

# RIGID PACKAGING



VACUUMFORMED  
TRAYS  
PALLETS AND  
PALLET PACK  
TOTES AND BOXES  
FOAMS

**-EUROSTAT-**

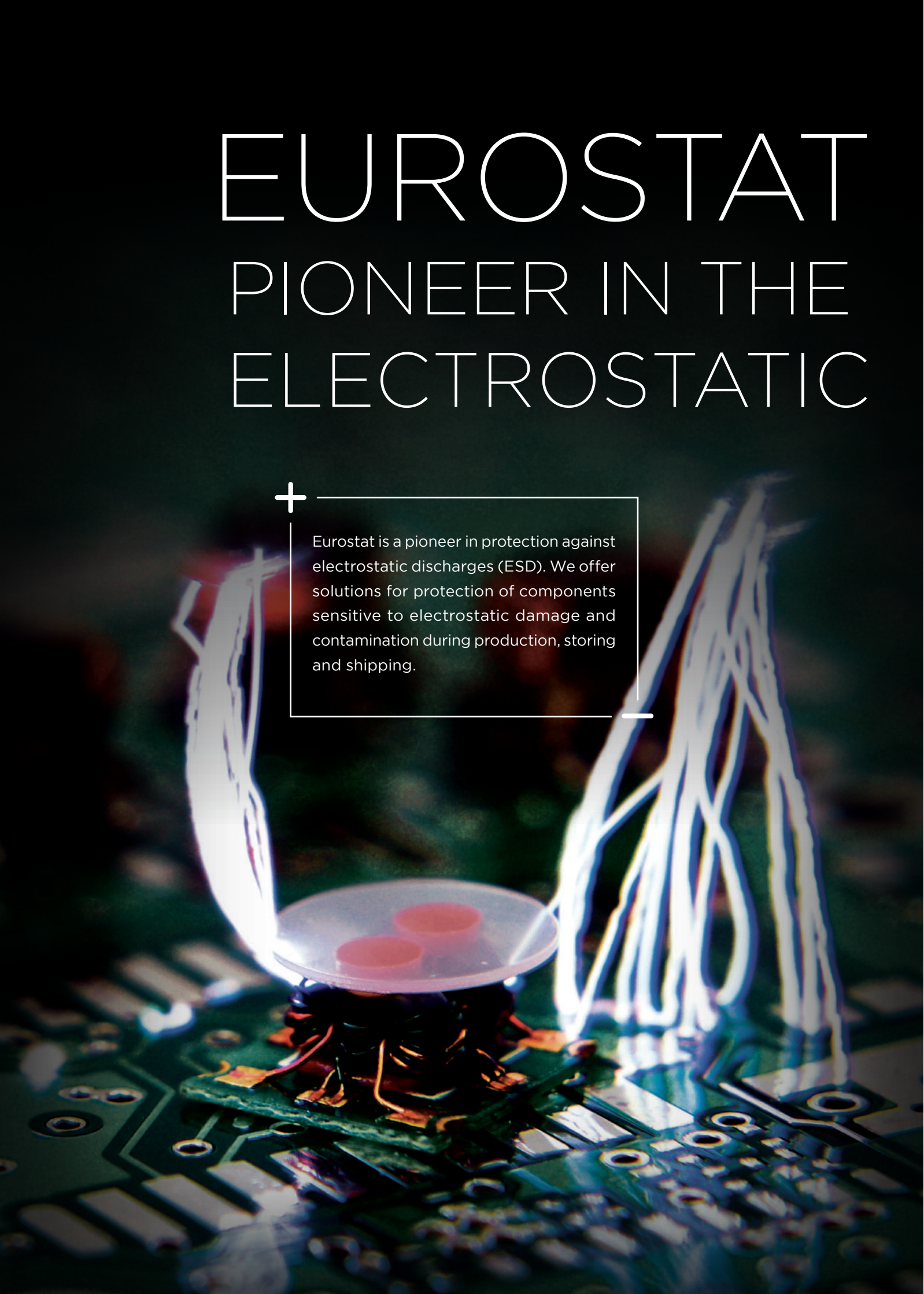
[www.eurostatgroup.com](http://www.eurostatgroup.com)

# EUROSTAT

## PIONEER IN THE ELECTROSTATIC



Eurostat is a pioneer in protection against electrostatic discharges (ESD). We offer solutions for protection of components sensitive to electrostatic damage and contamination during production, storing and shipping.



# PROTECTION OF DISCHARGES

## WHAT ARE ELECTROSTATIC DISCHARGES?

All materials are composed of atoms. Each atom is composed of a positive charge, around which gravitate many negative electrons. At rest, positive nucleus charges are equal to the sum of negative charges of the electrons that gravitate around them. The charge therefore remains neutral. Static electricity is a phenomenon which happens when two surfaces contact each other and are then separated. It's at this moment that an exchange in electrons between both surfaces can occur. At this moment occurs a movement of electrons that creates charges at the surface of both materials.

This exchange of electrons between conductive materials (and man made materials) can occur suddenly, creating an electrostatic discharge with irreversible damage, especially to electrical components.

In order to avoid those damages, it is necessary to implement the protective measures aiming elimination of all static electricity sources and consequently, prevention of the electrostatic discharges. Nevertheless, if the static discharges appear, Eurostat has developed a whole range of materials and products, providing protection for electrostatic sensitive devices such as PCBs.

### Conductive

Allows a rapid discharge to ground that can have the same effect as an ESD discharge. These materials insure a bond with ground but do not mitigate the energy exchanged during a discharge.

Grounding resistance less than  
 $R_s/R_v < 1 \times 10^4 \Omega$

### Dissipative

Allows a slower discharge from the charge carrier to the ground, reducing the risk of potential damage.

Grounding resistance is between  $10^4 < R_s/R_v < 1 \times 10^{11} \Omega$

### Insulative

Offers no grounding of electrostatic charges.

Offer no grounding of electrostatic charges  
 $R_s/R_v > 1 \times 10^{11} \Omega$

# RIGID PACKAGING

## EUROSTAT PRODUCTION FLOW

Our expertise of complete processing includes: material selection, extrusion, tooling, packaging design, prototyping, test validation and mass production, allowing us to completely satisfy our customer needs.

## A VERTICALLY INTEGRATED MANUFACTURING FACILITY

Eurostat for over 40 years, has been a producer of its own raw material. This allows us to be the owner of registered innovative materials, embodying our know-how. These materials are the result of internal development and collaborations with research facilities and partners world-wide. These patented materials represent advancement for the market of protection against micro nuisances.

### Vacuumforming

Is a manufacturing process where plastic material at high temperature is vacuumed to form the shape of a product.

## OUR PROPRIETARY MATERIALS

### E-STAT®

Our proprietary dissipative PolyStyrene recipe does not contain any carbon powder, therefore eliminating black carbon sloughing on the products and in the environment.

### Color-STAT®

Our proprietary material possesses the same dissipative characteristics as the E-STAT®, but available in many Colors.

### Nano-STAT® (Conductive)

Our proprietary volume conductive PolyStyrene material replacing carbon powder by carbon Nano tubes, to eliminate black carbon sloughing on the products and in the environment.

### Soft-STAT®

Our volume conductive material dedicated to surface defect sensitive products. Depending on the thickness, Eurostat offers 2 options:

- Acrylonitrile-Butadiene-Styrene / Thermoplastic Polyurethane (ABS/TPU) for thick material
- PolyStyrene / PolyEthylene (PS/PE) for thickness up to 2mm

### Acrylonitrile-Butadiene-Styrene/ Polycarbonate (ABS/PC)

Conductive in volume or insulative. Adapted to high temperature application (110°C).

### Clear-STAT®

Our permanent carbon Nano tubes dissipative material made of enriched Amorphous PolyEthylene Terephthalate (APET), offering a very good transparency, is adapted for blister packs and products sensitive to surface defects (scratches, dust etc...). Ideal for barcode identification scanning.

### Black-APET®

Black material made of Amorphous PolyEthylene Terephthalate (APET), available in insulative or dissipative form, adapted for delicate surfaces prone to contaminations (scratches, dust etc...).

### PolyStyrene (PS) conductive

Conductive material in volume charged in black carbon powder.

### Other materials

PolyStyrene (PS), PolyEthylene (PE), PolyEthylene Glycol (PETG)...

## INTEGRATED INDUSTRIAL MODEL



## OUR PRODUCTION CONTROL

### Automatic Optical Inspection on a patented line to guarantee all product parts

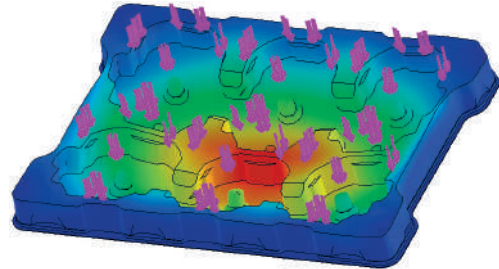
With our patented Automatic Optical Inspection -AOI- technology (patent number : FR15/58305), we provide a full control of the main critical dimensions of our customer's trays before shipment.

Vacuumforming equipments are in a protected environment to eliminate external material contamination.

## OUR DESIGN CAPABILITIES

### RDM simulation, 3D-printing, prototyping tools

Thanks to our proprietary material knowledge, we can accurately simulate the material resistance behavior of our trays under load, to estimate the tray deformation during its utilisation.



As a pioneer in 3D-printing usage, we provide a fast Turn Around Time (TAT) to our customers by offering 3D-printing samples of the cavities designed for their packaging needs.

Our large scale 3D-printing capability can also be used to make 3D-printing molds which enable us to offer fast prototype Turn Around Time on final product, before launching the final production mold.

## GLOSSARY

**ABS:** Acrylonitrile-Butadiene-Styrene

**APET:** Amorphous Polyethylene Terephthalate

**CMS:** SMD Surface Mount Devices

**CPM:** Charge Plate Monitor measures voltages applied to it's sensing plate.

**Directive RoHS:** European Directive: Limiting the use of certain dangerous substances in association with electrical and electronic components

**EMI:** Electromagnetic interference

**EPA:** Electrostatic Protected Area (An area of complete ESD protection)

**ESD:** Electro-static Discharge

**Carbon Nano tubes:** Two dimensional layers of carbon atoms, providing conductivity or dissipation to PS matrix, depending on concentration in the material

**Standards EIA-583 / EIA-541 /EIA-625:** Standards related to the packaging of humidity sensitive parts

**European Standard IEC 61340-5-1:** Protection of electro static sensitive devices

**PC:** PolyCarbonate

**PCB:** Printed Circuit Board

**PE:** PolyEthylene

**LDPE, HDPE:** Low Density PolyEthylene, High Density PolyEthylene

**PP:** PolyPropylene

**PS:** PolyStyrene

**PU:** PolyUrethane

**Rv (Volume resistance):** Resistance test between the surfaces of a material

**Rs (Surface resistance):** Measurement taken from the surface area of a material

**Shielding:** Material offering a Faraday cage

**TPU:** Thermoplastic PolyUrethane

**VCI:** Vapor Corrosion Inhibitor

**MVTR:** Moisture Vapor Transmission Rate

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# 01

## VACUUM- FORMED TRAYS

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Eurostat's vacuumformed trays cover all needs of our market place with dissipative, conductive and insulative materials. We offer dimensions up to 800 x 600 mm with thicknesses between 0.6 - 6 mm. The resistance values indicated are tested before vacuumforming.

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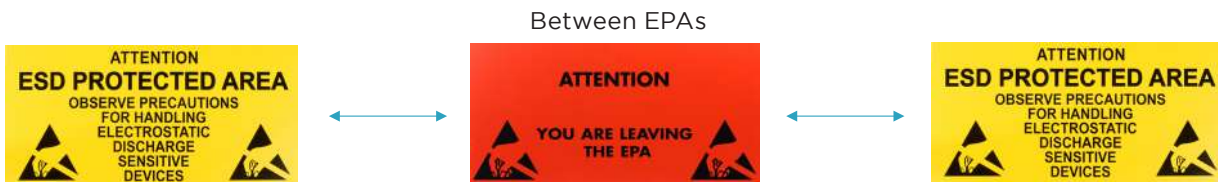
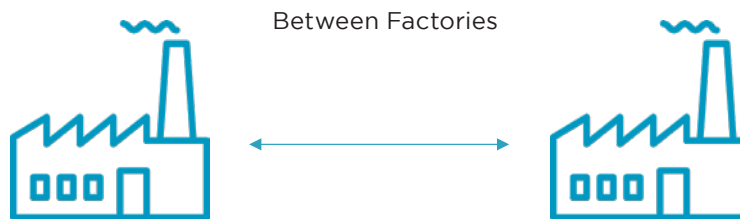
# 1. DISSIPATIVE TRAYS

## Rigid Packaging: IEC DTR 61340-5-5 Standard

Extract from the IEC DTR 61340-5-5 norm

### 8.3 Outside an EPA or between EPAs

The considerations change when ESDS have to be moved outside an EPA, between EPAs through unprotected areas, or from an EPA to an unknown receiving environment. Low charging and dissipative properties are required for intimate contact with ESDS. It is important to reduce the charging propensity of the ESDS. In addition to the intimate contact material, the ESDS should be shielded to reduce the influence of external electric fields. Shielding in this case can take the form of an air gap for separation of the ESDS from the outside environment, or direct shielding using a highly conductive enclosure such as a discharge shielding bag or conductive container.



### 1.1. E-STAT®



Our proprietary Dissipative permanent E-Stat® made of PolyStyrene does not contain any carbon powder and therefore does not leave any black residue or contaminate the product or workbench/EPA.

IEC 61340  
Compliant

**Thickness mm (before vacuumforming)**

- 0.6
- 0.8
- 1.2
- 1.5
- 2.2
- 3
- Other thicknesses on request



- No heavy metal content (<100 ppm, directive RoHS)
- No particular emission due to the absence of carbon powder

#### Technical Data

- Surface resistance  $1 \times 10^7 \leq R_s \leq 1 \times 10^{10} \Omega^*$
- Volume resistance  $1 \times 10^7 \leq R_v \leq 1 \times 10^{10} \Omega^*$
- Decay time: < 0.4s
- Electrostatic features: dissipative
- Clean room compatible
- Color: black with colored bands (optional)

\*The resistance values indicated are tested before vacuumforming.

## 1.2. COLOR-STAT®



- Other Colors available
- No particular emission due to the absence of carbon powder

Color-Stat® trays are made of Dissipative PolyStyrene and have the same characteristics as E-STAT®.

**Thickness mm (before vacuumforming)**

0.8 1.5 2 Other thicknesses on request

IEC 61340  
Compliant

### Technical Data

- Surface resistance  $1 \times 10^7 \leq R_s \leq 1 \times 10^{10} \Omega^*$
- Volume resistance  $1 \times 10^7 \leq R_v \leq 1 \times 10^{10} \Omega^*$
- Decay time:  $< 0.4s$
- Electrostatic features: dissipative
- Clean room compatible
- Standard Colors: Yellow, Red, Grey and Green (other Colors available on request)

## 1.3. CLEAR-STAT®



Designed for making blister packs and for products prone to contamination (scratches, dust etc...)

Permanent dissipative and transparent made of Amorphous PolyEthylene Terephthalate (APET)

**Thickness mm (before vacuumforming)**

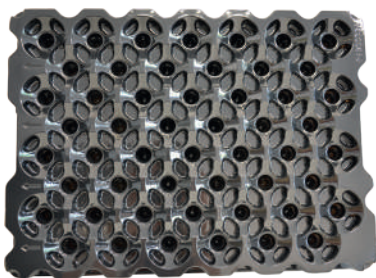
0.6 0.8 1.2 Other thicknesses on request

IEC 61340  
Compliant

### Technical Data

- Surface resistance  $R_s \leq 1 \times 10^6 \Omega^*$
- Decay time:  $< 0.2s$
- Electrostatic features: dissipative
- Clean room compatible
- Color: transparent

## 1.4. BLACK-APET®



- Ideal for easily contaminated surfaces (scratches, dust etc...)
- No heavy metal content ( $< 100$  ppm, directive RoHS)

Black material made of Amorphous PolyEthylene Terephthalate (APET), available in dissipative and insulative material

**Thickness mm (before vacuumforming)**

0.6 0.8 Other thicknesses on request

IEC 61340  
Compliant

### Technical Data

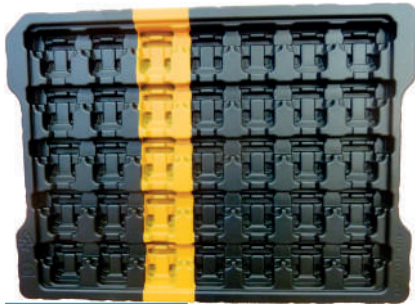
- Surface resistance  $1 \times 10^7 \leq R_s \leq 1 \times 10^{10} \Omega^*$
- Volume resistance  $1 \times 10^7 \leq R_v \leq 1 \times 10^{10} \Omega^*$
- Decay time:  $< 0.4s$
- Electrostatic features: dissipative
- Color: black

*\*The resistance values indicated are tested before vacuumforming.*

# 2. CONDUCTIVE TRAYS

IEC 61340  
Compliant

## 2.1. NANO-STAT®



PolyStyrene film and carbon Nano tubes.



- No heavy metal content (<100 ppm, directive RoHS)
- Does not slough any black carbon
- Avoids particle contamination

### Technical Data

- Surface resistance  $R_s \leq 1 \times 10^4 \Omega^*$
- Volume resistance  $R_g \leq 1 \times 10^4 \Omega^*$
- Decay time: < 0.2s
- Color: black with color bands (optional)

### Thickness mm (before vacuumforming)

0.6	0.8	1.2	1.5	1.8	2	2.2	2.5	3	4	5	6
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## 2.2. SOFT-STAT®

Soft-Stat® offers a surface that cushions vibrations and mechanical shocks and is tear resistant. Depending on the thickness, Eurostat offers 2 product families.



- Conductive in volume and abrasion resistant

### a. Soft-STAT® ABS-TPU: Thick trays

Made of Acrylonitrile-Butadiene-Styrene (ABS) and Thermoplastic PolyUrethane (TPU).



### Technical Data

- Surface resistance  $R_s \leq 1 \times 10^4 \Omega^*$
- Volume resistance  $R_g \leq 1 \times 10^4 \Omega^*$
- Decay time: < 0.2s
- Electrostatic features: conductive
- Color: black

### Thickness mm (before vacuumforming)

2	3	4
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### b. Soft-STAT® PS-PE: Thin trays

Made of PolyStyrene and PolyEthylene



### Technical Data

- Surface resistance  $R_s \leq 1 \times 10^4 \Omega^*$
- Volume resistance  $R_g \leq 1 \times 10^4 \Omega^*$
- Decay time: < 0.2s
- Electrostatic features: conductive
- Color: black

### Thickness mm (before vacuumforming)

1.5	2	3
-----	---	---

\*The resistance values indicated are tested before vacuumforming.

## 2.3. CONDUCTIVE POLYSTYRENE (PS-C)



Conductive material in volume, charged in carbon powder. Standard material for the creation of conductive packaging

### Technical Data

- Surface resistance  $R_s \leq 1 \times 10^4 \Omega^*$
- Volume resistance  $R_g \leq 1 \times 10^4 \Omega^*$
- Decay time:  $< 0.2s$
- Electrostatic features: conductive
- Colour: black

IEC 61340  
Compliant

Thickness mm (before vacuumforming)



## 2.4. CONDUCTIVE ABS/PC (ACRYLONITRILE BUTADIENE STYRENE/ POLYCARBONATE)



Conductive in volume and adapted to high temperature applications. Manufactured for applications that require high mechanical charge resistance

max. temp.  
110°C

IEC 61340  
Compliant

### Technical Data

- Surface resistance  $R_s \leq 1 \times 10^4 \Omega^*$
- Volume resistance  $R_g \leq 1 \times 10^4 \Omega^*$
- Decay time:  $< 0.2s$
- Electrostatic features: conductive
- Color: black

Thickness mm (before vacuumforming)



# 3. HIGH PRECISION INDUSTRIAL TRAYS

Eurostat can also offer insulative material trays for demanding industrial requirements.



We offer a different variety of materials and dimensions, please contact us.

- PolyStyrene PS
- PolyEthylene Terephthalate Glycoses PETG
- PolyStyrene/PolyEthylene PS/PE
- Black and Transparent APET
- Acrylonitrile Butadiene Styrene ABS

**Contact us**

\*The resistance values indicated are tested before vacuumforming.

# 4. STANDARD TRAYS

For small needs, we offer this flexible solution where users can define the size of the cavities.



IEC 61340  
Compliant



- This range will answer all needs for storing and transporting sensitive components without needing to design specific trays
- The design allows you to clip the lids and the dividers together
- The trays are stackable with the lids

EUROSTAT has developed a standard range of trays made of dissipative E-STAT® material with a set of modular dividers to create as many compartments as required. This new item will answer your needs for storing and transporting small PCB's or sensitive components. All 3 elements (trays, dividers, lids) can be bought separately.

**Standard Small Model (355 x 255 x 36 mm) - Useful Depth: 35,5 mm without lid  
28 mm with Lid**

Electrostatic features	Thickness mm	Technical Data	Part Nr.
Dissipative Trays	1.5	<ul style="list-style-type: none"> <li>• Surface resistance <math>1 \times 10^7 \leq R_s \leq 1 \times 10^{10} \Omega^*</math></li> <li>• Volume resistance <math>1 \times 10^7 \leq R_v \leq 1 \times 10^{10} \Omega^*</math></li> <li>• Decay time: <math>&lt; 0.4s</math></li> <li>• No heavy metal content (<math>&lt; 100</math> ppm, directive RoHS)</li> <li>• No particular emission due to the absence of carbon powder</li> <li>• Color: black</li> </ul>	24-401-9428
Conductive Dividers	1.8	<ul style="list-style-type: none"> <li>• Surface resistance <math>R_s \leq 1 \times 10^4 \Omega^*</math></li> <li>• Volume resistance <math>R_g \leq 1 \times 10^4 \Omega^*</math></li> <li>• Decay time: <math>&lt; 0.2s</math></li> <li>• Color: black</li> </ul>	Small 23-177-9431 Big 23-177-9430
Clipped dissipative lid	0.8	<ul style="list-style-type: none"> <li>• Surface resistance <math>R_s \leq 1 \times 10^6 \Omega^*</math></li> <li>• Decay time: <math>&lt; 0.2s</math></li> <li>• Maximum temperature <math>60^\circ C</math></li> <li>• Color: transparent</li> </ul>	24-213-9429

\*The resistance values indicated are tested before vacuumforming.

**Standard Large Model (555 x 355 x 63 mm) - Useful Depth:** 61,5 mm without lid  
52,7 mm with lid

Electrostatic features	Thickness mm	Technical Data	Part Nr.
Dissipative Trays	3	<ul style="list-style-type: none"> <li>• Surface resistance <math>1 \times 10^7 \leq R_s \leq 1 \times 10^{10} \Omega^*</math></li> <li>• Volume resistance <math>1 \times 10^7 \leq R_v \leq 1 \times 10^{10} \Omega^*</math></li> <li>• Decay time: &lt; 0.4s</li> <li>• No heavy metal content (&lt; 100 ppm, directive RoHS)</li> <li>• No particular emission due to the absence of carbon powder</li> <li>• Color: black</li> </ul>	24-401-9455
Conductive dividers	1.8	<ul style="list-style-type: none"> <li>• Surface resistance <math>R_s \leq 1 \times 10^4 \Omega^*</math></li> <li>• Volume resistance <math>R_g \leq 1 \times 10^4 \Omega^*</math></li> <li>• Decay time: &lt; 0.2s</li> <li>• Color: black</li> </ul>	Small 23-177-9458 Big 23-177-9457
Clipped dissipative lid	0.8	<ul style="list-style-type: none"> <li>• Surface resistance <math>R_s \leq 1 \times 10^6 \Omega^*</math></li> <li>• Decay time: &lt; 0.2s</li> <li>• Maximum temperature : 60°C</li> <li>• Color: transparent</li> </ul>	24-213-9456

\*The resistance values indicated are tested before vacuumforming.



# 02

## PALLET PACK & PALLETS

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To allow transportation and storage of components, Eurostat has developed a set of custom made solutions helping to stack pallets.

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# 1. PALLETS & PALLET PACK

## KIT FOR ESD SAFE TRAY TRANSPORTATION

Pallet Pack allows to minimize the volume and the cost of transportation.



For trays, Eurostat offers a unique concept for storing and shipping. Made from a pallet base, a belt and a lid, the Pallet Pack allows optimised use of space, minimizing the volume and the cost of transporting while empty and offering an extra measure of protection for the trays. Pallet Pack guarantees and optimal ESD protection during shipping. All three elements are connected, ensuring electric continuity between them.



Optimise space for storage and shipping, 13 pallet-packs can be stacked per pallet.

### Technical Data

- Interior dimensions : 1165 x 765 x 805 mm
- Exterior dimensions : 1200 x 800 x 991 mm
- Weight (empty): 22 kg - Static charge capacity: 450 kg
- Volume: 720 liters

### Part Nr. 25-100-1002

Element	Electrostatic features	Thickness mm	Features
Pallet	High density Polyethylene Conductive <small>IEC 61340 Compliant</small>	-	<ul style="list-style-type: none"> <li>• Surface resistance: <math>R_s \leq 1 \times 10^4 \Omega</math></li> <li>• Volume resistance : <math>R_g \leq 2 \times 10^4 \Omega</math></li> </ul>
Belt	Corrugated PolyPropylene Conductive <small>IEC 61340 Compliant</small>	10	<ul style="list-style-type: none"> <li>• Surface resistance: <math>R_s \leq 1 \times 10^4 \Omega</math></li> <li>• Volume resistance : <math>R_g \leq 2 \times 10^4 \Omega</math></li> </ul>
Lid	Polystyrene PS Conductive <small>IEC 61340 Compliant</small>	4	<ul style="list-style-type: none"> <li>• Surface resistance: <math>R_s \leq 1 \times 10^4 \Omega</math></li> <li>• Volume resistance : <math>R_g \leq 2 \times 10^4 \Omega</math></li> </ul>



Clip on the top of the cover and under the pallet to ease assembly / disassembly of the pallet pack.

## 2. EUROPEAN ESD SAFE PALLETS

1200 X 800 X 155 MM

### 2.1. Standard Pallet



- Maximum capacity: 1000kg

Our ESD safe trays are stackable directly on the pallets without secondary wrapping to optimize costs and avoiding waste

Pallets are stackable to allow easy storage of empty pallets

#### Technical Data

- Surface resistance:  $1 \times 10^4 \leq R_s \leq 1 \times 10^{10} \Omega$
- Volume resistance :  $1 \times 10^4 \leq R_v \leq 1 \times 10^{10} \Omega$
- Weight: 7.3 kg (+/- 2%)
- Electrostatic features: High Density PolyEthylene (PEHD) dissipative
- Color: black

Part Nr. : 25-100-0061

IEC 61340  
Compliant

### 2.2. Semi hygienic pallet



- Maximum capacity: 1250kg

Fully recyclable pallet with closed topdeck and ribstructure underneath

#### Technical Data

- Weight: 14kg (+/-2%)
- Maximum capacity: 1250kg
- Color: black
- Material: recycled or virgin HDPE
- Surface resistance:  $1 \times 10^4 \leq R_s \leq 1 \times 10^{10} \Omega$
- Volume resistance :  $1 \times 10^4 \leq R_v \leq 1 \times 10^{10} \Omega$

Part Nr. : 25-100-0107

IEC 61340  
Compliant

## 3. HALF PALLET

ESD SAFE - 800 X 600 X 137 MM



- Maximum capacity: 750kg

#### Technical Data

- Surface resistance:  $1 \times 10^4 \leq R_s \leq 1 \times 10^{10} \Omega$
- Volume resistance :  $1 \times 10^4 \leq R_v \leq 1 \times 10^{10} \Omega$
- Weight: 3.5 kg
- Electrostatic features: PolyPropylene (PP) dissipative
- Color: black

Part Nr. : 25-100-0106



03

## BOXES & LIDS

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Made of conductive or insulative material, with or without a lid, Eurostat produces boxes of all sizes to answer the most specific of needs. Developed especially for safe storing and transportation of electrical components. All Eurostat boxes are stackable.

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# 1. BOXES AND LIDS

## CONDUCTIVE INJECTED

IEC 61340  
Compliant

### 1.1. WEZ Boxes



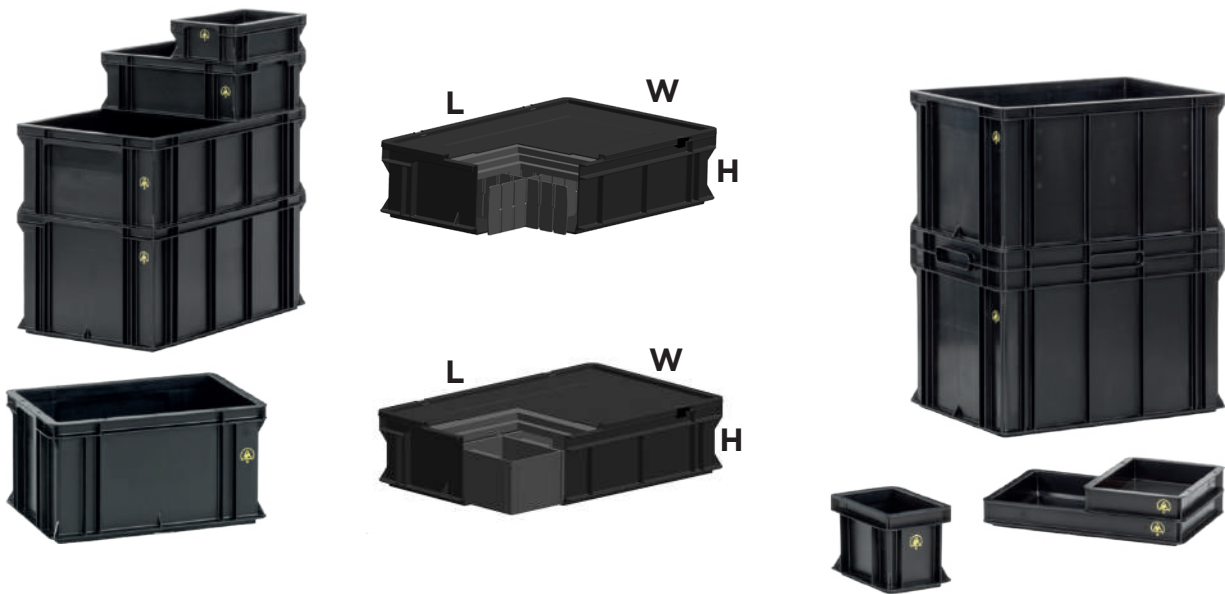
- Stackable up to 500 kg,
- Made to adapt to the following pallets 1200 x 800 mm or 1200 x 1000 mm

#### Technical Data

- Surface resistance:  $R_s < 1 \times 10^4 \Omega$
- Volume resistance :  $R_v < 1 \times 10^4 \Omega$
- Electrostatic features:  
PolyPropylene (PP) conductive
- Color: black

#### Available options

- Standard
- Lightweight
- Reinforced bottom



#### Standard version & lightweight versions

Ext. Dimensions mm (LxWxH)	Int. Dimensions mm (LxWxH)	Usable depth mm	Capacity liter	Weight g.	Part Nr.
300 x 200 x 100	254 x 154 x 96	83	3.75	520	21-701-0010
300 x 200 x 145	254 x 154 x 141	128	5.5	720	21-701-0015
400 x 300 x 53	354 x 254 x 49	40	4.4	540	21-701-0020
400 x 300 x 100	354 x 254 x 96	83	8.7	1030	21-701-0025
400 x 300 x 145	354 x 254 x 141	128	12.8	796	21-700-0100
400 x 300 x 145	354 x 254 x 141	128	12.8	1200	21-701-0030
400 x 300 x 212	354 x 254 x 208	195	19.2	1610	21-701-0035
400 x 300 x 278	354 x 254 x 274	261	25.2	1975	21-701-0040
400 x 300 x 320	354 x 254 x 316	303	29.0	2100	21-701-0045
600 x 400 x 100	554 x 354 x 96	83	19.0	1650	21-701-0055
600 x 400 x 145	554 x 354 x 141	128	28.0	1274	21-700-0105
600 x 400 x 145	554 x 354 x 141	128	28.0	2050	21-701-0060
600 x 400 x 212	554 x 354 x 208	195	41.0	2550	21-701-0065
600 x 400 x 278	554 x 354 x 273	260	55.0	3070	21-701-0070
600 x 400 x 320	554 x 354 x 316	303	62.0	3400	21-701-0075
600 x 400 x 412	554 x 354 x 407	393	82.0	4605	21-701-0080

**Reinforced bottom version**

Ext. Dimensions mm (LxWxH)	Int. Dimensions mm (LxWxH)	Usable depth mm	Capacity liter	Weight g.	Part Nr.
300 x 200 x 53	260 x 160 x 41	31	1.70	290	21-700-0005
600 x 400 x 56	560 x 360 x 41	28	8.25	1080	21-700-0050



**Reinforced corners version**

Ext. Dimensions mm (LxWxH)	Int. Dimensions mm (LxWxH)	Useful Depth mm	Stackable Height mm	Capacity liter	Part Nr.
600 x 400 x 175	562 x 362 x 170	159	163	15	21-701-0100
600 x 400 x 120	562 x 362 x 115	104	108	22	21-701-0101
400 x 300 x 175	362 x 262 x 170	159	163	15	21-701-0110
400 x 300 x 120	362 x 262 x 115	104	108	22	21-701-0111



**LOOSE LIDS**

Dimensions mm	Part Nr.
300 x 200	21-704-0005
400 x 300	21-704-0010
600 x 400	21-704-0015

**HINGED LIDS WITH 2 SWING LATCHES**

Dimensions mm	Part Nr.
300 x 200	21-704-0020
400 x 300	21-704-0025
600 x 400	21-704-0030

**LIDS WITH 4 SWING LATCHES**

Dimensions mm	Part Nr.
300 x 200	21-704-0035
400 x 300	21-704-0040
600 x 400	21-704-0045

**ACCESSORIES**

Dimensions mm	Part Nr.
Lid hinges	21-704-0055
Swing latches	21-704-0060
Security tags	21-704-0065
Label clip	21-717-0015



Label clip

## 1.2. FAMI Boxes



- Stackable up to 500 kg
- Made to adapt to the following pallets 1200 x 800 mm or 1200 x 1000 mm

IEC 61340  
Compliant

### Technical Data

- Surface resistance:  $R_s < 1 \times 10^4 \Omega$
- Volume resistance :  $R_v < 1 \times 10^4 \Omega$
- Electrostatic features:  
Conductive PPC(PolyPropylene copolymere)
- Color: black

### Available options

- Standard
- Lightweight
- Reinforced bottom

### Boxes

Type	Ext. Dimensions mm (LxWxH)	Int. Dimensions mm (LxWxH)	Weight g	Part Nr.
Smooth	300 x 200 x 120	259 x 161 x 102	514	21-300-0005
Smooth	400 x 300 x 55	355 x 255 x 36	544	21-300-0010
Smooth	400 x 300 x 75	355 x 255 x 57	636	21-300-0015
Smooth	400 x 300 x 120	358 x 258 x 102	868	21-300-0020
Smooth	400 x 300 x 170	358 x 258 x 152	1232	21-300-0025
Smooth	400 x 300 x 220	358 x 257 x 202	1614	21-300-0030
Smooth	400 x 300 x 325	357 x 258 x 306	2112	21-300-0035
Smooth	600 x 400 x 75	555 x 355 x 58	1466	21-300-0040
Smooth	600 x 400 x 120	558 x 356 x 101	1882	21-300-0045
Smooth	600 x 400 x 170	556 x 357 x 151	2430	21-300-0050
Smooth	600 x 400 x 220	554 x 355 x 200	2250	21-300-0055
Smooth	600 x 400 x 280	556 x 357 x 262	3128	21-300-0060
Smooth	600 x 400 x 320	558 x 356 x 307	3460	21-300-0061
Smooth	600 x 400 x 430	558 x 358 x 413	4250	21-300-0062
Reinforced	800 x 600 x 120	755 x 554 x 85	3920	21-300-0065
Reinforced	800 x 600 x 170	754 x 554 x 135	4356	21-300-0070
Reinforced	800 x 600 x 220	755 x 554 x 186	5310	21-300-0075
Reinforced	800 x 600 x 325	756 x 554 x 293	5780	21-300-0080
Reinforced	800 x 600 x 430	755 x 553 x 392	6750	21-300-0085

### Lids



Type	Dimensions mm	Weight g	Part Nr.
With hinges	300x200mm	174	21-304-0005
With hinges	400x300mm	354	21-304-0010
With hinges	600x400mm	736	21-304-0015
With handles	400x300mm	360	21-304-0020
With handles	600x400mm	838	21-304-0030
With handles	800x600mm	2142	21-304-0035
Sliding lid	400x300mm	3540	21-304-0040

# 2. SEPARATORS

Accessories for sorting boxes and lids

## 2.1. Removable dividers

For PCB storing, these movable modular dividers guarantee conductivity to secure components

- Available in polystyrene and conductive cardboard



### Technical Data

- Surface resistance  $R_s \leq 1 \times 10^4 \Omega$
- Designed for standard box sizes 600x400 and 400x300
- Color: black

### PolyEthylene (PE) & Corrugated PolyPropylene (PP)

	Dimensions L x H mm	Slots	Pitch mm	Thickness mm		Max. compartments
				P Nr. PE Max. temp 60°	P Nr. PP Max. temp 90°	
400 x 300	250 x 100	7	31	1.8	2.5	60
	350 x 100	11	30	1.8	2.5	
	250 x 150	7	31	1.8	2.5	60
	350 x 150	11	30	1.8	2.5	
	250 x 200	7	31	1.8	2.5	60
	350 x 200	11	30	1.8	2.5	
600 x 400	350 x 100	11	30	1.8	2.5	160
	550 x 100	17	31	1.8	2.5	
	350 x 150	11	30	1.8	2.5	160
	550 x 150	17	31	1.8	2.5	
	350 x 200	11	30	1.8	2.5	160
	550 x 200	17	31	1.8	2.5	

IEC 61340  
Compliant

## 2.2. Horizontal inserts

Made of conductive corrugated PolyPropylene, horizontal inserts make it possible to compartment and separate boxes and to stack them on trays



- Ideal for protecting sensitive parts when piling them up in boxes
- 2 cut corners for easy handling

### Technical Data

- Surface resistance:  
 $R_s \leq 1 \times 10^4 \Omega$

### Inserts - Thickness mm **2.5**

Dimensions L x W mm	Designed for tote boxes mm	Part Nr.
253 x 353	300 x 400	23-175-0034
353 x 553	400 x 600	23-175-0046

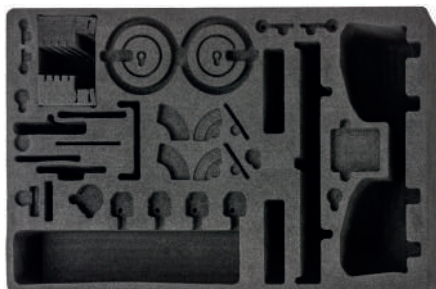
Max. Temp.  
**90°C**

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Compliant

## 2.3. Routed foam pads



Customised routed foam pads available on request.



Routing examples



### Conductive PU Black

#### Dimensions mm

355 x 255 x 5

555 x 355 x 5

355 x 255 x 10

555 x 355 x 10

### Dissipative PU Pink

#### Dimensions mm

355 x 255 x 5

555 x 355 x 5

355 x 255 x 10

555 x 355 x 10



# 3. BOXES AND CARRYING CASES

Conductive boxes with latches for component transportation and protection

## Technical Data

- Boxes and carrying cases surface resistance:  $R_s \leq 1 \times 10^4 \Omega$
- Foam surface resistance:  $1 \times 10^6 < R_s \leq 1 \times 10^8 \Omega$
- Electrostatic features: dissipative PolyPropylene
- Color: black



Available with or without dissipative PolyEthylene black closed cells foam for component insertion



## Carrying cases

Int. Dimensions mm	Part Nr. without foam
260 x 160 x 39	21-705-0005
254 x 154 x 95	21-705-0010
254 x 154 x 139	21-705-0015
354 x 254 x 48	21-705-0020
354 x 254 x 95	21-705-0025
354 x 254 x 139	21-705-0030
354 x 254 x 206	21-705-0035
354 x 254 x 272	21-705-0040
554 x 354 x 95	21-705-0045
554 x 354 x 139	21-705-0050
554 x 354 x 206	21-705-0055
554 x 354 x 272	21-705-0060

## Boxes



Int. Dimensions mm	Part Nr. with foam	Part Nr. without foam
97 x 54 x 14	25-313-0012	25-303-0050
34 x 34 x 10	25-313-0015	25-303-0055
73 x 50 x 16	25-313-0017	25-303-0060
108 x 81 x 16	25-313-0023	25-303-0065
89 x 64 x 16	25-313-0027	25-303-0070
138 x 96 x 35	25-313-0031	25-303-0075
227 x 125 x 20	25-313-0033	25-303-0080
227 x 125 x 30	25-313-0041	25-303-0085
227 x 125 x 40	25-313-0044	25-303-0090

## Boxes with latches



Int. Dimensions mm	Part Nr. without foam
130 x 80 x 14	25-303-0005*
130 x 80 x 30	25-303-0010*
130 x 80 x 50	25-303-0015*
178 x 133 x 78	25-303-0020
221 x 121 x 55	25-303-0025

\* Document support on lid

# 4. CARDBOARD BOXES

## CONDUCTIVE

### 4.1. Ready to use cardboard boxes

Eurostat produces all kinds of ESD safe cardboard boxes low cost packing method providing static protection for shipping, handling and storage of static sensitive devices



#### Technical Data

- Boxes surface resistance:  $R_s \leq 1 \times 10^4 \Omega$
- Material: corrugated conductive cardboard, micro-flute (type E) or simple-flute material (Type B)
- Color: black with ESD symbol

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Compliant



- Inside padded with foam
- Customized models and other foams on request

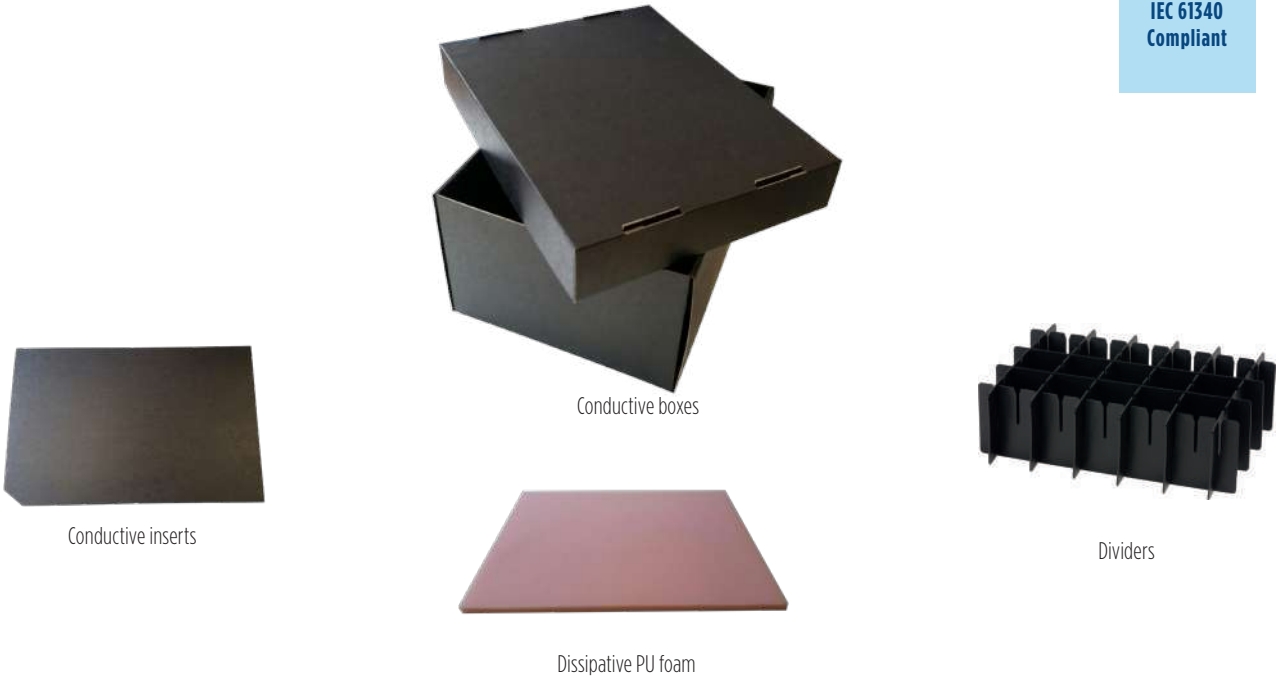
#### Cardboard boxes - Thickness mm 1.7

Int. Dimensions mm	Product description	Part Nr.
40 x 40 x 15	Pink dissipative PU flat foam	25-402-0105
60 x 60 x 25	With pink dissipative egg shape foam: Static shielding and physical protection for small components (FEFCO 0427 SHAPE)	25-402-0110
100 x 100 x 38		25-402-0115
135 x 50 x 20		25-402-0120
178 x 127 x 38		25-402-0205
229 x 191 x 38		25-402-0210
229 x 191 x 64		25-402-0215
267 x 216 x 64		25-402-0220
318 x 267 x 64		25-402-0225
394 x 318 x 64		25-402-0230
100 x 60 x 15		With black dissipative PE Foam (Static field alternative and physical protection for shipping Microchips EPROMS/SIMMS)
120 x 100 x 15	25-402-0015	

## 4.2. Customized cardboard solutions

For product storage and transportation optimization

IEC 61340  
Compliant



**Part Nr.**

**Conductive boxes**

	FLUTE TYPE B / 3MM	
	EXTERNAL DIMENSIONS MM	INTERNAL DIMENSIONS MM
25-405-1000	400 x 300 x 200	378 x 285 x 192
25-405-1001	400 x 300 x 300	378 x 285 x 292
25-405-1002	600 x 400 x 200	578 x 385 x 192
25-405-1003	600 x 400 x 300	578 x 385 x 292



- Fits into pallets
- Customized solution thanks to the separators
- 7mm thickness boxes (type BC) available on request
- 3mm thickness inserts and dividers (type B) available on request
- Private labeling available

**Technical Data**

- Boxes surface resistance:  $R_s \leq 1 \times 10^4 \Omega$
- Material: corrugated conductive cardboard
- Color: black

**Conductive lids**

**Conductive inserts**

**Conductive dividers**

**Dissipative PU foam**

FLUTE TYPE E / 1.5MM		FLUTE TYPE E / 1.5MM		FLUTE TYPE E / 1.5MM	PU 29kg/m <sup>3</sup>	
DIMENSIONS MM	PART NR.	EXTERNAL DIMENSIONS MM	PART NR.	CUSTOMIZED PRODUCTS ON DEMAND FOLLOWING YOUR PRODUCT SIZE	DIMENSIONS MM	PART NR.
400 x 300 x 65	25-405-1004	373 x 280	25-405-1006		373 x 280 x 10	26-xxx-xxxx
600 x 400 x 65	25-405-1005	573 x 280	25-405-1007		573 x 280 x 10	26-xxx-xxxx

# 5. CUSTOM MADE CORRUGATED BOXES

Eurostat can produce custom made corrugated PolyPropylene boxes to facilitate the transport of components

IEC 61340  
Compliant



- For non-standard dimensions
- Fully customizable

## Technical Data

- Surface resistance:  $R_s < 1 \times 10^4 \Omega$
- Electrostatic features: Carbon charged Corrugated PolyPropylene
- Color: black

# 04

## OTHER FOAMS



EUROSTAT is today in a position to provide the widest range of ESD safe quality foam:

- Carbon impregnated material provides uniform and permanent protection for ESD safe sensitive devices.

It's perfect for long term packaging of semiconductor components due to its low ionic contamination and out gassing.

- Pink low tribocharging and dissipative foams are inexpensive and perform general cushioning and product protection within the EPA.

Available in 2 types:

- PU open cells for "propping up" applications

- PE closed cell product for non-shedding and routing applications

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# 1. FOAMS

## 1.1. Conductive



Surface resistance:  
 $R_s \leq 1 \times 10^4 \Omega$

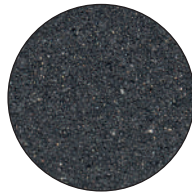


**PE conductive black 32 kg/m<sup>3</sup>**

**Thickness mm** 3 (Starting at, + 2/- 1 mm)

**Technical Data**

- Rigid, closed cells, carbon loaded
- Ideal for routed foam pads or insertion of non-sensitive ESD safe components



**PU conductive black 24 kg/m<sup>3</sup>**

**Thickness mm** 3 (Starting at, + 2/- 1 mm)

**Technical Data**

- Soft, open cells
- Ideal for shock absorption of non-sensitive components

## 1.2. Dissipative



Surface resistance:  
 $R_s \leq 1 \times 10^{11} \Omega$

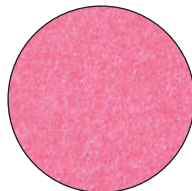


**PE dissipative black 30 kg/m<sup>3</sup>**

**Thickness mm** 3 (Starting at, + 2/- 1 mm)

**Technical Data**

- Rigid, closed cells, carbon loaded
- Ideal for routed foam pads or insertion of sensitive ESD safe components

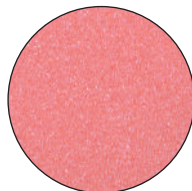


**PE dissipative pink 35 kg/m<sup>3</sup>**

**Thickness mm** 3 (Starting at, + 2/- 1 mm)

**Technical Data**

- Rigid, closed cells
- Economical solution
- Ideal for routed foam pads, shock absorption and insertion of non-sensitive components



**PU dissipative pink 29 kg/m<sup>3</sup>**

**Thickness mm** 6 (Starting at, + 2/- 1 mm)

**Technical Data**

- Soft, open cells
- Economical solution
- Ideal for shock absorption of non-sensitive components



05

# TRAINING AUDIT & SERVICES



Eurostat, ESD Expert and voting member of the IEC/TC101 “electrostatics”, Eurostat offers on site audits and product characterization.

# 1. TRAINING YOUR EMPLOYEES



As ESD sensitivity of products increases the production operators and production coordinators need to adapt to a very demanding technical environment. In order to make sure that the operators follow proper procedures, it is advised and required to provide professional ESD training.

Eurostat is a certified training institute (agreement number: 43390015239) and provides training with experts supervised by the French President of TC 101.

The training can be offered in English or in French, 3 training levels are available.

## Level 1

Attendees	Goals	Sessions
<ul style="list-style-type: none"> <li>Operators</li> <li>Manufacturing support</li> <li>Management</li> </ul>	<ul style="list-style-type: none"> <li>To understand why and how damages and defects, due to static electricity occur</li> <li>To have a clear view of the wide spectrum of risks, damages and defects in case of non-adherence or drift from the rules and means of prevention</li> </ul>	Approx. 3h30 (recommended period)

## Level 2

Attendees	Goals	Sessions
<ul style="list-style-type: none"> <li>Engineers</li> <li>Technicians</li> <li>management with engineering background</li> </ul>	<ul style="list-style-type: none"> <li>To take care that all prevention rules are implemented and respected by all personnel working within or entering an EPA</li> <li>To be aware of the basic methods and tools currently used to make measurements in an EPA</li> </ul>	Approx. 4h30 (recommended period)

## Level 3

Attendees	Goals	Sessions
<ul style="list-style-type: none"> <li>ESD coordinators</li> <li>Supervisors</li> <li>Instructors</li> </ul>	<ul style="list-style-type: none"> <li>To establish a complete Prevention and Control Plan preventing static electricity</li> <li>To propose progress axis and fitted preventive or corrective actions</li> <li>To prepare in-house audits thanks to punctual help of third-part ESD experts</li> </ul>	Approx. 3h00 (recommended period)



Our training programs, which are continuously improved and updated, can be adapted to companies individual needs and tailored to suit your company and the ESD experience of your employees.

After each training session, a personalised certificate is presented to each attendee.



# 2. AUDIT

## REPORTS

ESD Expert and voting member of the IEC/TC101 “electrostatics”, Eurostat offers on site audits and product characterisation.

### 2.1. Site Audit

**GOALS** **To highlight existing in-situ gaps**  
with what is recommended through IEC 61340-5-1/2 international standard

**To analyse and understand**  
any electrostatic issues in discussion with your technical representative

#### The site visit - Approx. 1 day

1 The site visit is a fact-finding visit in which our consultant surveys key parts of the site and the customer’s processes and procedures.

2 It is also an opportunity for you to highlight and discuss any particular areas of concern you may have.

For these reasons it is essential to make your on-site technical representative available to act as a guide and to be a technical support.

Electrostatic related measurements such as electrostatic field potential and resistance measurements are made where it is appropriate to check the status of equipment, processes, floors and other relevant items.

### 2.2. Characterization

**GOALS** **Define the Electrostatic features of your products**  
With the measures done in our laboratories by the IEC standards



#### Progress - delays on request

After estimating the time necessary to achieve your study (depends on the quantities and objectives of your demands), we will do some testing in our characterisation laboratory.

### 2.3. Report

The report gives some relevant electrostatic information and explanation of key aspects where possible. It typically records: details of our consultant’s findings including the results of any measurements, conclusions and specific recommendations and a list of literature and relevant standards that might be required for reference and further reading material if applicable.



# 3. TECHNICAL SERVICE AND INSTALLATIONS



A technical service ensures the installation and maintenance of equipment as well as repairs during the guarantee period.

The range setting and control procedures of measuring equipment could be also carried out.

INSTALLATION

MAINTENANCE

REPAIR

CALIBRATION

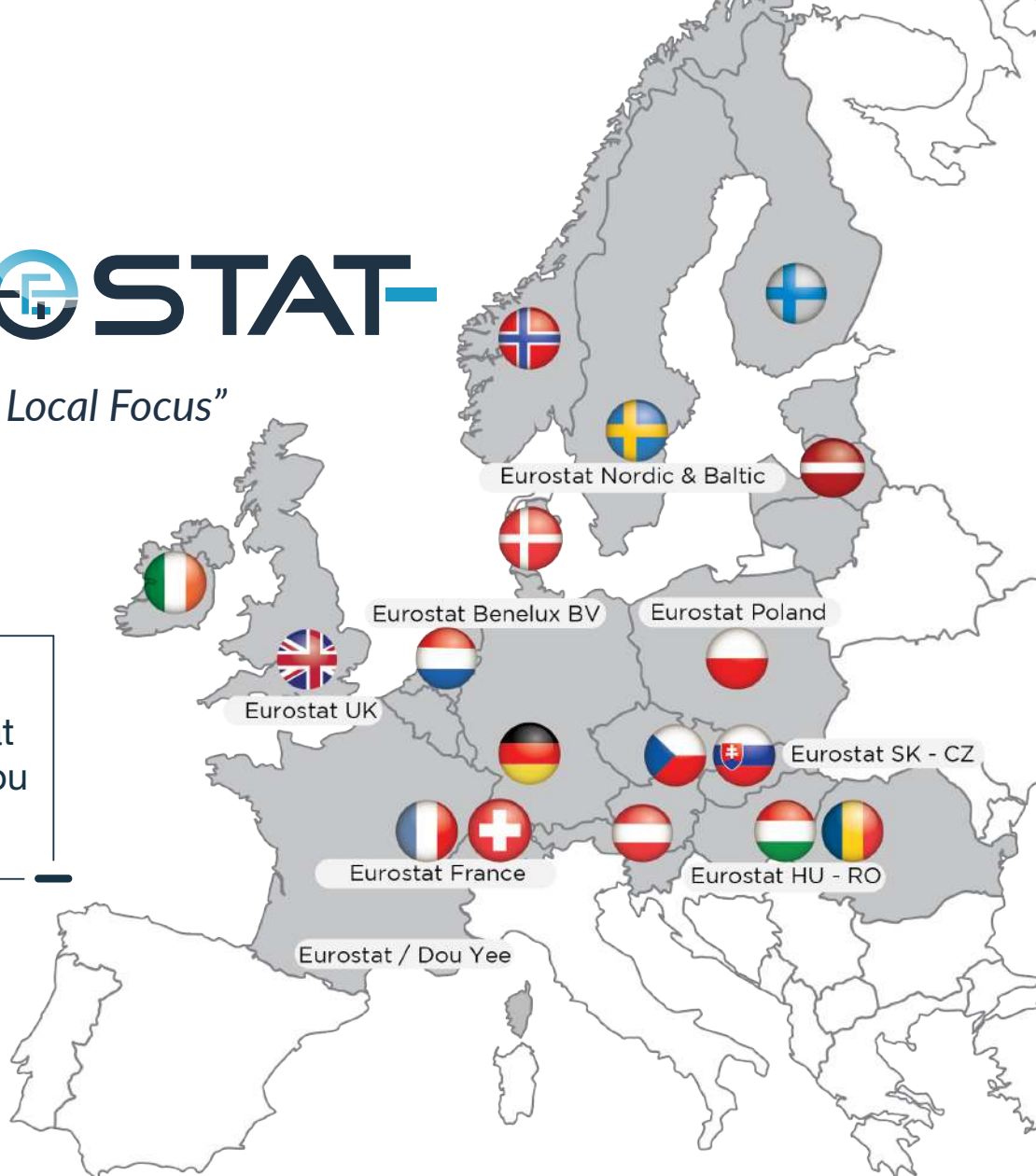
VERIFICATION

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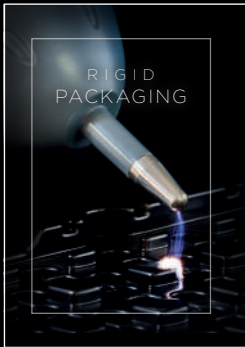
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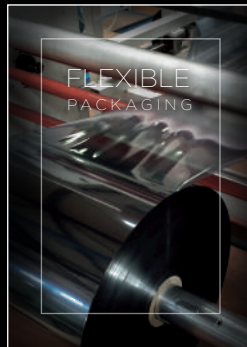
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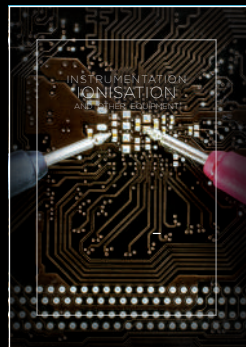
# The Eurostat offer



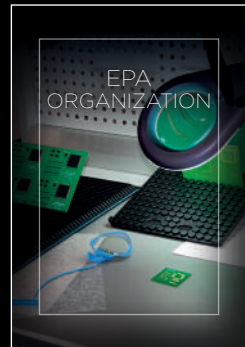
RIGID  
PACKAGING



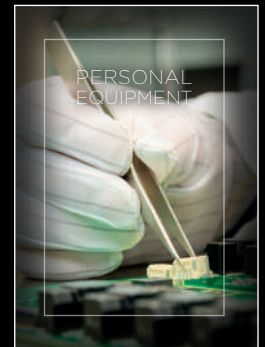
FLEXIBLE  
PACKAGING



INSTRUMENTATION  
& IONISATION



EPA  
ORGANIZATION



PERSONAL  
EQUIPMENT

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