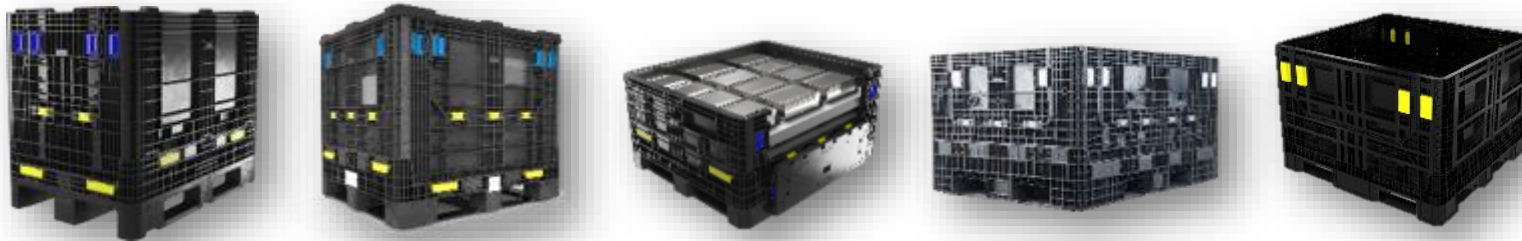


ORBIS Europe

Innovative Packaging Solutions
for a sustainable future



Powered by Menasha Corporation



Property of ORBIS Europe

| www.orbiseurope.eu

| europe@orbiscorporation.com



INNOVATIVE



DURABLE



SUSTAINABLE



AGENDA

About ORBIS

Foldable Large Containers


Dangerous Goods Packaging

Pallets

ABOUT ORBIS

- ORBIS is a subsidiary of Menasha Corporation
- Family-owned business since 1849 with more than 170 years of experience
- World Headquarters: Oconomowoc, Wisconsin
- 2 Bill. € Revenue / 6.000 employees worldwide (Menasha)
- ORBIS Manufacturing facilities in EUROPE, USA, MEXICO and CANADA








 Powered by Menasha Corporation



The power behind possible®

LOCATIONS



-  Oconomowoc, Wisconsin
US Headquarters
-  United States of America
Production, Sales, RPM Service Centers
-  Toronto, Ontario, Canada
Production
-  Mexico
Production, Sales, RPM Service Center
-  Columbia
Sales FMCG and Beverage

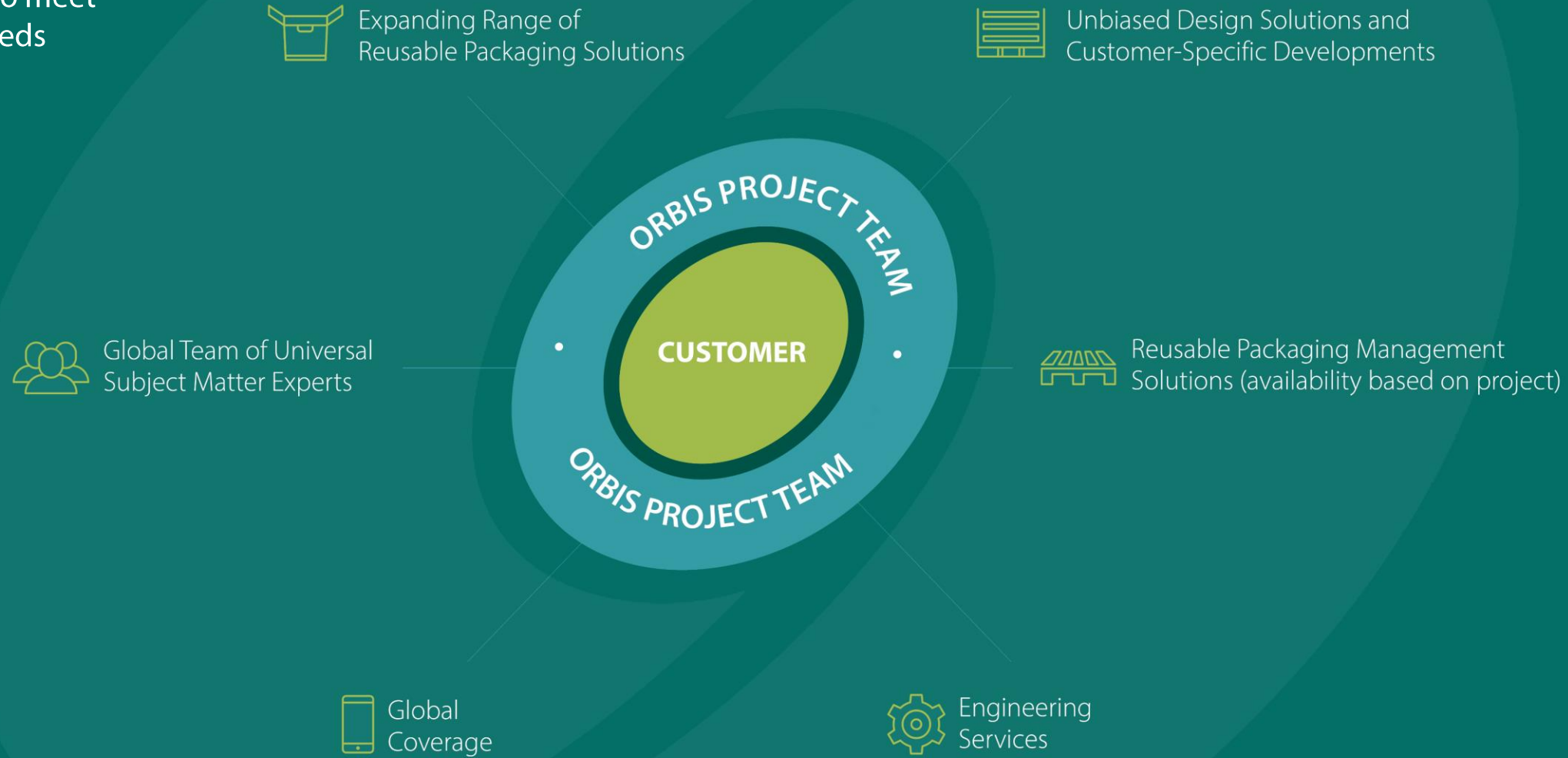
In Europe since 2016

-  Hürth / Cologne, Germany
European Headquarters
-  Ypres, Belgium
Production
-  Eindhoven, The Netherlands
RPM Service Center



ORBIS EUROPE SERVICE OFFERING

Integrated solutions to meet
your supply chain needs



Leading in USA, Canada and Mexico – growing presence in Europe

PROFESSIONAL SERVICES

OUR ONE-STOP-APPROACH: WE SUPPORT YOU ALONG THE ENTIRE PACKAGING LIFE CYCLE

1. CONSULTING SERVICES

- **Life cycle assessments** / total cost of ownership (TCO) calculations to compare different packaging solutions
- Reusable packaging programs for **long-term savings and sustainability** in existing manual / automated supply chains

3. REPAIR SERVICES

- **Individual trainings** on site and handling / maintenance guidelines for self-repair
- Repair services available upon request

2. ENGINEERING SERVICES

- **Standard and customised** container development with in-house dunnage design capabilities
- Qualified consulting and engineering services according RID/ADR, project management & **UN certification** process

4. BUYBACK / RECYCLING SERVICES

- **Buyback option** for end-of-life load carriers: recovering, recycling and reprocessing raw materials
- **Credit** for future purchases



WHY REUSABLES?



Reduces
waste



Creates
supply-chain
wide cost
savings



Keeps plants
and
equipment
clean



Improves
efficiency



Protects
product

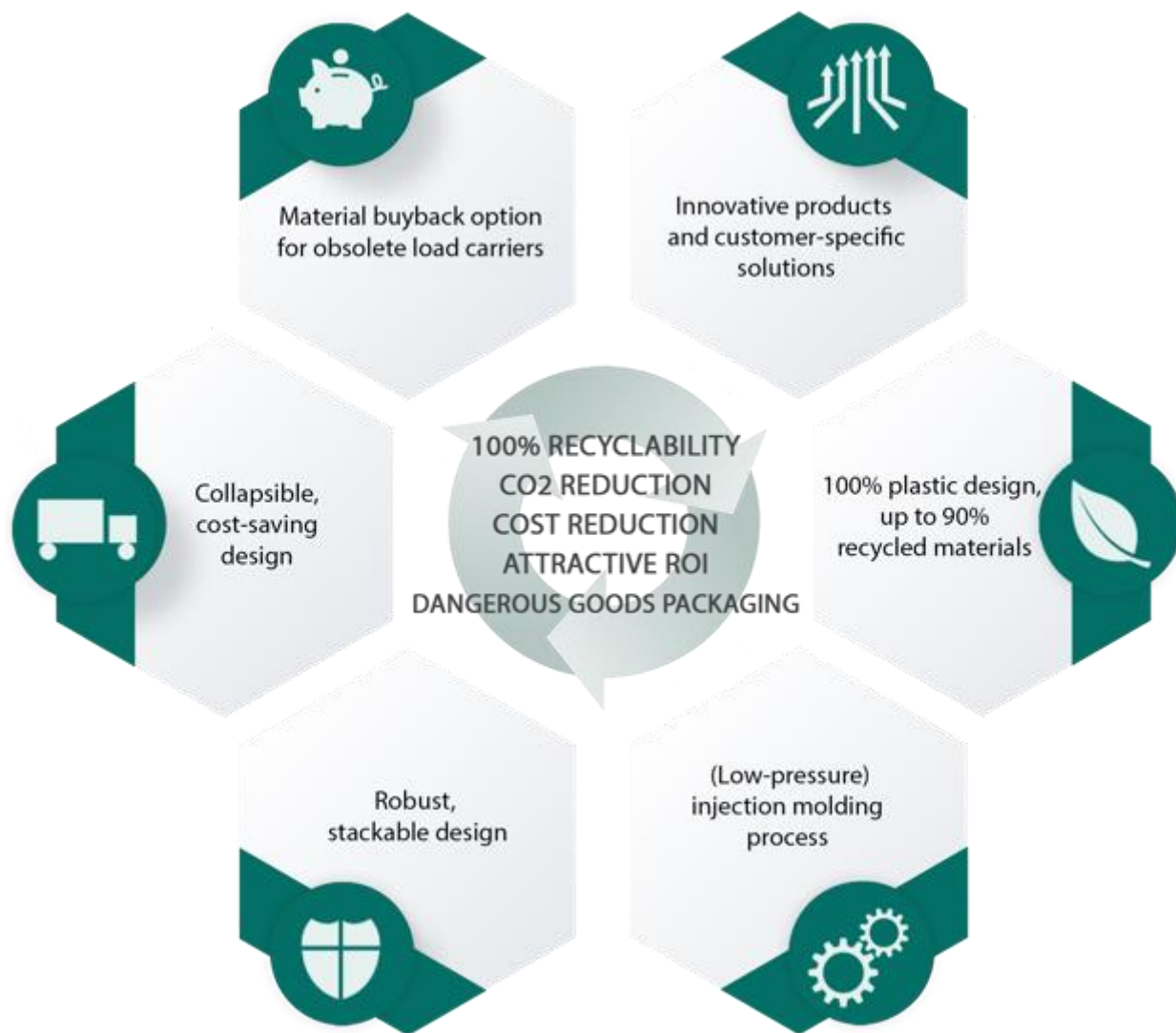


Streamlines
automation



Optimizes
transportation

PRODUCT LIFE CYCLE



- European and American standard footprints available
- Customer-specific development, tool making and production
- **Flexibility** and direct availability due to inventory management



- Nearly closed, entirely sustainable raw material cycle
- Reduction of CO2 emissions by **60-70 kg** per load carrier
- Lower risk for product damage caused by rusting packaging elements



- Significantly longer life cycle
- Attractive **ROI**
- Reduced CO2 emissions due to low temperatures during production



- FLCs with up to **900 kg** weight capacity
- UN-certified for solid dangerous goods, e.g. Li-Io batteries
- Improved workplace safety and ergonomics
- **Stackable** design (up to 1+5 static / 1+2 dynamic for FLCs)
- Easy and quick maintenance on site



- **Optimised space utilisation** in return transport and warehouse
- Cost savings due to **1:3 return ratio** of FLCs



- Further increased **ROI**
- **100%** recyclability of plastic raw materials
- Reprocessing raw materials into new packaging products
- No disposal necessary
- **Sustainability** due to return to raw material cycle

AGENDA

About ORBIS

Foldable Large Containers

Dangerous Goods Packaging

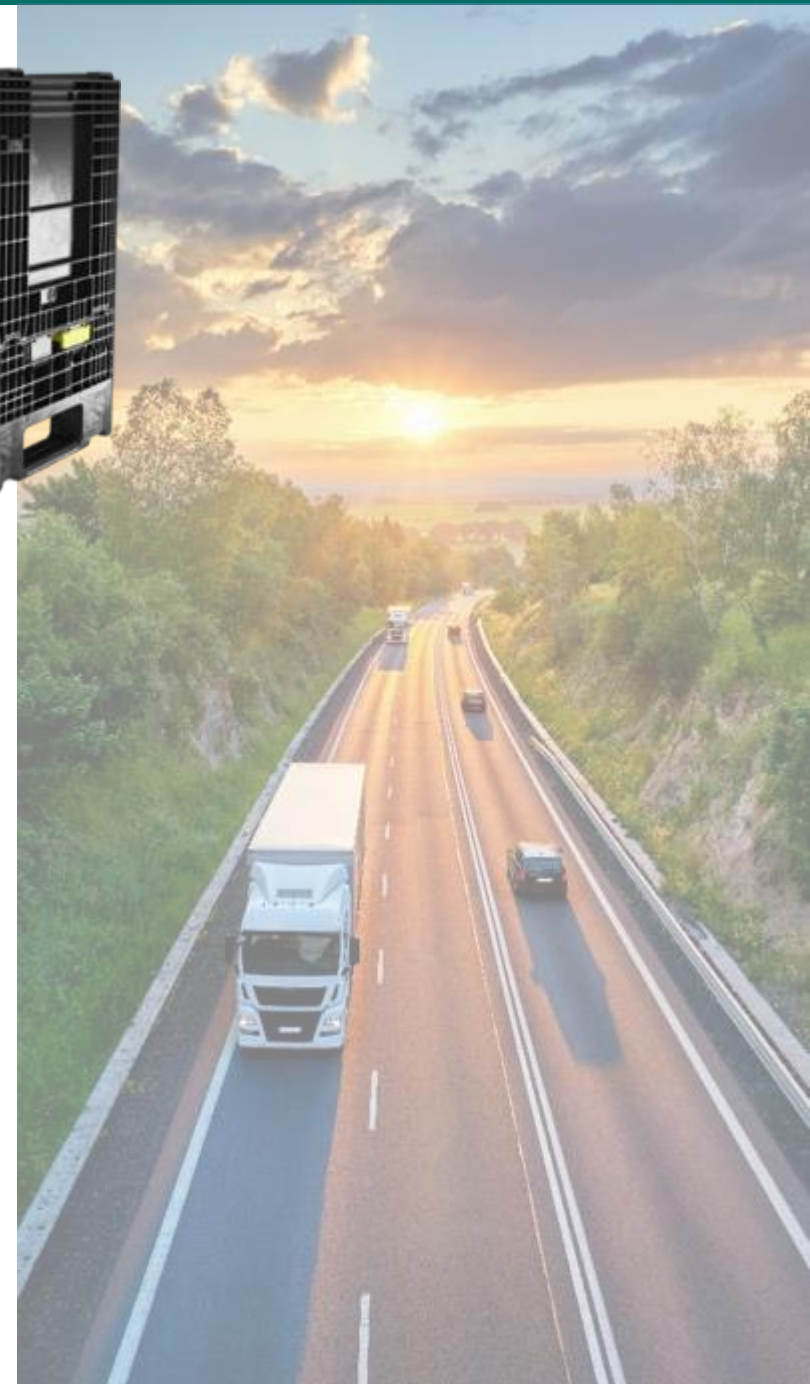
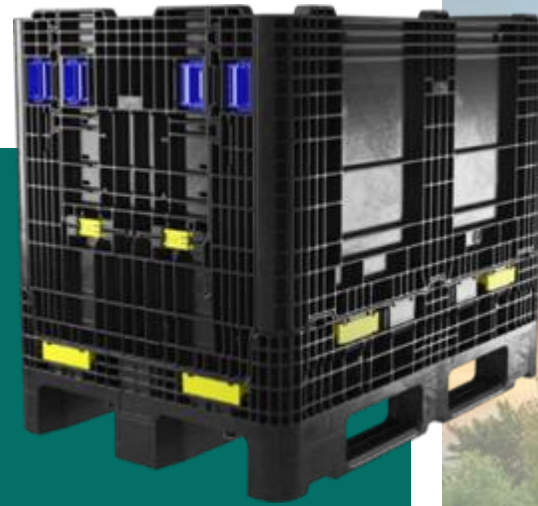
Pallets

GitterPak®

- Robust FLC with European footprint **1200 x 800**
- Weight capacity of **900 kg**
- Reusable, stackable, no rust
- Improved truck utilization during return transport
- Foldable 1 : 3 / stackable in loaded state 1 + 5 static / 1 + 2 dynamic

Specifications (All dimensions in mm, unless otherwise indicated)

Model	HDB1208-960
Outside Dimensions (L x W x H)	1200 x 800 x 960
Inside Dimensions (L x W x H)	1120 x 720 x 805
Collapsed Height	354
Container Capacity (kg)	900
Weight (kg)	65

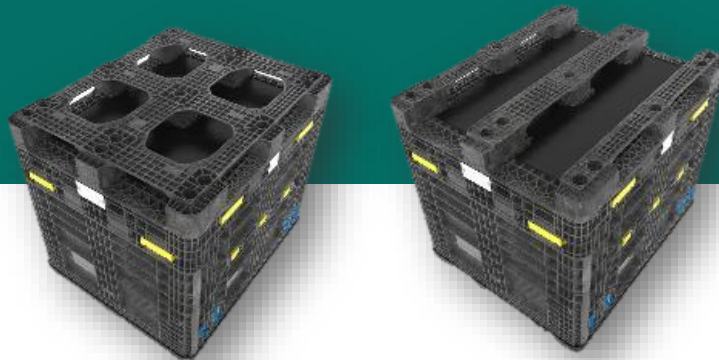


HDB1210

- Robust FLC with Automotive footprint
1200 x 1000
- Weight capacity of **900 kg**
- Foldable 1 : 3 / stackable in loaded state 1 + 5 static / 1 + 2 dynamic
- Long service life, recyclable
- Different door configurations available
- Different heights available
(for increased packing density)
- Different bottom configurations available

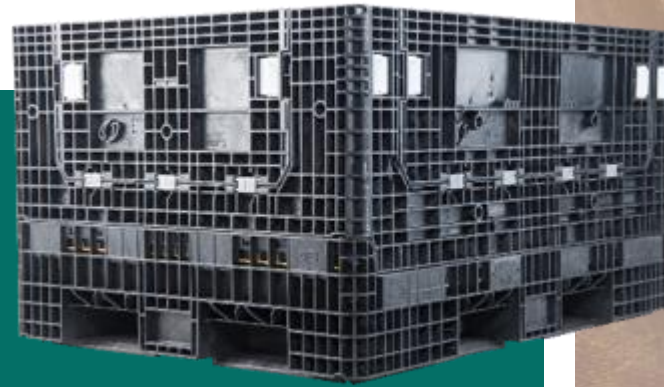
Specifications (All dimensions in mm, unless otherwise indicated)

Model	1200 x 1000	
	HDB1210-582 R	HDB1210-980 R
Available Bottom Configuration	3 Runners	3 Runners
Outside Dimensions (L x W x H)	1200 x 1000 x 582	1200 x 1000 x 980
Inside Dimensions (L x W x H)	1113 x 913 x 462	1113 x 913 x 860
Product Clearance	434	834
Collapsed Height	317	317
Container Capacity (kg)	900	900
Weight (kg)	51	69



XXLPak EXTENDED LENGTH

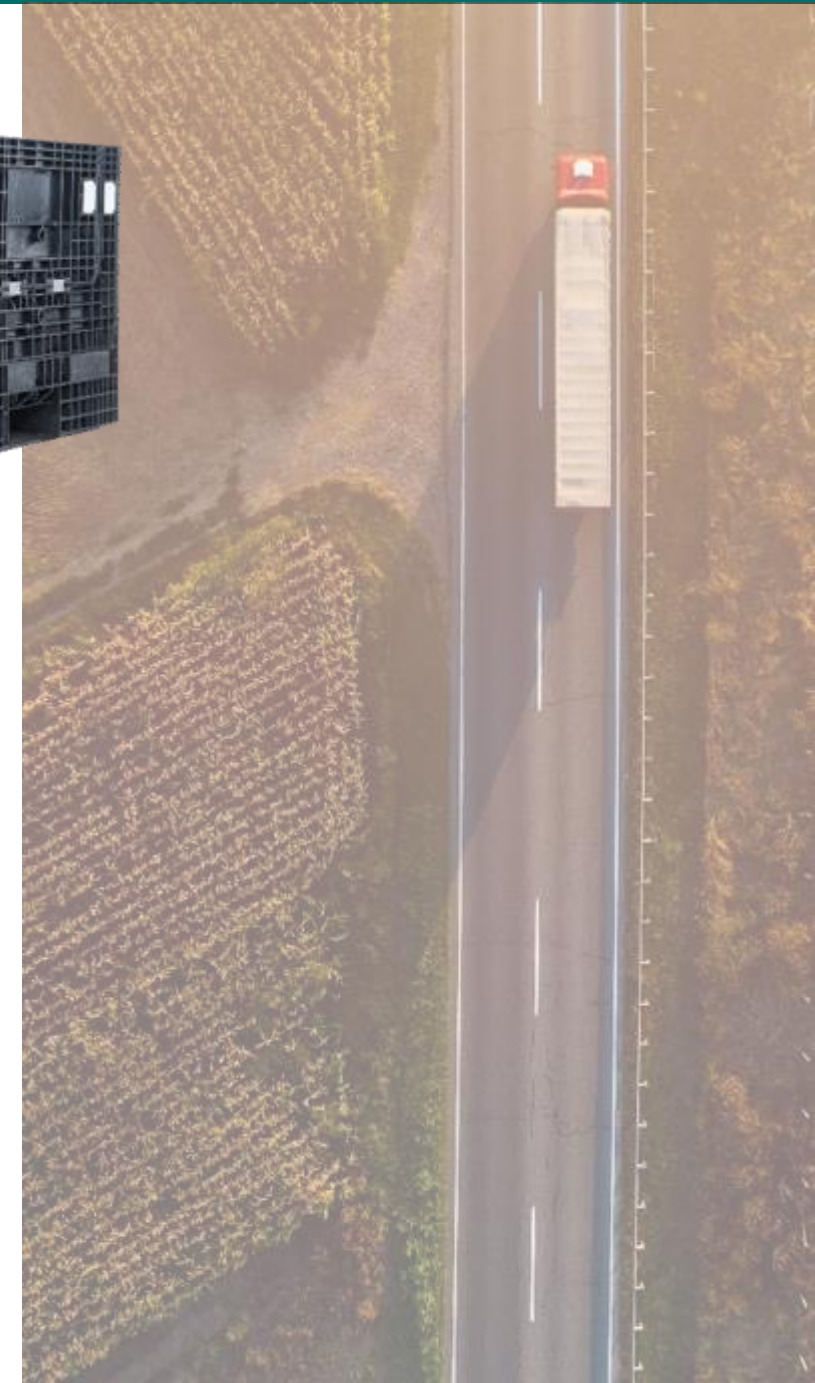
- Suitable for long and heavy components
- Load capacity up to **900 kg**
- Foldable up to 1 : 2,6
- Load stackable up to 1 + 4 static / 1 + 3 dynamic
- Different door configurations available
- Different bottom configurations available



Specifications (All dimensions in mm, unless otherwise indicated)

Model	HDR5648-34 NV	HDR6548-25 NV	HDR6548-34 NV
Outside Dimensions (L x W x H)	1435 x 1219 x 879	1638 x 1219 x 650	1638 x 1219 x 879
Inside Dimensions (L x W)	1354 x 1138	1557 x 1138	1557 x 1138
Product Clearance / Exploitable Internal Height	683	457	681
Collapsed Height	345	345	345
Container Capacity (kg)	900	900	900
Weight (kg)	89	82	98

Model	HDR6548-50	HDR7048-34	HDR7848-34
Outside Dimensions (L x W x H)	1638 x 1219 x 1270	1778 x 1219 x 864	1981 x 1219 x 864
Inside Dimensions (L x W)	1557 x 1138	1687 x 1130	1892 x 1130
Product Clearance / Exploitable Internal Height	1090	678	678
Collapsed Height	561	338	338
Container Capacity (kg)	900	675	675
Weight (kg)	113	103	104

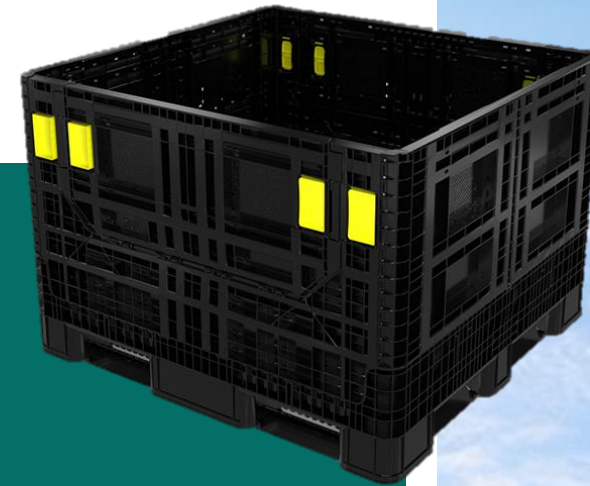


OceanPak®

- Intercontinental sea freight transportation
- Suitable for long distances and rugged conditions
- Foldable **1 : 2,5** / load stackable 1 + 5 static / 1 + 2 dynamic
- Optimized transport in overseas containers
- No costs for disposal of one-way packaging
- Weight capacity of **900 kg**

Specifications (All dimensions in mm, unless otherwise indicated)

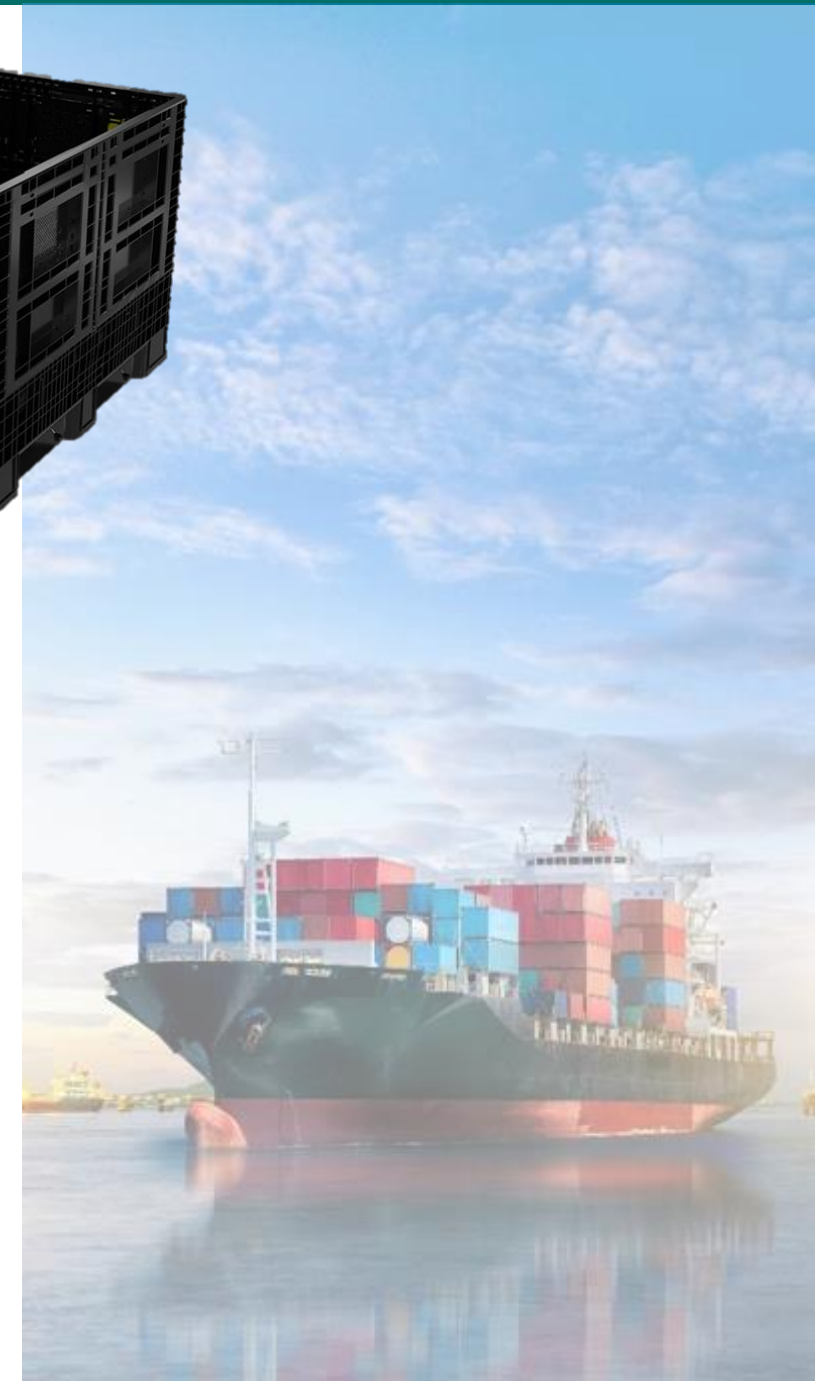
Modell	HDI 119114-84
Outside Dimensions (L x W x H)	1190 x 1135 x 840
Inside Dimensions (L x W)	1120 x 1065
Collapsed Height	330
Container Capacity (kg)	900
Weight (kg)	47



60 Boxes



160 Boxes



REDUCTION OF CO2 EMISSIONS



73 kg steel



69,4 kg HDPE Rec. plastic 83%

- 56,6 kg CO2 per bin

	Weight [kg]	Recyclate %	Recyclate weight [kg]
Bottom	28,8	90 %	25,9
Inner runners	3,1	90 %	2,8
Outer runners	2,2	90 %	2,0
Outer runners	2,2	90 %	2,0
Side wall short side	7,0	75 %	5,3
Side wall short side	7,0	75 %	5,3
Side wall long side	9,2	75 %	6,9
Side wall long side, w/o door	5,4	75 %	4,1
Door long side	4,5	75 %	3,4
Weight per bin	69,4	83%	57,5

Exemplary calculation.

Source: <https://walmartsustainabilityhub.emissionscalculators.walmart.com/main/home/GSF/eng>

COST SAVINGS OF BUYBACK OPTION

Calculation of present container value in case of buyback (after 10 years)							
Weight ca.	Price / kg*	Credit	Transport**	Disposal***	Surplus value	Interest rate	NPV at time of purchase
66.3	0.52 €	34.48 €	4.55 €	0.00 €	29.93 €	0.5%	28.47 €
66.3	0.52 €	34.48 €	4.55 €	0.00 €	29.93 €	1.0%	27.09 €
66.3	0.52 €	34.48 €	4.55 €	0.00 €	29.93 €	1.5%	25.79 €
66.3	0.52 €	34.48 €	4.55 €	0.00 €	29.93 €	2.0%	24.55 €

* Based on value of 10/2020.

** Transportation from e.g. South Germany to ORBIS Plant Ypern/BE 1.200€ / 264 Bins = 4,55€ / Bin

*** The raw materials are 100% recyclable, no costs for disposal necessary.

Calculation of present container value in case of buyback (after 10 years)							
Weight ca.	Price / kg*	Credit	Transport**	Disposal***	Surplus value	Interest rate	NPV at time of purchase
66.3	0.57 €	37.79 €	4.55 €	0.00 €	33.24 €	0.5%	31.62 €
66.3	0.57 €	37.79 €	4.55 €	0.00 €	33.24 €	1.0%	30.09 €
66.3	0.57 €	37.79 €	4.55 €	0.00 €	33.24 €	1.5%	28.64 €
66.3	0.57 €	37.79 €	4.55 €	0.00 €	33.24 €	2.0%	27.27 €

* Based on a 10% higher raw material price

** Transportation from e.g. South Germany to ORBIS Plant Ypern/BE 1.200€ / 264 Bins = 4,55€ / Bin

*** The raw materials are 100% recyclable, no costs for disposal necessary.

Calculation of present container value in case of buyback (after 10 years)							
Weight ca.	Price / kg*	Credit	Transport**	Disposal***	Surplus value	Interest rate	NPV at time of purchase
66.3	0.47 €	31.16 €	4.55 €	0.00 €	26.61 €	0.5%	25.32 €
66.3	0.47 €	31.16 €	4.55 €	0.00 €	26.61 €	1.0%	24.09 €
66.3	0.47 €	31.16 €	4.55 €	0.00 €	26.61 €	1.5%	22.93 €
66.3	0.47 €	31.16 €	4.55 €	0.00 €	26.61 €	2.0%	21.83 €

* Based on a 10% lower raw material price

** Transportation from e.g. South Germany to ORBIS Plant Ypern/BE 1.200€ / 264 Bins = 4,55€ / Bin

*** The raw materials are 100% recyclable, no costs for disposal necessary.

Exemplary calculation.

AGENDA

About ORBIS

Foldable Large Containers

Dangerous Goods Packaging

Pallets

DANGEROUS GOODS PACKAGING

- Complete packaging solution for solid dangerous goods including foldable plastic container with certification, protective inner packaging and lid
- Certified to transport solid dangerous goods (e.g. UN3480)
- Approval up to **400 kg**
- Optimized space utilization throughout the supply chain (collapsible, stackable)
- Different door configurations available
- Comprehensive product protection
- Standard footprints available for seamless integration in existing processes
(**1200 x 1000 mm** or **1200 x 800 mm**)



CERTIFICATION

- Certified by The Belgian Packaging Institute (IBE-BVI)
- Certified to transport solid dangerous goods (Packaging Group II)
- Transportation of airbags, belt tensioners or other products in dangerous goods class 9 possible after passing a bonfire test
- Applies to primary plastics and regenerates
- Qualified consulting by a certified dangerous goods safety advisor




BELGISCH VERPAKKINGSINSTITUUT bv
INSTITUT BELGE DE L'EMBALLAGE srl

CERTIFICATE OF APPROVAL N° 200044

ANNEX I TO THE UN CERTIFICATE OF APPROVAL: ROAD AND RAIL TRANSPORT

UN mark

 4H2/Y310/S/*
B/1697.657-200043

Substances accepted for carriage and conditions for packing

Substances of the classes 1.3, 4.1, 4.2, 4.3, 5.1, 5.2, 6.1, 8 and 9

If allowed by the following sections of the ADR/RID and under the conditions specified in these sections: 3.2, 4.1.4 and 4.1.10 (ADR-RID).

The following conditions must also be fulfilled:

Classification under the packing group		max. gross mass (kg)
UN3480	LITHIUM ION BATTERIES (including lithium ion polymer batteries)	310

For substances and articles of class 1, the packaging shall also be approved by

FPS ECONOMY

Direction générale Qualité et Sécurité / Algemene Directie Kwaliteit en Veiligheid
Service Réglementation Sécurité / Dienst Reglementering Veiligheid
North Gate III
Boulevard du Roi Albert II, 16
1000 - BRUSSELS



TRANSPORTATION OF LI-ION BATTERIES

Phase 1: Transport of prototypes

Phase 2: Transport of battery cells or modules

Phase 3: Return transport of batteries

Phase 4: Return transport of damaged batteries



Our packaging solutions

IonPak

IonBox

IonPak 2.0 further testing required)

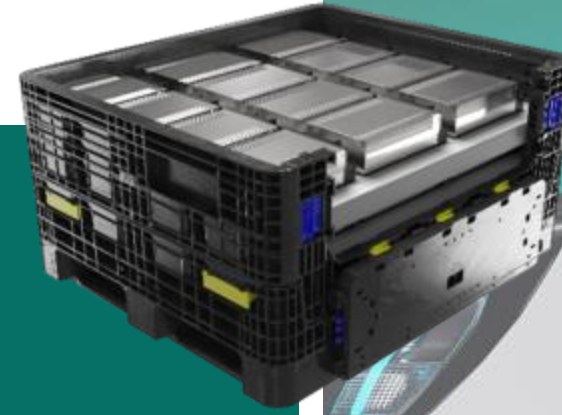
ORBIS Europe offers innovative packaging solutions for non-certified batteries, prototypes, battery cells, battery modules and batteries in equipment

We support you from development to certification of your packaging solution.



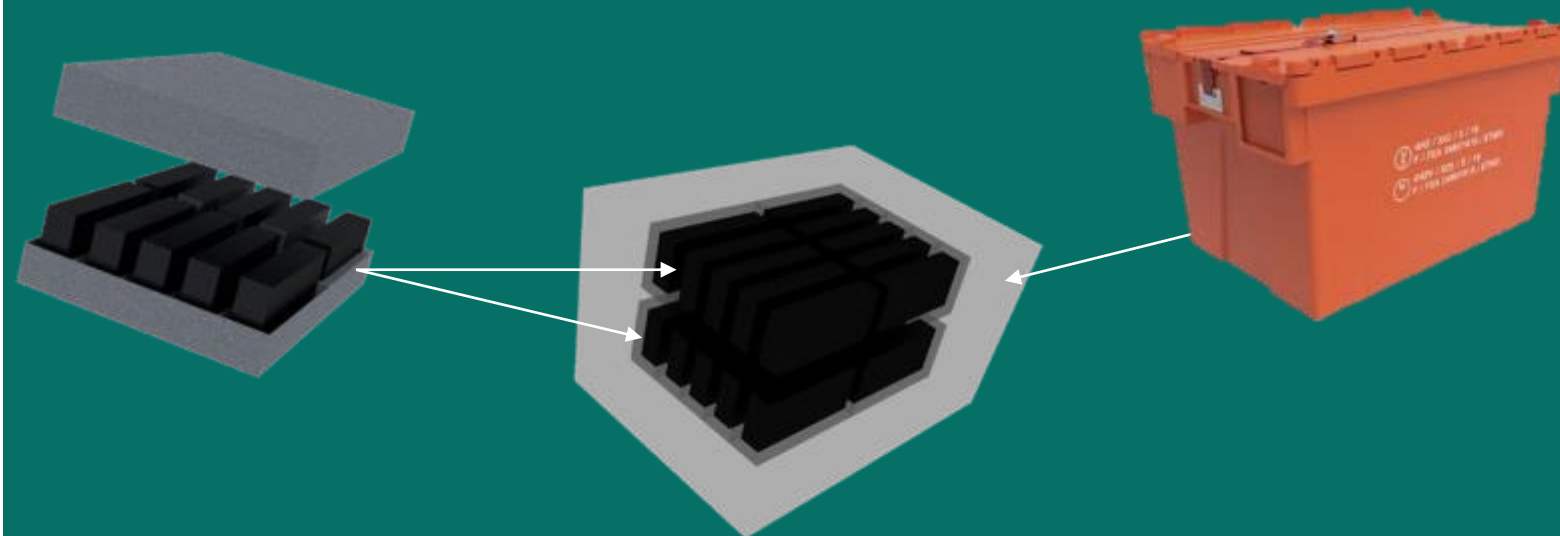
IonPak®

- For battery cells and modules
- Certified to transport solid dangerous goods (e.g. UN3480)
- Certification: UN4H2/Y/S/*B/1697.657-200043
- Converts conventional steel/cardboard packaging to a reusable plastic container
- Approval up to **400 kg**
- Increased return ratio and warehousing savings with a collapsible and stackable design
- Industry standard footprints designed to interface with existing supply chains
(**1200 x 800 / 1200 x 1000**)



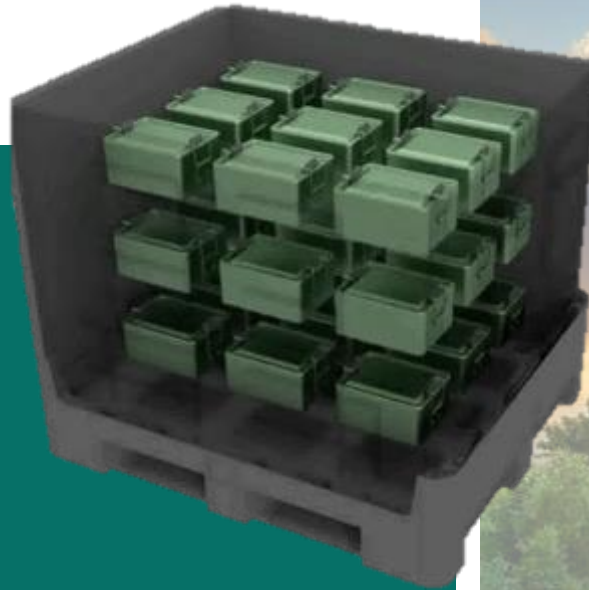
IonBox

- For small series / prototypes
- Standard model: **600 x 400 x 310 mm**
- Outer box is UN-certified
- Incl. foam inner packaging, up to 20 prototypes and absorbing/padding material



REVERSE IonPak

- For the transportation of damaged lithium-ion batteries
- Fire-retardant inner material as cushion and padding
- Same capacity as IonPak
- Batteries are stored in layers
- Plastic container and inner packaging is reusable and recyclable
- Existing packaging concept, additional testing necessary



AGENDA

About ORBIS

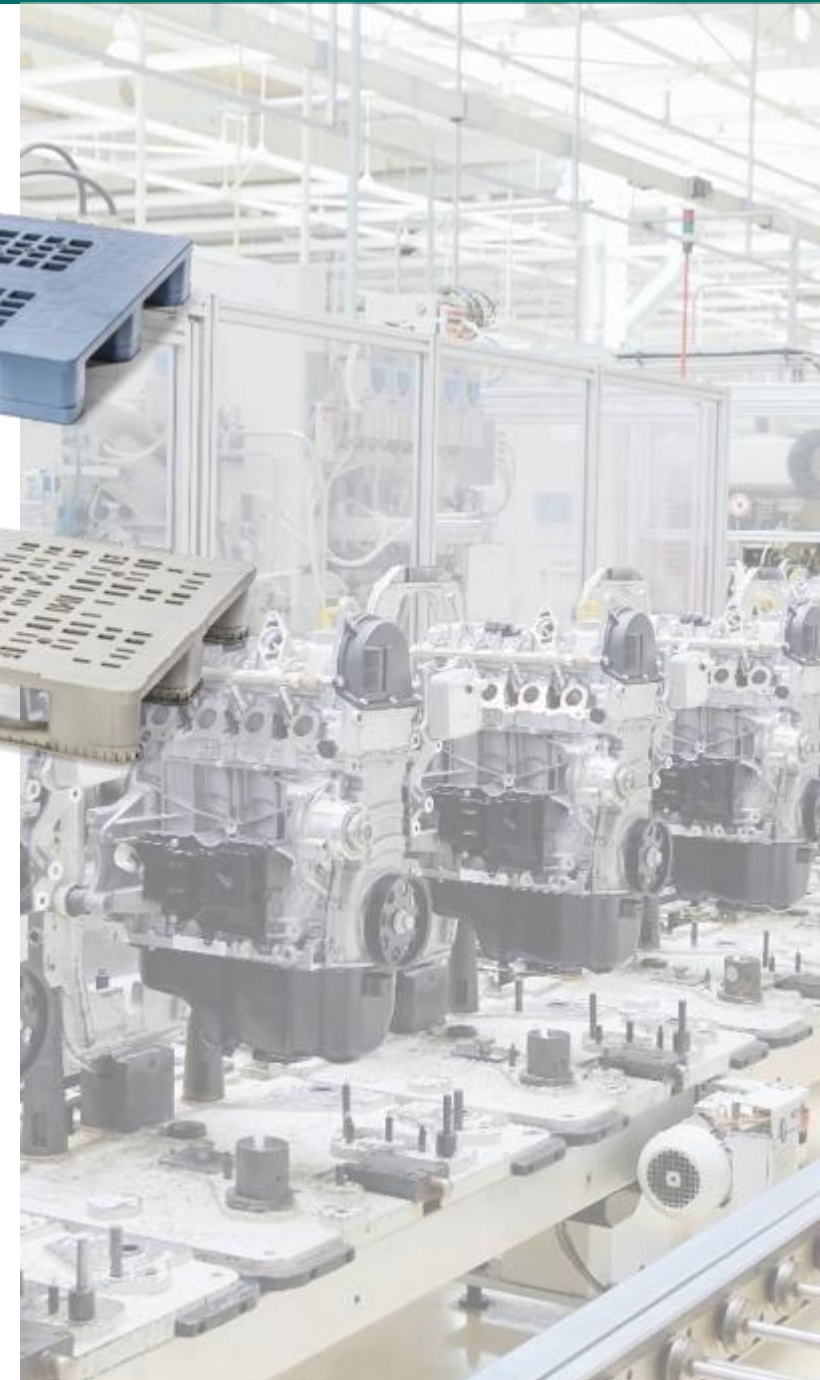
Foldable Large Containers

Dangerous Goods Packaging

Pallets

INDUSTRIAL / EURO PALLETS

- Standard European dimensions
- Extremely durable and robust due to manufacturing process
- For applications with high rotations
- Sustainable, efficient and safe alternative to wooden pallets
- Open deck / closed deck available
- Available as hygienic pallet for lower risk of contamination
- Available dimensions:
 - Auto Pallet – **1200 x 1000**
 - Euro Pallet – **1200 x 800**



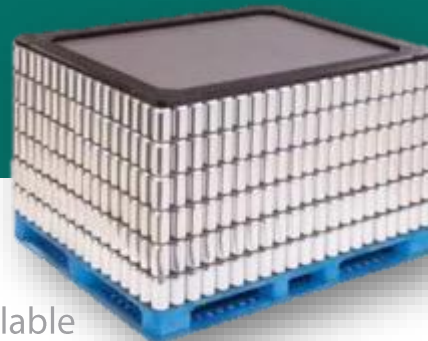
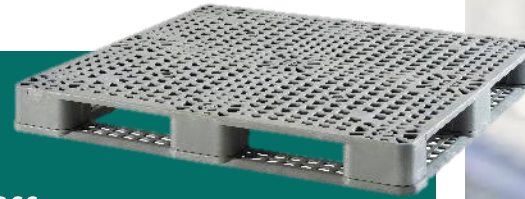
RETAIL AND DISPLAY PALLETS

- Small-sized pallets for retail applications and display positioning
- Sustainable, efficient and safe alternative to wooden pallets
- Stackable and nestable for optimized storage and transport
- Light-weight
- Designed for manoeuvrability and ease of access
- Available dimensions:
 - One-eight Pallet – **400 x 300**
 - Quarter Pallet – **600 x 400**
 - Half-Size Pallet – **800 x 600**



FOOD AND BEVERAGE PALLETS

- Plastic pallets for food, beverage and FMCG applications
- Designed to convey beverage products, aluminium and steel cans, glass and plastic bottles and other rigid packages on many palletizer and conveyor systems
- Sustainable, efficient and safe alternative to wooden pallets
- Available in FDA-compliant material
- Tapered 4-way entry
- Available dimensions:
 - Spanish Pallet – **1120 x 1420**
 - German Pallet – **1180 x 1265**
 - UK Pallet – **1120 x 1300**
 - Can End Pallet – **1000 x 1200**



Layer Pads and
Top Frames available



SUSTAINABILITY IN RETAIL SUPPLY CHAINS

ORBIS
Powered by Manulife Corporation

A Better Way

For a more sustainable business, start with your supply chain.

Why use reusable over single-use packaging?
less system downtime | faster load/unload times | lower labor costs

Small footprint. Big savings.

REUSABLE TOTES¹

- Equal to 38,000 2-liter bottles
- 31%** Reduce energy usage
- 79.5%** Reduce solid waste
- 38.3%** Reduce greenhouse gas emissions

REUSABLE PALLETS²

- Enough to run a refrigerator in 120 U.S. homes for 1 year
- 71%** Reduce energy usage
- 72%** Reduce solid waste
- 3.2%** Reduce greenhouse gas emissions

Reusables help companies build a more **SUSTAINABLE BRAND**

- 90%** of consumers want companies to do more than turn a profit
- 75%** of consumers expect businesses to support efforts to stop climate change³

ORBIS reusable pallets last 18 times longer than wood pallets.⁴

	REUSABLE	WOOD
Cycles	Up to 200	11

Supply chain optimization with **ORBIS**

reusable packaging products + packaging management services =

- Long-term cost savings
- Rapid ROI
- Lower environmental impact
- Better operational efficiency

Our circular economy
Continuous flow of product for a sustainable supply chain

REDUCE
Reusables are designed to lessen waste, greenhouse gas emissions and energy use.⁵

REUSE
Sustainable for many trips over a number of years.

RECYCLE
Manufactured, used, reused and reprocessed with zero impact to the solid waste stream.

Our commitment to sustainability

- 97%** products are recyclable at end of service life
- 99%** water used in manufacturing operations is reused
- 100%** products eliminate the need for single-use packaging
- reusable packaging products are designed for sustainability

Get credit for sustainability

The Recycle with ORBIS program recovers, recycles and reprocesses end-of-life customer packaging back into useful product. Often for a credit for future implementations.

[LEARN MORE >](#)

ORBIS
Powered by Manulife Corporation

¹Based on typical application of 60,000 totes, 6 trips per year for 8 years. ²Based on typical application of 3,000 reusable pallets, 6 trips per year for 8 years. ³2017 Cone Communications CSR Study. ⁴According to the Virginia Tech Center for Packaging and Unit Load study, 2011. ⁵As proven using Franklin and Associates Life-Cycle data.

ORBIS Packaging Solutions Offer:

Innovative manufacturing processes

Robust large load carriers

Significantly longer lifecycle

CO2 reduction, 100% plastics recyclability






INNOVATIVE PACKAGING SOLUTIONS

...FOR A SUSTAINABLE FUTURE



 Powered by Menasha Corporation

