



## Concerned products and equipment

- Trailers, porters, VUL
  - > Isotherms, mechanically refrigerated, cooling, heat
- Refrigerated wagons
- Isothermal tanks
- Marine containers
- Small containers
- Rapid cooling equipment
- Refrigerated display cabinets
- Climatic and thermostatic chambers
- Cold rooms

## Standards and technical reference documents

- ATP - Agreement on the International Carriage of Perishable Foodstuffs and on the Special Equipment to be used for such carriage
- Decree No. 91-941 of 23 March 2000 - Vehicles for dead bodies transport
- ISO 1496-2 - Containers
- DIN 1815 - Vans
- DIN 8959 - Insulation of transport equipment
- CERTICOLD Pharma
- Protocols and customer specifications



- Protocols and customer specifications

## Accreditation and recognition

- UNECE - ATP official test station



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- Laboratories accredited by COFRAC according to standard ISO 17025



ACCREDITATION N° 1-0699  
ACCREDITATION N° 1-1695  
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## Services

- ✓ Measuring the heat transfer K coefficient: The K coefficient is the heat transfer coefficient of a unit or an insulated thermal envelope
- ✓ Efficiency measurement and thermal performance: ability to achieve a cooling temperature, and to maintain the temperature regime in the presence of an internal thermal charge



## Means

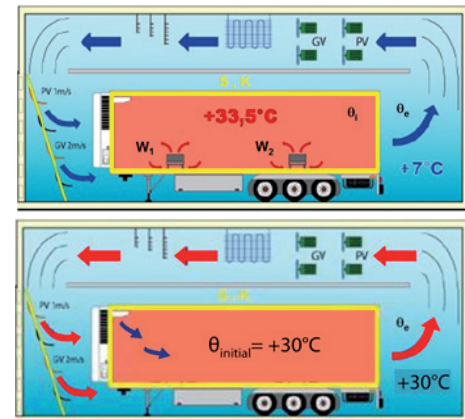
- ✓ 9 tests tunnels from 0.5 m<sup>3</sup> to 940 m<sup>3</sup>
- ✓ Temperature: from -40°C to +180°C
- ✓ Hygrometry: from 15 % to 90 % HR
- ✓ Anemometers
- ✓ Power Meters
- ✓ Heaters

Best uncertainty of the means used

Coefficient K: ± 3% (k=2)

## Test principle

- ✓ K coefficients are measured according to the internal heating method.
- ✓ The thermal efficiency of the devices is determined on calibrated calorimeters or equipment which are equipped with.
- ✓ Other thermal or environmental tests may be carried out according to specific standards or specifications.



## WHY CHOOSE CEMAFROID FOR THIS SERVICE?

- ✓ Climatic cells allowing tests on all types of equipment (wagons, maritime containers, semi-trailers ...).
- ✓ Among the highest metrological performances in the world.
- ✓ Laboratories recognized by the UN.
- ✓ Tests included in the CERTICOLD Pharma certification.

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