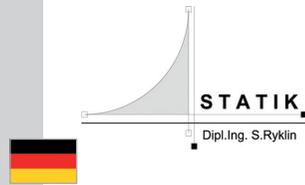


Dipl.-Ing. S. Ryklin STATIK

Contact Sergej Ryklin
Address Liselottestrasse 17
69123 Heidelberg, Germany
Phone +49 6221830673
Email statik@ryklin.de
Website www.ryklin.eu

Nomination



Sergej Ryklin - Born in 1963 in Moscow

- 1981-1985: Civil Engineering; "Bridges/Tunnels"
- Since 1993: Structural designer and verifier by "Römhild & Hecker" Consulting Engineers in Landau, Germany
- Since 1997: Structural designer
- 2008-2009: Master Study on the Institute for Membrane and Shell Technologies, Anhalt University of Applied Sciences Germany

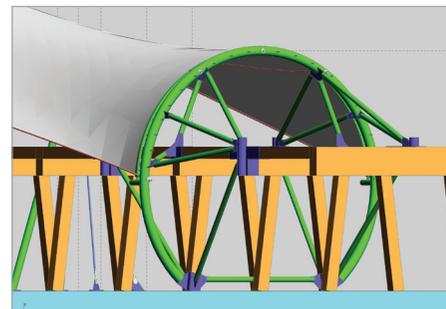
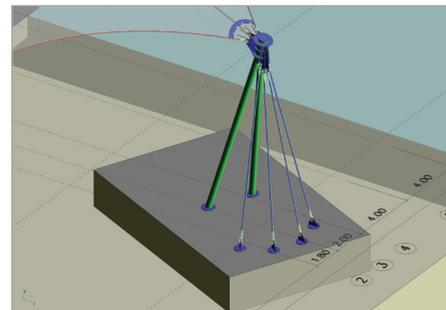
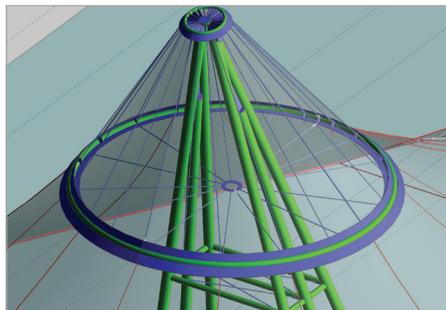
Range of Capacity: Planning and optimization of Steel, Aluminium, Solid, Composite, Timber

and Membrane Structures, Project consultancy, Building physics calculations, Dynamics calculations, Project verification.

Philosophy: Flexibility in planning due to integral 3D Design with the ability to find feasible and low-cost solutions already in draft stage.

Experience: Residential and industrial buildings, parking spaces, pedestrian bridges, swimming pools, silos, membranes, etc.

References: Daimler, John Deere, SAP, DB, etc.



Software: Scia Engineer

Cover for Fish Market on Pier - La Libertad, El Salvador

The Port of La Libertad is a picturesque touristic place, famous for its typical fresh seafood dishes (ceviche, oysters, shellfish, etc.). It has a strategic location at 34 km from the capital city of San Salvador and just 25 minutes from the Comalapa International Airport.

The settlement was founded in 1824 and it was originally a landing place for pirates. In 1869 the iron pier in the harbour of Tepeagua-of Nahuatl was built - "at the top of a hill" - to facilitate the trade of indigo and coffee with Europe and the United States. Today this pier is one of the favourite places for tourism and from here you can watch the arrival and departure of the fishermen and acquire a variety of fresh seafood directly. The Puerto La Libertad became a city in 1957.

The pier is worth seeing for the fish market stands and, when the fleet is in, for observing the boats that are hauled up out of the water along their length.

The project

To be independent of the extremely fast changing weather conditions in the area, a permanent cover of the very popular fish market on the pier was needed. The customer has asked for a study with regard to feasible solutions and an estimation of the total costs. The presented work was made as a semester project during the Master Study at the Institute for Membrane and Shell Technologies at the Anhalt University of Applied Sciences Germany.

The idea for the form as a four point cone with "flying away" nose was developed considering the following criteria:

- The effectively weather protection along the approximately 100 m length of the market
- Additional sun and rain protection for the ground area at the market entrance reckoning with a lot of different beach activities,
- Free view from the pier to the beautiful natural surroundings

Software and modelling

The given surrounding with the existing pier structure was build-up in Scia Engineer with the 3D Free-Modelling Tool. The environment was exported as DWG/DXF to the form finding software - Formfinder - to

find and adjust the required form and then to the Forten Software for the Membrane design.

The results of the Formfinding and Membrane calculations were imported back in Scia Engineer to design the support steel structure, anchors, edge/corner details and foundation. The fully detailed structure was developed in one 3D Model to be able to consider every distance and height in 3D Space precisely. For the easier handling of the complicated anchor and connection parts the Scia Child-files from the main structure file were created.

All the execution elevation and detail drawings were processed in Scia Engineer with help of the appropriate Modelling and Drawing Tools.

Design and execution

The design of the structure took two months. The production of the structure with montage, will take about a year or even more.

The covered area amounts up to 3.500 qm and provides protection against weather conditions for the 100 m length of the fish market and the facilities on the beach.

The required materials are:

- 500 m³ high quality concrete
- 70 tons of steel S355
- 880 m of full locked cables (ds21-ds50)
- 313 m spiral stainless cables
- 380 m tension rods S460 (M20-M70)
- 4.000 m² PVC Fabric Type V in two on side assembled parts 2.800 m² + 1.200 m²

The total project costs are approximately 1.200.000 Euros.

Cover for Fish Market on Pier La Libertad, El Salvador

Project information

Owner: Departament La Libertad, El Salvador
 Architect: Dipl.-Ing. S. Ryklin, Master Membrane Structures, Archineer M.St.
 General Contractor: Design Stage
 Engineering Office: Dipl.-Ing. S. Ryklin STATIK
 Construction Period: From January 2009 to ...
 Location: Port La Libertad, El Salvador



Short project description

This project is about the cover of the popular fish market on the Pier in La Libertad in El Salvador. A permanent roof was necessary because of the extremely fast changing weather conditions in that area. The idea for the form as a four point cone with a "flying away" nose was developed considering the following criteria: the effectively weather protection along the approximately 100m length of the market, additional sun and rain protection for the ground area at the market entrance reckoning with a lot of different beach activities and the free view from the pier to the beautiful natural surroundings had to be kept.

