

Summary of measurements of the electrical resistance of antistatic monofilaments and Spiralfabrics made of antistatic monofilaments

All measurements were made by ITV Denkendorf

Abstract of reports ITV No.:

- I. E-0265-TT-12
- II. E-0181-TT-13
- III. E-0056-TT-15

Norms:

- DIN 54345-5
- DIN EN 61340-5-1 (Point to point resistance)

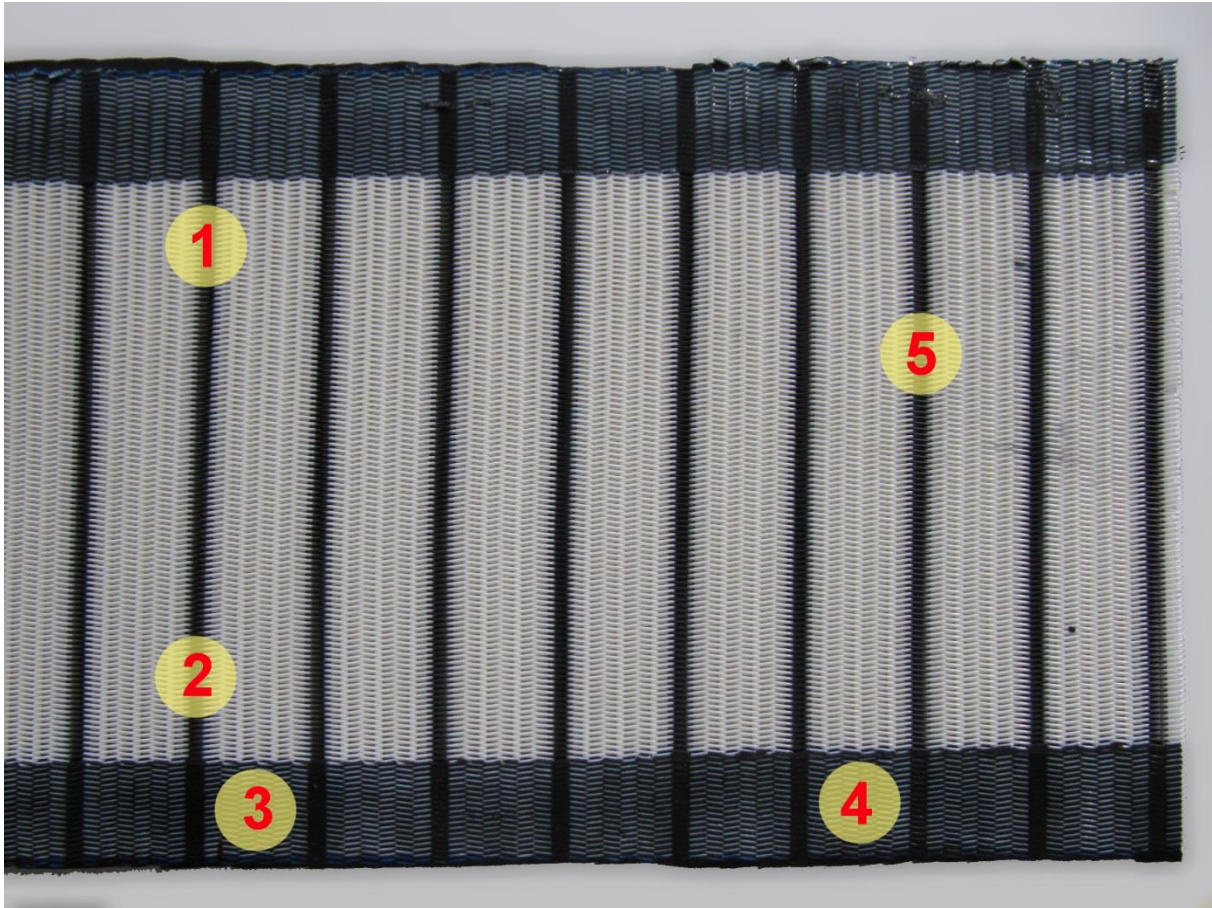
I. Measurement of a raw and a heat set Spiral Fabric sample made of 100% antistatic material 0,70 mm 730 LS (E-0265-TT-12):

	Raw Fabric	Heat set fabric
CD (Spiral direction, A=150 mm)	2×10^5	1×10^5
MD (Machinedirection , A=150 mm)	5×10^5	6×10^4

II. Miscellaneous measurements of an antistatic Spiral Fabric 70000 SL A-5 and analysis of the new developed WSF antistatic edge application (E-0181-TT-13)

1	Cross direction: from Edge to Spiral	Point 4 to 5
2	Contact of electrodes only on edge (no contact to antistatic spirals)	Point 3 to 4
3	Contact of electrodes to different antistatic spirals	Point 2 to 5
4	Elektrodes contact the same antistatic spirals	Point 1 to 2

Example to II:



Results of II:

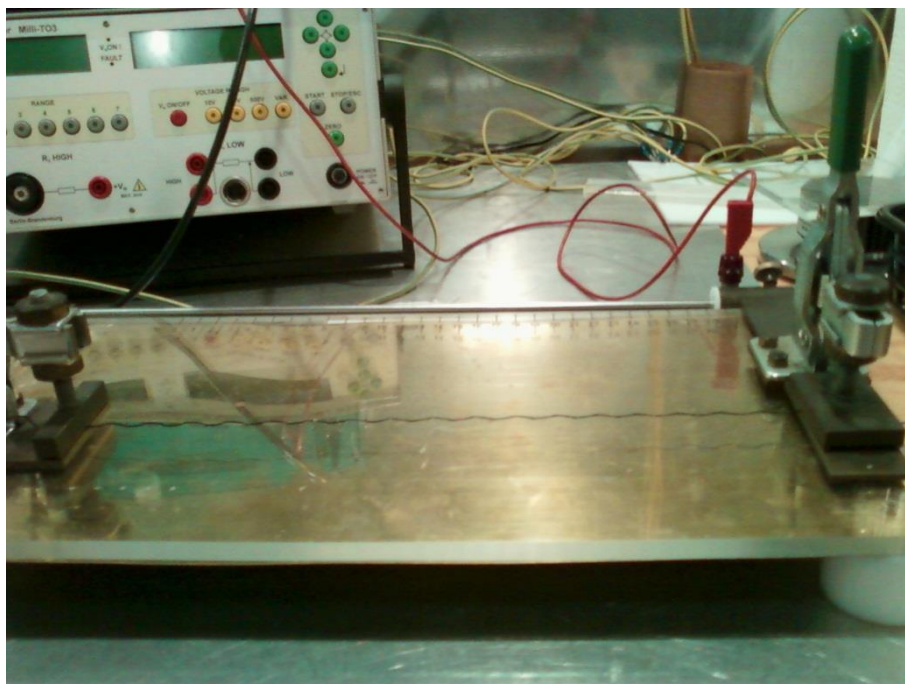
	Measurement points	Distance = 10 cm	Distance = 30 cm
1	Point 4 to 5	$1,2 \times 10^6$	$7,2 \times 10^6$
2	Point 3 to 4	$4,2 \times 10^6$	2×10^6
3	Point 2 to 5	7×10^9	$2,6 \times 10^9$
4	Point 1 to 2	$1,3 \times 10^6$	$5,8 \times 10^6$

III) Test of the new developed monofil type of PerlonNextrusion (E-0056-TT-15)

Measurements:

- 1) New monofil
- 2) Spiral
- 3) Stretched Spiral

Picture of measurement set up (stretched spiral):



Measuring object	Distance of electrodes = 10 cm	Distance of electrodes = 30 cm
Monofilament 730 LC	$3,46 \times 10^5$	$9,74 \times 10^5$
Spiral	$2,62 \times 10^7$	$7,51 \times 10^7$
Stretched Spiral	$1,15 \times 10^7$	$3,64 \times 10^7$

The electrical resistance of the new monofilament quality 730 LC is near to the quality 730 LS. The electrical resistance of the spirals of that quality 730 LC is a little bit higher but laying clearly in the antistatic area which means they have discharging properties. Considered from the aspect of antistatic properties the type 730 LC is released for production of antistatic spiral fabrics.

13.03.2015 Oliver Maier