

Storytellers 02 2017



Stories of

EXCELLENCE PROJECTS

The Golden Stair of Panama City

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italian style



Dear Readers,

Today we are telling you a new story about our products: Panama's Golden Stair designed by the Architect Carlos Ott for the Hotel Las Américas Golden Tower.

For 15 years we have been producing stairs that create emotions in the environments. It is our vocation, our customers know it and we are happy to be able to respond to impossible requests. The golden metal and glass stair, with its elliptical shape, is a real architectural challenge; it is 11 meters long, 4 meters wide and features triple laminated tempered glass used for the steps.

The customer has looked at several projects and offers, but Architect Carlos Ott said these words during the decisive meeting: "Gentlemen, according to my knowledge, if we want to build the stair as it is in our project, there is only one firm that can make it : the Faraone company. "

The result will be found in the next pages with photos, numbers and speeches.

Sabatino Faraone
Presidente

STORYTELLERS #02



The Golden Stair

Hotel Las Américas Golden Tower, Panama
Supplied product: metal and glass stair

The Golden Stair of Panama City

Hotel Las Américas Golden Tower, Panama
City

Architect Carlos Ott has chosen Faraone to make his Golden Stair inside the hall of the luxury hotel in Panama City,

Architectural Designer: **Architect Carlos A. Ott**

Structural Designer: **Engineer Stefano Romeo Pasquini**

3D modelling consulting: **Surveyor Antonio Romilio**

Lighting technology design: **Audiovisivamente**

General Contractor: **Faraone Architetture Trasparenti**

Manufacturer of metal structures: **Orsini & Blasioli**

The Golden Stair, of the **Las Américas GoldenTower** is a unique project, designed and built in Italy and based on the original architectural concept drawn up by the South American Archistar **Carlos A. Ott**, the designer of the entire building.

Geometrically, the stair exceeds a difference in height of about 7.5 meters and has a plan extension of approximately 11 meters in length and 4 meters in width. If you look at the plan, it reminds of a drop of water, with a cusp at the





height of the two landings and with a large round curve at 3.80 meters above ground.

Laminated tempered extra-clear 12+12+12 glass for steps and landings. Try and walk on the stair in total suspension, it seems as if you were flying. The load-bearing structures are made of curved plates welded together to form a tubular section that follows the staircase in its path and provides the supports for the glass steps and landings. These structures have large apertures along

their development, inside which curved laminated glass sheets are installed.

Chromatically, the bearing structures are painted black on the outer wall and gold-colored along the inner wall which, among other things, houses the LED lighting system that rhythmically accompanies every single step.

The central black column is also made of metal structure and consists of a triangular section prism that slides to the top through a circular junction creating a singular geometric game.

Structural calculations

The calculations of the structure and, above all, the constructive design were a real architectural challenge with a commitment of about 720 hours of modelling, structural analysis and post-processing for the implementation of construction drawings, assembly workshops and onsite mounting.

Structural calculations have been made according to the local regulations, in order to meet all the necessary standards. Specifically, the considered standards were the following:

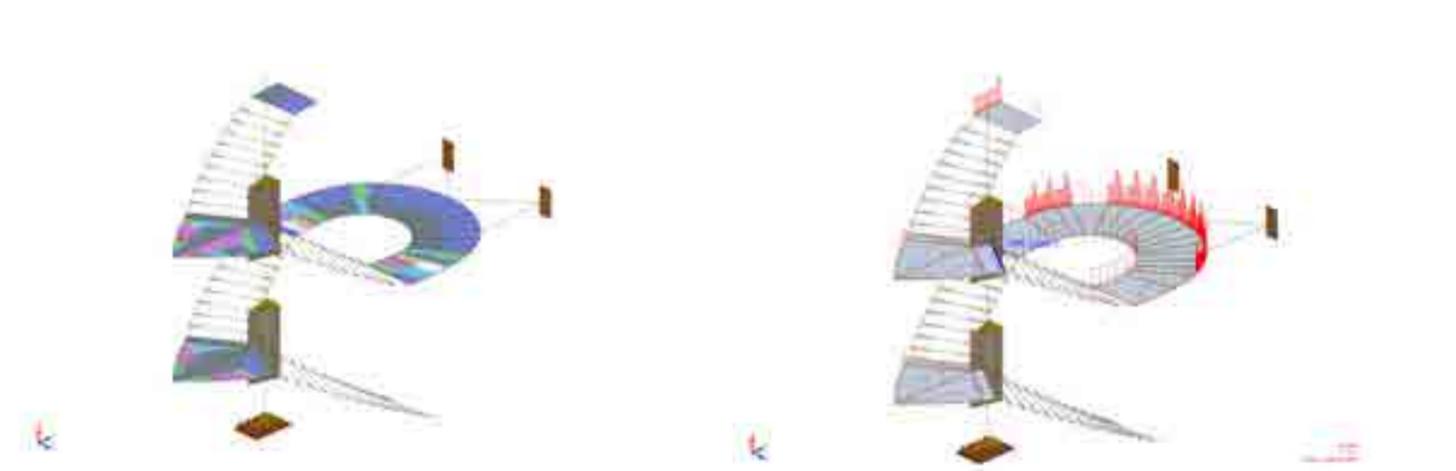
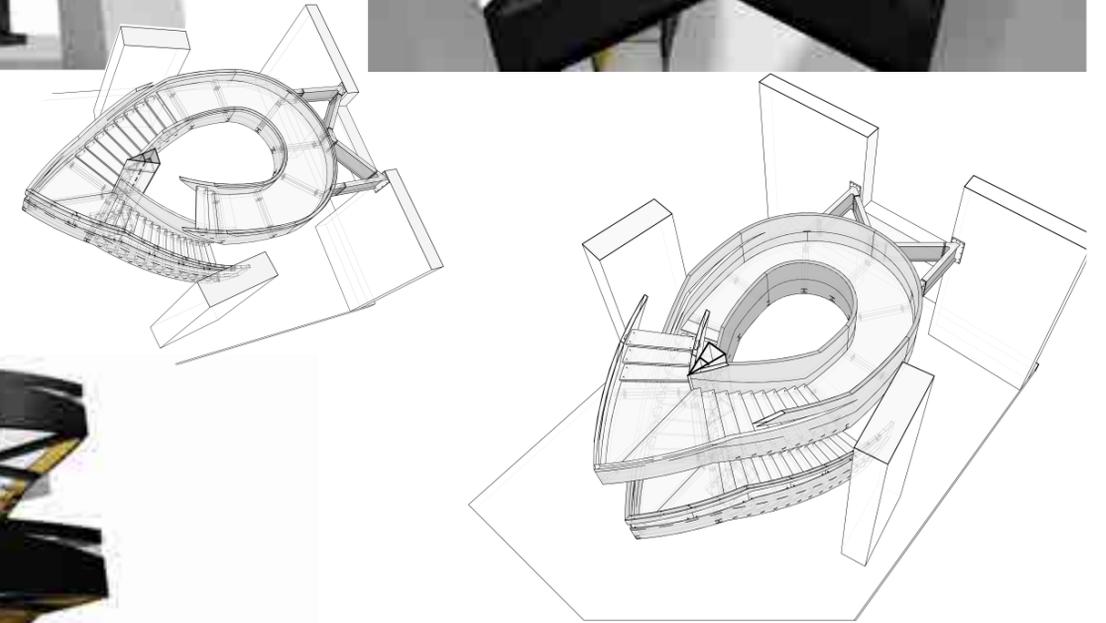
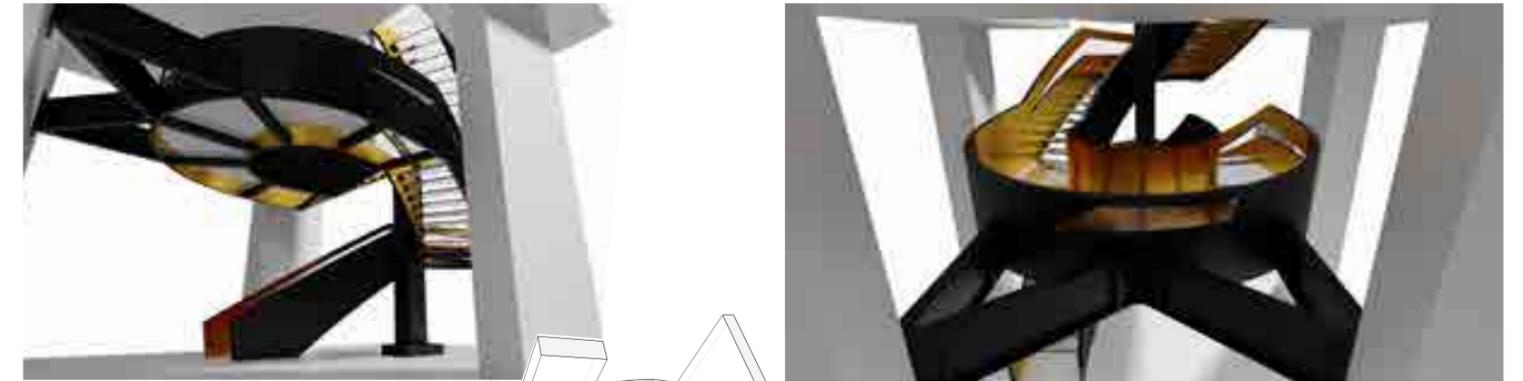
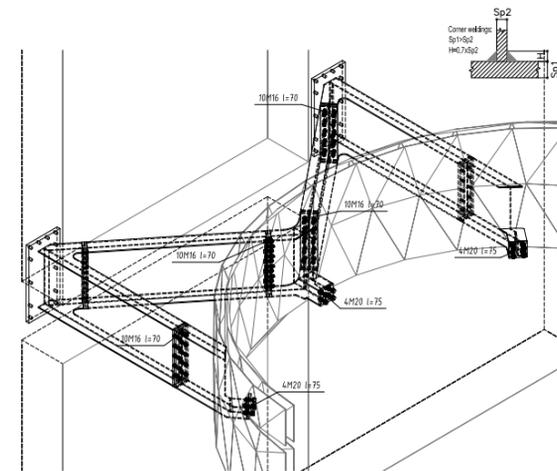
1. ASCE 7 For live loads definition;
2. LRFD ASCE 7-10 for loads combinations;
3. Resolucion JTIA-639 de 2004 for the definition of the seismic loads;
4. American ANSI/AISC 360-10 for steel structural member verifications.
5. UNI EN 1993-1-1:2005 Part 1-1: General rules and rules for buildings
6. UNI EN 1993-1-8:2005 Part 1-8: Design of connections (bolted connections)
7. All the calculations produced, with the relative reports, were subjected to the careful and severe scrutiny of the

“Departamento de Ingeniería Civil y Ambiental” of the Universidad del Norte, Barranquilla (Atl.), Colombia, and specifically by Professor Andrés Fernando Guzmán, Director GIEG – Grupo de Investigación en Estructuras y Geotecnia, brilliantly overcoming all controls.

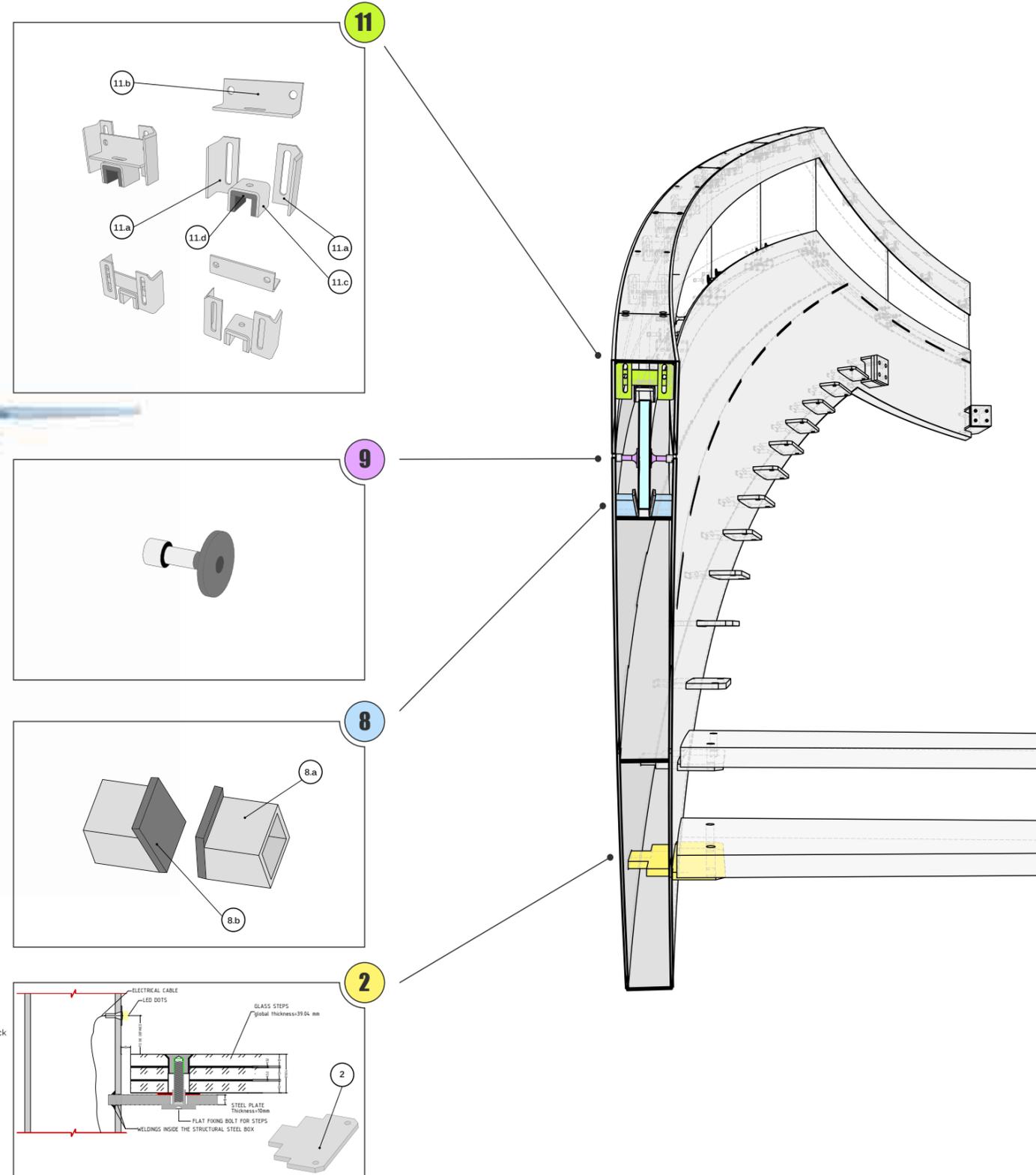
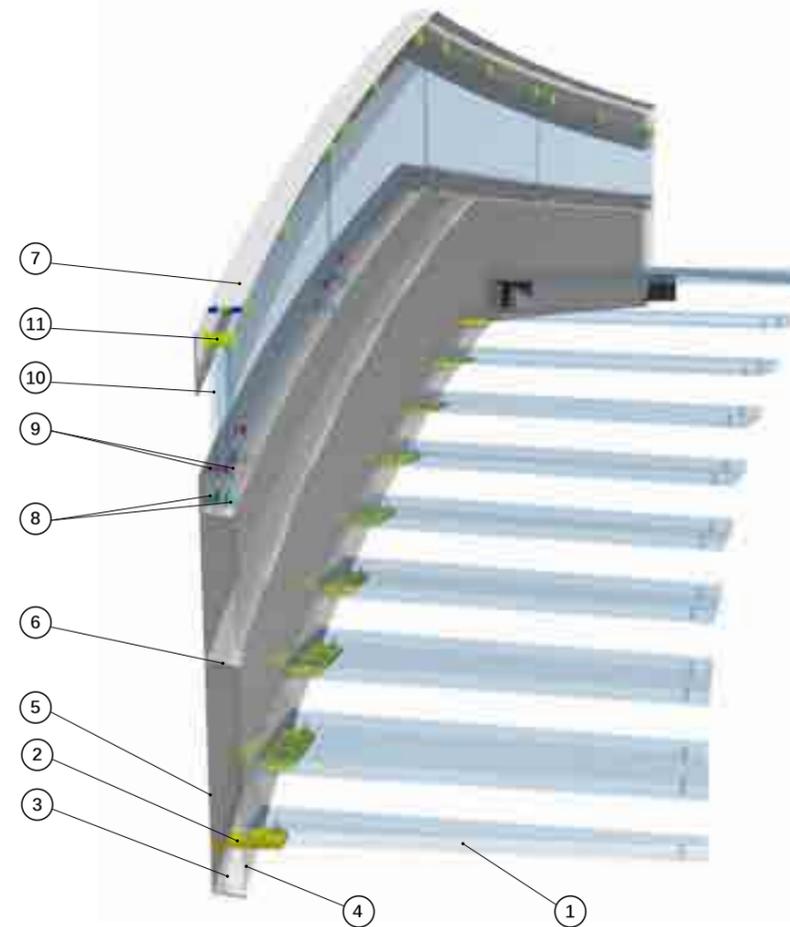
Constructive Design

The design of the Golden Stair has put the entire staff to the test for the complexity of the work, but also for the required precision, which has to be inserted into spaces already created and with very little margin of error.

The result: the full satisfaction of the customer and of the Architect Carlos Ott.



Assembly Scheme



- 1 Layered glass steps (12+1.52+12+1.52+12)
- 2 Fastening plate step, welded inside the wall of the inner stringer, and outside of the wall of the outer stringer. Black painted
- 3 Bottom plate, thickness 6 mm, material S 355, black painted
- 4 Inner stringer plate wall, thickness 5 mm, material 355 S, painted gold
- 5 Outer stringer plate wall, thickness 5 mm, material 355 S, painted black
- 6 Intermediate structural plate, set 600 mm from the bottom plate, wedged comb and welded to the side walls. Thickness 6 mm, material S 355
- 7 Closing plate, made in pieces and removable for any replacement of glass, fixed with counter sunk flathead bolts, thickness 3 mm, material 235 S, painted black
- 8 Bottom interlocking System of the glass:
 - 8.a Steel square tube 30x30 mm
 - 8.b Plastic glued plates
- 9 Threaded rod M8 + flanged nut + plastic sheet
- 10 Curved layered glass panels (8+0,76+8)
- 11 Top fixing and adjustment system
 - 11.a Welded angle on the vertical walls, with slot adjustment
 - 11.b Support angular to the mounting block
 - 11.c Steel mounting block
 - 11.d neoprene



1. Pre-installation in the company
All stairs are tested in the company to offer a quality product to the customer

2. Onsite installation
All assembly is guaranteed by a professional team

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