

# CLIMATIC WIND TUNNELS DAIMLER AG



## TEST CENTRE WITH TWO CLIMATIC WIND TUNNELS IN SINDELFINGEN, GERMANY

Aligned to the requirements of Daimler AG, an international consortium under the technical leadership of MCE realized an entire test facility as a general contractor including two climatic wind tunnels, an office complex, workshops, and preparation areas from November 2008 to January 2011. Both tunnels with nearly the same design and technical building construction are implemented in steel, produced, and installed by the MCE subsidiaries from the Czech Republic (MCE Slaný) and Hungary (MCE Nyíregyháza).

The test chambers with dimensions of (l x w x h) 13.5 x 10 x 6 m are covered with insulated PU-sandwich panels and faced with an acoustic lining in stainless steel. Almost every climatic condition can be reproduced in the test sections of these tunnels. Wind speeds up to 265 km/h, simulation of rain, snow and sun, humidity control, and temperatures ranging from -40°C up to +60°C are only a short overview of the possible features. Acoustic treatment in the test section and the airline reduces the ambient sound level down to < 65db(A) at wind speeds of 100 km/h.



An adjustable tunnel geometry allows compact cars up to large transporters.

Within the consortium „ARGE CWT “(AIOLOS, IMTECH, MCE), MCE was the technical leader responsible for managing the overall project execution and the site management.

#### Scope of supply:

- Construction of the main building (technical area and office complex)
- Steel structure of the wind tunnels (660 t)
- Airline doors and maintenance platforms
- Main fan (ø 4,740 m) including peripheral equipment
- Rain simulation
- Snow simulation
- Boundary layer removal system
- Insulated panels (test section)
- Acoustic treatment (airline and test section)
- Movable turning vane (vehicle access)
- Vehicle entrance door
- Adjustable nozzle and collector
- Test section diffuser
- Idle city system
- Vehicle transport system

#### *Facts & Figures:*

<b>Building dimension (l/w/h):</b>	70 x 62 x 19
<b>Wind tunnel dimension 2 pc. (l/w/h):</b>	42 x 8 x 18 m
<b>Floor surface of plenum (l/w):</b>	13,5 x 10 m
<b>Customer:</b>	Daimler AG
<b>Project period:</b>	2008-2011