WORKPIECE CARRIER

THERMOFORMED

SÖHNER

Shape: Precise. Function: Optimum. Product: by Söhner.

Experience is something you can't buy, but you can profit from ours.

Söhner plastics engineering – a guaranteed success.

For more than 50 years, we have been developing and producing high-quality plastic parts and customer-tailored packaging systems for a wide range of uses. Whether deep-drawn industrial parts, foldable large load carriers or thermoformed containers and workpiece carriers, we design tailored solutions with maximum precision and quality. Our customer's satisfaction comes first.

Consultation. Person to person from the start.
From the initial query, we offer our customers in-depth expertise and knowledgeable solutions for every issue relating to your project.

Development. Ideas take form.
Our experience will help you choose the right materials and design for your workpiece carriers or containers.

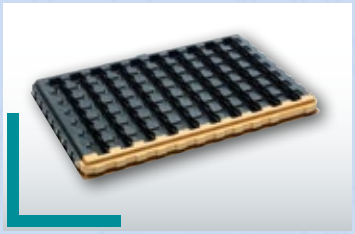
Construction. Designed for efficiency.
Using the latest CAD software, we create 2-D or 3-D models and can produce a sample or prototype in record time.

Tool manufacturing. Nothing comes ready-made.
High-quality in-house tool manufacturing capabilities allow us to respond quickly to the wishes of the customer and create precisely tailored tools.

Production. A series of successes is underway.
The latest generation of thermoforming machines and a flexible production process ensures on-schedule production.

Quality. Certified according to DIN EN ISO 9001 & 14001.
Our certified quality and environmental management systems ensure a consistently high standard using resource-conserving processes.

Product groups at a glance



WORKPIECE CARRIER

Thermoformed workpiece carriers precisely hold components and are highly suitable for automated processes.

PAGE 04

INSERTS | MULTIPLE DIVIDERS

Components can be securely stored and transported in containers such as small load carriers etc. without shifting, scratches or damage.

PAGE 08

CONTAINERS

Deep-drawn plastic containers reliably protect components. They are excellent for automated and manual processes requiring multiple steps.

PAGE 10

ACCESSORIES

A wide selection of functional accessories and extras allow you the flexibility to adapt to specific and special processes.

PAGE 12

MATERIALS

A wide range of materials and thermoplastics with different properties are available for producing individual workpiece carriers.

PAGE 13

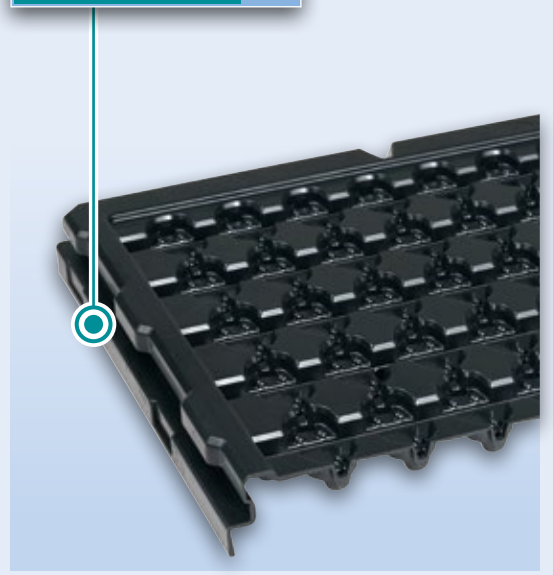
The right technology for every need

FILM PROCESSING. EVERYTHING FITS LIKE A GLOVE.

When processing films, thermoplastic films are drawn into an automated molding machine, heated and shaped on a mold using vacuum and compressed air. The material hardens into its permanent shape as it is cooled. The shaped parts are then punched out and stacked.

Technical properties

- Available sizes up to 700 × 500 mm
- Available thicknesses from 0.3 to 2.5 mm
- Wide selection of materials

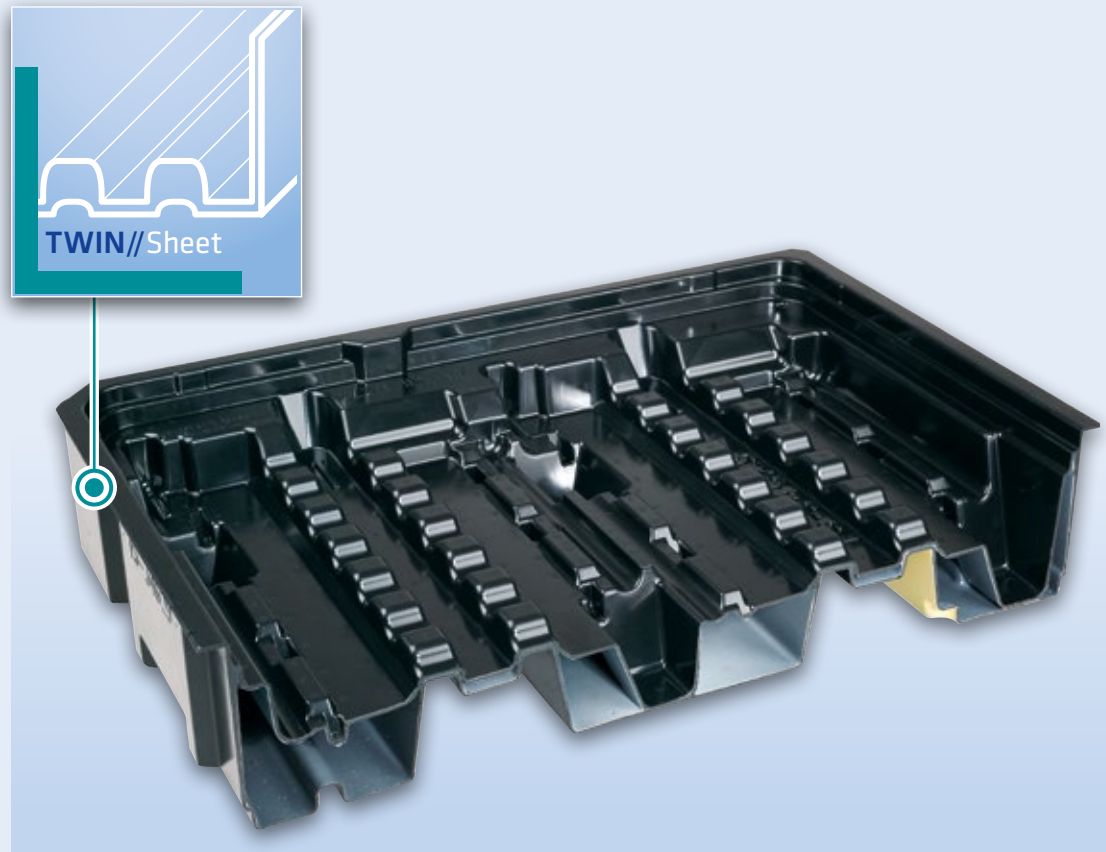


SINGLE/Sheet THERMOFORMING. SIMPLY OUTSTANDING.

In the single sheet process, a sheet of plastic is first heated on both sides and pre-stretched under a flow of air. Then the mold moves into position. The desired shape is created from the heated sheet by vacuuming. By cooling the mold and using a fan, the hot parts are cooled below the solidification point and released from the mold by inflowing air.

Technical properties

- Available sizes of 300 × 400 mm to 1500 × 2400 mm
- Thicknesses up to 12 mm
- Wide selection of materials



TWIN//Sheet THERMOFORMING. TWICE THE STRENGTH.

Unlike the single-sheet process, two plastic sheets are heated, shaped and molded in a single process in the twin sheet method. The sandwich-like structure that is created is far more rigid even though the same materials are used.

In-Line TWIN//Sheet Thermoforming
Two sheets are heated **on one side at the same time** and drawn into a top and bottom mold by means of vacuum. Then both parts are welded together under pressure. This process is especially suitable for creating components with thin walls.

Rotation TWIN//Sheet Thermoforming
Two sheets are heated **sequentially on both sides** and drawn into a top and bottom mold by means of vacuum. Then both parts are welded together under pressure. This process is particularly suitable for creating components with thick walls and allows you to insert reinforcements such as steel bands between the two halves.

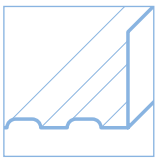
Technical properties

- Available sizes of 400 × 600 mm to 1500 × 2400 mm
- Different shape on top and bottom
- Different color on top and bottom

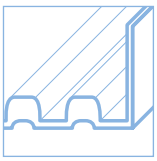
Workpiece carrier

Customer-specific solutions for smooth production.

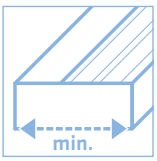
FILM



SINGLE/Sheet



TWIN//Sheet



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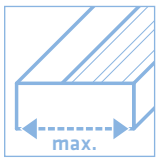

L: 1200 mm
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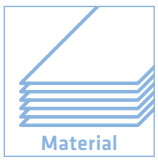


PS | PC
ABS | HDPE
ABS/TPU

Easy handling

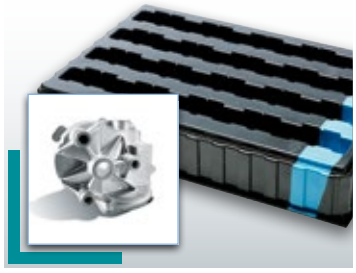
Thermoformed workpiece carriers precisely accommodate components and are tailored for automated handling processes on modern production lines. They also organize and protect components in downstream processing and storage. Designed as a loading unit, they make transportation logistics simple and efficient.

Always individual

We design workpiece carriers exclusively according to customer-specific instructions and requirements. This allows components to be precisely positioned in the workpiece carrier and ensures high repeat accuracy in automation – independent of the size, shape and weight of the components.

REFERENCES: PERFECTLY SHAPED TO THE CUSTOMER'S SPECIFICATIONS.

Gears ready to access.
Stackable workpiece carriers with pins for holding components.



Gearbox housing holder.
Tailored workpiece carrier for accommodating housings.

Bearing cover in wait mode.
Workpiece carrier made of blue ABS for automated production.

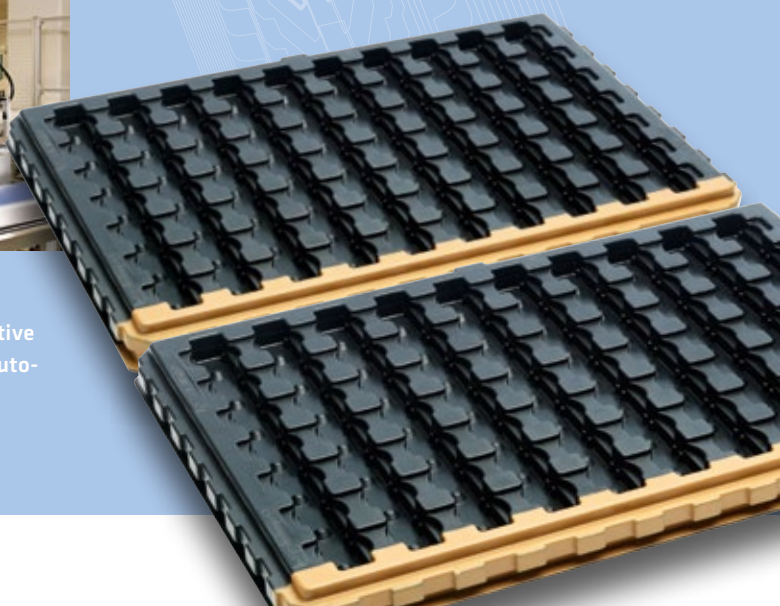
YOU CAN RELY ON THESE ADVANTAGES.

- Expert consultation by qualified engineers
- In-house mold design for innovative shapes
- Flexible production thanks to cutting-edge methods and machines
- Consistent high quality from continuous quality control

Automation | Automotive | Machine construction | Medical technology | Solar

STANDARD SIZES

Length [mm]	350	350	400	400	600	600	800	1000	1200	1200
Width [mm]	250	350	300	400	400	500	600	600	800	1000
Height [mm]	Variable									



Functionality tailored to practical use.

Our customer-specific workpiece carriers are more than just an attractive idea, they have been successfully used for years in a wide variety of automated production systems.

Workpiece carrier

Looking good in each weight class – especially with your components inside.

FILM

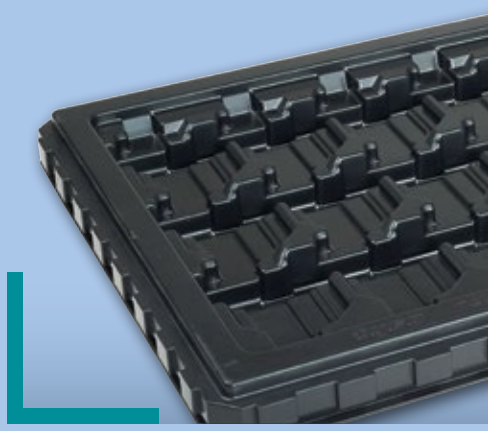
WORKPIECE CARRIER FOR LIGHT COMPONENTS.

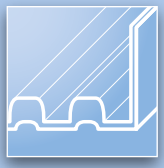
We manufacture individual deep drawn parts made of thermoplastic films for safely storing light-weight components. The thin-wall workpiece carriers are extremely light yet stable.

SINGLE/Sheet

WORKPIECE CARRIER FOR MODERATELY HEAVY COMPONENTS.

To transport and store moderately heavy components such as support elements and coil formers, we produce individual workpiece carriers using our single-sheet process. The precisely fitting part seats are excellent for use in automated production lines.





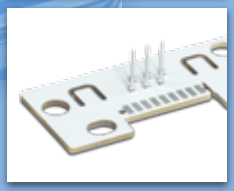
TWIN//Sheet

WORKPIECE CARRIER FOR HEAVY COMPONENTS.

Our special double-wall workpiece carriers allow large and heavy components such as crankshafts, cylinder heads or brake discs to be safely handled. Thanks to their sandwich-like construction, they are extremely rigid and can bear heavy loads.

Cylinder heads ready when needed.
Stacked in rows, they wait to be picked up by the robot and placed on the conveyor belt.

Capacitors in production.
Precise-fit workpiece carriers transport components to the next production station.



Technical features

- Materials: ABS | ABS/TPU | PET | PVC | PS
- Available thicknesses from 0.3 to 2.5 mm
- Available sizes up to 700 × 500 mm

Advantages

- Stackable including rotated 180°
- Cost-efficient solution
- Can be used in surrounding containers
- Suitable for automated handling

Technical features

- Materials: ABS | ABS/TPU | HDPE | PC | PS | PS-EL
- Thicknesses up to 12 mm
- Available sizes up to 1200 × 1000 mm

Advantages

- Stackable including rotated 180°
- High precision and precise fit
- Loading units available
- Suitable for automated handling

Technical features

- Materials: ABS | ABS/TPU | HDPE | PS-EL
- Thicknesses up to 12 mm
- Available sizes up to 1200 × 1000 mm

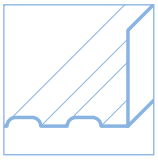
Advantages

- Stackable and highly rigid
- Integratable reinforcement profiles
- Loading units available
- Suitable for automated handling

Inserts

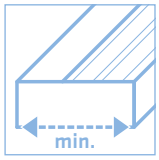
An easy solution to transport protection.

FILM



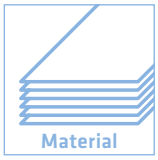
SINGLE/Sheet

TWIN//Sheet



L: 350 mm
W: 250 mm
H: Variable

L: 1200 mm
W: 1000 mm
H: Variable



PS | PC
ABS | HDPE
ABS/TPU

YOU CAN RELY ON THESE ADVANTAGES.

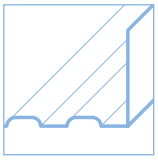
- Reliably position components
- Easy handling
- Stackable including rotated 180°
- Felt lined inserts possible
- In combination with foam
- For all conventional types of containers

Safely stored

If components need to be transported and stored in a plastic container such as a VDA small load carrier or a RAKO or EUROTEC container, it makes sense to first place them in a thermoformed insert which is then placed in the container. Depending on the height of the container, you can stack several inserts to make use of the available volume.

Multiple dividers

Söhner means stability and safety.



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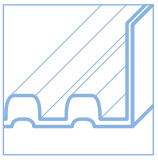
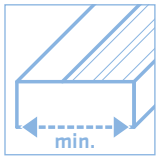
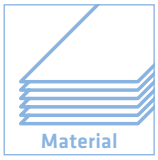


TWIN//Sheet



L: 350 mm
W: 250 mm
H: Variable

L: 2400 mm
W: 1500 mm
H: Variable



PS | PC
ABS | HDPE
ABS/TPU

DIVIDERS IN SÖHNER MEGAPACKS

Inserted in MEGAPACK large load carriers, precisely fitting dividers allow components to be safely stored in several layers.

Advantages

- Maximum use of volume
- Storage protected from weather
- Enclosed shipping unit

DIVIDERS IN STAKE RACKS

In combination with stake racks, even large loads can be placed on dividers. The arising load is borne by the rack.

Advantages

- Heavy loads possible
- Nonslip storage
- Robust shipping unit

DIVIDERS ON PALLETS

You can stack complete assemblies on pallets by using dividers. The dividers prevent sliding and scratching.

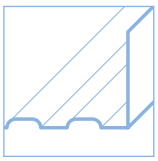
Advantages

- Cost-efficient solution
- Small return volume
- For all conventional types of pallets

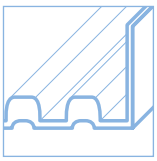
Containers

For safe transportation and automated and manual handling of components.

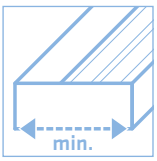
FILM



SINGLE/Sheet



TWIN//Sheet



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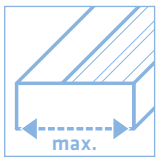
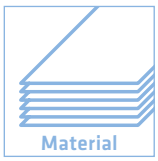
H: Variable



L: 1200 mm
W: 1000 mm
H: Variable



PS | PC
ABS | HDPE
ABS/TPU

Safely transported

Thermoformed plastic containers allow components to be safely transported and stored free of damage. Precisely fitting part seats combined with a taller edge than the workpieces, allow the containers to reliably protect them from dirt and damage. Designed as a loading unit, they make transportation logistics simple and efficient.

Precisely adapted

Our containers are designed according to the customer specifications for each component and tailored to the intended purpose. They can be designed for manual and automated handling. If needed, the containers can be stacked rotated, that is, they can be placed on each other rotated 180°.

REFERENCES: PERFECTLY SHAPED TO THE CUSTOMER'S SPECIFICATIONS.

Roller cam followers in perfect rows.
Stackable containers for safely storing and transporting components.

Solenoid valves safely protected.
Containers made of conductive material to protect from the buildup of electrostatic charges.

Clutch disk safely accommodated.
Robust container made of ABS/TPU for use with sensitive components.

Functionality tailored to practical use.

Our tailored container solutions are more than just an attractive idea, they have been successfully used for years to transport and store industrial components.

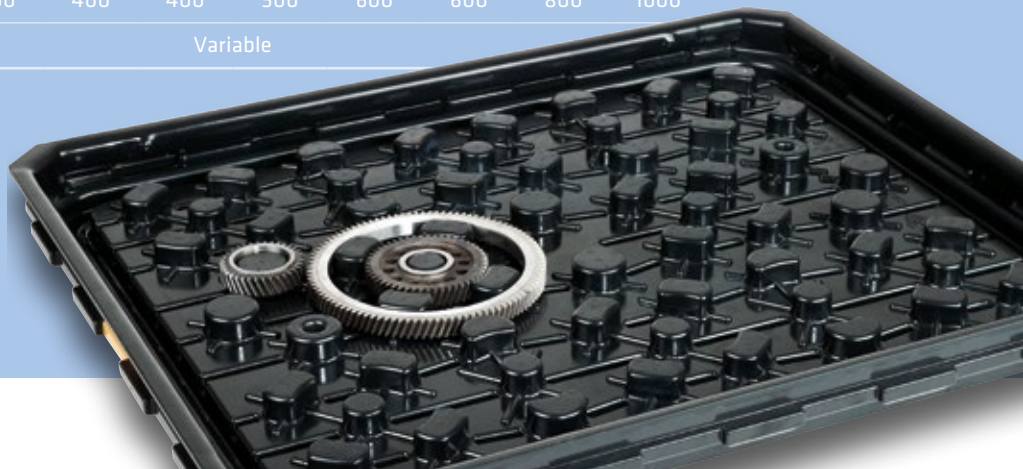
YOU CAN RELY ON THESE ADVANTAGES.

- Stackable including rotated 180°
- High precision and precise fit
- Optimum protection from dirt and damage
- Loading units available
- Suitable for automated handling

Automation | Automotive | Machine construction | Medical technology | Solar

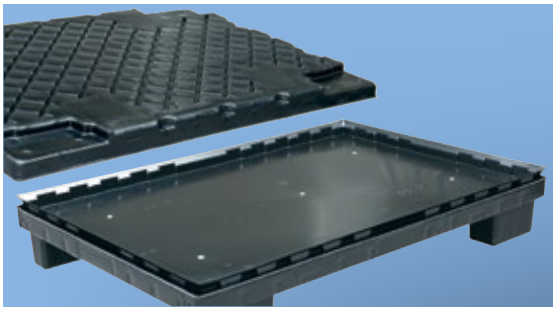
STANDARD SIZES

Length [mm]	340	400	400	500	600	600	800	1000	1200	1200
Width [mm]	340	300	400	400	400	500	600	600	800	1000
Height [mm]	Variable									



Accessories

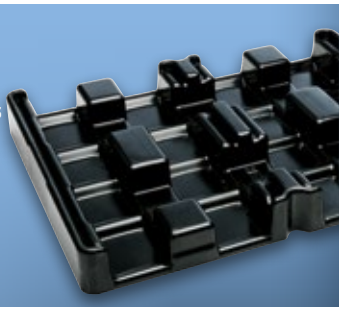
The perfect addition to our comprehensive product line.



Plastic pallets and covers.
These allow the workpiece carriers and containers to be combined into stable loading units. Handling, transporting and storing components is made economical and easier.

Plastic dollies.
Manually transport workpiece carriers and containers in-house.

Stack bases.
Allow stacks of workpiece carriers or containers to be picked up off a pallet.



EXTRAS: OPTIONAL AND USEFUL

Label holders – pop your label in.
Can be welded on, riveted or glued.

Stickers – practical and flexible.
Available in different colors and sizes.

Printed text – permanent and individualized.
By means of hot embossing, pad printing or screenprinting.

Barcodes – Information quickly scanned.
Barcodes, QR codes or RFID chips possible.

Materials

Every plastic has an intrinsic strength – we transfer this to your product.

The right selection

The chosen material significantly influences the quality and shelf-life of a workpiece carrier or container. We therefore process thermoplastics with different properties depending on their use, the required dimensions and load. Electrically conductive materials or plastics with a special co-extrusion coating such as ABS/TPU can be used to protect electronic or surface-sensitive components.

Material properties

	ABS	ABS-TPU	HDPE	PC	PET	PS	PS-EL	PS-PE
Tolerance	++	++	○	++	+	++	++	+
Impact resistance	+	+	++	+	++	○	○	++
Rigidity	++	++	○	++	+	+	+	+
Abrasion resistance	○	++	○	+	○	○	○	○
Conductivity	+	+	+	−	−	−	+	−
Antistatic	+	+	+	+	+	+	−	+
Thermal stability	+	+	○	++	−	○	−	○
Chemical resistance	+	○	++	○	+	○	○	○
Transparency	−	−	−	++	++	+	−	−

++ excellent + good ○ average − not available

A range of uses: As individual and multifaceted as our products.

Always consistent: Functionality and top quality.

Practical developments by Söhner – Useful throughout production.

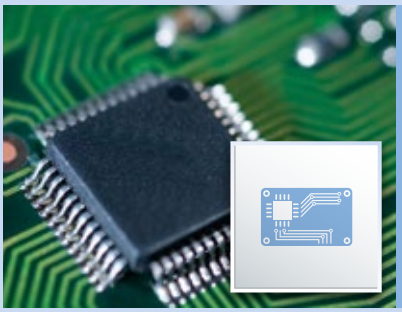
Whether in the automotive industry, automation industry, machine construction, electronics industry or numerous other industrial processes: Workpiece carriers and containers by Söhner have a wide range of uses.

AUTOMATION

Thermoformed workpiece carriers are the optimum solution for automated production with their special outer contours or fixation points inside the container.

AUTOMOTIVE

The precision-fit workpiece carriers are optimum holders for engine and drive components, body parts and interior fittings for automotive production.



ELECTRONICS INDUSTRY

Workpiece holders made of electrically-conductive material protects sensitive electronic devices such as printed circuit boards or connectors from damage due to static electricity.

WHOLESALE AND RETAIL

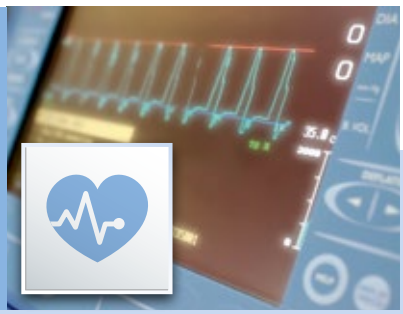
For retailers, we offer multiple dividers and special plastic pallet adapter rings as an alternative to dividers made of disposable cardboard, wood and metal frames.

MACHINE CONSTRUCTION

Heavy and complex mechanical components can be safely placed in our workpiece carriers which can be tailored for automated processes.

MEDICAL TECHNOLOGY

Packaging systems made of food-safe plastics (FDA approved) are used for filling, commissioning and storing diagnostic and medical equipment.



SOLAR TECHNOLOGY

From the solar cell to inverters, the components for solar technology can be stored safely in thermoformed containers and workpiece carriers.

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We are committed to recycling.
Help us in our efforts.

Our plastic packaging systems are made of uniform materials and can be completely recycled. We gladly take back used packages, process them and use them as raw materials for producing new packages. This saves resources and the environment.

engineered and made in Germany