



ESD Packaging

Reusable Plastic
Load Carriers

Working protection
against electrostatic risks



Electric charges trigger goose bumps, this, unfortunately, also goes for electronic products

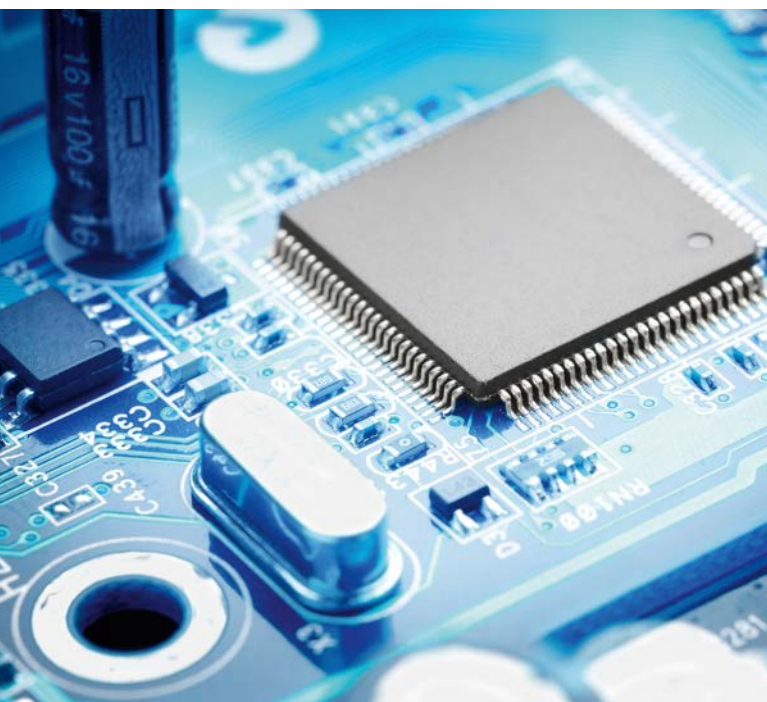
Working ESD protection for your products

For ESD protection trust in Söhner Kunststofftechnik's experience and expertise. Our innovative, reusable plastic load carriers ensure that electronic components are not damaged during transport and arrive at their destination fully functional.

Our ESD packaging portfolio ranges from deep drawn load carriers for individual components to foldable large load carriers and customized system solutions for entire component assemblies. We ensure that you receive protective packaging that works as it should: minimizing the buildup of static electricity and dissipating electrostatic charges in a controlled manner.

Your advantages at a glance

- + Secure production, storage and transport processes
- + Fewer complaints and losses
- + Long-term cost savings
- + Improved carbon footprint



What causes an electrostatic discharge?

Mechanical processes, such as when there is friction between a component and its packaging, can generate an electrostatic charge. This creates a charge imbalance between component and packaging. If the differently charged items are separated, a charge equalization occurs in the form of a brief high-voltage pulse.

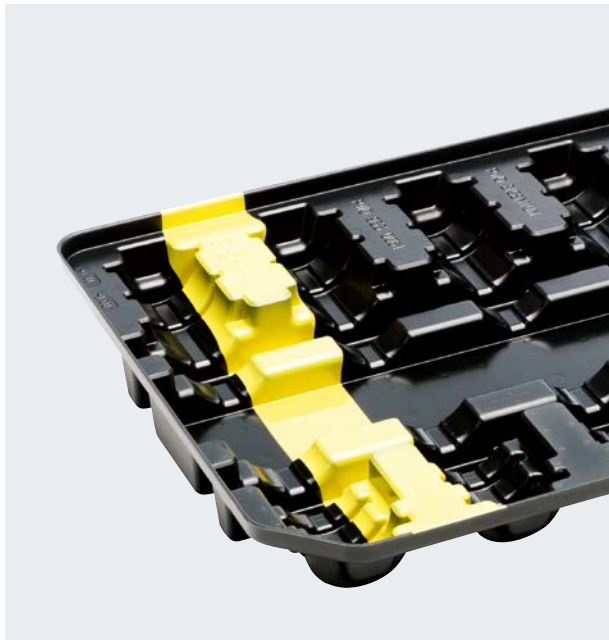
What happens if there is an electrostatic discharge?

While humans only notice a charge equalization starting around 2000 volts, a discharge of just 10 volts is all it takes to damage or even destroy sensitive electronic components. As a rule, the smaller the component, the more vulnerable it is against electrostatic discharges.



Outer packaging

The ESD versions of our MegaPack large load carriers are suitable for a cost-efficient transport of larger components and assemblies.



Component packaging

Conductive workpiece carriers guarantee precise storage of electronic components.



Söhner: The **specialist** for ESD packaging



The ESD packaging standard

The DIN EN 61340-5-3 standard defines packaging properties needed to protect electrostatic discharge sensitive devices. In accordance with the standard,

ESD packaging is classified in three categories according to its electric conductivity and labeled for correct use.

C Conductive electrostatically conductive

Conductive packaging discharges electric charges in the shortest amount of time. The duration of the discharge depends on the surface resistance. For conductive packaging, it ranges between **10^2 to $< 10^4$ Ohm.**

D Dissipative electrostatically dissipative

Dissipative packaging discharges electrical charges over a longer period and via its surface. In contrast to conductive packaging, there are no electrical peaks. Its surface resistance ranges between **10^4 to $< 10^{11}$ Ohm.**

S Shielding electrostatically shielding

Shielding packages form a Faraday cage around the inside of the package. The electrical charges are absorbed inside the packaging and distributed. The discharge occurs extremely slowly.

Packaging with a surface resistance of greater than 10^{11} Ohm has an insulating effect and is unsuitable for electrostatic discharge sensitive components (ESDS).

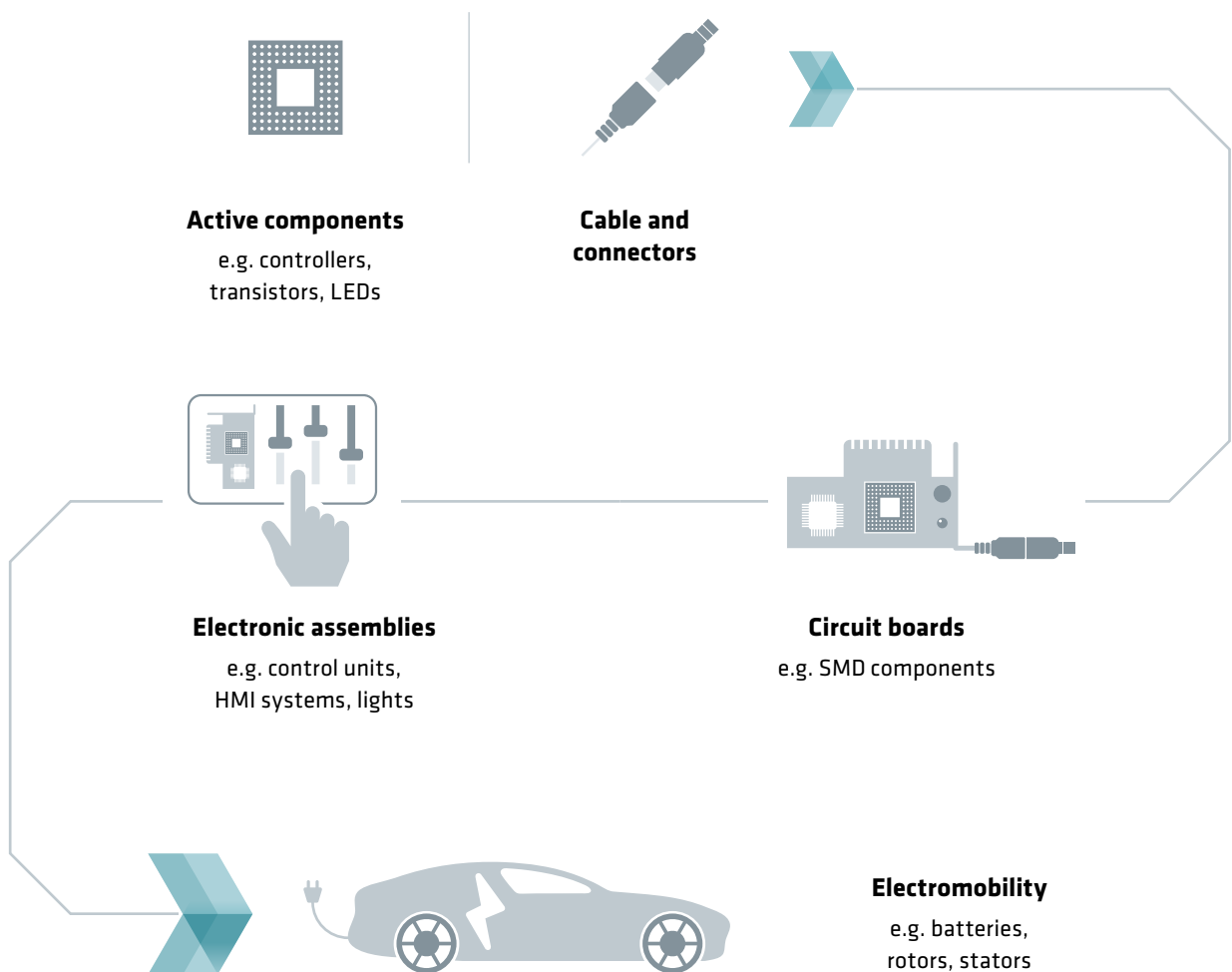
Multiple areas of use and application



Sensitive products should be given optimal **protection**

Solutions for electrostatic discharge sensitive components (ESDS)

During storage and transport, our ESD packaging provides effective protection from electrostatic discharges for sensitive electronic, electrical and optoelectronic products ranging from small components to large assemblies.



Lithium-ion batteries

For the transport of lithium-ion batteries, which are classified as hazardous materials in international transport law, we will provide you with hazardous goods packaging including a UN approval certificate.

Available materials

Using the right materials is important

We use conductive and dissipative materials in the form of full-plastic sheets, twin-wall sheets and foam materials to manufacture our ESD packaging. In addition to their electrical conductivity, the plastic materials also have very good chemical properties and are odorless as long as pure materials are used.



ABS-EL

Conductive acrylonitrile butadiene styrene with carbon.

- + High accuracy

ABS/TPU-EL

Conductive ABS with a dissipative TPU cover layer.

- + High abrasion resistance (anti-slip effect)

HDPE ESD

High-density polyethylene with carbon. Can be conductive or dissipative.

- + High impact resistance even at freezing temperatures

PET-EL

Conductive material made of polyethylene terephthalate.

- + High transparency

PP ESD

Conductive or dissipative polypropylene twin-wall sheets.

- + Lower weight compared to full material

PS-EL

Polystyrene with carbon. Can be conductive or dissipative.

- + High accuracy

PS-EL NANO

Polystyrene with carbon nano tubes. Can be conductive or dissipative.

- + Low material abrasion

PS/PE-EL

Conductive blend of polystyrene and polyethylene.

- + Increased impact resistance

Other materials

Conductive and dissipative foam materials (PE, PU).



INTERCEPT® Technology

Plastic materials with INTERCEPT® coating are used if components need to be protected not only against electrostatic discharges but also permanently against corrosion.

Foldable large load carriers and inner packaging

A large selection of standard solutions

We offer a large selection of ESD foldable large load carriers for transporting electrostatic discharge sensitive components. Our ESD large load carriers are available in all commonly used ISO and EURO pallet dimensions from 800 × 600 mm to 2400 × 800 mm and are a perfect fit for

your logistics processes. We also provide matching inner packaging in the form of compartments and intermediate layers or we can produce them in customized versions according to your specifications.

MegaPack folding systems

Lightweight ESD large load carriers for securely transporting components and assemblies.

Features: Conductive or dissipative

Dimensions: 800 × 600 mm, 1000 × 600 mm, 1200 × 800 mm, 1200 × 1000 mm, 1600 × 1200 mm, etc.

Applications: Headlights, cable harnesses, ECU magazines





Compartments

Compartments or dividers made of PP twin-wall sheets for separating components in outer packaging.

- Features:** Conductive or dissipative
Dimensions: Individual
Applications: Circuit boards, control units, fine motors



Interlayers

Intermediate ESD layers to horizontally separate components within outer packaging.

- Features:** Conductive or dissipative
Dimensions: Individual
Applications: Battery cell frames, charge air diffuser, power rails



Hazardous goods packaging

Robust large load carriers with UN approval certificate for transporting hazardous goods.

- Features:** Conductive or dissipative
Dimensions: 1200 × 800 mm, 1200 × 1000 mm, etc.
Applications: Lithium-ion batteries, airbags

Deep drawn workpiece carriers, inserts and containers

ESD protection for sensitive components

Individual, deep drawn load carriers made of conductive materials allow custom-fitting of electronic products, such as circuit boards or sensors, and securely protect them against electrostatic discharges. In this way, components

can be transported directly to the ESD zones for assembly without repacking. We develop and manufacture ESD load carriers with dimensions up to 1200 × 1000 mm and various material thicknesses.



Blister packaging

Transparent blister trays made of PET-EL or PS-EL for small and lightweight components.

Features:	Conductive or dissipative
Material thickness:	0.3 – 2.5 mm
Dimensions:	up to 700 × 500 mm
Applications:	Microchips, circuit boards, semiconductor storage units





Inserts

Deep drawn ESD inserts for use in plastic containers (e.g. small load carriers or EURO containers).

Features:	Conductive or dissipative
Material thickness:	2 – 12 mm
Dimensions:	400 × 300 mm to 1200 × 1000 mm
Applications:	Microchips, connectors, temperature sensors



Workpiece carriers

ESD workpiece carriers for precision storage, further processing and transport of components.

Features:	Conductive or dissipative
Material thickness:	2 – 12 mm
Dimensions:	350 × 250 mm to 1200 × 1000 mm
Applications:	Actuators, coil formers, control units, transducers



Containers

ESD containers for storing and transporting components. Also available with lids.

Features:	Conductive or dissipative
Material thickness:	2 – 12 mm
Dimensions:	340 × 340 mm to 1200 × 1000 mm
Applications:	Exhaust gas turbulators, combination tools, solenoid valves, spark plugs



Customized ESD system solutions

Systems tailored to your requirements

In addition to a wide range of standard and deep drawn products, we also develop full system solutions precisely tailored to your components and logistics processes. Our system solutions comprise ESD-compliant large load

carriers and individual, customized internal packaging. The result: high-quality ESD packaging that offers comprehensive protection against electrostatic discharge, damage and soiling.



- + Functioning comprehensive protection
- + Large reduction in packaging volume
- + Maximum packing density
- + Easy handling
- + Long service life



360° Service for your satisfaction



We are here for you

Whether it is before, during or after a packaging project, as your reliable partner, we are ready to help during all stages of the process. We analyze your packaging processes with you, advise in the selection of suitable materials and production methods, ensure the performance of required packaging tests and handle the recycling of packaging that has reached the end of its service life. Your satisfaction comes first.

- + Fifty years in packaging production
- + In-house construction and tool-making
- + Modern recycling and upcycling processes
- + Certified management processes
- + 100 % Made in Germany

We are specialists in these electronics areas



Automotive



Industry



Information
and communication



Home and
entertainment



Aerospace



Medical technology



Measurement
and control technology



Optoelectronics



Benefit now

With ESD packaging and system solutions from the specialist

If you have additional questions about our packaging solutions, please do not hesitate to contact us.

Our experts will be happy to provide consultations and help you find a suitable reusable load carrier. We also offer training and workshops on ESD protection, upon request.



www.soehner.de

Everything about our company,
our products and services.

www.rent-megapack.de

Easily and flexibly rent MegaPack
folding systems instead of buying.

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