

PRACTICE REPORT 24

Application examples for planners of complex construction projects



New construction of an elephant house in Rostock

Application area for VENTAFLEX®:
Duct system for the transport of air
in tropical atmosphere

New construction of the “Darwineum” in Rostock: Air guidance under extreme conditions

700 m VENTAFLEX® air ducts ensure that the tropical atmosphere of the elephant house is equally comfortable for zoo visitors and animals

Task

The air atmosphere for the keeping of exotic animals is a great challenge – especially because human visitors of these areas should also feel comfortable during their stay.

This is why a system was searched for, which economically effectively, low in maintenance and reliably transports damp and warm, odor-contaminated air.

These ducts should run underground (among others guidance through the feeding trough) as well as on the walls and ceilings.

The VENTAFLEX® system fulfills all requirements perfectly. VENTAFLEX® was the right choice beginning with the excellent insulation characteristics of the PUR reinforced foam, next to brilliant hygienic characteristics of the smooth GRP surface of the inner and outer mantle up to the individual molded parts.

A specialist company took over the installation on site – the uncomplicated processing of the well thought out VENTAFLEX® system once again was a great advantage with the exceptional climate and the cramped room conditions.

Practice comparison VENTAFLEX® insulated spiral duct

Requirements for an insulated air guidance system:
Length: 50 m
Series: 630
Insulation thickness: 5 cm
 Δt : 20 K

Therefore the following performance has to be applied:

VENTAFLEX® air duct: 900 W
other duct: 1.430 W

VENTAFLEX® solution

The used products:

VENTAFLEX® air ducts, insulated with the diameters 200 mm to 650 mm as well as a total of 260 moulded and custom made components, for the wall duct the proven VENTAFLEX® wall collar was used.

Material: Ultrapure rigid foam, 30 mm to 50 mm

Inner- and outer coating: GRP (glass-fibre enforced plastic)

Advantages due to the VENTAFLEX® system

- + Individual adaption to the conditions** by customised production
- + Certified hygiene conformity** of the ducts according to VDI 6022
- + Up to 70 % less weight** – important for statics and handling and installation
- + Saving of time at installation** by planning and pre-installation
- + Discreet optics** by light grey colouring
- + Tested technology** – handling and installation are self explanatory, accordingly easy to delegate to local specialist companies
- + Reduction of the operating costs** – up to 40 % less energy loss, up to 10 % less pressure loss and up to 99 % less leakage loss