European standards within CEN/TC 113/WG 13

- CEN/TC 113/WG 13  
  *Testing of cooling appliances for insulated means of transportation*

Testing methodologies for cooling equipment for insulated means of transportation:

- Part 1: Mechanical refrigerating systems with forced air circulation evaporator or convection
- Part 2: Eutectic systems
- Part 3: Indirect gas refrigerant systems
- Part 4: Direct gas refrigerating systems
- Part 5: Dry ice systems
- Part 6: Special requirements for multitemp systems
CEN/TC 113/WG 13

Testing of cooling appliances for insulated means of transportation

Testing methodologies for cooling equipment for insulated means of transportation:

- Part 1: Mechanical refrigerating systems with forced air circulation evaporator or convection
  - Including additional operations like
    - rated conditions
    - ambient conditions
    - control and regulation applications
    - special requirements like distribution / loading sequences

Determination of Energy efficiency ratio for different vehicle dimensions and engine combinations like direct and indirect applications
CEN/TC 113/WG 13

*Testing of cooling appliances for insulated means of transportation*

Testing methodologies for cooling equipment for insulated means of transportation:

- Part 1: Mechanical refrigerating systems with forced air circulation evaporator or convection

Definition of requirements for testing,
- at normal condition 30 °C
- elevated normal condition 38 °C
- and tropical conditions 45 / 50°C

Measurement of energy consumption carried out at
- 30 °C / 0 °C
- 30 °C / – 20 °C for refrigeration
- – 20 °C / + 12 °C for heating.
European standards within CEN/TC 113/WG 13

- **CEN/TC 113/WG 13**
  
  *Testing of cooling appliances for insulated means of transportation*
  
  Testing methodologies for cooling equipment for insulated means of transportation:
  
  - **Part 2: Eutectic systems**
    
    Determination of cooling capacities and consumption
    cool down cycle, long term evaluation
    full load and rated conditions including auxiliaries
    Design parameters, function and safety requirements
    like volume flow, defrost, labelling, etc.
European standards within CEN/TC 113/WG 13

- **CEN/TC 113/WG 13**

  *Testing of cooling appliances for insulated means of transportation*

  Testing methodologies for cooling equipment for insulated means of transportation:

  - Part 3: Indirect gas refrigerant systems
    
    Determination of cooling capacities and consumption under full load and rated conditions including auxiliaries
    Design parameters, function and safety requirements like volume flow, defrost, labelling, etc.
European standards within CEN/TC 113/WG 13

- CEN/TC 113/WG 13
  
  Testing of cooling appliances for insulated means of transportation

  Testing methodologies for cooling equipment for insulated means of transportation:

- Part 4: Direct gas refrigerating systems
  
  Determination of cooling capacities and consumption under full load and rated conditions including auxiliaries
  Design parameters, function and special safety requirements and evaluation
CEN/TC 113/WG 13

Testing of cooling appliances for insulated means of transportation

Testing methodologies for cooling equipment for insulated means of transportation:

- Part 5: Dry ice systems
  
  Determination of cooling capacities and consumption under full load and rated conditions including auxiliary conditions
  Design parameters, function, handling, loading and special safety requirements and evaluation
CEN/TC 113/WG 13

Testing of cooling appliances for insulated means of transportation

Testing methodologies for cooling equipment for insulated means of transportation:

- Part 6: Special requirements for multitemp systems

  Determination of cooling capacities and consumption under full load and rated conditions including auxiliaries
  combination of multiple compartments and sections
  thermal influences and operation parameters
  Design parameters, function and safety requirements and evaluation
European standards within CEN/TC 113/WG 13

• CEN/TC 113/WG 13

  *Testing of cooling appliances for insulated means of transportation*

Participants and experts of WG 13:

- Belgium
- Croatia
- Czech Republic
- France
- Germany
- Italy
- Netherlands
- Slovenia
- Spain
- Sweden
- UK
CEN/TC 413

Project Committee - Testing methodologies and requirements for insulated means of transportation

Working Programme to be adopted by CEN/TC 413 PC:

(A) Insulated means of transportation
   Requirements and testing
   Part 1: Tankers
   Part 2: Mobile Containers
   Part 3: Truck or trailer bodies, road and train swap bodoes, rail wagons
   Part 4: Integrated insulation for van and car derived vans

(B) Insulated transport equipment fitted or not with a refrigeration system
   Requirements, dimensioning and marking

Revision and integration of national standards like
DIN 1815, DIN 8959 part 1 & 2
European standards within CEN/TC 113/WG 13

- CEN/TC 413
  *Project Committee - Testing methodologies and requirements for insulated means of transportation*

Liason with
- CEN/TC 113 heat pumps and air conditioning units (WG13)
- CEN/TC 119 Swap bodies for combined goods transport
- CEN/TC 296 Tanks for transport of dangerous goods
- Additional liaisons…
European standards within CEN/TC 113/WG 13

- CEN/TC 413
  
  *Project Committee - Testing methodologies and requirements for insulated means of transportation*

Participants and experts from:

- Finland
- France
- Germany
- Spain
- UK
Thank you your attention