



NEMO|etc.

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ENGINEER

EVALUATE

TEST

CONSULT

EVALUATION REPORT BY FLORIDA P.E.

DAP Global Inc.
1645 Manufacturers Drive
Fenton, MO 63026
(636) 717-2888

Evaluation Report C35840.04.11-R5

FL14506-R5

Date of Issuance: 04/04/2011

Revision 5: 06/15/2022

SCOPE:

This Evaluation Report is issued under **Rule 61G20-3** and the applicable rules and regulations governing the use of construction materials in the State of Florida. The documentation submitted has been reviewed by Robert Nieminen, P.E. for use of the product under the Florida Building Code. The products described herein have been evaluated for compliance with the **7th Edition (2020) Florida Building Code** sections noted herein.

DESCRIPTION: DAP® Touch 'n Seal® Storm Bond® Roof Tile Adhesives for use in FBC non-HVHZ jurisdictions

LABELING: Labeling shall be in accordance with the requirements of the Accredited Quality Assurance Agency noted herein.

CONTINUED COMPLIANCE: This Evaluation Report is valid until such time as the named product(s) changes, the referenced Quality Assurance or production facility location(s) changes, or Code provisions that relate to the product(s) change. Acceptance of our Evaluation Reports by the named client constitutes agreement to notify NEMO ETC, LLC of any changes to the product(s), the Quality Assurance or the production facility location(s). NEMO ETC, LLC requires a complete review of its Evaluation Report relative to updated Code requirements with each Code Cycle.

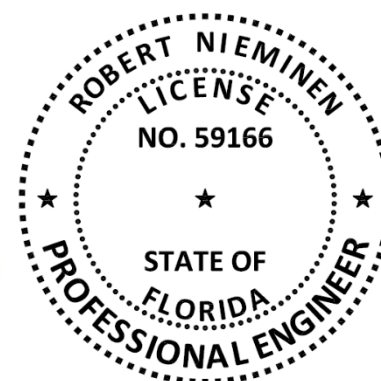
ADVERTISEMENT: The Florida Product Approval Number (FL#) preceded by the words "NEMO P.E. Evaluated" may be displayed in advertising literature. If any portion of the Evaluation Report is displayed, then it shall be done in its entirety.

INSPECTION: Upon request, a copy of this entire Evaluation Report shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This Evaluation Report consists of pages 1 through 16.

Prepared by: **Digitally signed
by Robert
Nieminen
Date: 2022.06.15
'14:18:05 -04'00**

This item has been digitally signed and sealed by
Robert Nieminen, P.E.
Printed copies of this document are not
considered signed and sealed, and the signature
must be verified on any electronic copies.
Robert Nieminen, Florida P.E. 59166, FBC ANE1983
NEMO ETC, LLC, Florida CA #32455



CERTIFICATION OF INDEPENDENCE:

1. NEMO ETC, LLC does not have, nor does it intend to acquire or will it acquire, a financial interest in any company manufacturing or distributing products it evaluates.
2. NEMO ETC, LLC is not owned, operated or controlled by any company manufacturing or distributing products it evaluates.
3. Robert Nieminen, P.E. does not have nor will acquire, a financial interest in any company manufacturing or distributing products for which the evaluation reports are being issued.
4. Robert Nieminen, P.E. does not have, nor will acquire, a financial interest in any other entity involved in the approval process of the product.
5. This is a building code evaluation. Neither NEMO ETC, LLC nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this Evaluation Report, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.

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ROOFING COMPONENT EVALUATION:

1. SCOPE:			
Product Category:	Roofing		
Sub-Category:	Roof Tile Adhesive		
Product Approval Method:	Method 1, Option D – Codified Material, Evaluation by Engineer		
Compliance Statement:	DAP® Touch 'n Seal® Storm Bond® Roof Tile Adhesives , as produced by DAP Global Inc. , has demonstrated compliance with the following sections of the 7th Edition (2020) Florida Building Code through testing in accordance with the Standards set forth herein. Compliance is subject to the Installation Requirements and Limitations / Conditions of Use set forth herein.		

2. STANDARDS:			
SECTIONS	PROPERTY	STANDARD	YEAR
1504.2.1.1	Overturning resistance	SSTD 11	1997

3. REFERENCES:			
ENTITY	EXAMINATION	REFERENCE	DATE
ATL (TST3782)	Static Uplift – SSTD 11	1005.07-10	01/15/2010
ERD (TST6049)	Static Uplift – SSTD 11	E42730.08.13	08/23/2013
MTI (TST2508)	Comparative Adhesion	CX07K6A	10/07/2016
NEMO (TST6049)	Criticality	4i-ECM-20-SSCRT-01.A	11/17/2020
NEMO (TST6049)	Criticality	4i-DAP-21-SSCRT-02.A	03/28/2022
PRI (TST 5878)	Static Uplift – SSTD 11	COPO-002-02-01	09/02/2016
PRI (TST 5878)	Static Uplift – SSTD 11	COPO-002-02-02	09/02/2016
PRI (TST 5878)	Static Uplift – SSTD 11	COPO-002-02-03	09/02/2016
PRI (TST 5878)	Static Uplift – SSTD 11	COPO-002-02-04	09/02/2016
PRI (TST 5878)	Static Uplift – SSTD 11	COPO-002-02-05	09/02/2016
PRI (TST 5878)	Static Uplift – SSTD 11	COPO-002-02-06	09/02/2016
PRI (TST 5878)	Static Uplift – SSTD 11	COPO-002-02-07	09/02/2016
PRI (TST 5878)	Static Uplift – SSTD 11	COPO-002-02-08	09/02/2016
PRI (TST 5878)	Static Uplift – SSTD 11	COPO-002-02-09	09/02/2016
PRI (TST 5878)	Static Uplift – SSTD 11	COPO-002-02-10	09/02/2016
PRI (TST 5878)	Static Uplift – SSTD 11	COPO-002-02-11	09/02/2016
PRI (TST 5878)	Static Uplift – SSTD 11	COPO-002-02-12	09/02/2016
PRI (TST 5878)	Static Uplift – SSTD 11	COPO-003-02-1	10/17/2016
PRI (TST 5878)	Static Uplift – SSTD 11	COPO-003-02-2	10/17/2016
PRI (TST 5878)	Static Uplift – SSTD 11	COPO-003-02-3	10/17/2016
PRI (TST 5878)	Static Uplift – SSTD 11	COPO-003-02-4	10/17/2016
PRI (TST 5878)	Static Uplift – SSTD 11	COPO-003-02-5	10/17/2016
PRI (TST 5878)	Static Uplift – SSTD 11	COPO-003-02-6	10/17/2016
PRI (TST 5878)	Static Uplift – SSTD 11	COPO-003-02-7	10/17/2016
PRI (TST 5878)	Target area clarification	COPO-002-02-01 Letter	08/11/2017
PRI (TST 5878)	Target area clarification	COPO-003-02-01 Letter	08/22/2017
PRI (TST5878)	Static Uplift – SSTD 11	DAPF-006-02-01	06/19/2019
PRI (TST5878)	Static Uplift – SSTD 11	DAPF-006-02-02.01	06/19/2019
PRI (TST5878)	Static Uplift – SSTD 11	DAPF-006-02-03	06/19/2019
PRI (TST5878)	Static Uplift – SSTD 11	2002T0001.01	03/05/2020
PRI (TST5878)	Static Uplift – SSTD 11	2002T0001.02	03/05/2020
PRI (TST5878)	Static Uplift – SSTD 11	2002T0001.03	03/05/2020
PRI (TST5878)	Static Uplift – SSTD 11	2002T0001.06	03/05/2020
PRI (TST5878)	Static Uplift – SSTD 11	2002T0001.07	03/05/2020
PRI (TST5878)	Physical properties	2002T0002	03/05/2020
PRI (TST5878)	Static Uplift – SSTD 11	2002T0003.01	11/05/2020
PRI (TST5878)	Static Uplift – SSTD 11	2002T0003.02	11/05/2020
PRI (TST5878)	Static Uplift – SSTD 11	2002T0003.03	11/05/2020
PRI (TST5878)	Static Uplift – SSTD 11	2002T0003.04	11/05/2020
PRI (TST5878)	Static Uplift – SSTD 11	2002T0003.05	11/05/2020
PRI (TST5878)	Static Uplift – SSTD 11	2002T0003.06	11/05/2020
PRI (TST5878)	Static Uplift – SSTD 11	2002T0003.07	11/05/2020
PRI (TST5878)	Static Uplift – SSTD 11	2002T0003.08	11/05/2020

ENTITY	EXAMINATION	REFERENCE	DATE
PRI (TST5878)	Static Uplift – SSTD 11	2002T0003.09	11/05/2020
PRI (TST5878)	Static Uplift – SSTD 11	2002T0003.10	11/05/2020
PRI (TST5878)	Static Uplift – SSTD 11	2002T0003.11	11/05/2020
PRI (TST5878)	Static Uplift – SSTD 11	2002T0003.12	11/05/2020
PRI (TST5878)	Physical properties	2002T0004	01/28/2021
Intertek (QUA1673)	Quality Assurance	Service confirmation	08/09/2021

4. PRODUCT DESCRIPTION:

PRODUCT	DESCRIPTION	PLANT(S)
DAP® Touch 'n Seal® Storm Bond® Roof Tile Adhesive	single component polyurethane foam roof tile adhesive distributed in factory, pre-mixed canisters.	Pacific, MO
DAP® Touch 'n Seal® Storm Bond® Low GWP Adhesive	single component polyurethane foam roof tile adhesive distributed in factory, pre-mixed canisters.	
DAP® Touch 'n Seal® Storm Bond® 2 Roof Tile Adhesive (HFC)	two-component expanding polyurethane roof tile adhesive that is mixed and dispensed from a proprietary dispensing system.	
DAP® Touch 'n Seal® Storm Bond® 2 Roof Tile Adhesive Low GWP (aka HFO)	two-component expanding polyurethane roof tile adhesive that is mixed and dispensed from a proprietary dispensing system.	

5. LIMITATIONS:

- 5.1 This is a building code evaluation. Neither NEMO ETC, LLC nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this Evaluation Report, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.
- 5.2 This Evaluation Report is not for use in FBC High Velocity Hurricane Zone jurisdictions (i.e., Broward and Miami-Dade Counties).
- 5.3 This Evaluation Report pertains to above-deck roof components. Roof decks and structural members shall be in accordance with FBC requirements to the satisfaction of the Authority Having Jurisdiction.
- 5.4 This Evaluation Report does not include evaluation of fire classification. Refer to **FBC 1505** or **R902** for requirements and limitations regarding roof assembly fire classification. Refer to **FBC 2603** for requirements and limitations concerning the use of foam plastic insulation.
- 5.5 This Evaluation Report does not include evaluation of roof edge termination.
- 5.6 **DAP® Touch 'n Seal® Storm Bond® Roof Tile Adhesives** can be used with flat, low and high profile tiles having a current Florida Product Approval or approved on a local-level by the Authority Having Jurisdiction.
- 5.7 Allowable Overturning Moment performance for field tiles, meeting the limitations of **FBC 1609.5.3** and installed using **DAP® Touch 'n Seal® Storm Bond® Roof Tile Adhesives**, is set forth in Tables 1, 2 and 3.

The Allowable Overturning Moment shall meet or exceed the Aerodynamic Uplift Moment (Ma) for the project, as determined in accordance with Table 2HB, 2HC, 2HD, 2GB, 2GC or 2GD of **FRSA/TRI Florida High Wind Concrete and Clay Roof Tile Installation Manual**, Sixth Edition or **FBC 1609.5.3**. Refer to **DAP Global Inc.** published installation instructions for Adhesive Paddy Placement details.

 - 5.7.1 Data in Tables 1, 2 and 3 relate to installation over a TWO-PLY underlayment system, as detailed in the **FRSA/TRI Florida High Wind Concrete and Clay Roof Tile Installation Manual**, Sixth Edition, using a hot-asphalt-applied, ASTM D6380, Class M cap sheet (commonly called a '30/90 system').

Alternate underlayment systems are those having a current Florida Statewide Product Approval and/or approved on a local-level by the Authority Having Jurisdiction, listed specifically for use with **DAP® Touch 'n Seal® Storm Bond® Roof Tile Adhesives**.

TABLE 1: ALLOWABLE OVERTURNING MOMENT PERFORMANCE
DAP® Touch 'n Seal® Storm Bond® Roof Tile Adhesive
(MARGIN OF SAFETY ALREADY APPLIED)

TILE (FBC 1609.5.3)		ADHESIVE PAD PLACEMENT			ALLOWABLE OVERTURNING MOMENT (FT-LBF)		
TYPE	PROFILE	TYPE	SIZE & LOCATION	CONTACT AREA			
Concrete	Flat / Low	Interdependent	1.25-inch wide x 10-inch long to underlayment 1.25-inch wide x 8-inch long at tile headlap	Min. 22.5 in ²	BORAL	PLANTATION	76
					BORAL	SAXONY 900	105
					CROWN	WINDSOR	98
					EAGLE	LOW PROFILE	60
		TOUCH 'N SEAL STORM BOND ROOF TILE ADHESIVE PLACEMENT DETAIL — DOUBLE BEAD SYSTEM DETALLE DE COLOCACIÓN DEL ADHESIVO PARA TEJAS DE TECHO TOUCH 'N SEAL STORM BOND — SISTEMA DE DOBLE CORDÓN					
3"Headlap Monta 3" Apply 1-1/4"W x 8"L adhesive bead directly onto headlap area of preceeding course on the overlock side of tile. Aplique un cordón de 1-1/4" de ancho x 8" de largo de adhesivo directamente sobre la zona de monta de la hilera precedente en el lado de enganche superior de la teja. Dispense 1-1/4"W x 10"L underlock side adhesive bead approximately 3" from head end of tile. Dispense un cordón de adhesivo de 3/4" de ancho x 8" de largo en el lado del enganche inferior a aproximadamente 3" desde la cabeza de la teja.							
Concrete	Low / Medium	Interdependent	1.25-inch x 10-inch long to underlayment 0.75-inch x 10-inch long at tile headlap	Min. 20.0 in ²	BORAL	ESTATE	62
					BORAL	VILLA 900	72
					CROWN	TUSCANY	86
					EAGLE	MEDIUM PROFILE	26
		TOUCH 'N SEAL STORM BOND ROOF TILE ADHESIVE PLACEMENT DETAIL — DOUBLE BEAD SYSTEM DETALLE DE COLOCACIÓN DEL ADHESIVO PARA TEJAS DE TECHO TOUCH 'N SEAL STORM BOND — SISTEMA DE DOBLE CORDÓN					
3" Headlap Monta 3" Apply 3/4"W x 10"L adhesive bead directly onto head lap area of preceeding course on the overlock side of tile. Aplique un cordón de 3/4" de ancho x 10" de largo de adhesivo directamente sobre la capa superior de la hilera precedente en el lado de enganche superior de la teja. Dispense 1-1/4"W x 10"L adhesive bead under valley of tile directly opposite underlock approximately 3" from head end of underlying tile. Dispense un cordón de adhesivo de 1-1/4" de ancho x 10" de largo debajo de la limahoya de la teja directamente opuesta al enganche inferior a aproximadamente 3" de la cabeza de la teja subyacente.							

TABLE 1: ALLOWABLE OVERTURNING MOMENT PERFORMANCE
DAP® Touch 'n Seal® Storm Bond® Roof Tile Adhesive
(MARGIN OF SAFETY ALREADY APPLIED)

TILE (FBC 1609.5.3)		ADHESIVE PAD PLACEMENT			ALLOWABLE OVERTURNING MOMENT (FT-LBF)		
TYPE	PROFILE	TYPE	SIZE & LOCATION	CONTACT AREA			
		Interdependent	1.25-inch wide x 10-inch long to underlayment 0.75-inch wide x 8-inch long at tile headlap	Min. 18.5 in ²	BORAL	BARCELONA 900	48
					CROWN	SANIBEL	59
Concrete	High-S	TOUCH 'N SEAL STORM BOND ROOF TILE ADHESIVE PLACEMENT DETAIL — DOUBLE BEAD SYSTEM DETALLE DE COLOCACIÓN DEL ADHESIVO PARA TEJAS DE TECHO TOUCH 'N SEAL STORM BOND — SISTEMA DE DOBLE CORDÓN					
		3" Headlap Monta 3" Apply adhesive bead directly on capsheet. Aplique el cordón de adhesivo directamente sobre la membrana. Apply 3/4"W x 8"L adhesive bead directly onto headlap area of preceeding course on the overlock side of tile. Aplique un cordón de 3/4" de ancho x 10" de largo de adhesivo directamente sobre la monta de la hilera precedente en el lado del enganche superior de la teja. Dispense 1-1/4"W x 10"L adhesive bead under center of tile flange approximately 3" from head end of tile. Dispense un cordón de adhesivo de 1-1/4" de ancho x 10" de largo debajo del centro del reborde de la teja, aproximadamente a 3" de la cabeza de la teja.					
		Interdependent	Pan Tile to Substrate: 2 paddies @ 0.75-inch wide x tile length Cap Tile Long Edges: 0.75-inch wide. x 15-inch long at each edge	Min. 22.5 in ²	CLAY TILE VENTURES	MISSION 2000 (NOA 19-0418.05)	75
		TOUCH 'N SEAL STORM BOND ROOF TILE ADHESIVE PLACEMENT DETAIL DETALLE DE COLOCACIÓN DEL ADHESIVO PARA TEJAS DE TECHO TOUCH 'N SEAL STORM BOND					
Clay	High Barrel	Apply 3/4"W x 15"L adhesive bead directly onto the Captile on each side of the pan. Aplique un cordón de adhesivo de 3/4" de ancho x 15" de largo directamente sobre la tapa a cada lado de la parte baja de la teja. 3" Headlap Monta 3" Dispense 3/4"W adhesive bead under Pan Tiles, the length of the tile. Dispense un cordón de adhesivo de 3/4" debajo de la teja canalón, el largo de la teja.					
		(See Detail "A") (Ver Detalle "A") Detail "A" Detalle "A"					

TABLE 2: ALLOWABLE OVERTURNING MOMENT PERFORMANCE
DAP® Touch 'n Seal® Storm Bond® Low GWP Adhesive
(MARGIN OF SAFETY ALREADY APPLIED)

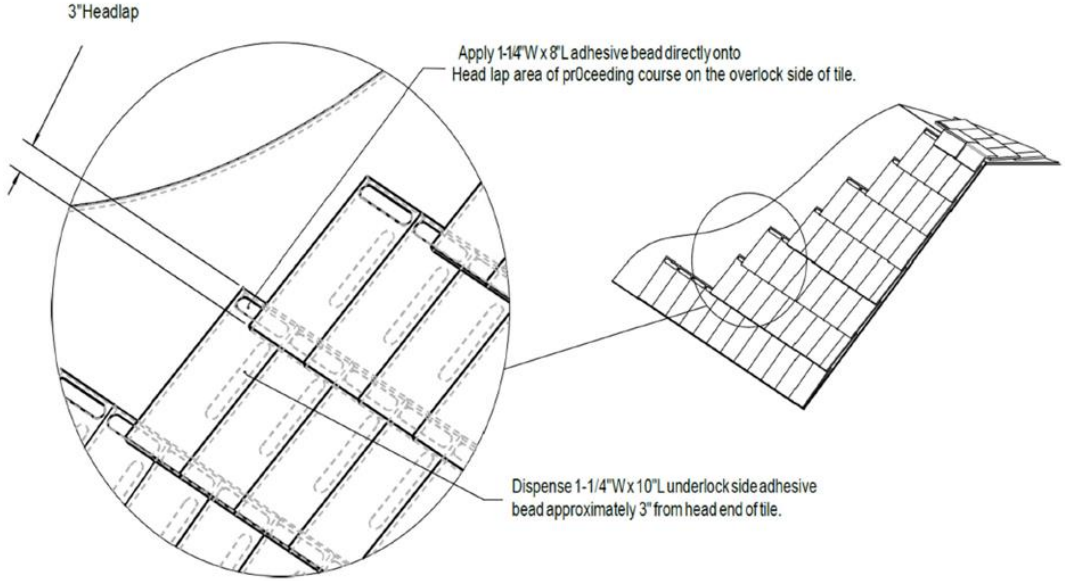
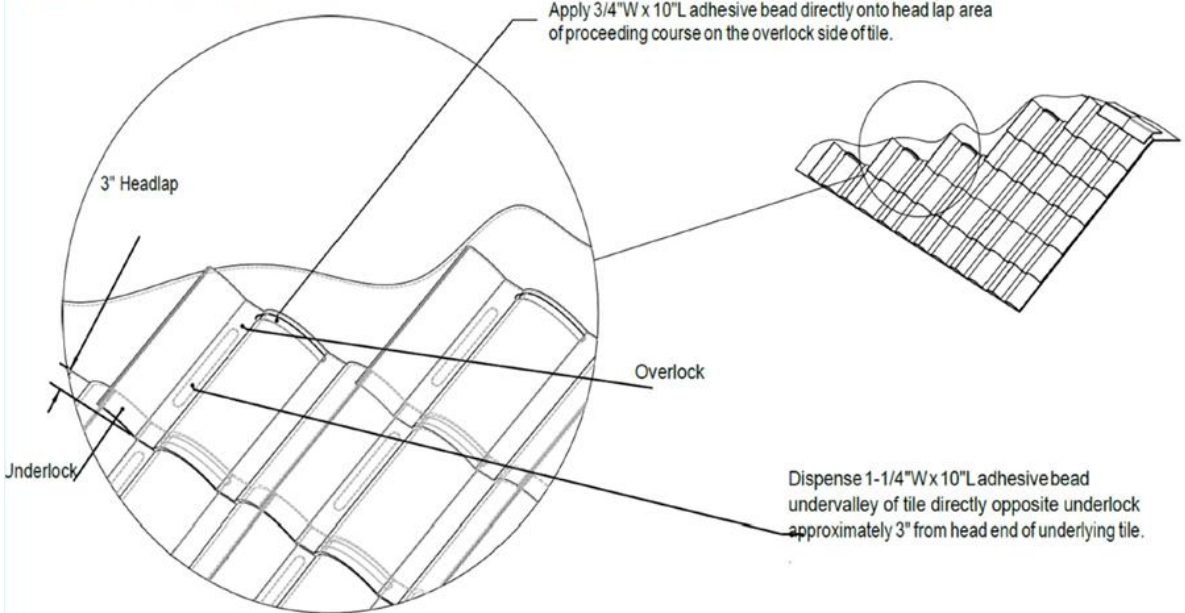
TILE (FBC 1609.5.3)		ADHESIVE PAD PLACEMENT			ALLOWABLE OVERTURNING MOMENT (FT-LBF)		
TYPE	PROFILE	TYPE	SIZE	CONTACT AREA			
Concrete	Flat / Low	Interdependent	1.25-inch wide x 10-inch long to underlayment 1.25-inch wide x 8-inch long at tile headlap	Min. 22.5 in ²	EAGLE	LOW PROFILE	120
		CONCRETE - FLAT 					
Concrete	Low / Medium	Interdependent	1.25-inch x 10-inch long to underlayment 0.75-inch x 10-inch long at tile headlap	Min. 20.0 in ²	EAGLE	MEDIUM PROFILE	120
		CONCRETE - LOW/MEDIUM PROFILE 					

TABLE 2: ALLOWABLE OVERTURNING MOMENT PERFORMANCE
DAP® Touch 'n Seal® Storm Bond® Low GWP Adhesive
(MARGIN OF SAFETY ALREADY APPLIED)

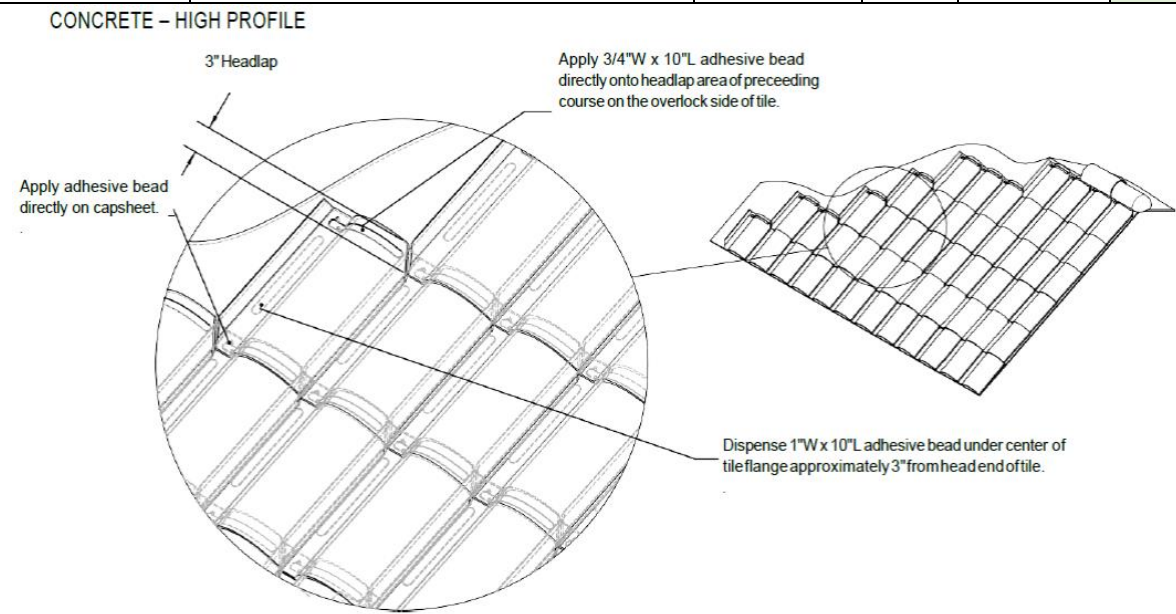
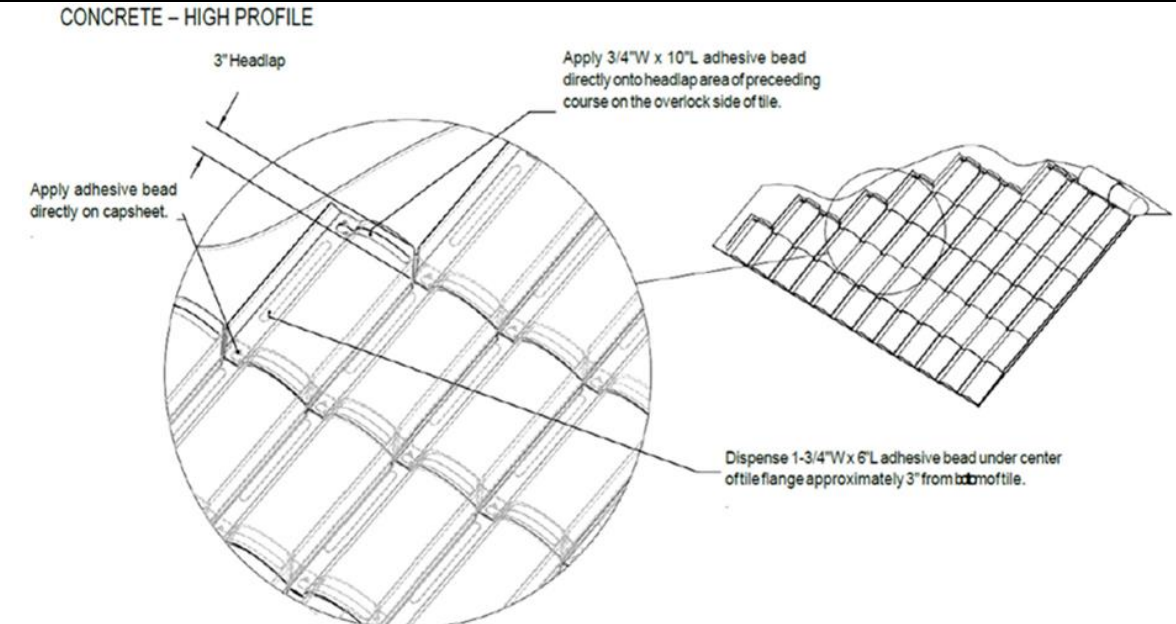
TILE (FBC 1609.5.3)		ADHESIVE PAD PLACEMENT			ALLOWABLE OVERTURNING MOMENT (FT-LBF)		
TYPE	PROFILE	TYPE	SIZE	CONTACT AREA			
Concrete	High-S	Interdependent	1-inch wide x 10-inch long to underlayment 0.75-inch wide x 10-inch long at tile headlap	Min. 17.5 in ²	EAGLE	HIGH PROFILE	53
		CONCRETE – HIGH PROFILE 					
Concrete	High-S	Interdependent	1.75-inch wide x 6-inch long to underlayment 0.75-inch wide x 10-inch long at tile headlap	Min. 18.0 in ²	BORAL	BARCELONA 900	86
		CONCRETE – HIGH PROFILE 					

TABLE 2: ALLOWABLE OVERTURNING MOMENT PERFORMANCE
DAP® Touch 'n Seal® Storm Bond® Low GWP Adhesive
(MARGIN OF SAFETY ALREADY APPLIED)

TILE (FBC 1609.5.3)		ADHESIVE PAD PLACEMENT			ALLOWABLE OVERTURNING MOMENT (FT-LBF)		
TYPE	PROFILE	TYPE	SIZE	CONTACT AREA			
Concrete	High Barrel	Independent	Pan Tile to Substrate: 2 paddies @ 0.75-inch wide x tile length Cap Tile Long Edges: 0.75-inch wide. x 15-inch long at each edge	Min. 22.5 in ²	BORAL	BARREL TILE	110
		CONCRETE HIGH PROFILE/ BARREL (See Detail "A")					
Clay	High-S	Interdependent	0.75-inch wide x 10-inch long to underlayment 0.5-inch wide x 8-inch long at tile headlap	Min. 11.5 in ²	BORAL	1-PIECE "S" TILE	85
		CLAY HIGH PROFILE					

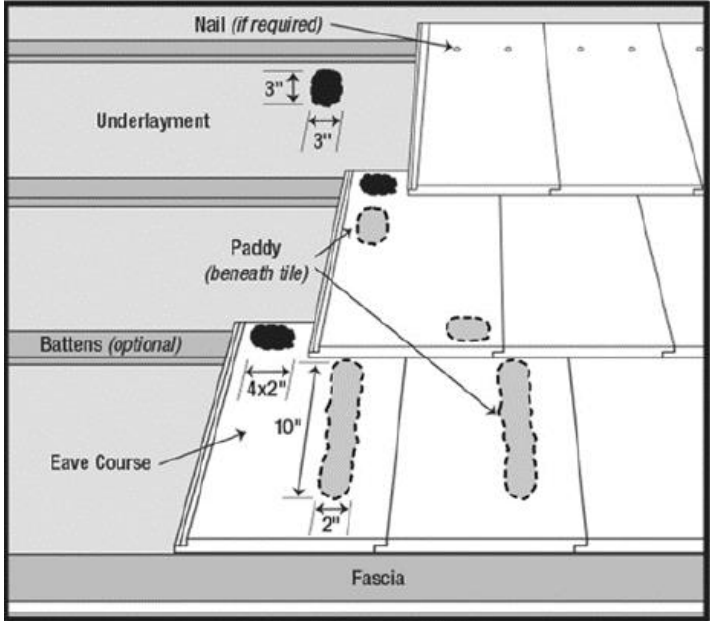
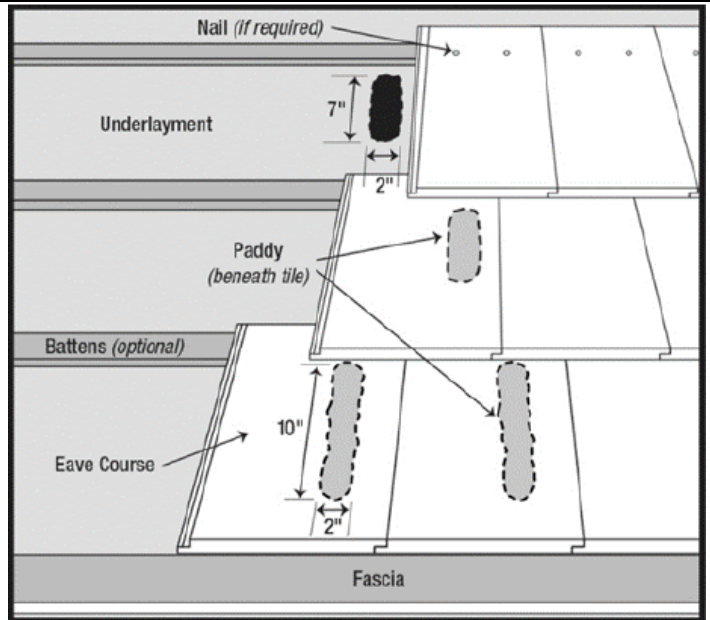
TABLE 3: ALLOWABLE OVERTURNING MOMENT PERFORMANCE DAP® Touch 'n Seal® Storm Bond® 2 Roof Tile Adhesive (HFC) or DAP® Touch 'n Seal® Storm Bond® 2 Roof Tile Adhesive Low GWP (aka HFO) (MARGIN OF SAFETY ALREADY APPLIED)					
TILE (FBC 1609.5.3)		ADHESIVE PAD PLACEMENT			ALLOWABLE OVERTURNING MOMENT (FT-LBF)
TYPE	PROFILE	TYPE	SIZE & LOCATION	CONTACT AREA	
Clay or Concrete	Flat / Low	Interdependent	Small, Two Paddy: 3 x 3-inch, ~8 gram on underlayment; 2 x 4-inch, ~8 gram at tile overlap	7-9 in ² per paddy	73
		 Flat Profile Tile – Small Paddy			
Clay or Concrete	Flat / Low	Independent	Medium Paddy: 2 x 7-inch target (3.5 x 7-inch free-rise), ~24 gram	11-17 in ²	86
		 Flat Profile Tile – Medium Paddy			

TABLE 3: ALLOWABLE OVERTURNING MOMENT PERFORMANCE

DAP® Touch 'n Seal® Storm Bond® 2 Roof Tile Adhesive (HFC) or
DAP® Touch 'n Seal® Storm Bond® 2 Roof Tile Adhesive Low GWP (aka HFO)
(MARGIN OF SAFETY ALREADY APPLIED)

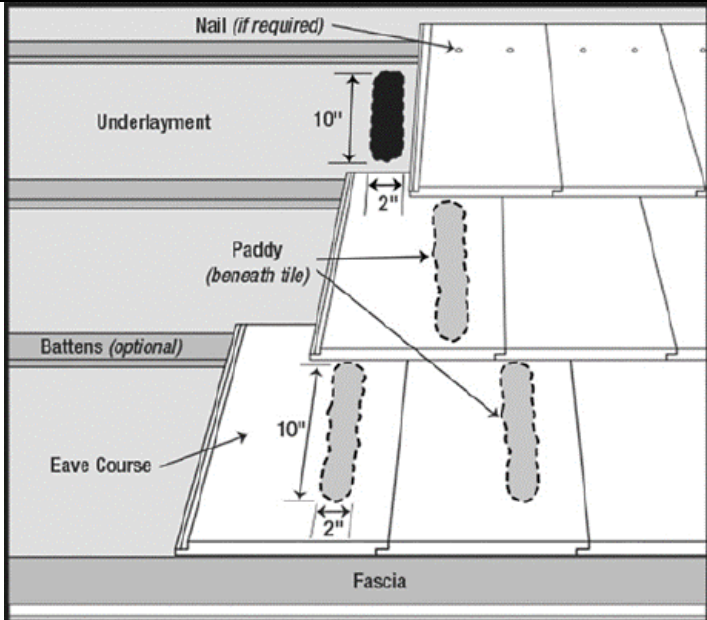
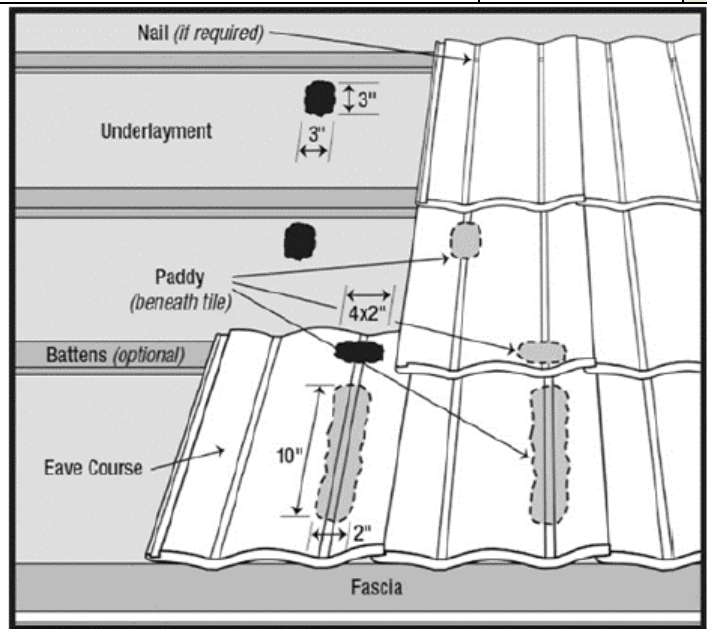
TILE (FBC 1609.5.3)		ADHESIVE PAD PLACEMENT			ALLOWABLE OVERTURNING MOMENT (FT-LBF)
TYPE	PROFILE	TYPE	SIZE & LOCATION	CONTACT AREA	
Clay or Concrete	Flat / Low	Independent	Large Paddy: 2 x 10-inch target (3.5 x 13-inch free-rise), ~45 gram	17-23 in ²	132
		 Flat Profile Tile – Large Paddy			
Clay or Concrete	Low / Medium	Interdependent	Small, Two Paddy: 3 x 3-inch, ~8 gram on underlayment; 2 x 4-inch, ~8 gram at tile overlap	7-9 in ² per paddy	69
		 Medium Profile Tile – Small Paddy			

TABLE 3: ALLOWABLE OVERTURNING MOMENT PERFORMANCE

DAP® Touch 'n Seal® Storm Bond® 2 Roof Tile Adhesive (HFC) or
DAP® Touch 'n Seal® Storm Bond® 2 Roof Tile Adhesive Low GWP (aka HFO)
(MARGIN OF SAFETY ALREADY APPLIED)

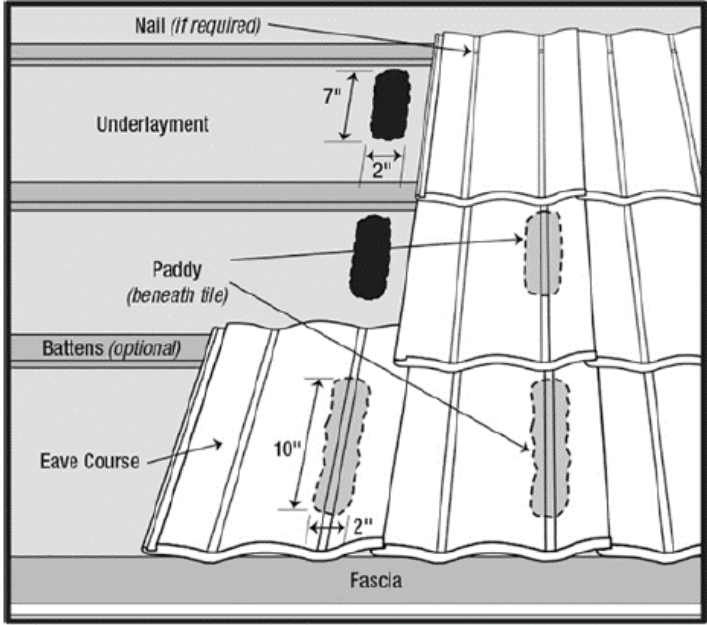
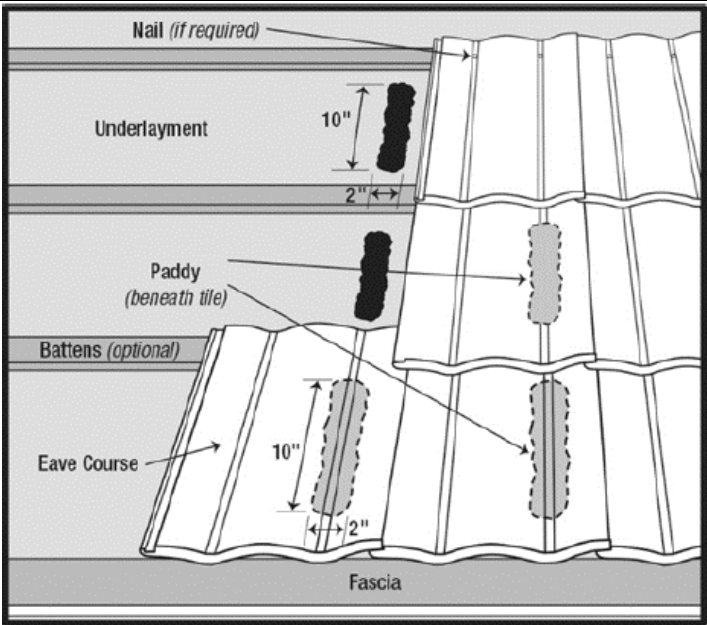
TILE (FBC 1609.5.3)		ADHESIVE PAD PLACEMENT			ALLOWABLE OVERTURNING MOMENT (FT-LBF)
TYPE	PROFILE	TYPE	SIZE & LOCATION	CONTACT AREA	
Clay or Concrete	Low / Medium	Independent	Medium Paddy: 2 x 7-inch target (4 x 8-inch free-rise), ~30 gram	11-17 in ²	46
		 Medium Profile Tile – Medium Paddy			
Clay or Concrete	Low / Medium	Independent	Large Paddy: 2 x 10-inch target (4.75 x 13-inch free-rise), ~60 gram	17-23 in ²	88
		 Medium Profile Tile – Large Paddy			

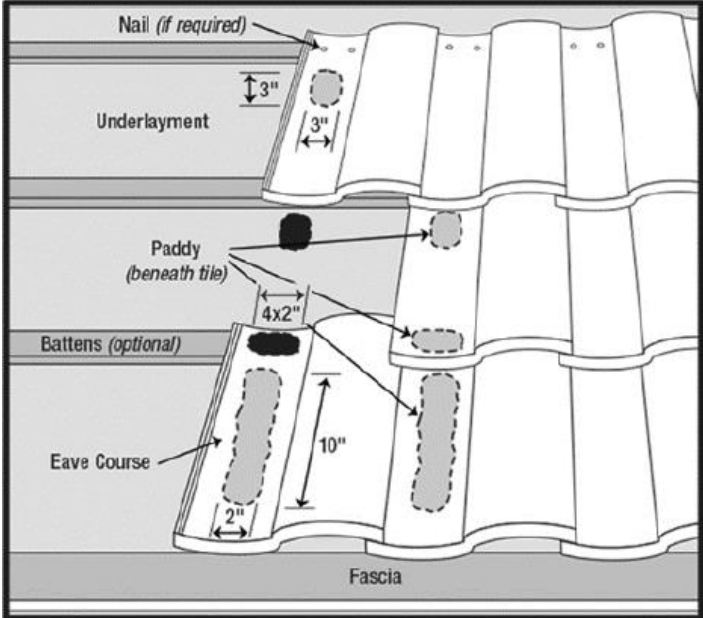
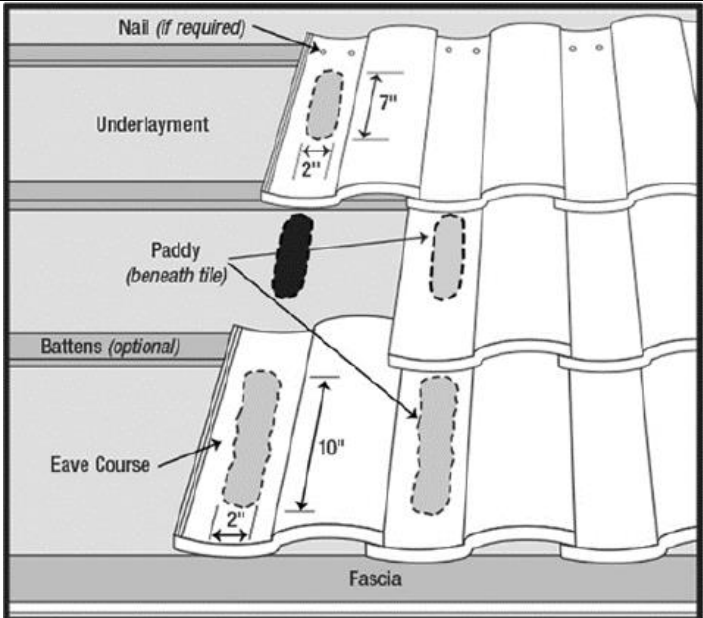
TABLE 3: ALLOWABLE OVERTURNING MOMENT PERFORMANCE DAP® Touch 'n Seal® Storm Bond® 2 Roof Tile Adhesive (HFC) or DAP® Touch 'n Seal® Storm Bond® 2 Roof Tile Adhesive Low GWP (aka HFO) (MARGIN OF SAFETY ALREADY APPLIED)					
TILE (FBC 1609.5.3)		ADHESIVE PAD PLACEMENT			ALLOWABLE OVERTURNING MOMENT (FT-LBF)
TYPE	PROFILE	TYPE	SIZE & LOCATION	CONTACT AREA	
Clay or Concrete	High-S	Interdependent	Small, Two Paddy: 3 x 3-inch, ~8 gram on underlayment; 2 x 4-inch, ~8 gram at tile overlap	7-9 in ² per paddy	67
		 High Profile Tile – Small Paddy			
Clay or Concrete	High-S	Independent	Medium Paddy: 2 x 7-inch target (4 x 8-inch free-rise), ~30 gram	11-17 in ²	70
		 High Profile Tile – Medium Paddy			

TABLE 3: ALLOWABLE OVERTURNING MOMENT PERFORMANCE

DAP® Touch 'n Seal® Storm Bond® 2 Roof Tile Adhesive (HFC) or
DAP® Touch 'n Seal® Storm Bond® 2 Roof Tile Adhesive Low GWP (aka HFO)
(MARGIN OF SAFETY ALREADY APPLIED)

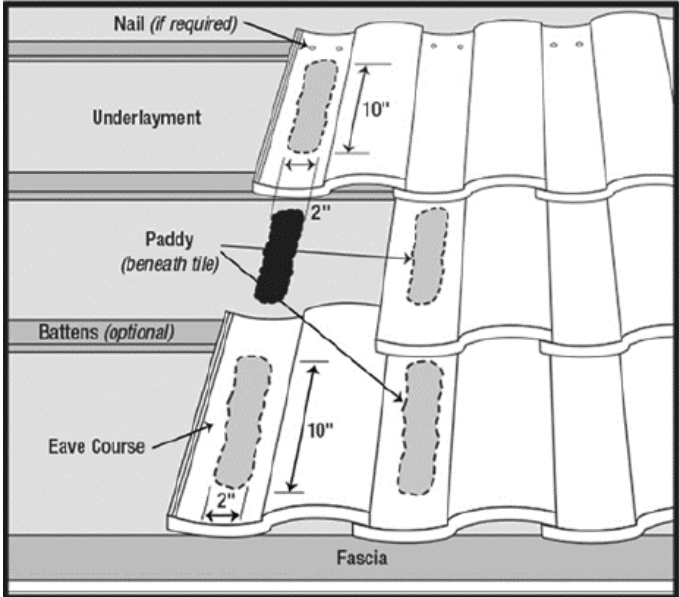
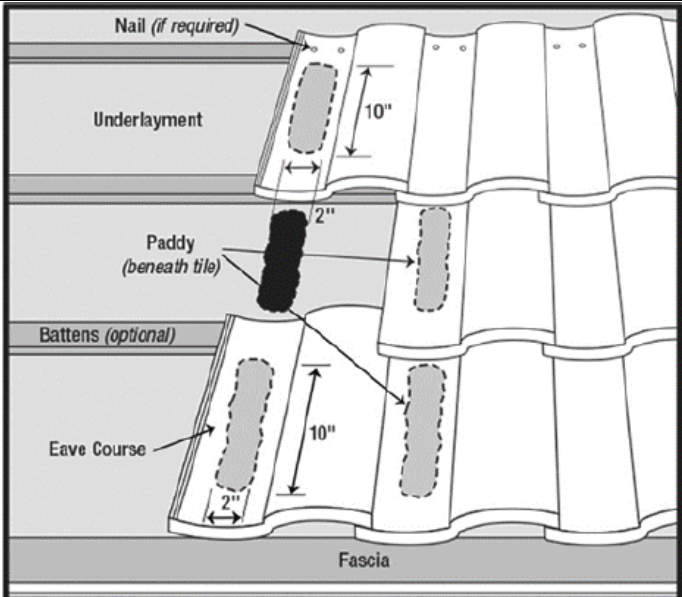
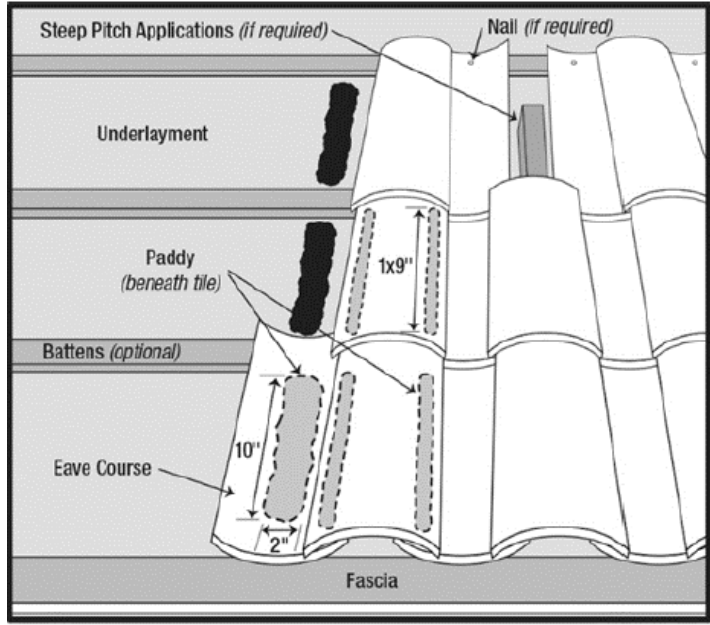
TILE (FBC 1609.5.3)		ADHESIVE PAD PLACEMENT			ALLOWABLE OVERTURNING MOMENT (FT-LBF)
TYPE	PROFILE	TYPE	SIZE & LOCATION	CONTACT AREA	
Clay	High-S	Independent	Large Paddy: 2 x 10-inch target (3.5 x 13-inch free-rise), ~45 gram	17-23 in²	103
		 High Profile Tile – Large Paddy Clay Tile			
Concrete	High-S	Independent	Large Paddy: 2 x 10-inch target (4.75 x 13-inch free-rise), ~60 gram	17-23 in²	106
		 High Profile Tile – Large Paddy Concrete Tile			

TABLE 3: ALLOWABLE OVERTURNING MOMENT PERFORMANCE DAP® Touch 'n Seal® Storm Bond® 2 Roof Tile Adhesive (HFC) or DAP® Touch 'n Seal® Storm Bond® 2 Roof Tile Adhesive Low GWP (aka HFO) (MARGIN OF SAFETY ALREADY APPLIED)					
TILE (FBC 1609.5.3)		ADHESIVE PAD PLACEMENT			ALLOWABLE OVERTURNING MOMENT (FT-LBF)
TYPE	PROFILE	TYPE	SIZE & LOCATION	CONTACT AREA	
Clay	High Barrel	Independent	2 x 10-inch target (3.75 x 13-inch free-rise), ~34 gram for pans; two @ 1 x 9-inch target (2 x 9-inch free-rise), ~17 gram for cap	17-23 in² pan 7-12 in² cap	214
					

5.8 Allowable Pressure performance for hip and ridge tiles, installed using **DAP® Touch 'n Seal® Storm Bond® Roof Tile Adhesives**, is set forth in Table 4.

The Allowable Pressure shall meet or exceed the hip/ridge design pressure requirements, determined in accordance with Table 1A of **FRSA/TRI Florida High Wind Concrete and Clay Roof Tile Installation Manual**, Sixth Edition or the applicable design pressure determined in accordance with **FBC 1609** or **FBC Residential Chapter 3**. Refer to **DAP Global Inc.** published installation instructions for Adhesive Paddy Placement details.

TABLE 4: HIP & RIDGE TILES - ALLOWABLE UPLIFT RESISTANCE PERFORMANCE
(MARGIN OF SAFETY ALREADY APPLIED)

ADHESIVE	TILE	SUBSTRATE	PAD SIZE / LOCATION	ALLOWABLE PRESSURE (PSF)
DAP® Touch 'n Seal® Storm Bond® Roof Tile Adhesive	Concrete Crown Barrel	Paired nominal 2x PT ridge board per FRSA/TRI Manual	One 1.5-inch wide x 12-inch long paddy to substrate and one 1-inch wide x 4-inch long ribbon at tile overlap	38
	Concrete Crown V	Paired nominal 2x PT ridge board per FRSA/TRI Manual	One 1.5-inch wide x 12-inch long paddy to substrate and one 1-inch wide x 4-inch long ribbon at tile overlap	64
	Clay or Concrete	East Coast Metals "TRIMLOCK" (FBC FL5374): <i>Galvalume® or stainless steel</i>	One 1.5-inch wide continuous ribbon to substrate and one 1-inch wide ribbon at tile overlap	148
	Clay or Concrete	East Coast Metals "TRIMLOCK" (FBC FL5374): <i>aluminum</i>	One 1.5-inch wide continuous ribbon to substrate and one 1-inch wide ribbon at tile overlap	61
	Clay or Concrete	East Coast Metals "TRIMLOCK PLUS" (FBC FL5394): <i>aluminum, Galvalume® or stainless steel</i>	One 1.5-inch wide continuous ribbon to substrate and one 1-inch wide ribbon at tile overlap	61
DAP® Touch 'n Seal® Storm Bond® Low GWP Adhesive	Concrete Boral Barrel	Paired nominal 2x PT ridge board per FRSA/TRI Manual	One 1.5-inch wide x 12-inch long paddy to substrate and one 1-inch wide x 4-inch long ribbon at tile overlap	148
	Concrete Boral Barrel	Ridged Systems "Top Notch" (FL8095)	One 1.5-inch wide x 12-inch long paddy to substrate and one 1-inch wide x 4-inch long ribbon at tile overlap	110
DAP® Touch 'n Seal® Storm Bond® 2 Roof Tile Adhesive (HFC) or DAP® Touch 'n Seal® Storm Bond® 2 Roof Tile Adhesive Low GWP (aka HFO)	Clay Barrel	Nominal 2x PT ridge board strapped per FRSA/TRI Manual	Head: One (1) #10 x 2½" screw; Overlap: 1 x 6-inch target (1.5 x 7 inch free-rise) (~10.5 gram) paddy	137
	Concrete Barrel		2 x 10-inch target (3 x 12-inch free-rise), ~34 gram paddy or continuous ribbon at ~ 34 gram/ft	126
	Clay Barrel		2 x 10-inch target (3 x 12-inch free-rise), ~34 gram paddy or continuous ribbon at ~ 41 gram/ft	314
	Concrete Barrel		2 x 10-inch target (3 x 12-inch free-rise), ~34 gram paddy or continuous ribbon at ~ 41 gram/ft	153
	Clay or Concrete Barrel	2x PT ridge board bonded to cap sheet of '30/90' underlayment system per FRSA/TRI Manual using Storm Bond® 2 , continuous ribbon, ~34 gram/ft.	Head: One (1) #10 x 2½" screw; Overlap: 1 x 6-inch target (1.5 x 7 inch free-rise) (~10.5 gram) paddy	120
	Clay Barrel		2 x 10-inch target (3 x 12-inch free-rise), ~34 gram paddy or continuous ribbon at ~ 34 gram/ft	120
	Concrete Barrel		2 x 10-inch target (3 x 12-inch free-rise), ~34 gram paddy or continuous ribbons at ~ 41 gram/ft	120
DAP® Touch 'n Seal® Storm Bond® 2 Roof Tile Adhesive (HFC)	Clay Barrel	Ridged Systems "Top Notch" (FL8095) underlayment system per FRSA/TRI Manual using Storm Bond® 2 , continuous ribbon, ~34 gram/ft.	2 x 10-inch target (3 x 12-inch free-rise), ~34 gram paddy or continuous ribbon at ~ 34 gram/ft	160
	Concrete Barrel		2 x 10-inch target (3 x 12-inch free-rise), ~34 gram paddy or continuous ribbon at ~ 41 gram/ft	160
	Clay or Concrete Barrel	East Coast Metals "TRIMLOCK" or "TRIMLOCK PLUS" (FBC FL5374): <i>aluminum, Galvalume® or stainless steel</i>	One 1.5-inch wide x 12-inch long paddy to substrate and one 1-inch wide x 4-inch long ribbon at tile overlap	98
	Clay or Concrete Barrel	East Coast Metals "TRIMLOCK" (FBC FL5374): <i>aluminum, Galvalume® or stainless steel</i>	Clay: Continuous ribbon at ~ 34 gram/ft Concrete: Continuous ribbon at ~ 41 gram/ft	173
	Clay or Concrete Barrel	East Coast Metals "TRIMLOCK PLUS" (FBC FL5394): <i>aluminum, Galvalume® or stainless steel</i>	Clay: Continuous ribbon at ~ 34 gram/ft Concrete: Continuous ribbon at ~ 41 gram/ft	178

6. INSTALLATION:

- 6.1 **DAP® Touch 'n Seal® Storm Bond® Roof Tile Adhesives** and the tile roof assembly shall be installed in accordance with the manufacturers' current published instructions, but not less than the requirements of **FBC 1507.3** and the **FRSA/TRI Florida High Wind Concrete and Clay Roof Tile Installation Manual**, Sixth Edition, subject to the limitations in Section 5.
- Installation of **DAP® Touch 'n Seal® Storm Bond® Roof Tile Adhesives** shall be performed by Factory Trained 'Qualified Applicator' approved and licensed by **DAP Global Inc.**
- 6.2 Underlayment shall hold current Florida Product Approval for use with tile roofing systems. The underlayment Product Approval shall specify allowable use with **DAP® Touch 'n Seal® Storm Bond® Roof Tile Adhesives**.
- The underlayment Product Approval shall specify attachment methods for the underlayment system to resist wind uplift design loads in accordance with Table 1A of **FRSA/TRI Florida High Wind Concrete and Clay Roof Tile Installation Manual**, Sixth Edition or the critical (highest) design pressure determined in accordance with **FBC 1609** or **FBC Residential Chapter 3**.
- 6.3 Hip and ridge boards or hip/ridge metal shall be installed in accordance with the **FRSA/TRI Florida High Wind Concrete and Clay Roof Tile Installation Manual**, Sixth Edition. Unless otherwise noted herein, proprietary hip and ridge substrate components shall be installed in accordance with the manufacturer's Florida Product Approval.

7. BUILDING PERMIT REQUIREMENTS:

As required by the Building Official or Authority Having Jurisdiction to properly evaluate the installation of this product.

8. MANUFACTURING PLANTS:

Contact the named QA entity for manufacturing facilities covered by **F.A.C. Rule 61G20-3** QA requirements. Refer to Section 4 herein for products and production locations having met codified material standards.

9. QUALITY ASSURANCE ENTITY:

Intertek Testing Services NA, Inc. – QUA1673; (312) 906-7779; maura.norlander@intertek.com

- END OF EVALUATION REPORT -