



## ANALYSIS REPORT

### General information

**Date:** May 17, 2017

**Analysis number:** Q-020517F227  
**Client:** Estilo Pack  
**Analysis period:** 02-05-2017/16-05-2017  
**Test Description:** Accelerated Photodegradation

### I.- Sample Description:

M1. Transformer: Estilo Pack  
  
LDPE Transparent film  
SMC 100 – 2%

### 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:

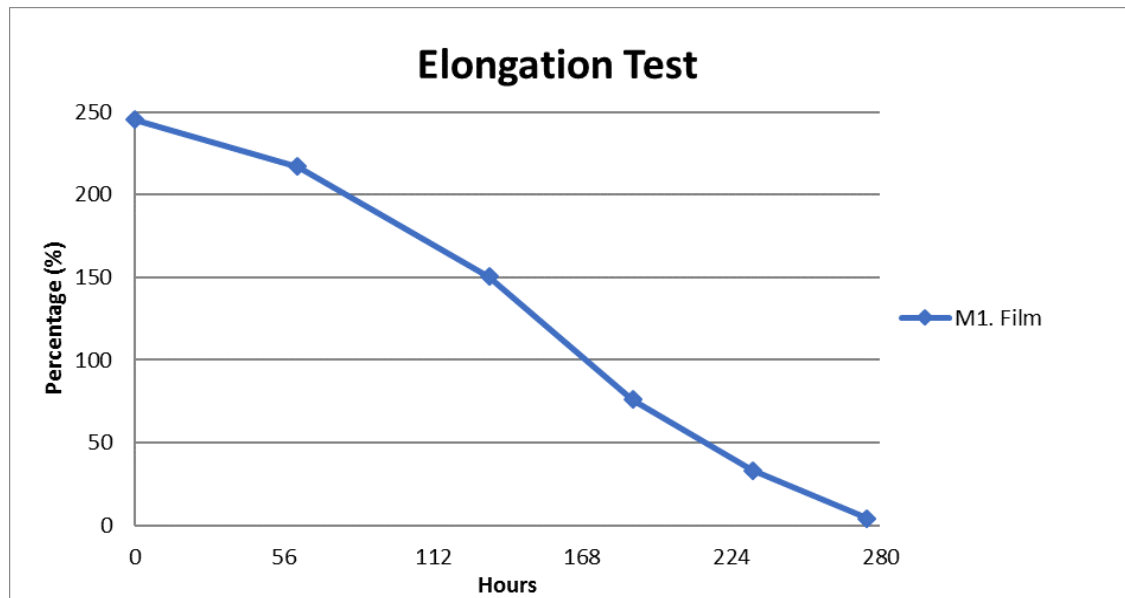
- a) Universal Testing Machine.
- b) QUV accelerated weathering tester. Cycle: Continues of UV at 50°C and 0.70 W/m2-

**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**

	<b>Elongation (%)</b>
<b>Hours in the oven</b>	<b>M1. Film</b>
0	245.23
61	217.12
133	150.42
187	76.15
232	33.35
275	4.01





## **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 7 days of exposure. Therefore, it is determined that **a shelf life of Sample is 17 months (1 year with 5 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 12 days of study, therefore we concluded that this sample has a **degradation time of 30 months (2 years with 6 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

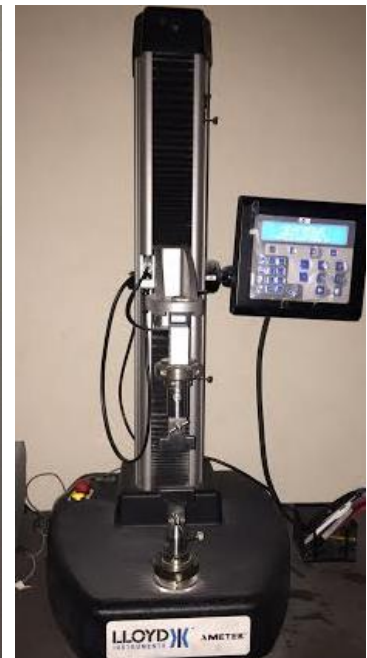


Illustration 1. Laboratory equipment



Illustration 2. Sample M1 after 187 hours.