Results of the tensile tests carried out on nine *samples declared by the Applicant as:*
"Security seals for goods' transport - type CABLE SEAL 1,5 x 180 mm".
Applicant: LEGHORNGROUP S.r.l, via degli Arrotini, 34/36 – 57121 Livorno (LI).
Order letter received on: 09/05/2016
Material received in the Laboratory on: 09/05/2016.

1 INTRODUCTION

The tensile tests on samples were carried out in this Laboratory on the dates indicated in Table 1. The following tests were conducted as per the indications given by the Applicant:

- tensile test on three samples as provided by the applicant;
- tensile test on three samples previously maintained for 24 hours at a temperature of +60°C;
- tensile test on three samples previously maintained for 24 hours at a temperature of -30°C.

Figure 1 shows the sample as provided by the applicant.

2 TEST PROCEDURES AND INSTRUMENT SET-UP

The test aims at evaluating the maximum load for the sample in his operational condition.
Each sample was closed and subsequently placed between two annular elements connected to the test machine. The rate of increase of the distance between the annular elements was set equal to 20 mm / min.
The load was applied to the sample by means of an universal testing device INSTRON 1186, with maximum load capability of 200 kN, adopting the full scale equal to 5 kN. Such load was measured by means of the load cell included in the universal testing device with full scale equal to 5 kN.
Figure 2a shows the testing device, while Figure 2b shows the force measuring system.

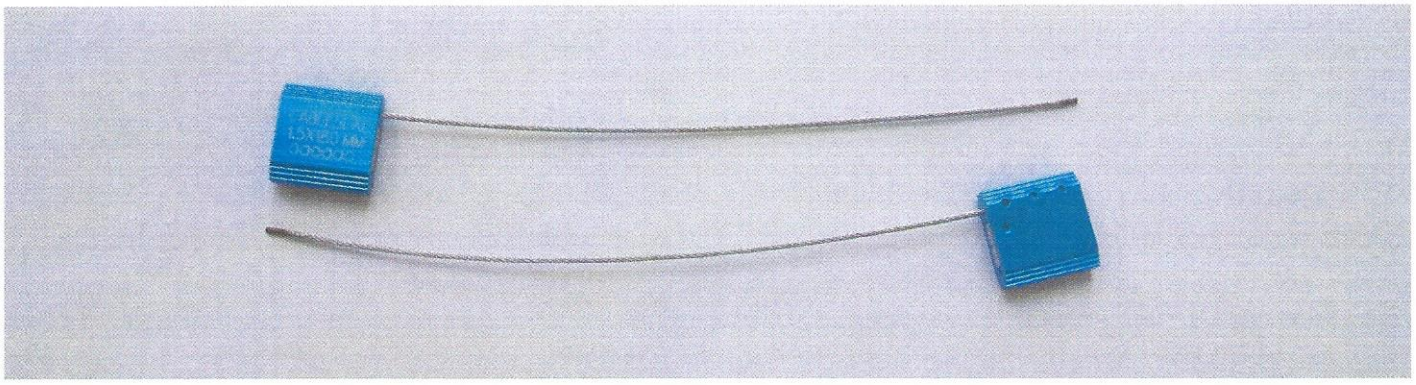

Figure 1. Test sample "Security seals for goods' transport - type CABLE SEAL 1,5 x 180 mm"

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a) b)

Figure 2. a) the testing device; b) the force measuring system.

3 TEST RESULTS

Table 1 presents the tests' main information and results for each sample: the markings , the maximum load (in N) and the room temperature at which the tests were executed, along with the date and type of test. Figure 3 shows the samples condition after the test.

Table 1. Tests' main information and test results.

Sample #	Mark	Ultimate load [N]	Air Temperature [°C]	Test Date	Sample condition
1	CABLE SEAL 1,5 x 180 mm	2906	18	25/05/16	samples as provided by the applicant
2	CABLE SEAL 1,5 x 180 mm	2675			
3	CABLE SEAL 1,5 x 180 mm	2551			
4	CABLE SEAL 1,5 x 180 mm	2966	18	25/05/16	samples previously maintained for 24 hours at a temp. of +60°C
5	CABLE SEAL 1,5 x 180 mm	2864			
6	CABLE SEAL 1,5 x 180 mm	2633			
7	CABLE SEAL 1,5 x 180 mm	2884	18	25/05/16	samples previously maintained for 24 hours at a temp. of -30°C.
8	CABLE SEAL 1,5 x 180 mm	2527			
9	CABLE SEAL 1,5 x 180 mm	3003			

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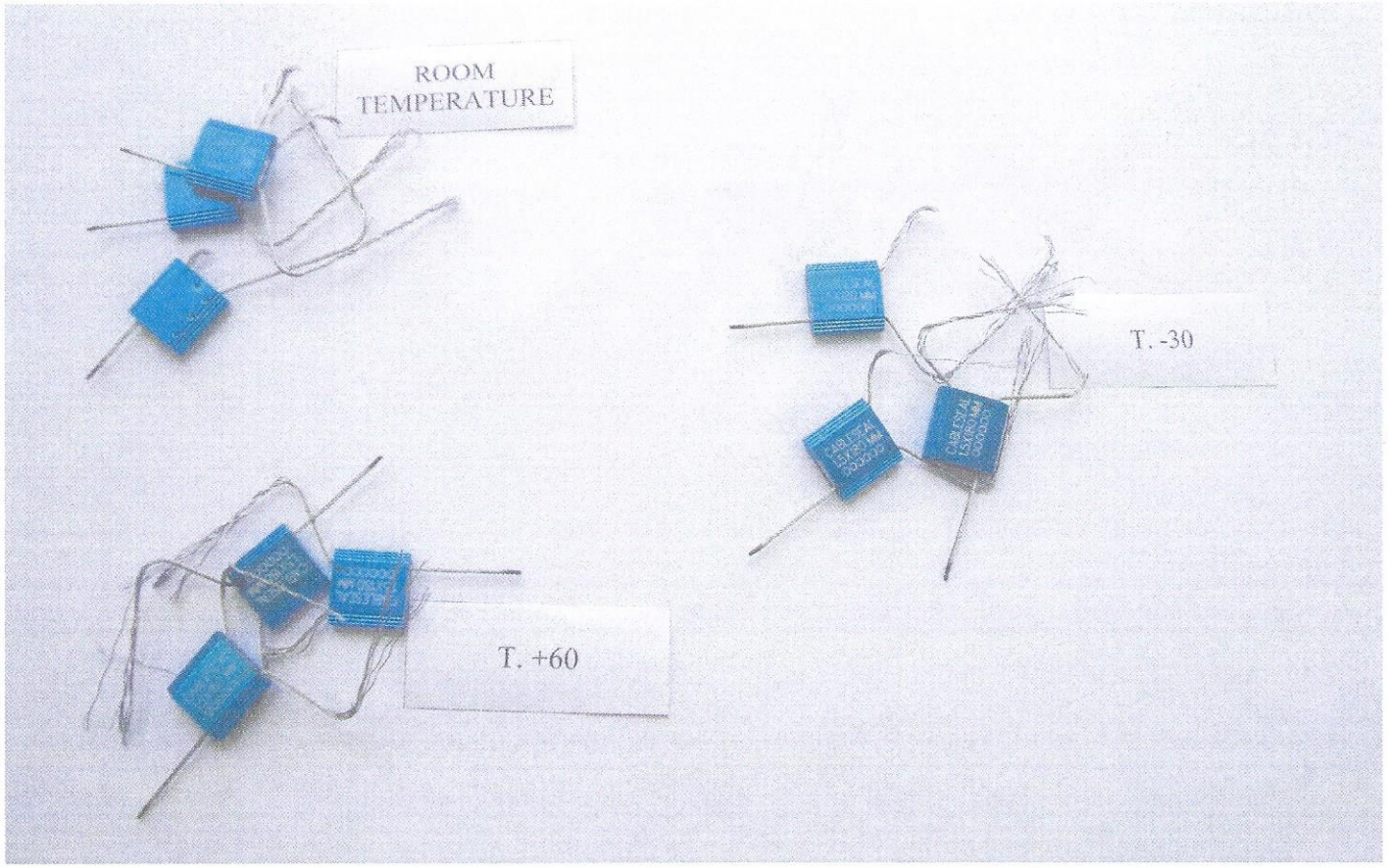

Figure 3. Samples condition after the tensile test.

Experimental tests were carried out by : Geom. Mirko DONATI, Giuseppe CHELLINI, PhD.

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