

## Environmental Improvement- Airbag Packaging for Vacuum Capacitors

For the implementation of ISO 14001, 2004 environmental certification, COMET is implementing a program to minimize the impact of packaging on the entire supply chain and the environment, also respecting our customer needs. Our analysis showed an opportunity to improve the packaging materials and packaging instructions for the vacuum capacitors. The existing rigid foam has shown to have a negative impact on the environment and is not totally clean room compatible.

This analysis has lead COMET to change its packaging concept from the existing foam packaging to a customized airbag packaging solution for small semiconductor use vacuum capacitors. Larger size vacuum capacitors will keep their current packaging due to size and weight considerations.

This airbag packaging concept for Vacuum Capacitors gives several benefits:

1. Clean room compatible packaging
2. Environmentally friendly packaging according to ISO 14001, 2004
3. Positive cost impact due to reduction in waste handling and storage room capacity

### COMET Vacuum Capacitors affected by airbag packaging

All COMET Vacuum Capacitors belonging to the Series listed below, and future Vacuum Capacitors with comparable dimensions will ship in this airbag packaging:

Series (small)	diameter [mm]	length [mm]
Basic-Con	55	≤ 180
Dual-Con	46	
Li-Con	12.5	
Lumi-Con	55	
Mono-Con	46	
Uni-Con	64	
Uni-Solar	55	
Mini-Cap (D, E Geometry)	49 64	
Trimmer-Cap (D, E Geometry)	49 64	
CVZV (some)	<64	

Series (medium)	diameter [mm]	length [mm]
Hexa-Con	85	≤ 250
Midi-Con	88	
Mini-Con	88	
Vetro-Con	88	
Vitra-Con	72	
Power-Con	88	
Power-Solar	88	
Mini-Cap (B Geometry)	76	
CVZV (some)	64 - 88	

## Environmental Tests

Based on the ISO 14000 implementation program, airbag packaging has undergone extensive environmental testing such as drop tests according to ISTA, simulation of a drop off of a height up to 2.5 meters, as well as a simulation of aircraft transportation, including vacuum chamber and altitude pressure tests and overseas air freight delivery test.



COMET Basic-Con inside an Airbag



COMET transport box with 12 (small) or 9 (medium) COMET Vacuum Capacitors

## Disposal of Airbag Packaging

The airbag packaging bags are made out of polyethylene with a low density (LDPE) and polyamide (PA). No harmful compounds are being used (like chlorine, fluoric or sulphur). After having deflated the airbag it is to be disposed according to the local regulation of disposal.

## Return shipping of Vacuum Capacitors

We recommend our customers to keep the paperboard container for possible return shipping. COMET can provide new empty airbags which are refillable with pressured air of 0.4 bars and do not need to be welded for return.