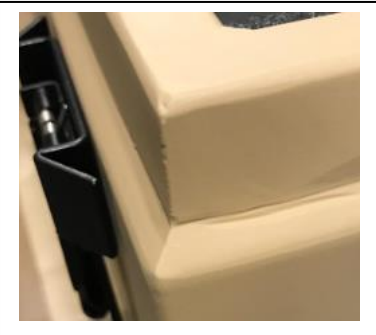


## Introducing RCZ – a range of lightweight rugged aluminium cases and containers.

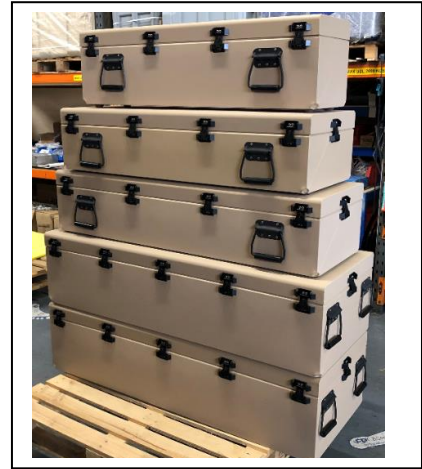
CP's new product innovation brings together the latest technologies in precision CNC metal forming, in partnership with unique monocoque designs, to offer customers a range of cases and containers, in both standard sizes and custom sizes.

<https://www.youtube.com/watch?v=SEYXb6hf0Vo>

### Innovative Design



The design concept behind RCZ cases was to maximise the properties of flat stock 1.5mm thick high tensile aerospace grade aluminium sheet by introducing innovative rimfold profiles that bring exceptional longitudinal strength and a patented pre-form corner design that significantly prevents impact damage to the corners when dropped with heavy loads.



Utilising extra-large aluminium sheet sizes, combined with large bed laser cutting ensures we get the best material yield before moving the RCZ laser cut panels to an automated CNC panel fold/form machine that produces precision folded lid and body parts with repeatability and close tolerances – every time.

The very tight tolerances we can maintain, allow our skilled and Coded TIG welders to butt weld the seams to exceptional levels of accuracy and finesse. The unique RCZ body design keeps welded seams away from the container's edges, ensuring maximum strength and rigidity is maintained throughout the monocoque structure. Stacking features are also included in the design.



The long edges of the lids are formed with a large radius for strength and user-friendly handling, and the body (subject to height/width ratio) is manufactured from a single folded panel. All fixing holes, venting apertures are cut whilst on the laser to ensure both accuracy and the prevention of swarf and other FOD in the manufacturing processes.

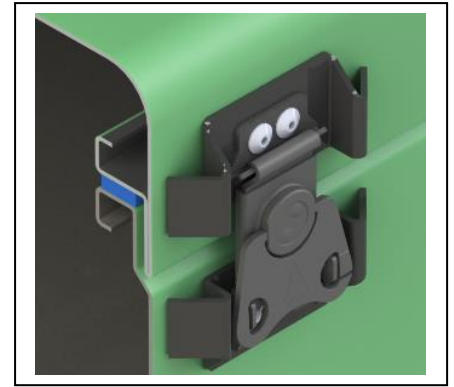


The bottom corners are "pre-form indented" on a hydraulic press to provide immense additional rigidity and panel stiffness. This (patented design) corner indent replicates a proven crumple zone which reduces impact damage when the container is dropped – where it almost always falls onto a corner first.

### Climate Protection

The RCZ mating male/female joint between the lid and base was designed to exclusively use parent material – without the need for additional extrusions or other profiled parts. The complex rimfold design provides exceptional beam strength along otherwise unsupported edges, and the accuracy of the laser cut and CNC folding technologies ensure the rimfold sections are planar around the whole perimeter.

A closed cell, skinned silicon gasket completes the watertight seal between the lid/body joint to MIL STD 810G levels on ingress protection against blowing wind and dust. Controlled compression of the gasket is maintained by a series of cam operated latches.



### Venting

The weather gasket provides an hermetic seal, which demands a calibrated venting system matched to the container size. This is accomplished by a variety of IP65 breathing membrane(s) with venting calculations to match the volume of the container and/or the level of pressure change during altitude climb / decent.



Larger containers (>200 Litres) are fitted with a rapid airflow Gore XI breathing vent which allows 16lt/min throughput in either direction and is rated to IP66.

Automatic pressure relief valves are also available with manual override. Humidity Indicators and desiccant containers can also be factory fitted.



### Hardware

Standard RCZ products are fitted with powder coated (black) cam operated stainless steel proprietary butterfly latches which ensure a uniform compression along the gasket seal. The latches are attached using high performance closed end stainless steel rivets to prevent ingress of dust or water. The latches are protected from “side swipe” by raised buffers



A variety of handles can be fitted to match any application including military spec / arctic glove sizes. Handles are tested to 50kg SWL and are available in both plated steel, stainless steel and impact resistant engineered plastics. Handles can be positioned to facilitate ergonomic lifting and loading, and to match offset CoG payloads.

Additional hardware options include lifting eyes, tie downs anchor and tether points.

## EMC Shielding

Effective EMC Shielding is to prevent electromagnetic interference (EMI) or radio frequency interference (RFI) from impacting sensitive electronics. RCZ containers are made from 1.5mm aluminium sheet, which acts as a metallic screen to absorb the electromagnetic interference that is being transmitted through the air. With the addition of a conductive / braided gasket, the container becomes an effective Faraday Cage which protects the contents from external electromagnetic interference. More information on EMI shielding is available on request. EMI compliant PRV's and/or venting is provided as required.



## Standard Sizes

The standard RCZ range of containers is designed to maximise the internal volumetric space of the International ISO 20' or 40' shipping container.

This dictates a modular size system based on multiples of 275mm.

Standard size containers are typically therefore (max external sizes)

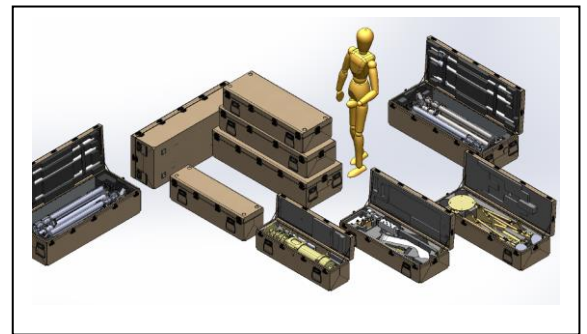
- 1100 mm L x 550mm W x 550mm H
- 1100 mm L x 550mm W x 275mm H
- 550mm L x 550mm W x 550mm H
- 550mm L x 550mm W x 275mm H

		20 ft	40 ft
External dimensions	Length	19 ft 10.5 in (6.058 m)	40 ft 0 in (12.192 m)
	Width	8 ft 0 in (2.438 m)	8 ft 0 in (2.438 m)
	Height	8 ft 6 in (2.591 m)	8 ft 6 in (2.591 m)
Interior dimensions	Length	19 ft 3 in (5.867 m)	39 ft 5 <sup>45</sup> / <sub>64</sub> in (12.032 m)
	Width	7 ft 8 <sup>19</sup> / <sub>32</sub> in (2.352 m)	7 ft 8 <sup>19</sup> / <sub>32</sub> in (2.352 m)
	Height	7 ft 9 <sup>57</sup> / <sub>64</sub> in (2.385 m)	7 ft 9 <sup>57</sup> / <sub>64</sub> in (2.385 m)

## Custom Sizes

The design rationale of using large blank sheet sizes (typically 3000mm x 1500mm) and parametrised CNC programming facilitates economic opportunities to offer custom sizes in length, width and heights – only limited to sheet size limitation and / or container panel size and payload weight restrictions.

Parametrised programming automatically defines both the fixed and variable parameters – such as handle positions and number of latches, whilst the external length, width and height can be infinitely varied.



## Powder Coating and Surface Treatments

A wide variety of colours and surface textures are available. The most popular type of coating is polyester powder, which is electrostatically applied after the container has been degreased and primed. The powder coat is then baked in an oven to provide a long lasting, hard wearing surface.

Other surface coatings are available including wet paint, CARC paint and IRR (infrared reflective) finishes. When EMC compliance is required, the container is iridited (chromate conversion coating) prior to powder coating to attain better conductivity and enhanced resistance to corrosion.

## Mil Std accreditation

RCZ container have been successfully tested by our customers to MIL STD 810G for drop, shock, vibration, blowing rain, dust, hot, cold and altitude.

