

INTERNAL COMMUNICATION	
DATE:	25/07/2019
CUSTOMER:	Dai A Industry JSC
CODE:	Exp 06-02-2019
SUBJECT:	Agricultural films

1. AIM OF THE WORK

Annexed to the TSR we received 4 samples of agricultural films:

- Sample 1 (Greenhouse): 0.48% HA88 + 0.06% Alvinox FB
- Sample 2 (Mulch): 0.48% HA88 + 0.06% Alvinox FB

The goal of the work is the QUV exposure, with evaluation of mechanical properties.

2. EXPERIMENTAL DATA/PART

QUV-A Exposure

Specimens were exposed in QUV-A (Fig. 1), supported by aluminum backing.

Cycle: 8 hours UV 0,89 W/m² - 340 nm at T=60°C - 4 hours No UV at T=50°C.



Figure 1: QUV

In order to check the retention of mechanical properties, at least 5 samples for each formulation are pulled out periodically; check of tensile properties (Tensile Strength and Elongation at Break) was carried out by an Instron Mod. 5566 Tensor check (Fig.2)



Fig. 2: Tensor check Instron Mod. 5566

Results

In Table 1 and 2 the tensile strength at break and the retention of tensile strength are reported:

Retention % of Tensile strength at break [N]			
	0	100	255
Sample 1	100,00	88,14	109,81
Sample 2	100,00	87,79	110,89

Table 1

Retention% of Elongation% at break			
	0	100	255
Sample 1	100	84,88	95,84
Sample 2	100	93,53	100,32

Table 2

3. Conclusions

After 255 hours of exposure, there is no evident variation of mechanical properties for all the samples. The color change did not appear in the samples.