



ANALYSIS REPORT

General information

Date: March 15, 2017

Analysis number: Q-230117F207
Client: Kreateva
Analysis period: 23-01-2017/13-03-2017
Test Description: Accelerated Photodegradation

I.- Sample Description:

A.17.
Transformer: Kreateva
P-life SMC 2360 PLAF 1%
Ethylene-Vinyl acetate (EVA)

II.- Objective:

Accelerated Degradation based on temperature of the structure and determination of its shelf life time. According to; "Tensile Test" ASTM D3826-98, "Standard Practice for Exposure of Photodegradable Plastics" ASTM D5208.

III.- Laboratory equipment:

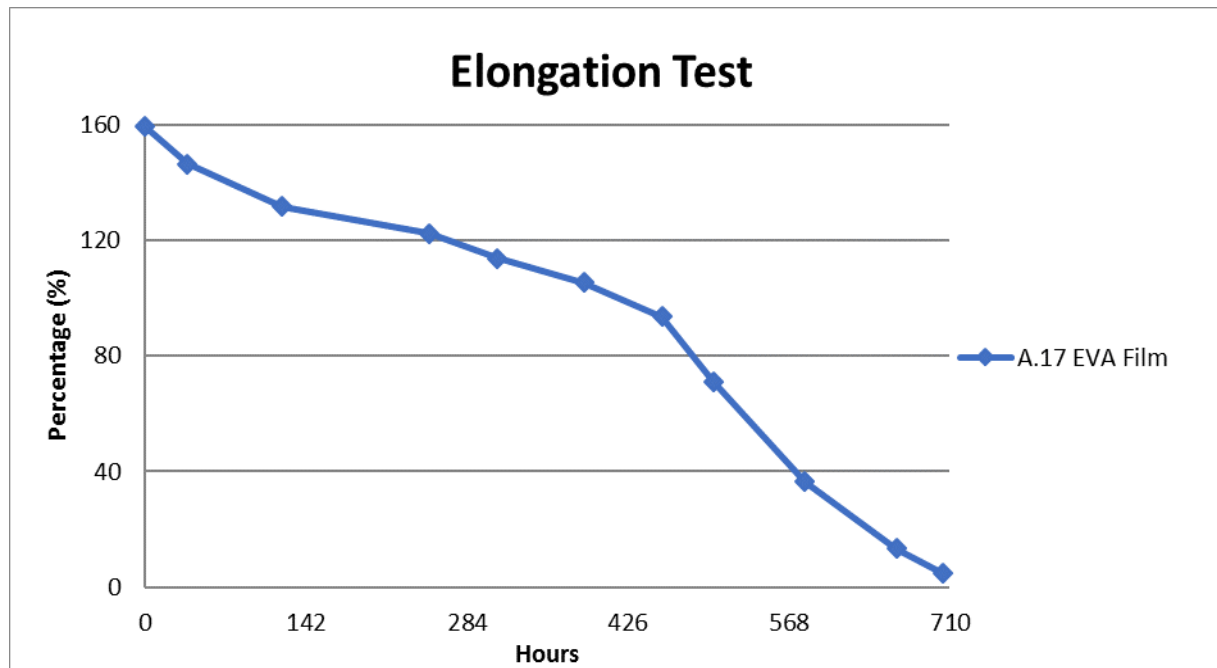
- a) Universal Testing Machine.
- b) QUV accelerated weathering tester. Cycle: Continues of UV at 50°C and 0.70 W/m²-

IV.- Results:

In the following table are shown the values obtained during the evaluation of the elongation for each specific sample. Importantly, these results are specifically for these samples.

MECHANICAL PROPERTIES

Hours in the oven	Elongation Percentage (%)
	A.17 EVA Film
0	159.25
37	146.47
121	131.64
250	122.41
311	113.75
387	105.26
456	93.64
501	71.13
582	36.50
663	13.25
704	4.78





V.- Conclusions:

After exposing the sample to the accelerated aging process, the change in mechanical and physical properties were also clearly observed.

It is considered that the period of useful life ends by losing more than 50% of the initial elongation, that took place after 20 days of exposure. Therefore, it is determined that **a shelf life of Sample is 50 months (4 years with 2 months) under 30°C warehouse environment.**

Based on ASTM D5510-94 is considered that the sample has reached its accelerated degradation, when it support less than 5% of the initial elongation, that happened after 30 days of study, therefore we concluded that this sample has a **degradation time of 75 months (6 years with 3 months).**

Please be advised that 1 day of study shall be converted into 2.5 months under 30°C environment. The conversion rate is calculated based on Arrhenius Activation Energy. Please be also advised that the determination of shelf life time as 50% retained property is based on our long term experiences we have been conducting a degradation test for a number of customers throughout the worldwide region.


Ing. Rocío Ramírez Briseño
Responsable de Laboratorio

ANNEX IMAGE



Illustration 1. Laboratory equipment



Illustration 2. Sample A.17 first evaluation.



Illustration 3. Sample A.17 after 31 hours.



Illustration 4. Sample A.17 after 456 hours.



Illustration 5. Sample A.17 after 501 hours.



Illustration 6. Sample A.17 after 582 hours.



Illustration 7. Sample A.17 after 704 hours.