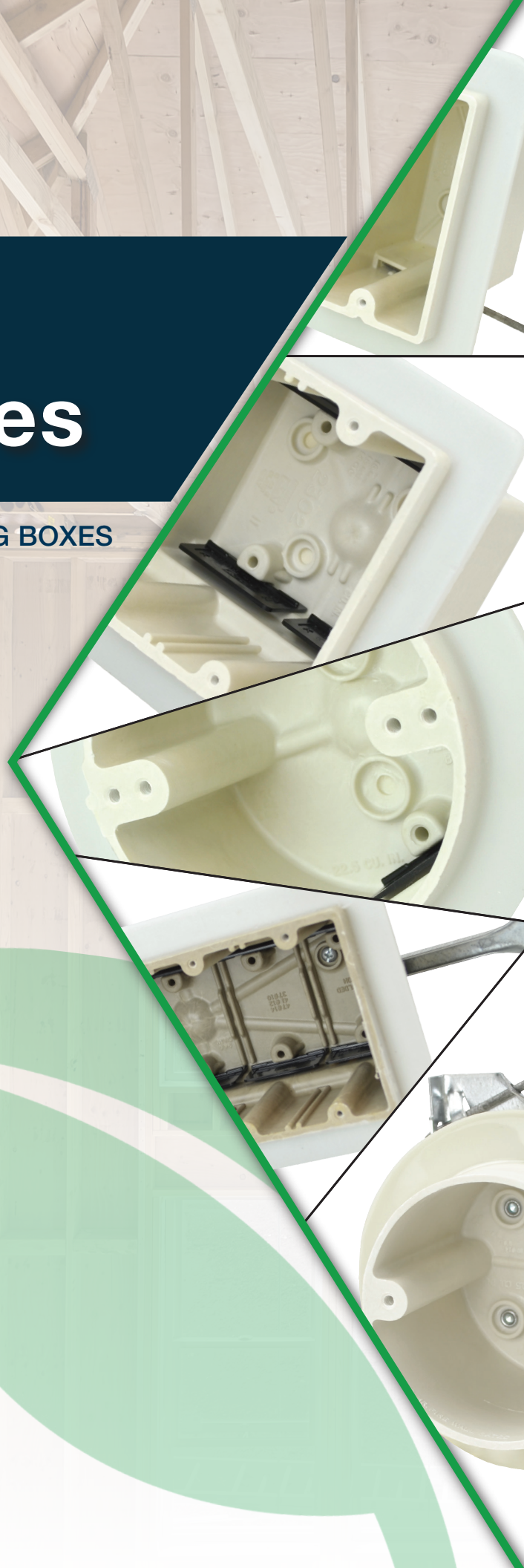
# Vapor Seal Electrical Boxes

## NONMETALLIC AIR-SEALED WALL & CEILING BOXES

Vapor Seal products provide a solution to prevent air infiltration/air leakage on exterior walls where openings for electrical switch and receptacle boxes are required.



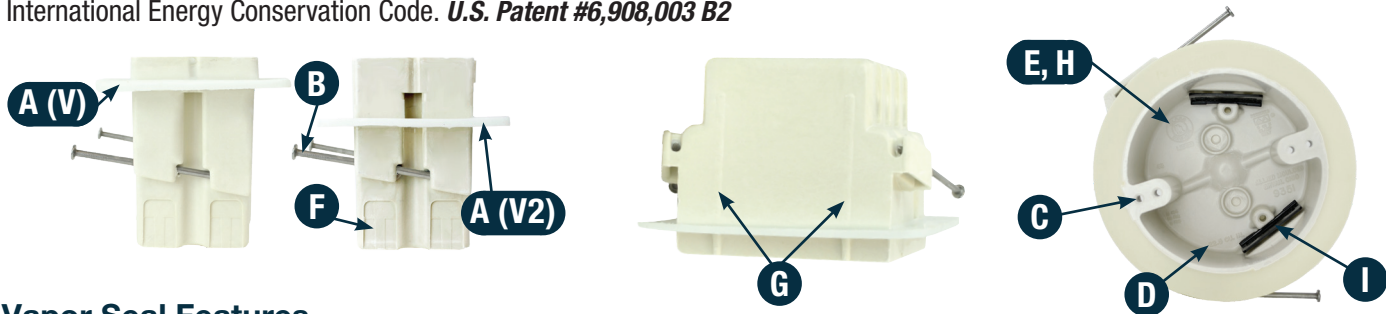
**ALLIED  
MOULDED  
PRODUCTS, Inc.**



# Vapor Seal Air-Sealed Electrical Boxes

## Vapor Seal: Material & Labor Saving Features

With innovative products designed for the electrical contractor, Allied Moulded offers a complete line of wall and ceiling boxes for use in energy efficient homes to aid in sealing up the exterior walls per construction methods outlined in 402.4 of the 2009 International Energy Conservation Code. **U.S. Patent #6,908,003 B2**



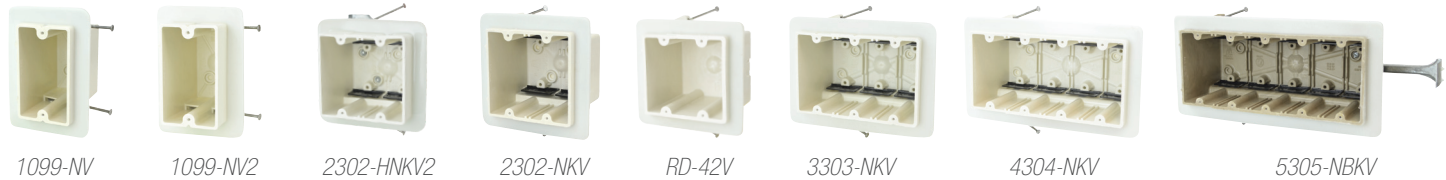
## Vapor Seal Features

- A. Patented (U.S. Patent #6,908,003 B2) flexible polyurethane flange available for sealing box to air/vapor barrier. Flange products "V" are for single drywall and "V2" are for double drywall applications.
- B. Bright common nails fit securely in specially designed supports and are angled for easy installation.
- C. Tapered and machine tapped device holes allow device screw to be started by hand and speed installation time with high torque screwdrivers.
- D. Cubic inch capacity clearly marked and easy for contractor and inspector to locate and identify.

- E. Proudly UL® listed.
- F. Knockouts on fiberglass boxes are complete, reducing drafts and easily removed with wire for no-tool installation.
- G. Leveling ribs position face of box parallel to wall surface.
- H. 2-Hour Fire Rated clearly marked for easy inspector identification.
- I. Nonmetallic Speed "K" Klamps™ dependably secure wire in box.

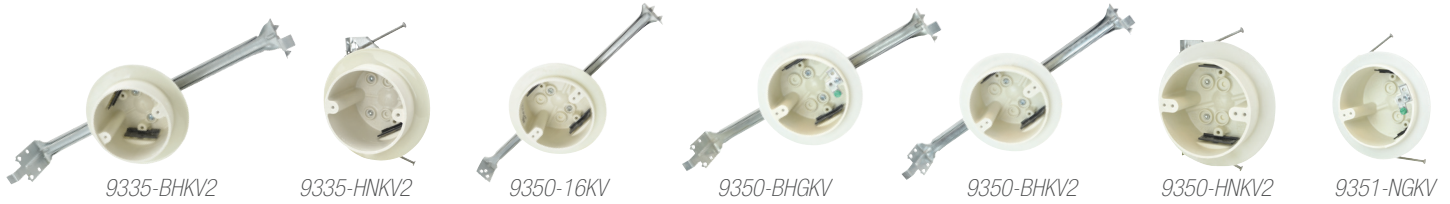
### Note:

Allied Moulded Vapor Seal boxes exceed newly established requirements against air leakage in exterior walls per NEMA (National Electrical Manufacturers Association) OS 4 standards.



	Cu. In. Volume	Catalog Number	Component Description	Exterior Dim. (min. flange dim.)			Wall Substrate Offset	UPC# 85339	Std. Pkg. Qty.	Std. Wt. (lb.)
				D	W	H				
Vapor Seal Switch or Receptacle Boxes	22.5	1099-NV	Single gang box with Vapor Seal flange, angled mid-nails, knockouts	3-9/16	2-1/4 (3-1/2)	3-27/32 (5)	1/2 - 5/8	26007	48	21
	22.5	1099-NV2	Single gang box with Vapor Seal flange, angled mid-nails, knockouts, for use in double 5/8" drywall applications	3-9/16	2-1/4 (3-1/2)	3-27/32 (5)	1 - 1-1/4	26015	48	21
	37.0	2302-HNKV2	Two gang box with Vapor Seal flange, "HN" hanger, Speed Klamps™ - factory installed, knockouts, for use in double 5/8" drywall applications	3-7/16	4 (5-1/4)	3-3/4 (5)	1 - 1-1/8	92711	6	6
	37.0	2302-NKV	Two gang box with Vapor Seal flange, angled mid-nails, Speed Klamps™ - factory installed	3-7/16	4 (5-1/4)	3-3/4 (5)	1/2 - 5/8	13077	48	33
	42.0	RD-42V	Range/dryer receptacle box, fetter ring nails, clamp for #6/#8 AWG - factory installed	3-13/16	4 (5-1/4)	3-3/4 (5)	1/2 - 5/8	12906	24	23
	56.5	3303-NKV	Three gang box with Vapor Seal flange, angled mid-nails, Speed Klamps™ - factory installed	3-9/16	5-11/16 (7)	3-3/4 (5)	1/2 - 5/8	15209	18	17
	75.0	4304-NKV	Four gang box with Vapor Seal flange, angled mid-nails, Speed Klamps™ - factory installed	3-9/16	7-1/2 (8-3/4)	3-3/4 (5)	1/2 - 5/8	17558	18	22
	94.0	5305-NKV	Five gang box with Vapor Seal flange, angled mid-nails, Speed Klamps™ - factory installed	3-9/16	9-5/16 (10-1/2)	3-3/4 (5)	1/2 - 5/8	18011	6	9
	94.0	5305-NBKV	Five gang box with Vapor Seal flange, angled mid-nails, stabilizer bar, Speed Klamps™-factory installed	3-9/16	9-5/16 (10-1/2)	3-3/4 (5)	1/2 - 5/8	18012	6	11

# Product Specifications



## Vapor Seal Round Fixture Support

Cu. In. Volume	Catalog Number	Component Description	Exterior Dimensions (flange dim.)		Ceiling Substrate Offset	Fixture Rating	UPC# 85339	Std. Pkg. Qty.	Std. Wt. (lb.)
			D	W					
20.5	9335-BHKV2	3-1/2" dia. fixture box with Vapor Seal flange, 16" to 24" adjustable bar hanger, Speed Klamps™ - factory installed, <b>for use in double 5/8" drywall applications</b>	2-15/16	3-1/2 (4-3/4)	1 - 1-1/4	50 lb.	88125	18	25
20.5	9335-HNKV2	3-1/2" dia. fixture box with Vapor Seal flange, "HN" hanger, Speed Klamps™ - factory installed, <b>for use in double 5/8" drywall applications</b>	2-15/16	3-1/2 (4-3/4)	1 - 1-1/4	50 lb.	88126	50	33
22.5	9350-16KV	4" dia. fixture box with Vapor Seal flange, 16" bar hanger, Speed Klamps™ - factory installed	2-7/16	4 (5-1/4)	1/2 - 5/8	50 lb.	98301	24	24
22.5	9350-BHKV	4" dia. fixture box with Vapor Seal flange, 16" to 24" adjustable bar hanger, Speed Klamps™ - factory installed	2-7/16	4 (5-1/4)	1/2 - 5/8	50 lb.	88124	18	26
22.5	9350-BHGKV	4" dia. fixture box with Vapor Seal flange, with Ground Strap, 16" to 24" adjustable bar hanger, Speed Klamps™ - factory installed	2-7/16	4 (5-1/4)	1/2 - 5/8	50 lb.	99092	18	26
22.5	9350-BHKV2	4" dia. fixture box with Vapor Seal flange, 16" to 24" adjustable bar hanger, Speed Klamps™ - factory installed, <b>for use in double 5/8" drywall applications</b>	2-7/16	4 (5-1/4)	1 - 1-1/4	50 lb.	10484	18	26
22.5	9350-HNKV2	4" diameter fan box with Vapor Seal flange, "HN" hanger, Speed Klamps™ - factory installed, <b>for use in double 5/8" drywall applications</b>	2-7/16	4 (5-1/4)	1 - 1-1/4	50 lb.	10485	50	33
22.5	9351-NKV	4" diameter fan box with Vapor Seal flange, fetter ring nails, Speed Klamps™ - factory installed	2-7/16	4 (5-1/4)	1/2 - 5/8	50 lb.	65811	48	27
22.5	9351-NGKV	4" diameter fan box with Vapor Seal flange, fetter ring nails, with Ground Strap, Speed Klamps™ - factory installed	2-7/16	4 (5-1/4)	1/2 - 5/8	50 lb.	99093	48	27



9371-FRV



9350-FANVB



9350-FANV2B



9351-NKFRV

## Vapor Seal Fan & Fixture Support

Cu. In. Volume	Catalog Number	Component Description	Exterior Dimensions (flange dim.)		Ceiling Substrate Offset	Fan Rating	Fixture Rating	UPC# 85339	Std. Pkg. Qty.	Std. Wt. (lb.)
			D	W						
12.0	9371-FRV	4" diameter pan fan box with Vapor Seal flange, 1/2" deep pan, Speed Klamps™ - factory installed	2-7/8 overall	4 (5-1/4)	1/2 - 5/8	70 lb.	110 lb.	92705	24	10
22.5	9350-FANVB	4" diameter fan box with Vapor Seal flange, bar hanger, Speed Klamps™ - factory installed	2-7/16	4 (5-1/4)	1/2 - 5/8	35 lb.	50 lb.	99022	18	31
22.5	9350-FANV2B	4" diameter fan box with Vapor Seal flange, bar hanger, Speed Klamps™ - factory installed, <b>for use in double 5/8" drywall applications</b>	2-7/16	4 (5-1/4)	1 - 1-1/4	35 lb.	50 lb.	99023	18	31
22.5	9351-NKFRV	4" diameter fan box with Vapor Seal flange, fetter ring nails, Speed Klamps™ - factory installed	2-7/16	4 (5-1/4)	1/2 - 5/8	35 lb.	50 lb.	65810	48	28

# Vapor Seal Air-Sealed Electrical Boxes

**Residential Building Envelope – “Air Tightness”; IECC 2009**  
Residential Construction Changes – Department of Energy 30/30 Vision; The DOE set a goal to reduce building energy consumption by the 2012 IECC (International Energy Conservation Code) cycle. Current code changes within IECC 2009 have made major improvements on the way to the ultimate goal of 30% more energy efficient building construction.

**Many States Have Adopted IECC 2009 – More to come soon!**  
As of July 1, 2011 reports show that 21 states have adopted the IECC 2009 and many more are expecting to adopt it soon.

## Residential Building Envelope Tightness

One of the main components affecting residential construction changes is “Air Leakage” in the building envelope. The IECC 2009 mandates building envelopes to be:

- Sealed with caulking materials or...
- Closed with gasket systems
- Joints and seams sealed or taped or covered with a moisture vapor-permeable wrapping material

## Areas for Air Leakage/Infiltration in Residential Building Envelopes

One of the main areas being addressed is the electrical wiring box penetrations (switches and receptacles). Boxes must be properly insulated around and behind along with openings being sealed/caulked closed and must be sealed to drywall and any vapor barrier system.

## 2 Options to Demonstrate Compliance

1. When tested, air leakage is <7 ACH with a blower door at pressure of 33.5 psf (50 pa) (Section 402.4.2.1 IECC2009)
2. Field verification of construction methods per table (402.4.2 IECC 2009):

Component: Wiring

Criteria: Batt insulation is cut to fit around wires or sprayed/blown insulation extends behind wiring

Component: Electrical Box on Exterior Walls

Criteria: Air barrier extends behind boxes or “AIR SEALED ELECTRICAL BOXES” are to be installed

## Allied Moulded’s Experience – “Air Sealed Electrical Box” Solution Provider:

Allied Moulded developed a patented “Air Sealed Electrical Box” for this application in the Minnesota market in 2000 to meet the MN Energy Code Chapter 7670 adopted in 1994. These products have been manufactured, sold and installed successfully in this market while providing electricians, insulation contractors and drywall contractors a solution to comply with this “Air Tight” building envelope construction method.

**Installation Instructions:** These instructions are recommended for the proper installation of Allied Moulded Vapor Seal boxes, which will provide a closed penetration, meeting requirements outlined in the 2009 International Energy Conservation Code (402.4 IECC 2009).



## Electrical Box Mounting

- Locate desired mounting position
- Position Vapor Seal box flat against front face of stud
- Secure box to stud with nails or screws



## Electrical Box Wiring

- Rough in electrical wiring per local code



## Sealing the Box

- Close all exterior openings and wire penetrations with an acceptable caulk or sealing material



## Insulation

- Install insulation in wall or ceiling cavities



## Flange Preparation

(If wall will utilize an interior [plastic] covering)

- Apply adhesive to front face of flange
- Double stick tape or adhesive is acceptable
- Apply interior wall/ceiling vapor barrier (if applicable)
- Apply wall/ceiling substrate



Scan to learn more about all of our Vapor Seal products now!

[www.alliedmoulded.com](http://www.alliedmoulded.com)



**ALLIED  
MOULDED  
PRODUCTS, Inc.**

222 North Union Street  
Bryan, OH 43506

Phone: 800.722.2679  
Fax: 800.237.7269

[www.alliedmoulded.com](http://www.alliedmoulded.com)



**Available Through:**