

Per corautomation

The perfect choice for your automated processes



Standardized, stackable, sturdy and stable under all conditions: IFCO Reusable Plastic Containers (RPCs) increase efficiency in your warehouse.

IFCO is at the forefront of innovation that supports growers and retailers seeking to deliver fresher, healthier food to the world.

The right choice of packaging is critical in automated logistics centers for fresh produce. When growers pack fruit and vegetables in IFCO Reusable Plastic Containers (RPCs), it reduces handling during the entire supply chain, and facilitates automated processes in logistics centers.

As retailers turn to automation to make their supply chain more cost-effective, they can rely on our RPCs.

As a global market leader in reusable packaging, IFCO offers high levels of product compatibility and standardization. Our RPCs' compelling characteristics make them ideal for warehouse automation.





Why IFCO RPCs are ideal for automated processes

- Durable material
 Withstands temperature and moisture extremes
- Sturdy construction
 Protects products in tall stacks
- Securely stackable
 Avoids tilting and
 slippage
- Moisture-resistant

 Maintains shape and size despite high humidity

- Optimal ventilation

 Efficient cooling and temperature regulation
- Standardized dimensions
 Essential for scanning and recognition
- Standardized footprint
 Essential for high volume operations
- High compatibility

 Minimal deviation between product generations

- Provides smooth passage on rollers or conveyors
- Large range of models
 Transports wide range of products

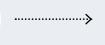


IFCO RPCs work perfectly at any stage of your automated system











Arrival

Pallets stacked with IFCO RPCs arrive at a logistics center. This eliminates the need to repackage produce.

Infeed

As the crates move through the system, scanners read bar codes, identifying the type of RPC and its content. Crate specific identification ensures seamless tracking of shipments.

Storage

Produce in IFCO RPCs is stored in refrigerated or ambient conditions. Shape and size of IFCO RPCs are maintained despite high humidity that can reach up to 80%.











Conveyor transport

The configuration of the base of the IFCO RPCs ensures smooth passage over rollers or conveyors.

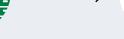
Sorting

Robots and conveyors separate the shipment into individual sales units. Standardized dimensions of IFCO RPCs ensure efficient handling.

Scanning

The system follows each container throughout the process. Precise dimensions of IFCO RPCs guarantee that the system recognizes sales units.



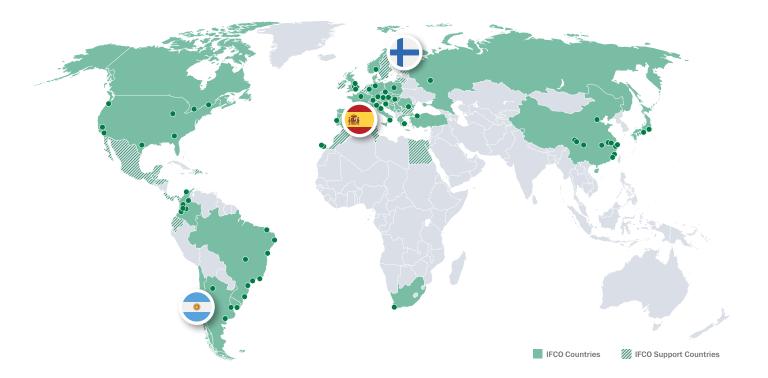


Picking

Picking orders in IFCO RPCs for the outfeed is fast, cost-effective and accurate as crates are easy to handle and palletize.

High-bay storage

Sales units in IFCO RPCs are identified by date and position in the shelves. Crates are stacked securely and products are protected even in tall stacks.







La Anónima General Pico, La Pampa, **Argentina**

One of Argentina's largest grocery retailers converted from single-use packaging to IFCOs Meat Lift Locks. La Anónima operates 159 grocery locations, nine distribution centers and one transfer base in 80 cities throughout the Argentine territory.

The company opened a 200,000 sqm, highly automated meat packaging facility, and wanted to find a new packaging system to optimize its meat packing operation.

The facility processes **540 tons** of beef and other meat cuts annually. That includes more than 20,000 head of Angus steers per month and meat exports to more than half a dozen countries.

Since August 2018, IFCO supplies the retailer with 60,000 meat RPCs per month - or more than 720,000 crates per year.





SOK Logistics Center operated by INEX Oy Sipoo, Finland

Inex Oy is a fully owned partner company of SOK Group, Finland's largest retailer.

Since 2017, it operates one of the world's first fully automated warehouses for fresh produce having nearly 80% automated processes for fruit and vegetables as well as bread. Some 21,000 different articles shuttle through the warehouse automation system.

This logistics center distributes almost 50% of all the groceries sold in Finland. Nearly one million IFCO RPCs carry fresh produce through the warehouse every month. That's about 14-15 million crates per year. 60,000 IFCO RPCs per day are being sent to washing centers.

IFCO SYSTEMS and SOK cooperated closely during planning, construction, testing and launch in 2017.





Sediasa Alimentación Near Madrid. **Spain**

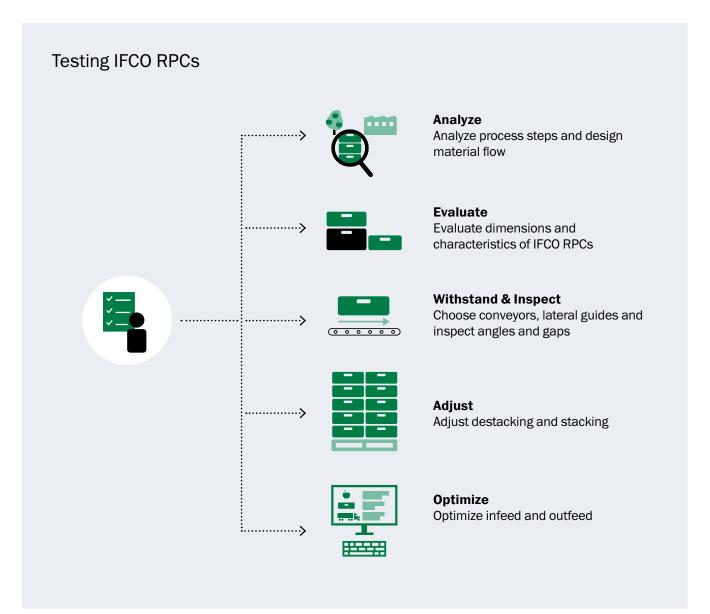
Sediasa Alimentación is a company specialized in slicing, processing, packaging and distributing meat - primarily pork, beef lamb - as well as delicatessen meats and cheese. With a production capacity of over 70 million kilos per year, its objective is to give added value to the food supply chain, with packaging and formats adapted to the characteristics of each household.

Sediasa Alimentación started using IFCO RPCs in 2009 as the crates are moved easily across their automated processes and uses around eight million IFCO RPCs annually.

Easy handling, food protection and environmental aspects were reasons for Sediasa Alimentación to use IFCO RPCs. The company has reduced waste from singleuse packaging by 80%.

What to consider when designing warehouse automation suitable for RPCs.

By consulting our checklist, process engineers can design automated systems suitable for IFCO RPCs to ensure optimal performance.





How to ensure best performance of automated systems for IFCO RPCs:

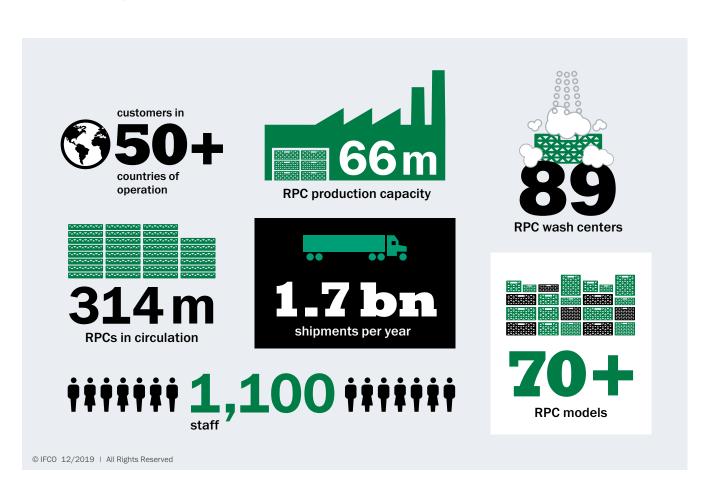
Roller conveyors	
	☐ Do roll diameters and lengths accommodate IFCO RPCs fully across the whole stacking rim?
	☐ Do roll pitches and orientation ensure trouble-free transport within the system?
	☐ Is there sufficient gradient for nondriven roller conveyors so that crates do not stall?
	☐ Are transfer gaps bridged sufficiently for trouble-free operation?
Belt / modular belt conveyor	☐ Are material and surface compatible with IFCO RPCs?
	☐ Are material and surface compatible with planned transport loads?
	☐ Do belt widths reflect the RPC dimensions?
	☐ Do combinations of narrow belts guarantee safe transport?
	☐ Is the friction coefficient appropriate for IFCO RPCs?
	☐ Do inclined belts have enough friction aids to prevent slipping of RPCs?
	☐ Are transfer gaps bridged sufficiently for trouble-free operation?
Curves	☐ Before a curve, has dynamic pressure from following RPCs been reduced with stoppers?
	☐ Is the track wider at curves?
	☐ Have junction gaps been bridged sufficiently to ensure trouble-free operation?
	☐ Are the guide rails in curves correctly spaced to avoid crates jamming under them?
Lateral guide rails	☐ Have lateral guide rails that are appropriate for IFCO RPC characteristics been selected?
	☐ Do lateral guides keep IFCO RPCs on track?
	☐ Have the height and width been adjusted to match the dimensions of the RPCs?
	☐ Have any potential areas that could jam the RPCs been adjusted?
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Stacking / destacking	$\ \square$ Do clamping jaws also grip the base plate of the RPC and not just the sides?
	☐ Does the set up ensure error free vertical nesting of IFCO RPCs?
	$\ \square$ Are lateral forces on RPCs avoided that could inadvertently open the short side walls?
	☐ Has it been considered that RPCs only slide on or off in a longitudinal direction?
Infeed / outfeed	☐ Do lifting beams/belts/chains move the conveyed material safely?
	☐ Are angled rollers positioned correctly to transfer RPCs safely?
	☐ Do swivel castors support the base of the RPC safely and allow RPCs free movement?
	☐ Do changes of direction take place in controlled, uniform movements?
	☐ Are impacts on the short side walls minimized to avoid unintentional opening of the walls?
	☐ FIFO gravity systems must consider that the crate base has a stacking rim!
Traceability	☐ Are the code readers placed to suit the RPCs?
	☐ GRAI-code is on the 600mm side of the large RPC
	☐ GRAI-code is on the 400mm side of the half size RPC

IFCO is the leading global provider of reusable packaging solutions for fresh foods, serving customers in 50+ countries.

IFCO operates a pool of over 314 million Reusable Plastic Containers (RPCs) globally, which are used for over 1.7 billion shipments of fresh fruits and vegetables. meat, poultry, seafood, eggs, bread, and other items from suppliers to grocery retailers every year. IFCO RPCs

ensure a better fresh food supply chain by protecting freshness and quality and lowering costs, food waste and environmental impact compared to single-use packaging.

For more information, visit IFCO.com.



For questions regarding RPCs and automation interface, please consult IFCO Technical Support. Always ask for RPC samples to support the development of the automation.