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EVALUATION OF THE EXTERNAL FIRE RESISTANCE CHARACTERISTICS OF ROOF COVERING SYSTEMS IN ACCORDANCE WITH ASTM E108-20a, *STANDARD TEST METHODS FOR FIRE TESTS OF ROOF COVERINGS*, CLASS A SPREAD OF FLAME TESTING

MATERIAL ID: *K9Grass Elite by ForeverLawn*

FINAL REPORT
Consisting of 9 Pages

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EXECUTIVE SUMMARY

The material identified as *K9Grass Elite* by *ForeverLawn* **met** the acceptance criteria for Class A SoF as stated in ASTM E108-20a.

1.0 INTRODUCTION

This report describes a fire performance evaluation conducted for ForeverLawn, Inc. in accordance with ASTM E108-20a, *Standard Test Methods for Fire Tests of Roof Coverings*, Class A Spread of Flame (SOF) test requirements. Testing was conducted at the Fire Technology Department of Southwest Research Institute (SwRI), located in San Antonio, Texas.

This test method should be used to measure and describe the properties of materials, products, or assemblies in response to heat and flame under controlled laboratory conditions and should not be used to describe or appraise the fire hazard or fire risk of materials, products, or assemblies under actual fire conditions. However, results of this test may be used as elements of a fire risk assessment which takes into account all the factors that are pertinent to an assessment of the fire hazard of a particular end use.

This report describes the testing of the assembly tested and the results obtained. The results presented in this report apply specifically to the material tested, in the manner tested, and not to the entire production of these or similar materials, nor to the performance when used in combination with other materials.

2.0 SAMPLE DESCRIPTION

SwRI received the synthetic turf on December 21, 2021, and the test decks were built and assembled by SwRI personnel at a later date. The turf was installed over calcium silicate board in order to be tested as a noncombustible deck system. The sample is described below in Table 1.

Table 1. Sample Description.

Material ID	Construction Details	Color
<i>K9Grass Elite by ForeverLawn</i>	Synthetic turf was installed on top of calcium silicate board	Green

3.0 TEST SETUP AND CRITERIA

Class A tests are applicable to roof coverings that are effective against severe test exposure, afford a high degree of fire protection to the roof deck, do not slip from position, and do not present a flying brand hazard. When a roof covering is restricted for use on noncombustible decks (steel, concrete or gypsum) only the spread of flame test is required. To be regarded as Class A, a roofing system shall meet the requirements of two spread of flame tests. Each of the 3 ft-4 in. × 9 ft test decks were inclined at a slope of 1:12 and were exposed to a 1400°F ± 50°F flame for 10 minutes. All tests were performed in the presence of a 1056 ± 44-ft/min air velocity.

In order to meet acceptance criteria in accordance with ASTM E108-20a, a roof covering material shall meet the following conditions when subjected to the particular class of fire tests:

1. At no time, during or after, the Class A spread of flame test:
 - Any portion of the roof covering material be blown or fall off the test deck in the form of flaming or glowing brands that continue to glow after reaching the floor,
 - The roof deck be exposed (except for roof coverings restricted to use over noncombustible deck), or
 - Portions of the roof deck fall away in the form of particles that continue to glow after reaching the floor.
2. During the Class A spread of flame tests, the flaming shall not spread beyond 6 ft (1.8 m) and there shall be no significant lateral spread of flame from the path directly exposed to the test flame.

4.0 RESULTS

The material identified as *K9Grass Elite by ForeverLawn* **met** the acceptance criteria for Class A SoF as stated in ASTM E108-20a. Visual observations are presented in Appendix A and photographic documentation is in Appendix B.

APPENDIX A
VISUAL OBSERVATIONS
(CONSISTING OF 1 PAGE)

Test ID: #1
 Material ID: *K9Grass Elite by ForeverLawn*

Time (min:s)	Observations
0:00	Start of test; burner on.
0:35	Ignition within 1 ft.
6:31	Flame started to recede.
10:00	Burner off. End of test.

Flame-Spread Distance and Time.

Distance	1 ft	2 ft	3 ft	4 ft	5 ft	6 ft	7 ft	8 ft
Time (min:s)	0:39	0:59	2:35	4:28	—	—	—	—

Test ID: #2
 Material ID: *K9Grass Elite by ForeverLawn*

Time (min:s)	Observations
0:00	Start of test; burner on.
0:28	Ignition within 1 ft.
7:05	Flame stated to recede.
10:00	Burner off. End of test.

Flame-Spread Distance and Time.

Distance	1 ft	2 ft	3 ft	4 ft	5 ft	6 ft	7 ft	8 ft
Time (min:s)	0:29	0:49	2:32	5:16	—	—	—	—

APPENDIX B
PHOTOGRAPHIC DOCUMENTATION
(CONSISTING OF 2 PAGES)



Figure B-1. Typical test setup.



Figure B-2. SoF Test #1. Sample during test.



Figure B-3. SoF Test #2. Sample during test.



Figure B-4. Typical sample at the end of the SoF test.