

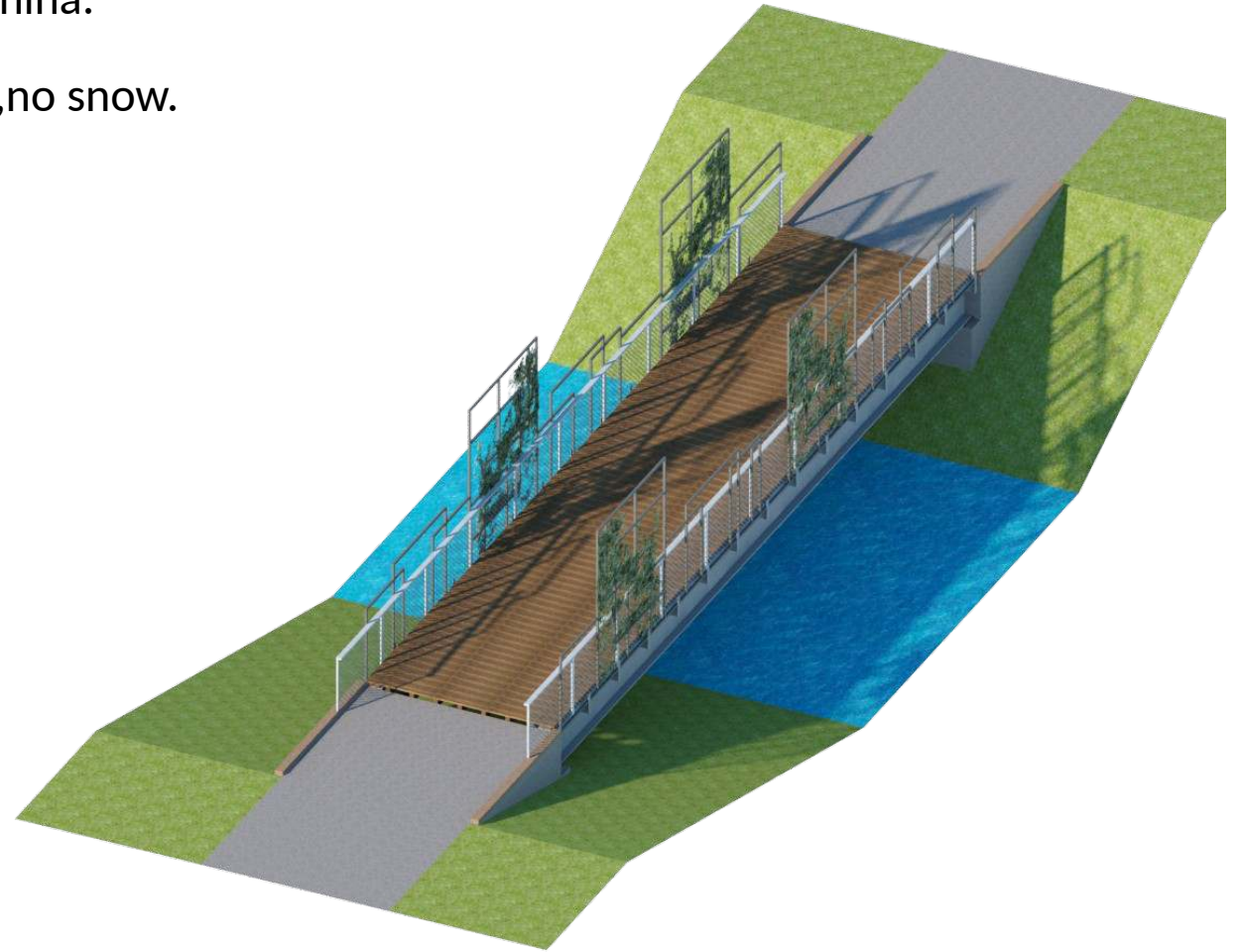
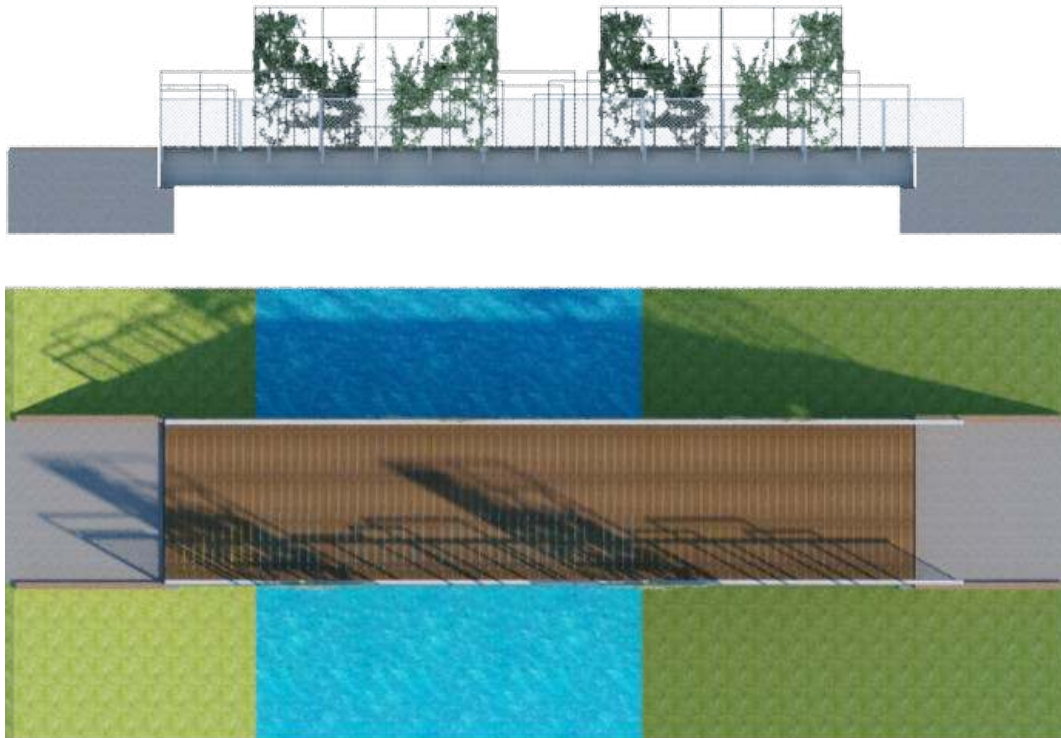
Location : the Mangrove Ecological Park of Shenzhen,China.

Weather: annual average temperature 23°C,heavy rain,no snow.

Topography: coastal area.

Targets: pedestrians & bicyclers.

Dimensions: 16\*3.5 m.



**Footbridge in Mangrove Ecological Park**

**Students: Tran Dong My  
Linh Lin Shuting**

# Advantages



## Fully code compliant.

Designed for China conditions in accordance with China design Standards.



## Span up to 16m.

Reduce by multiples of 1m for smaller spans, e.g. can also work for 15m, 14m, etc.



## Designed for 3.5m wide footways.

Can be easily reduced to other widths without further design.



## Balustrade heights of 1.1m.

Posts are fabricated by column and steel mesh.



## Vine fences as decoration.

Variant vine fences are installed next to balustrade.



## Architectural flexibility.

Alternative balustrade designs can be incorporated to enable the implementation of customised - but cost effective - project specific architectural merit.



## Full colour versatility.

The steelwork can be finished to a vast array of different colours including most of the Resene and/or Dulux colour palettes.



## Includes full superstructure design drawings.

Enables fast and simple detailed design and fabrication stages.



## 3D models available.

SKP files can be provided so that the design can be quickly added to landscape architect or urban developer masterplans.



## Thoughtful economic Vs. aesthetic balance.

Only the visible elements of the steelwork are painted. All of the internal steelwork is galvanized or zinc sprayed. This provides an excellent balance of aesthetics to cost.



## Environmentally friendly.

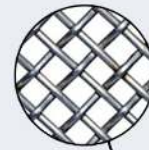
Acrylic elastomeric paint systems can be used directly over the existing paint system during bridge maintenance and touch-ups which prevents the need for sand blasting over water ways.



## Safe and quick construction.

Time on site can be significantly reduced by fabricating the entire superstructure (including balustrades) off-site. Bridge is designed to be transportable in single piece (depending upon site access). It can be lifted in to place once the abutments are complete.

# Material



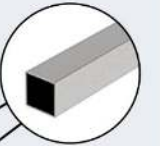
steel mesh



teak deck



vine fence



AISI316  
steel frame



AISI316  
steel railing



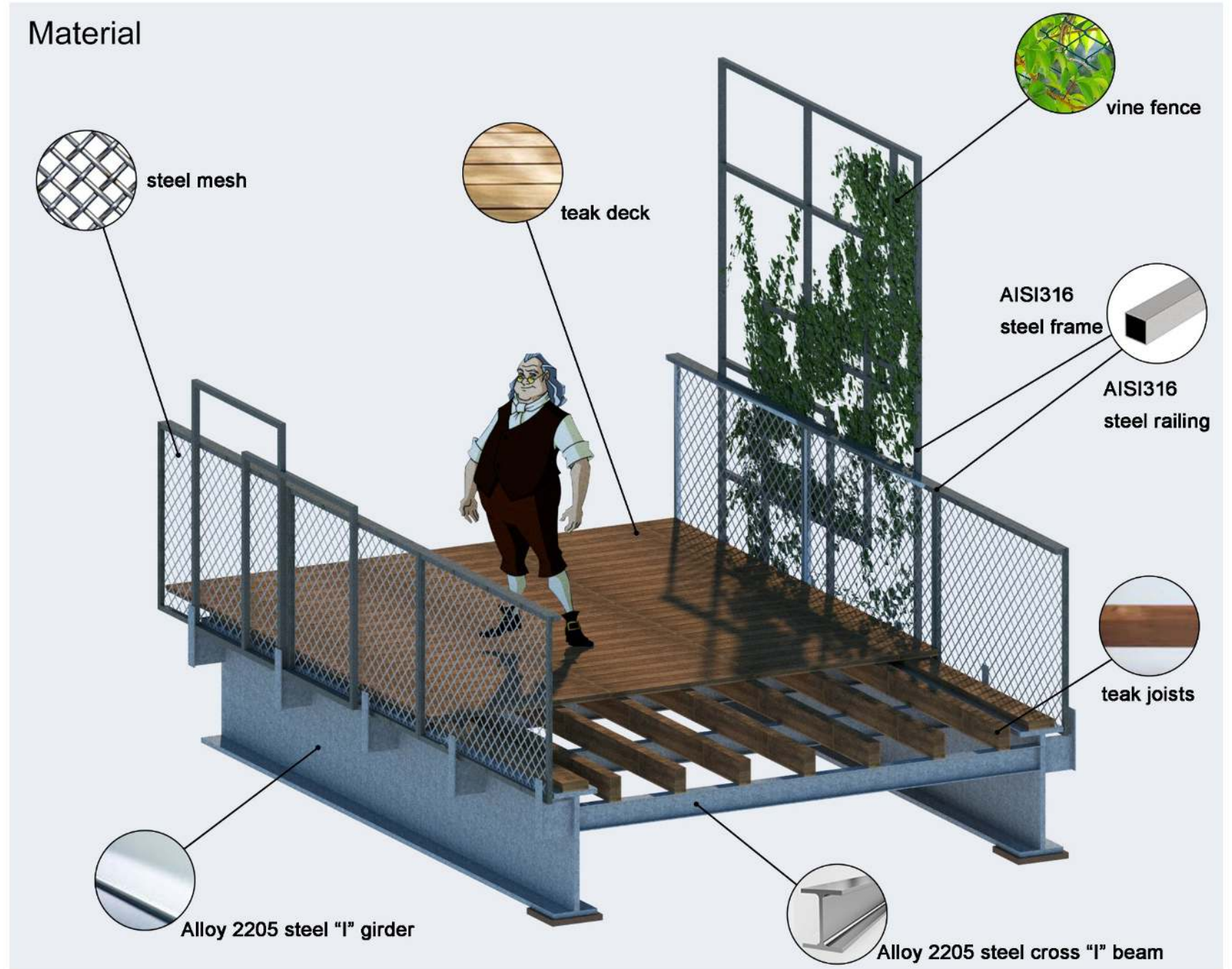
teak joists

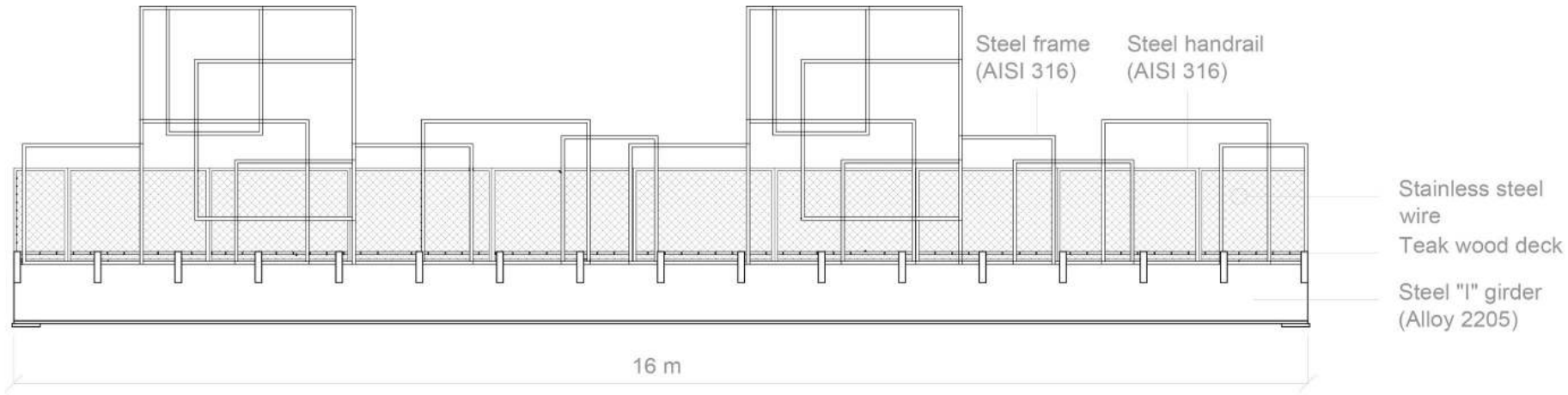


Alloy 2205 steel "I" girder

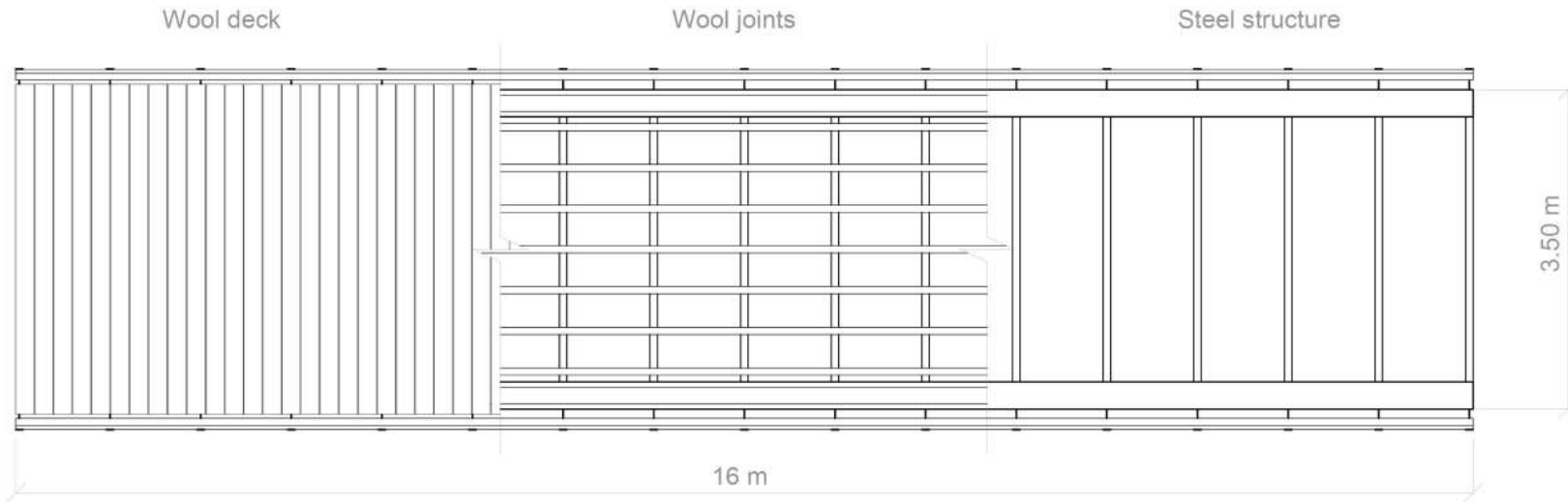


Alloy 2205 steel cross "I" beam

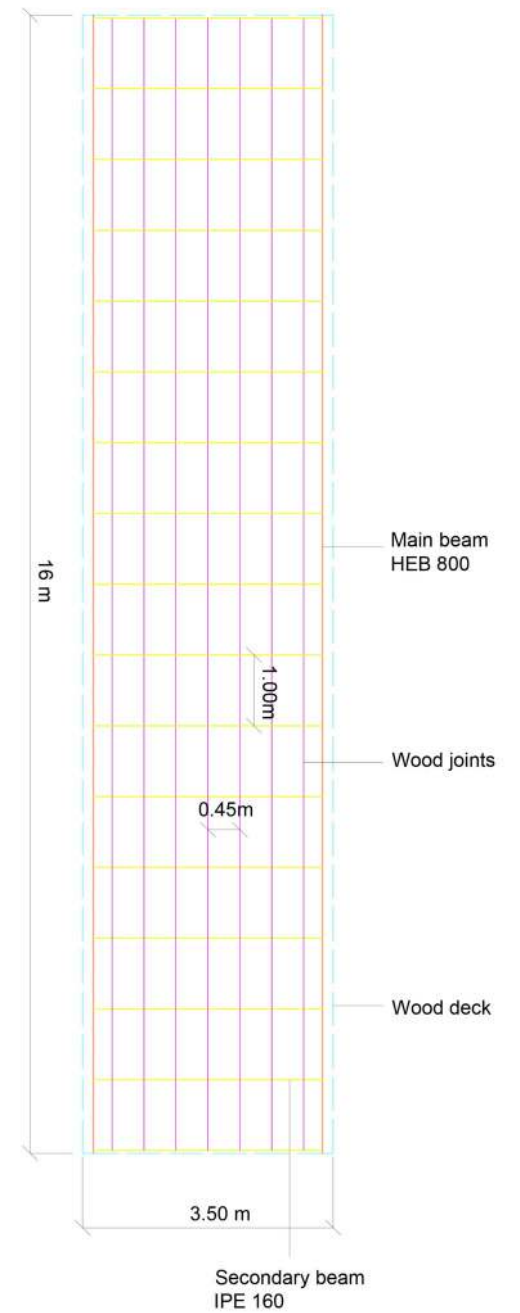




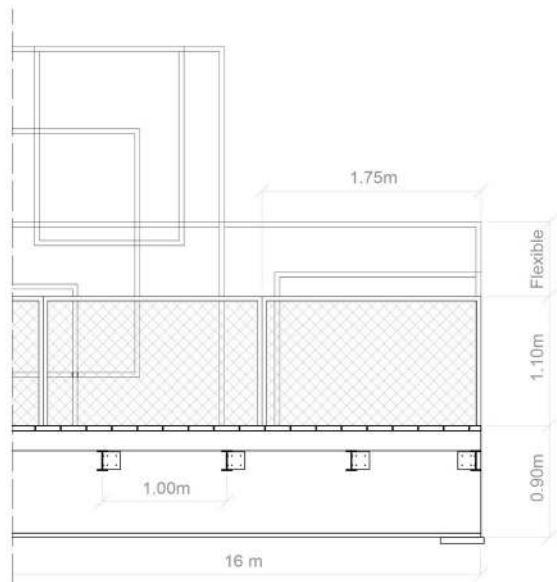
Bridge elevation



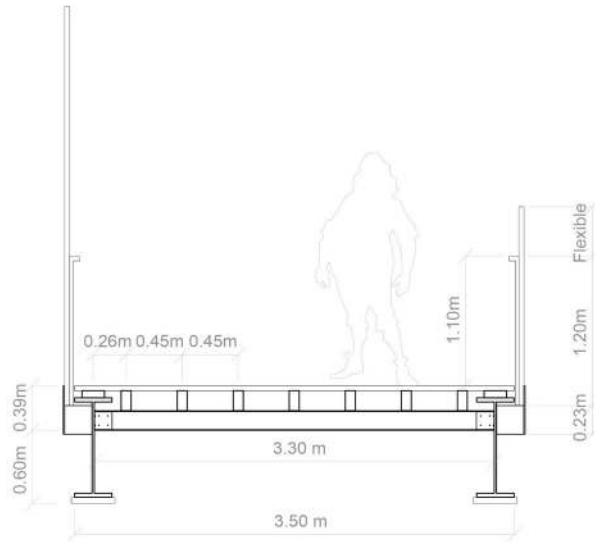
Bridge plan



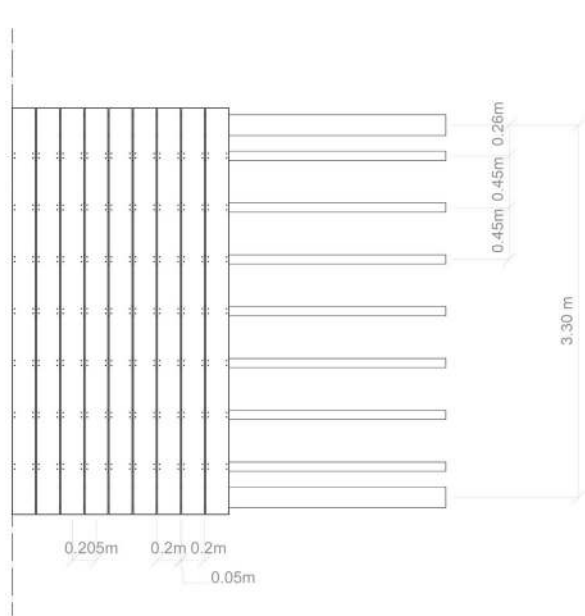
Structure scheme



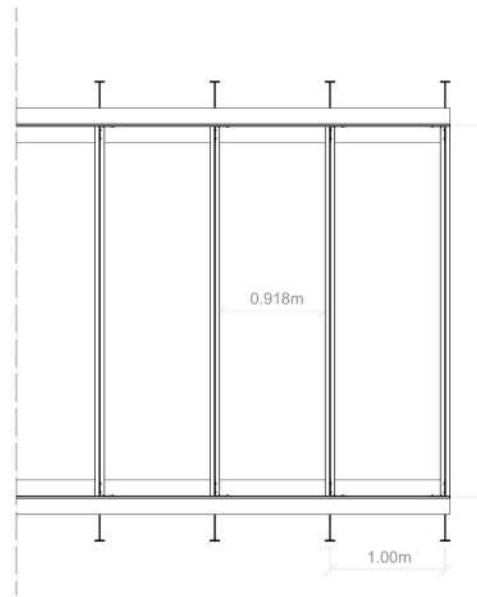
Longitudinal section



Cross section

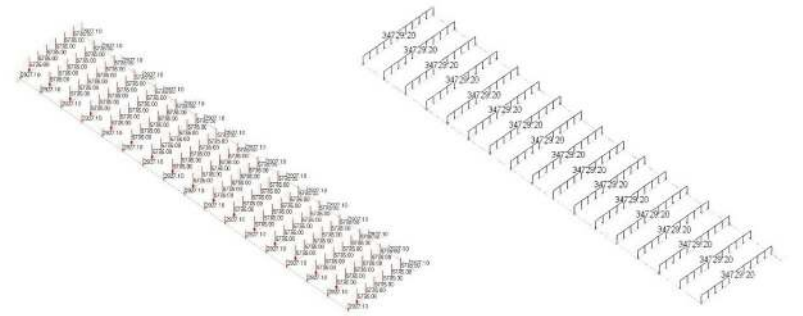


Wool deck

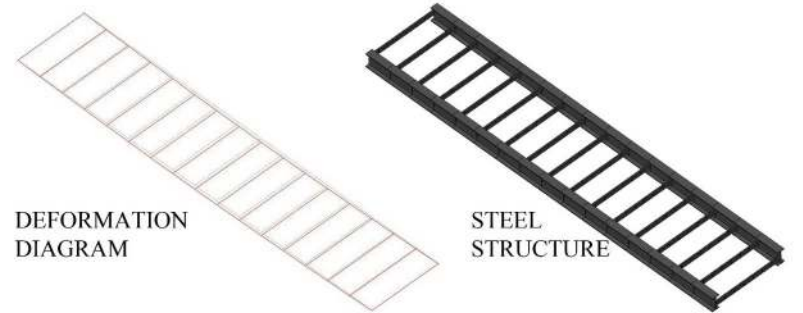


Steel structure

**NOLIAN RESULTS**

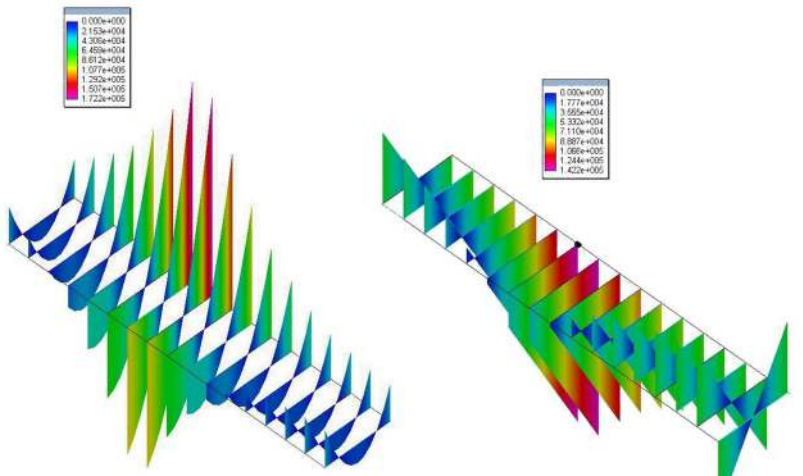


LOAD APPLIED ON THE BRIDGE



DEFORMATION DIAGRAM

STEEL STRUCTURE



MOMENT DIAGRAM

SHEAR DIAGRAM