

REPORT

24/03/16

INERIS-DRA-16-159522-01856B

Measure of superficial resistance on a plastic sample Ref180, following standard EN 13463-1.

INERIS

maîtriser le risque |
pour un développement durable |

**Measure of superficial resistance on a plastic sample Ref180,
following standard EN 13463-1.**

Levallois-Perret (92)

Customer: Extruflex

List of people having taken part in the study: Y. OLLIER

FOREWORD

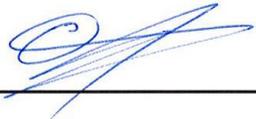
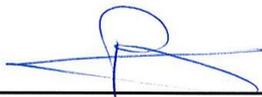
This report was drawn up on the basis of the information provided to INERIS and the objective (scientific or technical) data available as well as applicable regulations.

INERIS cannot be held liable if the information received was incomplete or erroneous.

Any findings, recommendations, suggestions or equivalent that are recorded by INERIS as part of the services it is contracted to perform may assist with decision making. Given the tasks entrusted to INERIS on the basis of the decree founding the organization, INERIS cannot be involved in the decision making process itself. INERIS cannot therefore take responsibility in lieu and place of the decision maker.

The addressee shall use the results comprised in this report in whole or at least in an objective manner. Using this information in the form of excerpts or summary memos may take place only under the full and complete responsibility of the addressee. The same applies to any modification made to this report.

INERIS declines any liability for any use of this report outside of the scope of the service provided.

	Author	Reviewer	Approval
Name	Y. OLLIER	B.DEBRAY	F.ROUSSEAU
Quality	Technical correspondent Accidental Risks Division	Head of unit "Evaluation and control of fire and Explosion Risks in Processes" Accidental Risks Division	Head of Department "Substances Products and Processes" Accidental Risks Division
Visa			

CONTENTS

1. CONTEXT AND CONTRACTUAL ELEMENTS	4
2. DESCRIPTION OF THE SAMPLE	4
3. OPERATING MODE	5
4. EQUIPMENTS USED	5
5. RESULTS	6
6. CONCLUSION.....	6

1. CONTEXT AND CONTRACTUAL ELEMENTS

EXTRUFLEX is specialized in manufacturing of flexible doors. EXTRUFLEX requested INERIS to perform the electrostatic evaluation of a plastic sample Ref 180.

The objective was to measure the superficial resistance of the sample following the standard EN 13463-1.

This report has been established in reference to the following contractual elements:

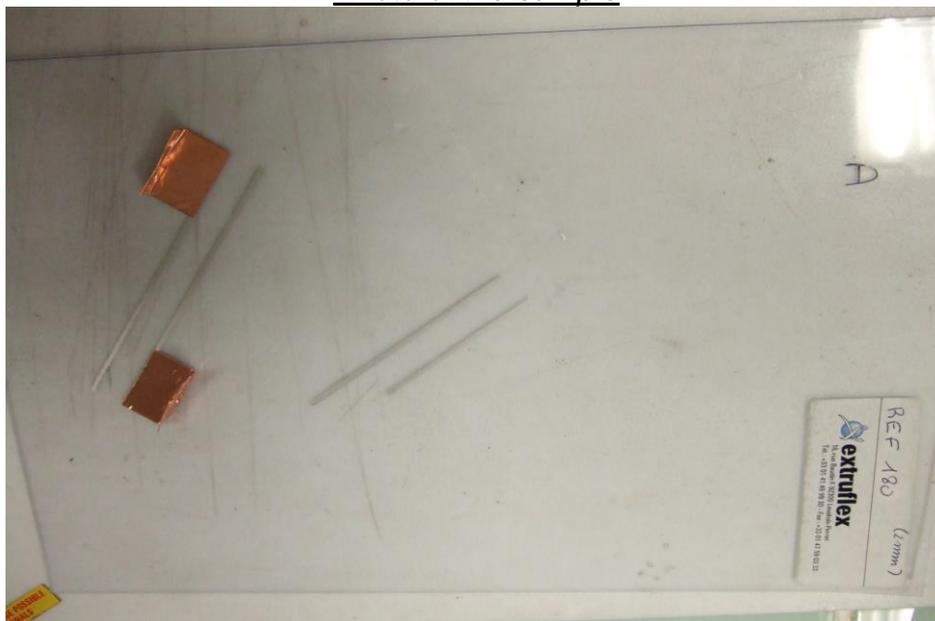
- A request from EXTRUFLEX, for an electrostatic evaluation on a plastic sample Ref 180;
- A quote referenced DRA-16-159522-00775A;
- An order referenced n°10786 dated 28/01/2016.

2. DESCRIPTION OF THE SAMPLE

The sample supplied by the company EXTRUFLEX is:

Customer reference	INERIS reference
Plastic Ref 180 (20 cm*30 cm thickness 2 mm)	16AH520

Photo of the sample

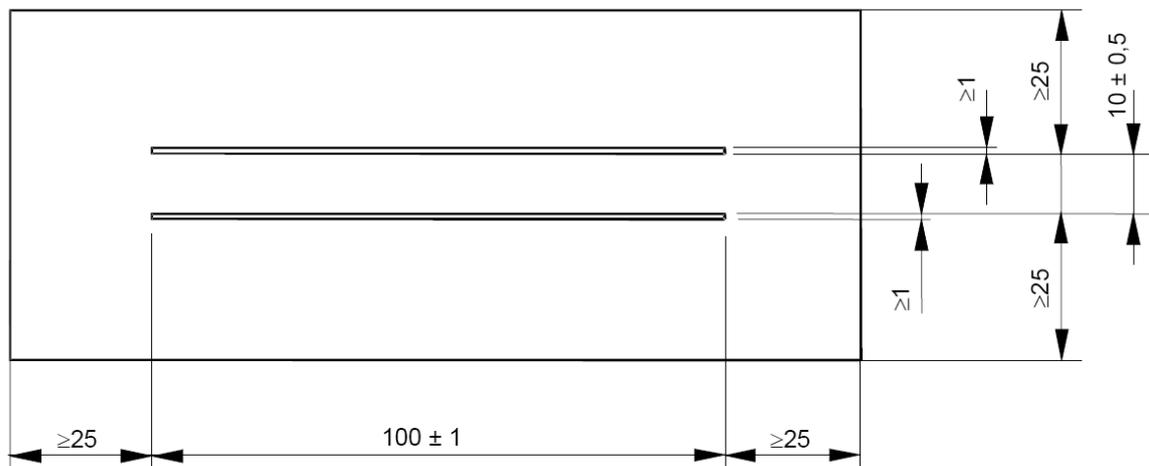


3. OPERATING MODE

The objective of this service is to verify the electrostatic property of the sample, by a measurement of the superficial resistance following the standard EN 13463-1:2009.

The superficial resistance is measured by means of two silver electrodes painted on the sample (picture 1). A voltage is applied on one electrode and the second is connected to an electrometer. This equipment allows measuring the intensity between the electrodes. The value of the resistance is calculated by applying the Ohm rule.

$$R = U/I$$



Picture 1: electrodes for measuring the superficial resistance

Measurements were done on both sides of the sample

4. EQUIPMENTS USED

Type	Manufacturer	Reference INERIS
Generator	Keithley	M-AB-4160
Electrometer	Keithley	M-AB-4157
Thermohygromètre	Testo	M-AB-4199

5. RESULTS

The ambient atmosphere conditions of test and preliminary conditioning were:

22°C±2°C and 50%HR±5%:

Results, superficial resistance

Ref sample	Voltage (V)	Resistance (Ω)
Ref 180	500	8,27E+09
		7,18E+09
		7,16E+09
		6,94E+09
		6,94E+09
		6,95E+09
Average Resistance		7,24E+09

Observation: The tests were made using silver coating electrodes.

6. CONCLUSION

The objective of this service at the request of EXTRUFLEX was to measure the superficial electric resistance following the method described in standard EN 13463-1:2009.

The Measurement, done on a plastic sample referenced "Ref180" by EXTRUFLEX and "INERIS 16AH520" by INERIS, gave an average superficial resistance of 7,24.10⁹ Ohm.

This average value has been established by calculating the average of resistance measured on the both sides of the sample test.



INERIS

*maîtriser le risque |
pour un développement durable*

Institut national de l'environnement industriel et des risques

Parc Technologique Alata
BP 2 - 60550 Verneuil-en-Halatte

Tél. : +33 (0)3 44 55 66 77 - Fax : +33 (0)3 44 55 66 99

E-mail : ineris@ineris.fr - **Internet** : <http://www.ineris.fr>