Not only do we rethink product protection to reduce overall costs, but it is also part of Cascades’ core values to do it in a way that has the least impact on the environment. With Cascades, you are closing the loop.
Cascades GPS Industrial Packaging offers a series of performance-added specialty containers. Designed to work under severe processing conditions and specific environments, specialty containers are everything that a box is not. Cascades develops and manufactures Multiboard containers by integrating FiberSmart Technology. Our recyclable specialty containers enhance performance and lower overall operating costs. Rethinking processing and conservation is our expertise.

RETHINKING
POLAR CONTAINERS
Cascades designs Multiboard containers that expedite thermal transfer, speeding up production, especially for fresh food blast-freezing operations. POLAR containers are puncture resistant. The high performance-to-cost ratio alternative.

RETHINKING
THERMA-INSULATOR CONTAINERS
Cascades develops Multiboard containers that impede thermal transfer, thus maximizing performance while preserving structural integrity (leakproof). ThermaFresh® containers provide high performance-to-cost ratio. The green and cost-effective alternative to traditional, non-recyclable boxes.

RETHINKING
EXTREME CONTAINERS
Cascades produces Multiboard containers that are totally purpose-designed. EXTREME containers maintain performance levels and structural integrity even in the most severe applications. The green alternative to wax-coated corrugated boxes.

RETHINKING INDUSTRIAL PACKAGING
THROUGH PERFORMANCE AND GREEN INNOVATION
RETHINKING POLAR CONTAINERS

MULTIBOARD CONTAINER ALTERNATIVE

- Reduces costs
- Speeds up processing

- Expedites thermal transfer; provides high performance-to-cost ratio

POLAR

PRODUCT ADVANTAGES

- Blast-freezing operations up to 41% faster*
- Rupture resistant
- Water and moisture resistant
- Structural integrity
- Superior stackability in wet conditions
- Brand-friendly – high preprint or offset print quality
- Eco-friendly, repulpable and recyclable** material

* Compared to “C” flute corrugated boxes

** The film component of the inner box, which represents less than 5% in weight of the whole container, may not be recycled by some recycling programs.

RECOVERY + PACKAGING + PAPER
CASCAD.COM

GREEN BY NATURE®
Business Advantages

• High performance-to-cost ratio
  • More yield*
  • Less energy*
• Flat packed for less warehouse space and lower shipping costs (4-to-1 ratio)
• E-consignment (min / max) – automatic replenishment
• No-risk alternative
• Streamlined logistics, close proximity manufacturing
• Complete packing solution, full and efficient integration to your packing line
*Compared to “C” flute corrugated boxes

Product Applications

• Freezing/blast-freezing operations (seafood, poultry and meat)
• On-board packing line (seafood and fish)

FiberSmart Multiboard Construction

FiberSmart Multiboard construction makes better use of the physical and chemical properties of fiber. This multilayered construction also includes leading-edge surface treatments and lamination techniques, delivering the added performance required.

1. Water barrier (polycoated or water-based coating)
2. Recycled or virgin white linerboard
3. PVA glue (high-performance laminant)
4. Wet strength uncoated recycled paperboard
5. PVA glue (high-performance laminant)
6. Wet-strength uncoated recycled paperboard
7. PVA glue (high-performance laminant)
8. Recycled or virgin white linerboard
9. Water barrier (polycoated or water-based coating)

Technical Specifications

• Sizes: 11 lb 22 lb 33 lb 44 lb 55 lb
  5 kg 10 kg 15 kg 20 kg 25 kg
• Color finish: white or kraft
• Caliper: 0.040 to 0.065 pt.
• Preprint: up to 10 colors
• Coating: waterproofing 1 or 2 sides
RETHINKING POLAR CONTAINERS

MULTIBOARD CONTAINER ALTERNATIVE

REDUCES COSTS AND SPEEDS UP PROCESSING FOR BLAST FREEZING POULTRY OPERATIONS

Expedites thermal transfer; provides high performance-to-cost ratio

PRODUCT ADVANTAGES

» No fluting for faster thermal transfer
» Blast-freezing operations up to 41% faster*
» Polar containers are 100% Wax Free
» Base and lid easy to set up – built to spec
» Flat packed for less warehouse space and lower shipping costs
» Rupture resistant
» Water and moisture resistant
» Structural integrity
» Brand-friendly – high print quality
» Eco-friendly, repulpable and recyclable** material

* Compared to “C” flute corrugated boxes
** The film component of the inner box, which represents less than 5% in weight of the whole container, may not be recycled by some recycling programs

Perfect integration with GEA Intec VRT Freezers
Variable Retention Time Freezer

CASCADES.COM
Business Advantages

• High performance-to-cost ratio
  More yield*
  Less energy*
• Flat packed for less warehouse space and lower shipping costs (2-to-1 ratio)
• E-consignment (min / max) – automatic replenishment
• No-risk alternative
• Streamlined logistics
• Complete packing solution, full and efficient integration into your packing line
  *Compared to “C” flute corrugated boxes

Energy Saving Performance

Comparison of Multiboard Polar Container with Corrugated Board in Dwell Time

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cascades.com/SpecialtyContainers
RETHINKING
THERMA-INSULATOR CONTAINERS

MULTIBOARD CONTAINER ALTERNATIVE

GREAT REPLACEMENT FOR NON-RECYCLABLE CONTAINERS REDUCES OPERATING COSTS

Impeding thermal transfer; preserving product freshness

Thermafresh™

PRODUCT ADVANTAGES

» Sustainable replacement of traditional, non-recyclable containers
» Product freshness conserved at 39°F/4°C
  For at least 48 hours
» Significant reduction of shipping and handling damage; no cracking
» Leakproof – permits the use of ice as a coolant
  Patented waterproof thermal liner
» Shipping and handling made easy
  Standard pallet sizes with double stacking
» OCC (Old Corrugated Cardboard) recovery and recycling*
» Approved for air transport
» Direct Food Contact; no plastic bag required for whole fish
» Printable

*The metalized film component of ThermaFresh, which represents less than 5% in weight of the whole container, may not be recycled by some recycling programs.

Cascades
GREEN BY NATURE*
THERMAFRESH™ CONTAINERS

**Product Applications**
- Fresh fish conservation
- Fresh seafood conservation: lobster and crab
- Fresh cheese conservation
- Fresh meat conservation

**FiberSmart Multiboard Construction**
A FiberSmart Multiboard construction is based on making better use of the physical and chemical properties of fibers. This multilayered construction also includes leading-edge surface treatments and lamination techniques, delivering the added performance required.

1. MVTR* Corrugated outer shell – FSC certified
2. Metalized radiant polypropylene film (BOPP) – leakproof
3. Recycled linerboard – FSC certified
4. Technicomb thermal cells – FSC certified
5. Recycled linerboard – FSC certified
6. Metalized radiant polypropylene film (BOPP) – leakproof

*High-performance Moisture Vapor Transmission Rate controlled coating

**Environmental Performance**

<table>
<thead>
<tr>
<th>Environmental Performance</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenhouse Gas: +58%</td>
<td>+25%</td>
</tr>
<tr>
<td>Sustainable Material: +44%</td>
<td>+29%</td>
</tr>
<tr>
<td>Recycle of Content: +89%</td>
<td>+29%</td>
</tr>
<tr>
<td>Recovery: +39%</td>
<td>+29%</td>
</tr>
<tr>
<td>Renewable Energy: +51%</td>
<td>+29%</td>
</tr>
<tr>
<td>Cube Utilization: +9%</td>
<td>+29%</td>
</tr>
</tbody>
</table>

**Product Applications**
- Fresh fish conservation
- Fresh seafood conservation: lobster and crab
- Fresh cheese conservation
- Fresh meat conservation

**Technical Specifications**
- Sizes: Ranging from .35 cubic ft (10 Liters) to 1.75 cubic ft (50 Liters)
- Color finish: white or kraft
- Printable
- Coating: waterproof

**Packaging & Packing Specifications**

<table>
<thead>
<tr>
<th>Product Code</th>
<th>ThermaFresh Insulator inside dimension</th>
<th>Capacity</th>
<th>ThermaFresh Container outside dimensions</th>
<th>Container weight</th>
<th>Quantity per 53’ load</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>L x W x H (inches)</td>
<td>Weight of fish (lb)</td>
<td>Cu. Ft.</td>
<td>L x W x H (inches)</td>
<td>Lbs</td>
</tr>
<tr>
<td>T-10</td>
<td>16.500 x 8.375 x 4.000</td>
<td>11.5</td>
<td>0.320</td>
<td>18.125 x 9.750 x 6.000</td>
<td>1.35</td>
</tr>
<tr>
<td>T-20</td>
<td>18.000 x 10.500 x 7.500</td>
<td>35.0</td>
<td>0.820</td>
<td>20.000 x 11.875 x 9.500</td>
<td>2.40</td>
</tr>
<tr>
<td>T-30</td>
<td>22.000 x 11.938 x 5.500</td>
<td>35.0</td>
<td>0.836</td>
<td>23.625 x 13.313 x 7.500</td>
<td>2.37</td>
</tr>
<tr>
<td>T-50</td>
<td>31.500 x 11.125 x 8.250</td>
<td>55.0</td>
<td>1.673</td>
<td>33.500 x 12.500 x 10.250</td>
<td>3.40</td>
</tr>
</tbody>
</table>

Source: Walmart—change in raw scores 2010
**CLOSING THE LOOP**

- Eliminate the expense of disposal and bin pick-up fees by switching to ThermaFresh
- ThermaFresh containers can be placed in your baler with other corrugate products

Recent study shows that fiber quality remains good and film is easily removed during the repulping process (ref: Repulpability Report – Cascades R&D Research Center, available online at cascades.com/SpecialtyContainers/ThermaFresh)

- Cascades Paperboard Waste Recovery – CLOSED-LOOP SYSTEM™ recycling program available

**Eco Loop**

Go to cascades.com/ThermaFreshCALCULATOR and enter your own data

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**ThermaFresh CALCULATOR**

<table>
<thead>
<tr>
<th>Container size</th>
<th>Disposal Bin</th>
<th>Size of disposal bin in cubic ft (interior)</th>
<th>Pick-up fee per bin</th>
<th>Disposal fee per ton or less</th>
<th>OCC revenue per ton (Corrugated box)</th>
<th>Multisource revenue per ton (insulator)</th>
<th>Recycling revenue per ton with ThermaFresh</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-30L</td>
<td>Regular Bin</td>
<td>Change as needed</td>
<td>$100.00</td>
<td>$120.00</td>
<td>$120.00</td>
<td>$55.00</td>
<td>$75.00</td>
</tr>
<tr>
<td></td>
<td>Stationary Compactor</td>
<td>Change as needed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Typical Scenario of Disposal Fee with EPS Containers**

- **YOUR SAVINGS**
  - **Disposal Savings**: $0.89
  - **Recycling Revenue**: $0.11
  - **Number of Container**: 1,000
  - **Your Savings**: $1,000

**DISPOSAL SAVINGS**

**RECYCLING REVENUE**

**NUMBER OF CONTAINER**

**YOUR SAVINGS**

---

**Loading Patterns**

- **T-10**
  - Pallet info
  - L = 44.000”
  - W = 36.250”
  - H = 46.000”
  - QTY PER LAYER = 8
  - NO. OF LAYERS = 7
  - TOTAL UNITS = 56
  - Total pallets: Double Stacked (92” High)
  - Total pallets = 60

- **T-20**
  - Pallet info
  - L = 47.500”
  - W = 40.000”
  - H = 51.500”
  - QTY PER LAYER = 8
  - NO. OF LAYERS = 5
  - TOTAL UNITS = 40
  - Total pallets: Double Stacked (103” High)
  - Total pallets = 60

- **T-30**
  - Pallet info
  - L = 47.250”
  - W = 39.939”
  - H = 49.000”
  - QTY PER LAYER = 6
  - NO. OF LAYERS = 6
  - TOTAL UNITS = 36
  - Total pallets: Double Stacked (98” High)
  - Total pallets = 60

- **T-50**
  - Pallet info
  - L = 46.000”
  - W = 37.500”
  - H = 45.000”
  - QTY PER LAYER = 4
  - NO. OF LAYERS = 4
  - TOTAL UNITS = 16
  - Total pallets: Double Stacked (90” High)
  - Total pallets = 52

---

**The whole container can be recycled in the OCC Baler at the store level.**

If you encounter that your Recovery Service does not accept the Insulator Component with the metallic film liner (which represents less than 5% in weight of the whole container), then proceed as follows:

1. Separate the Corrugated Cardboard Outer from the Insulator
2. Place the Corrugated Cardboard Outer >> in the OCC Baler
3. Place the Insulator >> into the Mixed-source Paperboard Recycling Bin
**Streamlined Logistics**

### Inbound
- Delivered flat packed
- 3 times more per T/L
- 2700 ThermaFresh vs. 900 EPS (50 lb)
- Less warehousing space and cost

### Processing
- **Thin wall**
  More cubic space inside allows more product for the same outside dimensions

### Handling
- **Fit to pallet size**
  Boxes fit on a standard 40x48” pallet without exceeding
  Reduces the risk of breakage and cracking

### Rackable
- Can be used on racking system

### Strong paperboard construction
- Eradicates shipping and handling damage and product spoilage

### Outbound
- **Stackability**
  Allows double pallet stacking, 8 rows high instead of 7
  17% more boxes per T/L shipment

### Leakproof
- Allows ice as coolant, without leaking

### Disposal
- **Repulpable / Recyclable**
  Can be disposed of in recycling bins

---

**THERMAFRESH™ INSULATOR**
- » **HIGH-PERFORMANCE INSULATION**
  Ensured by the inner metalized liner / Technicomb cell structure

**THERMAFRESH™ CONTAINER**
- » **EFFICIENT PACKAGING INTEGRATION INTO YOUR OPERATION PROCESS**

**THERMAFRESH™ INSERTER**
- » **EXCLUSIVE SYSTEM ADAPTED TO YOUR PACKING LINE**
- » **INCLUDED IN SUPPLY AGREEMENT**

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**ThermaFresh** is a trademark of Fresh Bailiwick Inc. PATENT PENDING

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**RETHINKING INDUSTRIAL PACKAGING THROUGH PERFORMANCE AND GREEN INNOVATION**
RETHINKING EXTREME H₂O CONTAINERS

MULTIBOARD CONTAINER ALTERNATIVE

COST-EFFECTIVE
SUBMERSIBLE, RESISTANT TO HIGH-PRESSURE SHOWERS

Introducing the wax-free, recyclable alternative to wax-covered boxes

PRODUCT ADVANTAGES

» Green alternative to wax-covered boxes
» Submersible
» Resistant to high-pressure showers
» High structural integrity – reinforced structure
» Rupture and puncture resistant
» Brand-friendly – high preprint or offset print quality
» Retail ready
» Eco-friendly, repulpable and recyclable* material

*The film component of the inner and outer box, which represents less than 5% in weight of the whole container, may not be recycled by some recycling programs

RECOVERY + PACKAGING + PAPER CASCADCES.COM

GREEN BY NATURE®
Business Advantages

• High performance-to-cost ratio
• No additional disposal fee vs. $0.40 / cu. ft. for wax-covered boxes
• E-consignment (min/max) – automatic replenishment
• Streamlined logistics, close proximity manufacturing
• Complete packing solution, full and efficient integration to your packing line
• No-risk proposition

Product Applications

• Commercial vegetable harvesting
• Fruit harvesting
• Bag-in-a-Box

FiberSmart Multiboard Construction

FiberSmart Multiboard construction makes better use of the physical and chemical properties of fiber. This multilayered construction also includes leading-edge surface treatments and lamination techniques, delivering the added performance required.

1. Waterproof barrier (polycoated or water-based coating)
2. H₂O resistant recycled or virgin white linerboard
3. Water resistant glue
4. H₂O highly resistant recycled paperboard
5. Water resistant glue
6. H₂O highly resistant recycled paperboard
7. Water resistant glue
8. H₂O resistant recycled or virgin white linerboard
9. Waterproof barrier (polycoated or water-based coating)

Technical Specifications

• Sizes: 11 lb 22 lb 33 lb 44 lb 55 lb
  5 kg 10 kg 15 kg 20 kg 25 kg
• Color finish: white or kraft
• Preprint: up to 10 colors
• Coating: waterproofing 1 or 2 sides

RETHINKING INDUSTRIAL PACKAGING THROUGH PERFORMANCE AND GREEN INNOVATION

cascades.com/SpecialtyContainers
RETHINKING EXTREME BULK CONTAINERS

MULTIBOARD CONTAINER ALTERNATIVE

COST-EFFECTIVE
RESISTANT TO THE MOST SEVERE PROCESSING AND STORAGE CONDITIONS

Providing the green solution for severe storage conditions

EXTREME BULK

PRODUCT ADVANTAGES

» Totally purpose-designed
» Built for specific performance level requirements
» Bulging ability while maintaining structural integrity
» Puncture free
» Rupture resistant
» FiberSmart construction; less fiber, more performance
» Free of environmental contaminants
» Eco-friendly, repulpable and recyclable* material

*The film component of the inner and outer box, which represents less than 5% in weight of the whole container, may not be recycled by some recycling programs

40 in./1 m

48 in./1.2 m

CASCADIAN SOLUTIONS INC.

RECOVERY + PACKAGING + PAPER

CASCADES.COM
Business Advantages

• High performance-to-cost ratio
  26% less fiber, more performance*
  Replacement for traditional 4-wall boxes
• Flat packed for lower warehousing and transportation costs
• Eco-friendly
  No additional disposal fee if properly recycled
• E-consignment (min/max) – automatic replenishment
• Streamlined logistics, close proximity manufacturing
• No-risk proposition
  *Compared to same capacity traditional 4-wall corrugated boxes

Product Applications

• Non-stacking storage applications
• Long-term storage
• Fruit and vegetable harvesting
• Animal slaughter waste handling
• Gooey type environments

FiberSmart Multiboard Construction

FiberSmart Multiboard construction makes better use of the physical and chemical properties of fiber. This multilayered construction also includes leading-edge surface treatments and lamination techniques, delivering the added performance required.

1. Waterproof barrier (polycoated or water-based coating)
2. H₂O resistant recycled or virgin white linerboard
3. Water resistant glue
4. H₂O highly resistant recycled paperboard
5. Water resistant glue
6. H₂O highly resistant recycled paperboard
7. Water resistant glue
8. H₂O resistant recycled or virgin white linerboard
9. Waterproof barrier (polycoated or water-based coating)

Technical Specifications

• Sizes: L: 47.25 in. H: 23.65 or 47.25 in. W: 37.40 in.
  L: 120 cm H: 60 or 120 cm W: 95 cm
• Color finish: white or kraft
• Preprint: up to 10 colors
• Coating: waterproofing 1 or 2 sides

RETHINKING INDUSTRIAL PACKAGING THROUGH PERFORMANCE AND GREEN INNOVATION

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