



Certificate Of Authorization # 0008172

April 22, 2002

Jamie D. Gascon
Miami-Dade Building Code Compliance Office
Metro-Dade Flagler Building, Suite 1603
140 West Flagler Street
Miami Florida 33130-1563

Re: Laboratory Compliance Letter (00-0823.07)

Dear Mr. Gascon:

The Metro-Dade Protocol PA 114 -95 , Appendix " J " test reported in report IRT-ARCON No. 02-017 for ES Products. has been performed in full accordance to the requirements of Dade County, with no deviations.

If you have any questions, Please do not hesitate to call our office.

Sincerely,

Bob Tedder, RRO, CSI, RCI
IRT-ARCON, Inc.

Cc. IRT-ARCON File

Ali Yemenciler
Florida P.E. # 54733

ES Products Inc.
IRT# 02-017

April 22, 2002

ES Products Inc.,
280 Franklin Street
Bristol, RI 02809

Test Report No.: 02-017
Dade County Reference Number: 02-017

I **Scope**

- 1.01 **Es Products Inc.**, requested testing in a 12' x 24' vacuum chamber of the below listed roofing assemblies. This testing was conducted in accordance with **Dade County Protocol PA114, Appendix 'J'**. You will find a copy of the Protocol attached to this report.
- 1.02 In compliance Miami-Dade County Test Notification procedures, a notification was provided to Miami-Dade County Building Code Compliance office and the following Test Notification Number assigned, IRT# 02-017.
- 1.03 A copy of this report will be submitted to **ES Products Inc.**. All samples were tested to failure.
- 1.04 Testing was photographed and videotaped, copies available from IRT-ARCON upon request.
- 1.05 Roof assemblies and test results are enumerated in Section V of this report.
- 1.06 Testing was performed on April 16, 2002.

II **Testing Apparatus**

- 2.01 12' x 24' Vacuum dome, simulated uplift apparatus, in compliance with Dade County Protocol PA-114, Appendix 'J', Section 3.

III Test Procedure

3.01 Testing procedure is in compliance with Section 5 of Dade County Protocol PA-114, Appendix 'J'.

IV Test Specimen

4.01 Test specimen is in compliance with Section 5 of Dade County Protocol PA-114, Appendix 'J'.

V Test Assembly and Results

5.01

IRT 02-017 (Gypsum deck, AC Foam II, soprafix (S) or Elastophene Flam 180, Elastophen)

Assembly	
Gypsum Deck	CHS Bulb-T 112 was Puddle welded (1/2" long, 5/8" width) with spacing 32 5/8". Galvanized cross-tees were placed in between the Bulb-T with 32" spacing. Staggaro foam board (5/8" thickness) was loose laid above the Bulb-Tee along the direction of Bulb-T. Wire mesh (12 Gauge, 4" center) was run perpendicular to the direction of Bulb-T. 2" thickness Gypsum (8.5 gallon of water per 80 lb. gypsum) was poured and allowed to dry to the desired hardness. The detailed description of the material and installation is explained in figure 1 and in the technical guide.
Bonding Agent	Not applied
AC Foam II	Mechanically attached by 5 fasteners per 4'x8' board.
Soprafix (S) or Sopralene Flam 180	Mechanically attached mlh 2.8" with 2.7" cap Twin Loc-Nail fasteners with (1) row in the lap, 9" on center and (1) row down the middle of the sheet 9" on center. which is sealed by heat welding an eight (8) inch wide strip of Soprafix (S) or Sopralene Flam 180 over the fasteners row.
Elastophene Flam FR GR	Torch applied on the heat welded to the soprafix (S) or sopralene Flam 180 base ply membrane.

Test Results IRT 02-017				
Failure Pressure	Failure Time (sec.)	Mode of Failure	Passing Pressure (psf) <i>Last Pressure Held for One Minute</i>	Safety Margin as per SFBC 2 to 1
-135 psf	38 sec	Failure in the torch welded seams of the Elastophene Flam cap sheet	-120 psf	-60 psf

Observations: The 12' x 24' (3.6 x 7.3m) simulated wind uplift test sample did meet the 90 psf minimum Dade County requirements for Class I-90 wind storm classification.
 Failure occurred during the incremental increase from -120 psf to -135 psf due to failure in the torch welded seams of the Elastophene Flam cap sheet.

End Test 02-017

Ali N. Yemiciler P.E.
 Florida P.E 54733

Technician: David Espinoza