

Trainingskurs Practical Problems with HVAC-Systems

Halbtägiger Trainingskurs für Manager und Ingenieure zum besseren Verständnis der Ursachen und Folgen von Projektierungs-, Entwicklungs- und Fertigungsfehlern eines Fahrzeug-Klimasystems (Auszug aus den Foliensatz)

Practical problems



The passenger should be relaxed in the coach during the journey.









Sometimes he is not really relaxed.


What are the most important reasons?

Outside conditions have been ignored

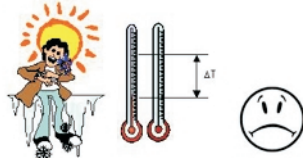

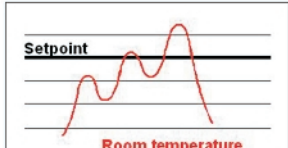


What are the consequences?

-  The customer doesn't accept the delivered train. 
-  The produced trains are to be modified under existing conditions and in a very short time limit. 
-  The project has follow-up costs ... 

 The realised solution is not the best. The quality deficiency costs will increase and damage your publicity!

What are the reasons inside?

Surface temperature allows freezing




extreme ambient temperature

Possible reasons:

- Location of energy supply
- Location of the temperature sensors
- Bad insulation of vestibule floor
- Bad insulation of doors
- Leaking seals of doors

The passengers could slip when entering or leaving the train!
Doors do not open or close.

Noise emission and vibrations



Possible reasons:

- ◆ Noise emission of air flow rate (air speed):
 - inlets and filters,
 - ducts and outlets (nozzles).
- ◆ Noise emission of fans and compressors
- ◆ Transmission noise by air conditioning into the car body
Noise emission of fans and compressors