

## TERVAKOSKI FILM

# ECT

### ECT FEATURES

PP-film manufactured by tenter process with super clean electrical grade high temperature resin. Tervakoski film ECT is a low shrinkage film with controlled smooth surface on both sides and corona treatment on one side.

### GENERAL APPLICATIONS

Base film for metallization with Aluminum, Zinc or Alloy for applications ranging from power factor correction, DC-link, heavy duty application capacitors as well as for traditional metallized film capacitors. ECT is designed for high ambient temperatures to meet the needs of high dielectric strengths and long durability. It is dedicated also for thin films applications AC & DC in automotive industry (i.e. HEV/EV).

### AVAILABLE THICKNESS RANGE

(THICKNESS BY WEIGHT) 1,9  $\mu\text{m}$  – 14,8  $\mu\text{m}$

THICKNESS [by weight]	TOLERANCE [+/-]
1,9 $\mu\text{m}$ – 4,9 $\mu\text{m}$	5 %
5,0 $\mu\text{m}$ – 6,0 $\mu\text{m}$	4 %
6,1 $\mu\text{m}$ – 14,8 $\mu\text{m}$	3 %

### ROLL DIMENSIONS

CORE (I.D)	152 $\pm$ 1 mm
ROLL (O.D)	Up to 580 mm
ROLL WIDTH	8-1200 mm
WIDTH TOLERANCES:	
Roll width <150 mm	$\pm$ 0,4 mm
Roll width $\geq$ 150 mm	$\pm$ 1,0 mm

### SURFACE PROPERTIES

SURFACE TENSION	$\geq$ 34 mN/m	TTM 302
SURFACE ROUGHNESS, R <sub>a</sub>	0,05 - 0,14 $\mu\text{m}$	TTM 215

### ELECTRICAL PROPERTIES

DIELECTRIC CONSTANT	2,2	TTM 230
25 °C, 50 Hz-1 MHz		
RESISTIVITY	$>$ 3x10 <sup>15</sup> $\Omega\text{m}$	TTM 230
< 100 °C		
DISSIPATION FACTOR	$\leq$ 2x10 <sup>-4</sup>	TTM 230

### GENERAL PHYSICAL PROPERTIES

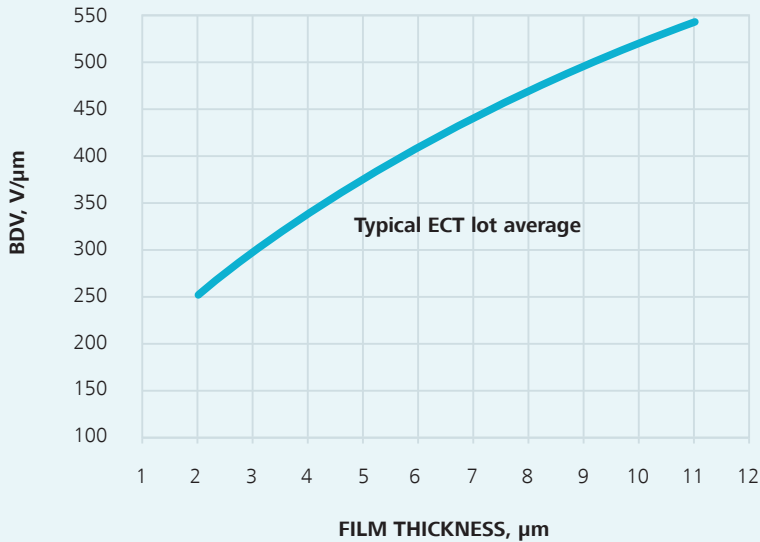
DENSITY	0,910 g/cm <sup>3</sup>	
SOFTENING POINT	140 °C	Vicat
MELTING POINT	165-170 °C	
WATER ABSORPTION	< 0,01 %	

### MECHANICAL PROPERTIES

TENSILE STRENGTH			TTM 218
	MD	$\geq$ 150 MN/m <sup>2</sup>	
	CD	$\geq$ 240 MN/m <sup>2</sup>	
MODULUS OF ELASTICITY			
	MD	$\geq$ 1900 MN/m <sup>2</sup>	TTM 213
	CD	$\geq$ 3400 MN/m <sup>2</sup>	
SHRINKAGE (120 °C, 15 MIN)			
$\leq$ 5 $\mu\text{m}$	MD	$\leq$ 5,0 %	
	CD	$\leq$ 1,0 %	
$>$ 5 $\mu\text{m}$	MD	$\leq$ 3,9 %	
	CD	$\leq$ 0,8 %	

### CHEMICAL PROPERTIES




ASH CONTENT	$\leq$ 50 ppm	TTM 506
CHLORINE CONTENT	$\leq$ 10 ppm	TTM 504



DC-breakdown strength of dry one-layer film in table top test with electrode area about 2 m<sup>2</sup>

## LABELLING

Each roll is equipped with a label, which is placed either on the outer surface of the roll or inside the core.

<b>1</b> <b>TERVAKOSKI FILM ECT</b> Polypropylene film		<b>15</b> 	
NOMINAL THICKNESS	3,0 μm <b>2</b>	ROLL NO	3-0002587535 <b>9</b>
THICKNESS BY WEIGHT	2,91 μm <b>3</b>	1013638/0002571632/1/01/03 <b>10</b>	
WEIGHT	85,3 kg <b>4</b>	LENGTH	35000 m <b>11</b>
TREATED SIDE	0.0/OUT <b>5</b>	WIDTH	920 mm <b>12</b>
NO OF JOINTS	<b>6</b>		
CUSTOMER ORDER NO.	601366 <b>7</b>		
OPERATOR	099 <b>8</b>	DATE	07.01.2013 <b>13</b>
 <b>14</b>			
<b>Tervakoski film</b>  <b>16</b>		Manufacturing site TERICHEM A.S. SVIT <b>17</b>	

### INFORMATION ON THE LABEL:

- |                                  |                                       |   |
|----------------------------------|---------------------------------------|---|
| <b>1.</b> Product name and grade | <b>8.</b> Operator Nr.                | <b>15.</b> QR code (roll Nr and weight) |
| <b>2.</b> Nominal Thickness      | <b>9.</b> Roll Nr.                    | <b>16.</b> Logo Tervakoski film         |
| <b>3.</b> Thickness by weight    | <b>10.</b> Internal traceability      | <b>17.</b> Production site              |
| <b>4.</b> Net Weight             | <b>11.</b> Length of film             |   |
| <b>5.</b> Corona / Treated side  | <b>12.</b> Width of roll              |   |
| <b>6.</b> Nr. of Joints          | <b>13.</b> Date of slitting           |   |
| <b>7.</b> Customer order         | <b>14.</b> Bar code with traceability |   |

## PACKING

Each individual roll is wrapped with polyethylene film to protect against dust and foreign particles during normal conditions of transport and storage. The roll is in horizontal hanging position hold by plastic or wooden supporting plates. Soft plastic discs are inserted between roll edge and plastic/ wooden supporting plate. The roll and supporting plates are bound together with plastic straps.

A set of the rolls on the pallet is bound together and tied to the pallet with plastic straps. The pallet is wrapped with stretch film.

Pallet size is set according to the roll diameter and width.

## STORAGE

In the handling of pallets and individual rolls all kinds of shocks should be avoided. The rolls should be stored in the original package and in a dry place. Temperature exceeding 40°C should be avoided during storage. It is also recommended that film is used within one year of receipt. A longer storing time increases the risk of metallization problems.

**Tervakoski film** 

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