



DOORS FOR EVERY CLIMATE

Klimahaus® Bremerhaven 8° Ost

To ensure the safety of the visitors Teckentrup delivered about 160 fire and smoke protection doors for the use between antarctic and rain forest. The doors must provide a fully functional escape route whatever the climate inside the room.

The task

What do the various climates on Earth actually feel like – from 38 degrees Celsius and 85 per cent humidity to a dry six degrees below zero? These extreme conditions also place great demands on the structural elements which have to guarantee optimum performance in each zone – in particular the doors, which are often subjected to different moisture and temperature conditions from each side.

One example is the fire-proof doors (Teckentrup, Verl): They lead from the sandy desert and the Arctic desert into “climate neutral” escape staircases.

The majority of the doors were painted in a low-key grey or black to ensure that the doors remain in the background.



The solution

Not many of the visitors will pay attention to the doors. Nevertheless, they play an extremely important role. But in spite of the extremely varied conditions only doors from the manufacturer's standard range were used. It is quite often the technical details which make the difference. Single and double-leaf versions, various designs, doors with an electric drive and sensor technology, others with special access technology (chip card) and doors with an anti-panic function. Almost every door had to be individually planned at Klimahaus Bremerhaven 8° Ost, as hardly any of the elements are the same.

For smoke-proof fire doors (T30/T90) between fire compartments in highly frequented areas: To ensure that floor seals do not rub on the floor when opening and closing doors, they are only lowered once the doors are closed. This solution combines ideal fire and smoke protection with excellent durability even where there is a high intensity of use.

In spite of the complex, realistic settings, the exhibition is still totally accessible for disabled people. Sensors monitor the swing range of the electrically driven doors. They stop the door leaf as soon as an obstacle is detected. Electro-mechanical hold-open devices operate in areas where the doorways between fire compartments must remain open. Smoke detectors ensure that the doors close safely in case of fire.

Doors between the Antarctic and Rain Forest.

The idea behind the large project is a simulate journey around the world measured at eight degrees 34 minutes east. This is the longitude of Bremerhaven and all the other locations on the journey: Switzerland, Sardinia, the Sahel, the African rain forest, the Antarctic, Samoa, Alaska and the Frisian island of Langeness. Each destination has its own exhibition complex. This is where the specific climate can be experienced and flora and fauna observed.

Short films and visual aids explain the (weather) phenomena of the respective region. Further exhibition areas explain how the elements fire, water, earth and air determine our climate, the perspectives for future climate development and the opportunities to protect the climate (and the environment). In a special weather studio, visitors can learn how weather forecasts are created and produced for television.



There are six staircases at the Klimahaus which can be used to evacuate the building in an emergency (in this case: Water from "The Elements" exhibition). Even the staircase has been incorporated into the design concept and elaborately decorated. The automatically driven door fades into the background. The sensor that monitors the swing range of the door is easily recognizable.

(l. o.) Spectacular rooms: This is where visitors can take a short-cut from the "Swiss Alps" to the "Rain Forest" – through a wide, automatic and wheelchair friendly door.

(l. u.) The fire-protection doors for the individual exhibition areas fit harmoniously into the interior design.

The so-called "outer space door" – the door leading to outer space on the journey – is a design highlight: This door is elaborately painted and an important part of the overall design of the room.



Construction Board

Operating Company	Klimahaus 8° Ost Bremerhaven, Am Längengrad 8, Klimahaus Betriebsgesellschaft mbH, Bremerhaven
Constructor	BEAN Bremerhavener Entwicklungsgesellschaft Alter / Neuer Hafen mbH & Co. KG, Bremerhaven
Project management	Petri & Tiemann GmbH
Architect	agn Niederberghaus & Partner GmbH, Ibbenbüren
Construction sum	approx. 100 Millionen Euro
Capacity	11.500 m ² exhibition space

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