



Technical Memorandum Priming.

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One of the most common questions we get about DELTA®-VENT SA is about primer. DELTA®-VENT SA is a self-adhering vapor permeable air and water-resistive barrier manufactured by Dörken Systems Inc.

Applicators and architects alike want to know if they have to use primer when installing DELTA®-VENT SA onto various substrates. What particularly drives this question is that one competitor insists that their self-adhered, vapor permeable air and water-resistive barrier does not require primer. This product is most similar in fitment to DELTA®-VENT SA.

To investigate this claim further, Sageos/CTT Group Laboratories, an accredited third-party testing agency, was engaged for comparative testing.

The test basis on which the objective comparison was done was AAMA (American Architectural Manufacturers Association) 711-07 §5.3 90 § Peel Adhesion using ASTM D3330. AAMA 711 is a performance specification entitled "Voluntary Specification for Self Adhering Flashing Used for Installation of Exterior Wall Fenestration Products" and is described by them as follows:



"This specification establishes the test methods and minimum performance requirements for self adhering flashing products that are used around the perimeter of exterior fenestration products. It also provides a method to determine the minimum width of the flashing products and to evaluate the influence of the environmental factors on the installation of self adhering flashing products applied under typical field conditions" (AAMA 711-07)

It is a set of test methods focussed specifically on self-adhering construction products and performance needs. While this standard prescribes a wide range of tests for a wide range of performance criteria, Section § 5.3 90 § Peel Adhesion was chosen by the third party testing agency particularly because it is a stringent test to which AAMA applies a clear Pass/Fail requirement and involves several substrates that are common in actual project situations.

Here are the results:

Test Standard	Competitor (without primer)	DELTA®-VENT SA (without primer)
AAMA 711-07 §5.3 90 § Peel Adhesion	-	-
OSB	0.25 N/mm	0.30 N/mm
Aluminium	0.24 N/mm	0.57 N/mm
Plywood	0.18 N/mm	0.28 N/mm
Densglass	0.14 N/mm	0.29 N/mm

Test Standard Requirement:
Minimum 0.26 N/mm

Testing by Sageos/CTT Group

Based on this testing, the competitor fails to meet the standard on all common substrates. It should be noted that the competitor reports results from ASTM D3330 on their data sheet of 37.6 oz/in (0.41 N/mm). No indication is given as to what substrates were used or whether a primer was used. Sageos/CTT Group was unable to reproduce these results.

However, does this mean that DELTA®-VENT SA should be used without a primer? Not all product installations require the use of primer. In certain exceptions, primer may be used to enhance adhesion. The ability of self-adhering membranes to adhere to a substrate may become compromised by irregular surface texture, chemical release agents, moisture content, dirt and debris, or even low temperatures or high wind conditions. An adhesion test is recommended to confirm substrate suitability. Adhesion enhancements are required when an assembly is unable to maintain a continuous and secure installation. Where enhanced adhesion is needed, Dörken Systems Inc. offers DELTA®-HF PRIMER (water-based, highly vapor permeable), DELTA®-ADHESIVE LVC or DELTA®-ADHESIVE for surface preparation. Primers are about surface preparation. The testing by Sageos/CTT Group was done in laboratory conditions. This means that all substrates were in optimal condition and results should be the best. Surfaces were reliably dry and dust-free. Applications were done conscientiously and according to each manufacturer's recommended procedures. Best possible conditions should give best possible results.

Jobsites are the real world where the products must perform. Jobsites are neither reliably dry nor reliably dust or dirt free. The optimal results obtained in the lab will not directly translate to the field. While any membrane might be sticky enough to stick to a given substrate without primer, it will stick to whatever it comes into contact with first. In most cases, that is the dust and the dirt. Because the dust and dirt are not bonded to the substrate, neither is the membrane truly stuck to the substrate.

This is the role of primer. Primers prepare the surface for the proper adhesion of the membrane by consolidating all the dust and dirt, allowing intimate contact between the adhesive and the substrate.

In short, membranes may stick without primer, just not very well, despite marketing claims. "No Primer Required" is a useful claim for sales, but not very useful for anyone who wants assurance of long term performance. Exactly how well do you want it to stick?

→ Other Notes:

- 1. DELTA®-VENT SA meets all Air Barrier Association of America (ABAA) standards in both Self Adhered Sheet Membranes and Adhesive-backed Commercial Building Wrap categories
- 2. DELTA®-VENT SA uses as the primary performing membrane DELTA®-VENT S, which has a track record in the market of over 30 years. We manufacture the membrane ourselves with full production infrastructure to support the marketplace.

