Important New Progress on Miami-Dade NOAs and Tile Adhesives

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Well designed and engineered products are critical to the construction industry and particularly the Florida roofing industry. The unique combination of environmental challenges in Florida has driven the creation of very specific products to handle the high wind events we experience. However, the significant investments made in development, testing and market introduction of these high-performance products are all for naught if the product is not installed correctly.

Our industry further recognizes the importance of proper selection and installation of these high-performance products by adding a layer of third-party regulatory oversight known as permitting and the subsequent inspecting of the project. While day to day interactions between inspectors and installers can at times be tense, it is important to recognize that both parties (hopefully) share the same goal – ensure that the roof being installed will perform as designed to keep the homeowner secure and dry.

As a manufacturer of roof tile adhesive, we recognize the importance of clear instructions and training to the performance of the overall roof system. To that point, the product approvals for all roof tile adhesives require that the installers are factory trained and certified on the product.

In the 13 years I've been involved in the Florida roofing industry, it became apparent that an opportunity existed to make it easier for both the installer and the inspector to ensure that our roof tile adhesives are installed properly. We began by updating our instruction manual with clearer drawings and more specific instructions. This carried into our Florida Product Approvals utilized in the vast majority of Florida counties. However, an opportunity remained in the High Velocity Hurricane Zone (HVHZ) with the Miami-Dade tile system NOAs.

As many who work in the HVHZ know, not only do the components need to have product approvals but each tile system also must have its own lab tested approval or NOA. The tile NOA's are used in the permitting process where the required uplift for a specific roof is calculated and then compared against the uplift delivered in the lab testing. As manufacturers, we have several configurations and amounts of adhesive listed with different uplift values. It can be confusing in the field, for both installers and inspectors, to ensure that the correct system is being used. To that end, footnotes are added to the tile NOA table with the intent on clarifying these requirements.

Table 5: Attachment Resistance Expressed as a Moment M_f (ft.-lbf) for Two Paddy Adhesive[1] Set Systems

Tile Profile	Tile Application	Minimum Attachment Resistance
Villa 900 Concrete Tile	DuPont de Nemours, Inc. TILE BOND Roof Tile Adhesive	35[2]
	DuPont de Nemours, Inc. TILE BOND Roof Tile Adhesive	67[5]
	ICP Adhesives and Sealants, Inc. ICP Adhesives Polyset AH-160	26.1[3]
	DAP Foam, Inc. Touch 'N Seal StormBond 2 Two-Component Polyurethane Roof Tile Adhesive	55[4]

1. See manufacturer component approval for installation requirements. See foam adhesive manufacturer's component aooroval for installation requirements.
2. TILE BOND Roof Tile Adhesive one-component foam, minimum weight per paddy 8 grams. *See note below*
3. Polyset AH-160 two-component foam, minimum weight per paddy 8 grams.
4. Touch 'N Seal Storm Bond 2 Two-Component Polyurethance Roof Tile Adhesive two-component foam, average weight per paddy 8 grams, two component foam.
5. TILE BOND Roof Tile Adhesive one-component foam placement of minimum weight 16 grams per paddy.

Table 5: Attachment Resistance Expressed as a Moment M_f (ft.-lbf) for Two Patty Adhesive[1] Set Systems

Tile Profile: Villa 900 Concrete Tile			
Tile Application	**Paddy weight**	**Adhesive Contact Area**	**Minimum Attachment Resistance**
TILE BOND Roof Tile Adhesive – (Interdependent)	12.5 grams each	16 in^2 per paddy	35
TILE BOND Roof Tile Adhesive – (Independent)	25 grams each	8 in^2	67
APOC Polyset AH-160 (HFO1)	8 grams each	–	26
DAP Storm Bond 2 Roof Tile Adhesive	8 grams each	–	55
DAP Storm Bond 2 Roof Tile Adhesive	8 grams to underlayment	–	72
	5 grams at headlap	–	
APOC Polyset RTA-1 (HFO)	12 grams to underlayment	(4" X 3") 12 in^2	71
	10 grams at headlap	(1" X 8") 8 in^2	
1. See manufacturer component approval for installation requirements.			

Historically, the measurement of the correct amount of foam has been grams. I suspect this goes back to the beginning when two component adhesives were introduced. These require a small food scale as part of the calibration process, so utilizing grams may have begun with that. This is not the case with single component adhesives. It seems to me that grams are not a practical measure, especially on a roof. We explored the idea of using contact area as the key measure. This can easily be measured in the field. A tile can be removed right after being set in foam and the contact area of the adhesive to the tile measured.

Last fall, we presented this information to the Miami-Dade product approval department with support of the Miami-Dade inspection department. We made a number of recommendations regarding the use of contact area and the information presented in the NOA.

I'm happy to report that Miami-Dade is now publishing the contact area of the foam to the tile in the same table with the grams of foam in the tile NOA. These updates will be made as the tile NOAs are revised. I believe this is a major step forward in ensuring that a tile roof is installed properly the first time. It provides a simple, measurable specification, that both the installer and inspector can agree upon, that ties directly to the lab testing data. On the previous page are examples of the previous table from a tile NOA. Above is the revised table from a recent NOA update.

Key Enhancements

- The contact area is clearly stated with its corresponding uplift value.
- Where there are "system" names of the adhesive placement, those have been added and correspond to the adhesive manufacturer's installation instructions. For example, ICP uses the terms "large paddy" and "medium paddy." For Tile Bond, we use "interdependent" and "independent."

The footnotes have been simplified to just refer the installer to the adhesive product approval that contains pertinent information from the manufacturer on how to install the product. The component product approval further refers the installer to the manufacturer's installation manual. This is in place of attempting to add the installation details to the footnotes.

And if it couldn't get any better, there are two proposed revisions from Miami-Dade County for the 2026 code cycle (12066 & 12067) that add the requirement of contact area measurement to the lab testing requirements for TAS 101-95, which is the test protocol used for tile system uplift testing.

I'd like to thank the folks at Miami-Dade for working with us on these revisions. Over the last few years, we have established a productive working relationship that is focused on the goal of ensuring that tile roofs are installed properly. When groups can find common ground and stay focused on this, great things can happen that benefit the industry and homeowners.

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Tom Parker is the President of TCParker & Associates, a manufacturer's representative for Dupont Tile Bond Roof Tile Adhesive. He opened his agency 13 years ago after a 33-year career at The Dow Chemical Company. Tom is a Registered Professional Engineer, is a member of TRIA and a member of FRSA serving on the Codes Committee.