

*freeminds*  
**Bellapart**  
construction

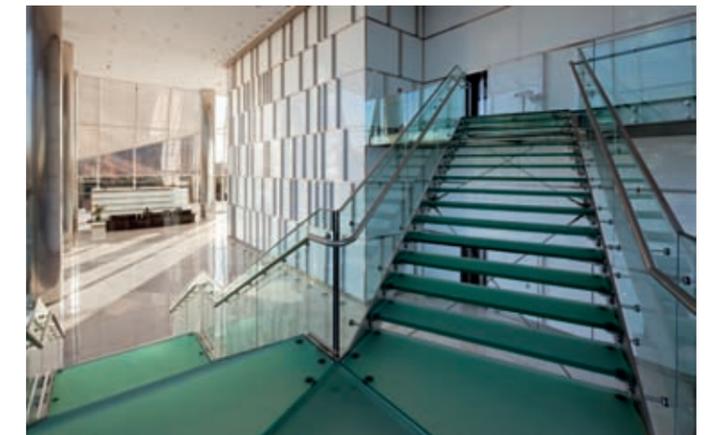
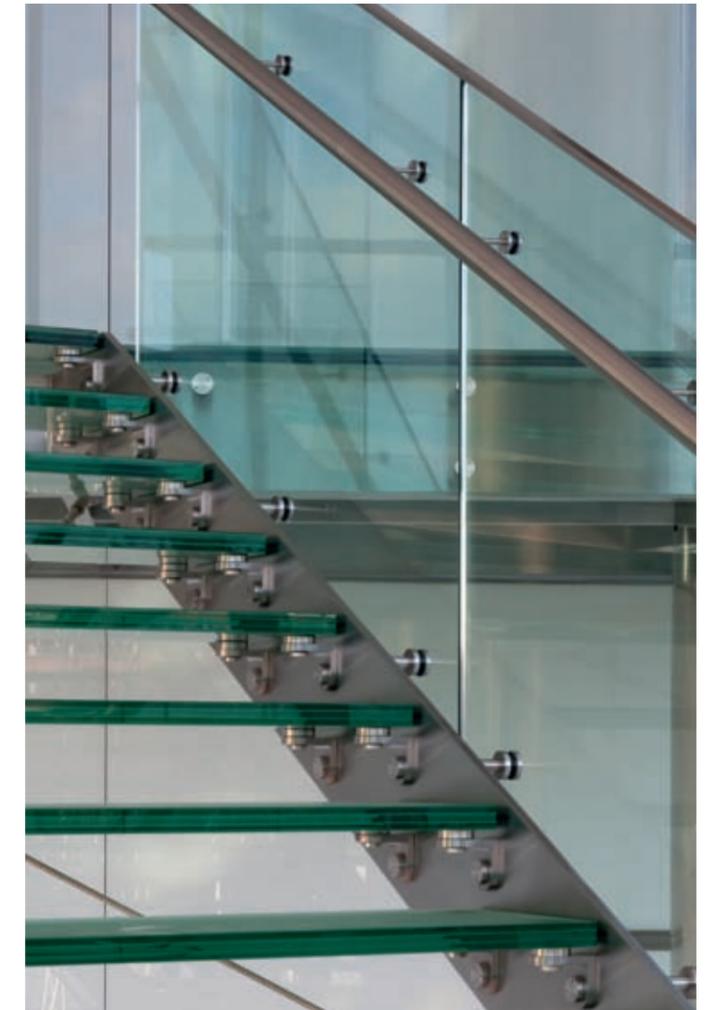


Glass Staircase, Mutua Madrileña

*freeminds*  
**Bellapart**  
construction

Bellapart, S.A.U. **Edifici Free Minds**  
Ctra. de la Parcel·lària, 32 - 17178 Les Preses  
(Catalonia) Spain T. + 34 972 27 50 01  
[www.bellapart.com](http://www.bellapart.com) [bellapart@bellapart.com](mailto:bellapart@bellapart.com)





## CRYSTAL TOWER LOBBY

The recently constructed Torre de Cristal is one of the highest skyscraper of Madrid, with 249 meters of height and 45 floors of offices. It is situated in the area known as Cuatro torres, the new financial district in the north of the Paseo de la Castellana, and is characterized by its sparkling façade having the shape of a cut crystal.

The grand entrance lobby has a free height of 12 meters and features a free-standing glass staircase linking to the restaurant area of the first level. Constructed by Bellapart, the staircase is erected in two straight sections with approximately 8 meters length each forming in plan a left angle turn of 65° and culminating in a glass floor of dimensions 9 m x 3.2 m.

The stainless steel structure, of grade 1.4301 and satin finished, is composed of two lateral beams flanking the stair and a grid of rectangular hollow profiles supporting the glass floor, all fabricated through laser cutting 20 mm thick plates. In addition, four bracing diagonal cables 10 mm diameter are installed to increase the lateral stiffness of the staircase.

The glass tread, spanning 1.8 meter, is made of three layers of float glass bonded together with SentryGlas® ionoplastic interlayer to ensure high flexural stiffness and significant structural performance in case of accidental glass breakage. Furthermore, the use of float glass allows to mirror polish the edges after the lamination process, achieving a perfect bor-

der finish. The treads are surface acid-etched to offer slip and privacy protection. The point fixing product from Bellapart GLUEpart™ has been used as connection system consisting of punctual stainless steel fittings glued to the bottom surface of the stairs by means of a bi-component structural adhesive. These fittings are mechanically fixed to the stainless steel staircase girder.

The balustrade is composed of 12+12 laminated glass panes with a SentryGlas® interlayer and fully tempered heat soaked components and is subjected to the structural beam by means of bolt fixings.

**Owner**  
Mutua Madrileña

**Architect**  
Pelli Clarke Pelli - Ortiz León

**Staircase-Lobby Contractor**  
Bellapart S.A.U.