

## NATIVA SHOPPING MALL

Monterrey, Mexico - 2014

Design: 3dtex+Lonas Lorenzo  
Engineering ETFE: z3rch

Free form pneumatic structure  
ETFE foil cushions + steel + aluminium  
1.600 sqm

photos: 3dtex

Cubierta voronoi is the first ETFE roof in the history of Mexico. The project was conceived to be the meeting point of the new shopping mall in the neighborhood of San Pedro Garza Garcia, Monterrey.

The structure consists of a tree-like steel masts which support a „honeycomb“ covering steel structure. The panels of the honey were covered by ETFE cushions, this are transparent on the bottom and white on the top.

The first project, so its name, was a Voronoi structure, i.e., the surface described by the roof was divided into panels by the algorithm developed by Mr. Voronoi. This gave a very nice and aesthetic structure, but far away to be built with the budget and time proposed by the client. Because of this we rethink and redesigned the project, to be able to achieve the schedule and budget proposed the client. In this way was designed a free form steel roof which was divided into a honeycomb structure. The big achievement of this design was to build the freeform roof only with 5 different cushions. In this way all the production process was accelerated and cost for the construction and planning were reduced. Also the assembly process was standardized, and the whole 100 cushion were mounted in only 12 days.



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## BUSHOFF AARAU

Aarau, Switzerland - 2013

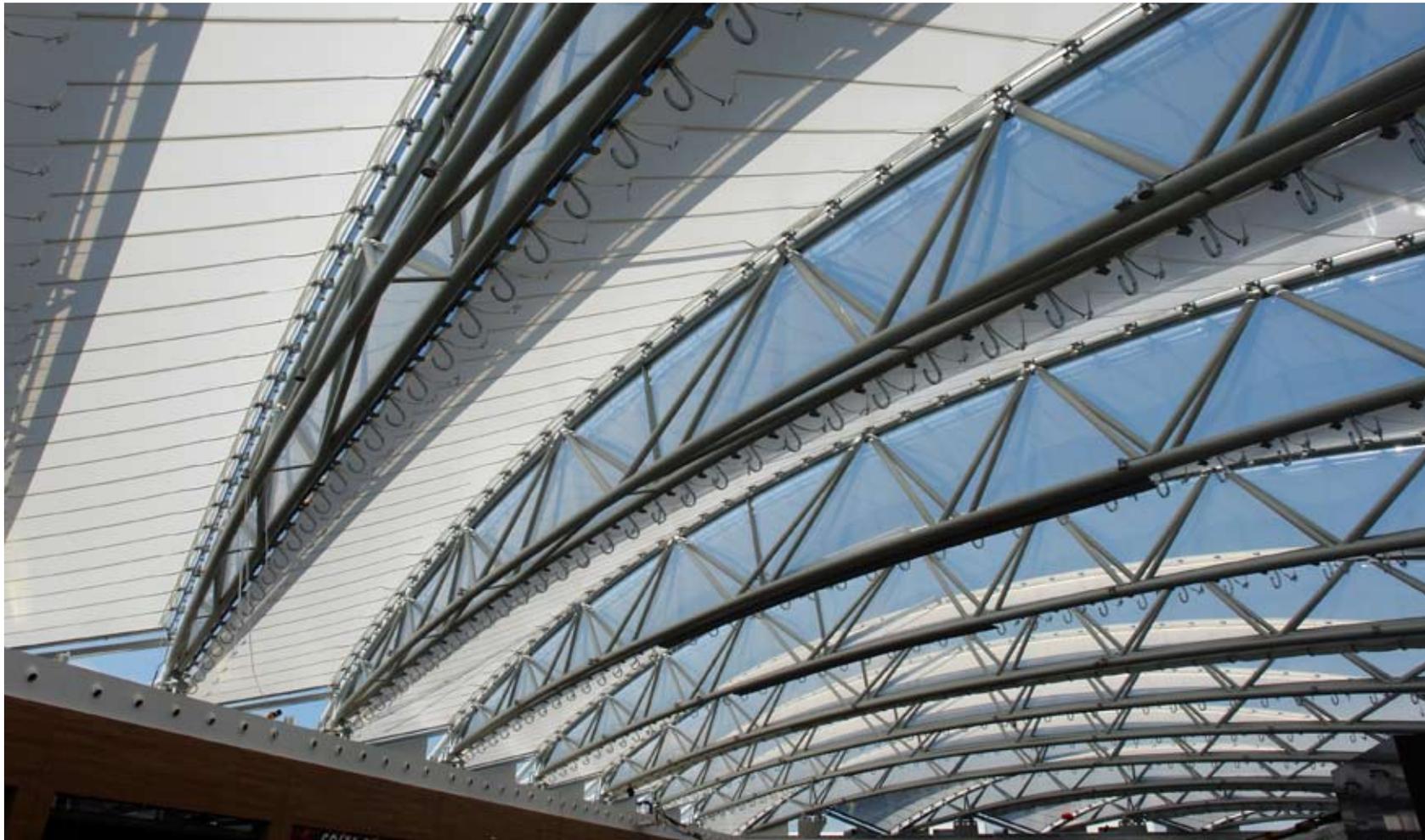
Architect: VJA Architekten  
Engineering: form-tl

ETFE pneumatic structure  
ETFE foil, steel + steel cables  
1000 sqm

photo: goedecke, z3rch, form-TL



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## PYRAEUS SHOPPING MALL

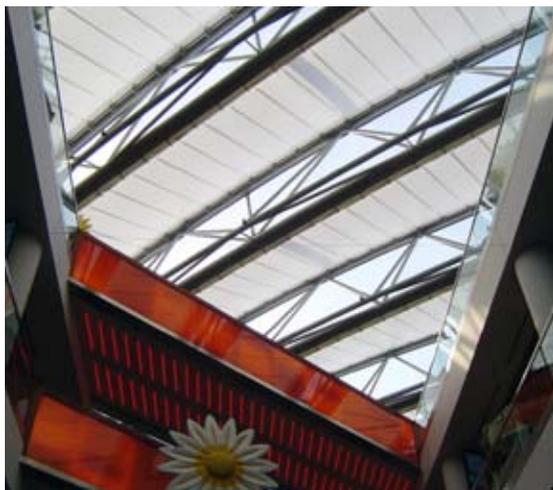
Athen, Greece - 2009

Architect: Conran & Partners / London  
Diarchon / Athen

Engineering: form-TL

Retractable roof + ETFE cushions  
Silicon fiber glas membrane + ETFE + steel +  
steel cables  
3.400 sqm

photos: form-tl



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## NORDPARKBAD

Neuss, Germany 2008

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Engineering: form-TL

Pneumatic structure with fix border  
ETFE foil + steel + steel cables  
215 sqm

photo: ceno tec

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