

Stick to the Code

and Increase Energy Efficiency

Summer 2016

Did you know that leaky ducts can account for up to 30% of heating and cooling costs? Or that duct leakage of only 20% of air flow can cut your systems' efficiency by as much as half? Ensuring energy efficiency doesn't have to be difficult, time consuming, or expensive. You can ensure tight seals by using a **Polyken**® or **Nashua**® UL 181 listed tape to seal critical areas to save time, energy and money!



Polyken 557 - UL 181B-FX
Listed for use on flexible duct connections.

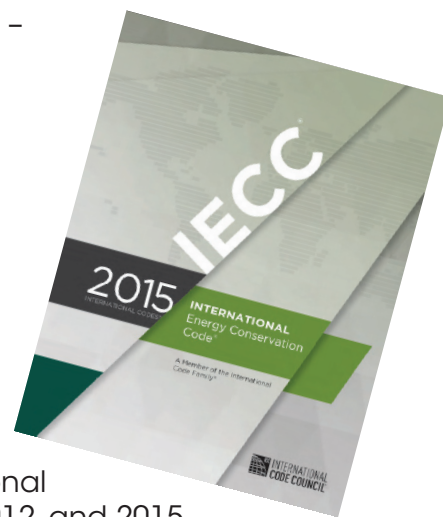


Nashua 324A - UL 181A-P Listed
for fiberglass duct board, and
UL 181B-FX listed for flexible
duct connections.

Seams and joints in HVAC duct work are leading culprits in energy loss. Sealing these critical areas can reduce duct leakage and increase your system's efficiency:

- Disconnected components
- Connections between the air handling unit and the plenum
- All seams in the air handling unit, plenums, and rectangular ducts – especially the hard to reach areas
- Return takeoffs, boots, and other connections
- Joints between sections of branch ducts
- Longitudinal seams in round metal ducts

Why all the fuss? In the past, numerous studies around the nation showed substantial duct leakage in new homes, including those in states with codes requiring duct sealing. For example, a 2001 study of 186 houses built under the Massachusetts Energy Code (MEC) reported "serious problems were found in the quality of duct sealing in about 80% of these houses" (Xenergy 2001). Concerns about the impact on energy efficiency contributed to a major revision of both the IECC (International Energy Conservation Code) and IRC (International Residential Code) in 2009. This revision, which is reflected in the 2009, 2012, and 2015 codes, changes the requirement for duct leakage assessment from visual inspection to actual physical testing.¹ In addition, review of the 2012 code shows that the mandates have progressively increased energy-efficiency requirements by approximately 30% versus the 2006 IECC.



Energy code adoption is driving the demand for more energy efficient solutions. New building codes are increasing the demand for tight seals. Since 2009, both the IRC and International Mechanical Code (IMC) have mandated that "all joints, seams, and connections be securely fastened and sealed. Tapes and mastics used to seal fibrous glass duct work shall be listed and labeled in accordance with UL 181A and shall be marked "181 A-P" for pressure-sensitive tape, "181 A-M" for mastic or "181 A-H" for heat-sensitive tape."² **Polyken 339** and **Nashua 324A** UL listed foil tapes meet the code for 181 A-P and should be used on fiberglass duct closure systems.

(cont.)



Nashua and Polyken 367-17 are UL 181-B-FX listed for flexible duct, and meet SMACNA duct construction standards for rigid sheet metal ducts.

"Tapes and mastics used to seal metallic and flexible air ducts and flexible air connectors shall comply with UL 181B and shall be marked "181 B-FX" for pressure-sensitive tape or "181 B-M" for mastic." ² Polyken 339 Cold Weather, Polyken 367-17, Berry Plastics FlexFix 555, Polyken 557, Polyken 558CA, Nashua 324A Cold Weather, Nashua 367-17, Nashua 557, and Nashua 558CA are all UL approved tapes that meet the code for 181 B-FX and should be used on flexible air ducts and closure systems.

Currently, there is no requirement for use of UL-listed tape on rigid sheet metal ducts. Either plain or UL listed foil tapes are acceptable. Nashua or Polyken 367-17 Foilmastic® tape is a good choice. In 2010, the SMACNA Testing and Research Institute formally confirmed the results showing that pressure testing using Berry Plastics' Polyken 367-17 and Nashua 367-17 UL 181B-FX foil-backed tapes exceeded requirements for rigid duct systems up to 10" w.g. pressure. This was the first time any foil tape received confirmation of its adherence to the SMACNA HVAC Duct Construction Standard (3rd Edition). In addition, the following Polyken and Nashua tapes have a proven track record of providing air-tight seals on rigid sheet metal ducts: 324A, 339, 330X, 322, 337, 360-17, and 367-17.

What does all of this mean? Duct leakage testing is becoming the norm rather than the exception. It is becoming a standard item on building inspectors' punch lists. As of February 2016, 37 US states had adopted the 2009, 2012, or 2015 IECC and/or the IRC. While enforcement varies by county, each new code adoption at state and local levels increases the attention given to energy efficiency improvements. Although not every state has adopted the 2015 IECC, every state is progressing toward tightening up air leakage in both duct systems and whole buildings. Local cities and municipalities will also follow the trend. As a contractor, using the right code-rated tapes will help you deliver the best and most efficient duct system and avoid call backs. Stick to the proper UL-Listed tapes for sealing ducts and never be red-tagged again!

¹ "Impacts of the 2009 IECC for Residential Buildings at the state level" - US Department of Energy, September 2009

² 2015 International Residential Code Sec. M1601.4.1; 2015 International Mechanical Code Section 603.9

For more information on code requirements by state, visit energycodes.gov.

You can learn more about how to buy code compliant Polyken and Nashua tapes by Berry Plastics by contacting your area sales representative or by call Berry Plastics Customer Service at 1-800-343-7875.

Berry Plastics is a trusted market leader in HVACR tapes and provides quality products meeting all of the HVACR industry's code needs.