



Cushion roof Hitachi Power Office Duisburg (D) 2007

The new European headquarters of the power station and plant designer Hitachi Power Europe are at the northern waterside of the Duisburg Innenhafen.

Architectural highlights are the two trapezoidal atriums which are glazed towards the waterfront and covered by cupola-shaped ETFE-cushion roofs of about 18m x 14m. They are of reversed image but not symmetrical. In the middle they are 1.60m high.

The roof structure consists of 5 bended steel tubes with a diameter of 177.8mm and cross bars which bending-stiff connected to the girders. 3-layer cushions which are rhombic in the middle and triangular at the border cover the roof structure. Their inner pressure is 300Pa.

Size about 250m² per roof

Architect: Bahl +Partner
Architekten BDA

Steel cupola: Stahlbau
Nägele

form TL: Structural design
cushion roof and design foil
cushions, workshop design
steel

Membrane manufacturer:
Ceno Tec

Foil: Novoflon ET-6235 foils
(Novofol)
Upper cushion layer 250my
lower cushion layer 250my
centre cushion layer
100my, perforated for
pressure balance within the
cushion