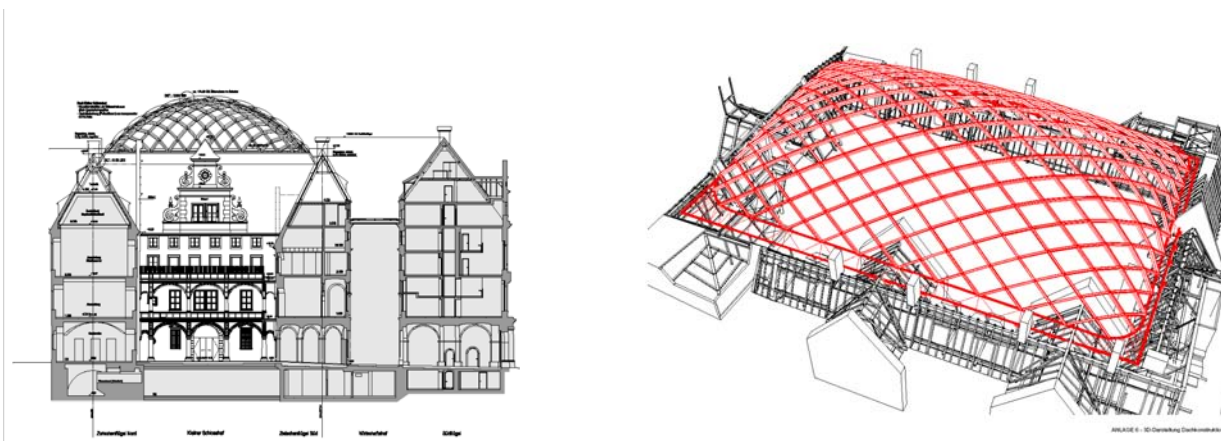


The roofing over of Dresden Castle`s "Kleiner Schlosshof"

The "Kleiner Schlosshof" is the central meeting place within the castle complex – accessible from the Hofkirche, the Taschenbergpalais and the Schlosstrasse. The roofing according to designs by Prof. Peter Kulka has seen the creation of a 640 square meter foyer area. The transparent membrane cushion roof consists of a load-bearing lattice shell with ETFE-membrane cushions fixed into the lattice structure.



Weighing in at 84 tonnes, the dome has been assembled accurate to the last millimetre using 3D plans. Precise preparations were required in order to achieve this goal, as tolerance stood at just 30 to 40 millimeters. The dome consists of a total of 200 individual parts, 50 of which were prefabricated. The load-bearing structure is a double-vaulted lattice shell of welded quadratic steel profile construction. Some of these profiles are also used to supply the cushions with compressed air.



The lattice shell – which hovers over 30 meters above the courtyard – was filled one-by-one with a total of 265 membrane cushions. The cushions are of stable, extremely lightweight and weatherproof plastic construction. Both the load-bearing structure and the cushions take the form of a rhombus with 4.10 x 2.80 meter diagonals. Once integrated into the roof structure the cushions were filled with compressed air at 800 Pascals. The membrane area covers 1,420 square meters.



Project Data

client	Staatsbetrieb Sächs. Immob.- und Baumanagement
architect	Peter Kulka Architektur Dresden GmbH
statical calculation membrane	form TL
covered area	1.420 qm
year of construction	2008

