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 the complete packaging chain.

Whether you are looking for the complete protective packaging chain or merely one of its components, Cascades develops and manufactures custom-made systems that reduce overall costs and ensure safe transportation. **Rethinking protective packaging is our expertise.**

**RETHINKING PRODUCT PROTECTION**

Cascades assists you in streamlining the entire process by:
- reducing the number and size of packaging components
- concentrating protection primarily on the most vulnerable areas
- optimizing the efficiency of manufacturing processes
- maximizing shipping capacity, while improving stacking and load stability

**RETHINKING HANDLING & SHIPPING**

Cascades makes handling and shipping easier and cost-effective by:
- providing green alternatives to traditional materials
- manufacturing sturdy, lighter pallets and handling systems
- adapting to particular shipping conditions or products with irregular dimensions

**RETHINKING LOAD SECUREMENT**

Cascades helps you decrease damage-related costs during product transportation by:
- reducing the amount of load securement components
- mastering technical expertise for cargo-specific protection
- optimizing stability with the best load securement techniques

**RETHINKING INDUSTRIAL PACKAGING THROUGH PERFORMANCE AND GREEN INNOVATION**
RETHINKING PRODUCT PROTECTION

PROTECTIVE PACKAGING CHAIN

REDUCES COSTS
REDUCES DAMAGE

Concentrating protection on the most vulnerable areas

PRODUCT-SYSTEM ADVANTAGES

» Finds solutions to streamline the entire process
» Reduces the number and size of packaging components
» Integrates protective packaging into the manufacturing process for increased efficiency
» Concentrates protection primarily on the most vulnerable areas
» Maximizes shipping capacity by improving stackability and optimizing load stability
» Allows Fold N’ Place® anti-skid angleboards to speed up packing operations
» Eco-friendly, repulpable and made from recycled materials

<table>
<thead>
<tr>
<th>Recycled content</th>
<th>Post-consumer</th>
<th>Pre-consumer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core</td>
<td>35% to 100%*</td>
<td>0%</td>
</tr>
<tr>
<td>Facing</td>
<td>72%</td>
<td>28%</td>
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</tbody>
</table>

* Upon request
PRODUCT PROTECTION SYSTEMS

Technicomb Visual Packing
- Concentrates on protecting vulnerable areas
- Visual identification makes life easier for everybody
- User-friendly and friendly to use
Components: Fold N’ Place honeycomb angleboards

Technicomb Two-in-One Packing
- Decreases number of protection components
- Reduces time and personnel needed for packaging
- Integrates two distribution method protective packaging requirements: traditional distribution and direct shipping
Components: Honeycomb-based system and corrugated box

Technicomb Inside-the-Box Packing
- Offers high resistance to repeat drops
- Provides quick and easy assembly
Components: Honeycomb-based system and corrugated box

Technicomb In-Line Packing
- Becomes an integral part of the assembly line
- Increases production efficiency
- Heightens product protection
Components: Honeycomb-based system

Technicomb Oversize Packing
- Increases loading capacity
- Uses fewer packaging components
- Reduces size, weight and time of packaging operation
Components: Honeycomb-based system and corrugated box

RETHINKING INDUSTRIAL PACKAGING THROUGH PERFORMANCE AND GREEN INNOVATION
RETHINKING PRODUCT PROTECTION

PROTECTIVE PACKAGING CHAIN ➤ REDUCES COSTS
➤ REDUCES DAMAGE

The flexible protective packaging solution that is eco-friendly and cost-effective

flexicomb™

PRODUCT ADVANTAGES
➤ Flexible protective packaging system that eliminates damage during transportation and handling
➤ Cost-effective, eco-friendly alternative to traditional protective wrapping material
➤ Reduced number of packaging components
➤ Suitable for irregularly shaped products
➤ Purpose-designed FiberSmart paperboard technology:
   - Anti-abrasive liner option available
   - Cohesive coating option available

Recovery + Packaging + Paper
Cascades.com

Green by Nature®
**PRODUCT PROTECTION**

**Business Advantages**
- Made of recycled material, 100% recyclable
- **Cascades’** commitment to innovation in developing eco-friendly protective packaging in inventory
- Reduced overall operating costs
- Reduced number of SKUs needed on inventory
- Compatible with automation equipment
- Paperboard Waste Recovery – Closed-Loop Recycling Program availability

**Product Applications**
- Automotive Parts
- Appliances
- Office/Home Furniture (including RTA furniture)
- Food & Beverage (fruits and vegetables)
- Direct Shipping (courier)

**Technical Specifications**
- Roll specifications:
  - Maximum roll width: 48 in. / 122 cm
  - Maximum length: 500 ft. / 152 meters
  - Core diameter: 3 in. / 7.6 cm
  - Outside diameter: up to 72 in. / 183 cm

<table>
<thead>
<tr>
<th>Product Line</th>
<th>Product Code</th>
<th>Strength Level</th>
<th>Technicomb Cell</th>
<th>Liner</th>
<th>Option</th>
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<td>Weight</td>
<td>Height</td>
<td>Diameter</td>
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<td>++++++</td>
<td>18#</td>
<td>26#</td>
<td>3/8&quot;</td>
</tr>
</tbody>
</table>

Tissue = Industrial tissue paper
Other liner options can be offered

Cascades
Specialty Products Group
Industrial Packaging

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HPM LLC
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Grand Rapids, MI 49507 USA
T 616 243-4870
F 616 243-7519

cascades.com/ProtectivePackaging
Introducing the eco-friendly, high-performance inner-packaging protection

PRODUCT ADVANTAGES

» Eliminates damage during product transportation and handling
» Cost-effective partitions for automatic, high-volume packaging systems
» Paperboard stiffness provides better performance on the assembly line
» Purpose-designed FiberSmart paperboard technology allows barrier performance against vapor/water, abrasion, slippage and static
» Ultrasoft finish protects product labels against scuffing
  • Solidsoft
» High-compression resistance paperboard for optimal box stacking
  • Solidstack
» Consistent product performance through rigorous manufacturing processes and inspections
» Wide range of calipers/flute
  • Solidboard or Corrugated
» Custom-made die-cut design available
» Color finish options

RECOVERY + PACKAGING + PAPER  CASCADES.COM
Packaging Applications

Solidboard Solidsoft Solidstack Corrugated

Beer •
Wine & Liquor •
Food •
Glass & Ceramic container •
Agriculture / Apple •
Automotive •
Injection Molding Plastic Parts •
Metal Stamping Parts •

Technical Specifications

• Heights: 2.75 in. to 14 in. / 70 to 360 mm*
• Lengths: up to 23.5 in. / 597 mm*
• Widths: up to 23.5 in. / 597 mm*
• Wide range of Solidboard caliper
• Corrugated from 125#/ 26 ECT singlewall to 275#/ 48 ECT doublewall
• Option: glued-over partitions, die-cut and color finish

*Custom sizes available

Business Advantages

• 100% recycled, 100% recyclable, 100% repulpable
• Cascades is committed to innovating and creating eco-friendly inner-packaging protection
• Cascades is fully integrated with more than one hundred converting plants, paper mills and recovery operations
• FSC certified raw material available upon request
• Box or container design services adapted to partition specifications
• Paperboard Waste Recovery – CLOSED-LOOP SYSTEM™ Recycling Program availability
• Over 30 years of producing inner protective packaging

Product Applications

Rethinking industrial packaging through performance and green innovation

Cascades Specialty Products Group
Industrial Packaging

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F 450 461-8685

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F 630-585-1900

CASCADES ENVIROPAC – ST-CÉSAIRE
Manufacturing Plant
St-Césaire (Québec)
Canada

Customer Service
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P.O. Box 150
Kingsey Falls (Québec)
Canada J0A 1B0
T 819 363-5220
F 819 363-5255

cascades.com/ProtectivePackaging
RETHINKING HANDLING & SHIPPING

PROTECTIVE PACKAGING CHAIN

REduces costs
Reduces damage

Providing cost-effective and eco-friendly alternatives to traditional materials

Technicomb™ Multiboard

PRODUCT-SYSTEM ADVANTAGES

» Makes handling and shipping easier and brings down overall cost
» Provides cost-effective, eco-friendly alternatives to traditional wood and plastic pallets
» Offers sturdy, light pallets and protection systems
» Ensures custom-fit solutions for particular shipping conditions and products with irregular surfaces and dimensions
» Eco-friendly, repulpable and made from recycled materials

RECOVERY + PACKAGING + PAPER CASCADES.COM
Technicomb Spool Stacking System
- Provides die-cut pallets and separators
- Increases stackability
- Enhances load stability
- Eliminates damage to outer layers of products
Components: Honeycomb-based system

Technicomb Pallet
- Protects against the spread of pests (IPPC compliant)
- Offers high weight-to-strength ratio (up to 10,000 lbs)
- 62% to 80% lighter than wood/plastic pallets
Components: Honeycomb-based system, core-tube and/or corrugated paperboard

Multiboard Edgewrap
- Protects vulnerable edges during loading and transport
- Increases stacking strength
- Reduces the need for additional packaging material
- Printable (1 color)
Components: Multiboard-based system

Multiboard Slip Sheet
- Non-skid option speeds up loading and unloading operations
- 12% to 15% more shipping space compared with standard pallets
- 20 times lighter than wooden pallets
Components: Multiboard-based system

RETHINKING INDUSTRIAL PACKAGING THROUGH PERFORMANCE AND GREEN INNOVATION
RETHINKING LOAD SECUREMENT

PROTECTIVE PACKAGING CHAIN

Increasing load stability; eliminating damage during transportation

PRODUCT-SYSTEM ADVANTAGES

» Eliminates damage during product transportation
» Reduces expenses related to reworking and product devaluation, when used in accordance with Cascades’ cargo planning expertise
» Reduces the number of load securement components required
» Masters the art of compression to optimize load stability
» Adopts cargo-specific types of protection
» Provides cargo planning expertise, allowing implementation of the best load securement techniques and practices
» Respects AAR (Association of American Railroads) rules and regulations
» Eco-friendly, repulpable and made from recycled materials
LOAD SECUREMENT SYSTEMS

Technicomb Wall Protector
- Protects against wall surface irregularities
- Reduces chafing and flattening
Components: Honeycomb-based system

Technicomb Riser
- Staggered paper rolls (poker chip stacking) during shipment
- Restricts lateral load movements and related damage
- Presents an impressive weight-to-strength ratio
- Available in different dimensions and shapes
Components: Honeycomb-based system

Technicomb Buffer Pad
- Provides for better air bag pressure distribution
- Enhances air bag performance
Components: Honeycomb-based system

Technicomb Void Filler
- Is used for bracing and blocking
- Offers a high cushioning effect
Components: Honeycomb-based system

Technicomb Cradle
- Adapts to any large size rolls (up to 60” in diameter) and offers high load bearing capacity
- Considerably reduces damage to outer layer of roll in trucking operations
- Speeds up loading and unloading
Components: Honeycomb-based system

Anti-Skid Mat
- Reduces slipping during transportation
- Provides excellent surface contact
- AAR certified
Components: Rubber-based system

Dunnage Air Bag
- Restricts cargo movements during shipping to reduce damage
- Prevents product shifting and absorbs shocks and vibrations
- Available in several dimensions
- AAR certified
Components: Polywoven or paper bag systems

Cargo Planning Software
- Optimizes load planning and use of cargo space
- Provides effective type of protection for any given cargo

Cargo Planning Expertise
- Assures the best load securement practices in compliance with AAR requirements
- Provides implementation assistance

RETHINKING INDUSTRIAL PACKAGING THROUGH PERFORMANCE AND GREEN INNOVATION
RETHINKING GREEN

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.