



Thermoforming

For Any Application Field

INNOVATIONS THAT SHAPE THE WORLD OF PLASTICS.





## WIDE RANGE OF SOLUTIONS

The DUROtherm Group has specialised in developing and manufacturing high-quality thermoformed plastic components, PUR foam parts and RRIM thermoformed parts. In addition to thermoformed parts for a wide variety of applications and industries, our product range includes cost-saving collapsible container systems as well as customer-specific and standardized packaging solutions.



## OPTIMAL TECHNOLOGIES

The use of various technologies allows DUROtherm to satisfy even the most difficult project requirements and even out of the ordinary customer requests. In addition to single sheet and twin sheet thermoforming, there is also PUR foaming technology available to achieve this. CAD/CAM-supported post-processing takes place using CNC-controlled milling or laser technology.

High-volume production capacities and state-of-the-art systems facilitate very fast fulfillment of even large orders, with consistently high quality processing, great flexibility and reliability assured.



## COMPREHENSIVE SERVICE: FROM A SINGLE SOURCE

DUROtherm provides a comprehensive service package covering all areas of thermoforming expertise: project planning, consulting, development, design, prototype fabrication, logistics – all from a single source. Extensive know-how and ongoing investments in state-of-the-art production systems are the driving forces behind DUROtherm's technological leadership.

With an extensive range of manufacturing systems in 3-shift operation, DUROtherm can complete even the largest production series cost-efficiently and on time. DUROtherm has one of the largest production units for contract thermoforming in Europe, capable of making parts up to 4200 x 2500 mm in size.

Post-process finishing of thermoformed parts is done using 5-axis CNC-controlled milling stations and advanced 5-axis laser systems. DUROtherm utilizes CAD/CAM-programmed finishing, providing time and cost savings – along with outstanding dimensional accuracy.

## OVERVIEW OF OUR COMPETENCIES

- Decades of thermoforming experience and know-how
- Comprehensive service: single-source for design, production and service
- Extensive production capacity on advanced state-of-the-art machines in 3-shift operation
- Mould sizes up to 4200 x 2500 mm available
- Application-specific process technologies
- Highly precise finishing in advanced 5-axis milling stations and laser trimming stations
- State-of-the-art CAD/CAM technology for direct data transfer to finishing process
- In-house construction of models and jigs



## THERMOFORMING FOR ANY APPLICATION FIELD



From simple development of an individual component, to complex comprehensive development of several system components; from a small thermoformed part to huge mould sizes; from small runs to large runs: DUROtherm is the ideal partner for every job.

After all thermoforming offers a great number of possibilities and not only shows its power by huge sizes of moulds, but also by its high flexibility concerning shape design, material properties and surface design.



Rear light carrier for campers



Housing for coach air conditioning made from several fibre reinforced plastic parts



Bird protection cover for power lines with embedded injection-moulded parts



Thermobox, PU-foam, container single-sheet mirror-welded, cover twin-sheet

- Automotive components:
  - Campers
  - Electric vehicles
  - Utility vehicles
  - Special vehicles
- Aviation and rail traffic
- Machine components
- Sports and leisure items
- Medical systems
- Portable sales exhibits
- Promotional displays, advertising
- Plumbing, heating, air conditioning
- Furniture manufacture and shop fitting
- Gardener's supply



Dashboard for special vehicle with mounted applications and mounts at the rear



Surfboard with embedded injection-moulded parts, twin-sheet, filled with PU-foam



Rail seat bucket, made from flame-resistant plastic, mounted from several parts



Door trim for electrical vehicles with mount fixtures at the rear



Sliding door trim for campers, injection-moulded design, formed with chemically milled negative mould



Cutting unit cover for combine harvesters, combination of single-sheet and twin-sheet, mounted metal carriers



Pump wheel for spiral pump, twin-sheet



Plant growing tray, made from UV-resistant, food safe plastic



Gas cylinder casing for natural-gas vehicles, made from heat-resistant, fibre-reinforced PU

#### Advantages of Thermoforming:

- Short throughput time for tooling
- Very low tooling costs
- Also suitable for prototypes
- Series up to 10,000 pieces a year or more can be implemented economically
- Very stable parts can be realized by twin-sheet technology
- Negative tools with structured chemically milled surfaces enable injection-moulding surface appearance



## SECURE TRANSPORTATION AND STORAGE



Collapsible container systems from DUROtherm combine all the important features of existing collapsible container systems but go beyond these as well: they are cost-effective with regard to procurement, extremely stable and light, and facilitate even more efficient volume reduction. There is a collapsible container system ideally suited to every purpose.

In order to meet every need, DUROtherm containers are also available in customer specific designs. Of course containers can also be specially designed to meet specific customer requirements.



ROBUPAC collapsible containers:  
The intelligent twin-sheet system



LARAPAC collapsible containers:  
The lightweight single-sheet system



DUROPAC collapsible containers:  
For Euro pallets or H1 pallets



Volume reduction when stored empty (ROBUPAC)

Product-specific pallet systems, transport containers, contoured inserts and separators from DUROtherm provide outstanding performance in specific user applications with maximum transport safety and attractive economics.



Separator for crankshafts, stacking weight is supported by the parts



Tray for PCBs, designed for robotic handling



Stack-and-nest transport container for intake manifolds, space-saving return transport



Contoured insert for wheel bearings, coloured strip is guide for stacking direction

Standardized containers with product-specific inserts and standardized separators significantly reduce logistics costs and allow long-term reuse in the product handling chain.



Heavy-duty pallet DSLP 1311, suitable for multi-cycle use



VDA/EUWA 4503 separators for horizontal wheel transport



Loading unit for passenger car crankshafts, ABS with TPU coating



Separators for post pallets, twin-sheet

**Benefits of DUROtherm Reusable Packing:**

- Maximum value for purchase investment
- Secure protection of products carried
- Sturdy and rugged
- Lightweight
- Efficient space utilization
- Cost savings due to volume reduction in return transport
- Wide selection of materials and colours
- Easy to handle
- Easy to clean and maintain
- Long service life
- 100 % recyclable



[www.durotherm.de](http://www.durotherm.de)

## YOUR POWERFUL PARTNER FOR THERMOFORMED PARTS

The DUROtherm Group: Specialist for vacuum formed parts since 1968. DUROtherm's primary concern is comprehensive customer satisfaction in all areas of collaboration. All our thoughts and actions and all processes are focused on this goal.

This strict focus on customer requirements is achieved both through sound consultation combined with technically perfect thermoformed parts, and also through a high degree of flexibility and reliability. Our friendly, helpful, well-trained staff is another factor that ensures consistent achievement of this goal.

The highest standards of quality, maximum flexibility and dependability, combined with cooperativeness and fairness are factors that contribute to our success, making DUROtherm a business partner that delivers high performance – now and in the future.

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