



Iguatemi Shopping Centre

Location : São Paulo, Brazil

Architect : Carbondale

Client : Iguatemi Empresa de Shopping Centers S.A

Package : Glazed roof structures

Scope : Technical design

Date : 2011 / 2015

Opened in the 1960s, the Iguatemi shopping mall in São Paulo is Brazil's first prestigious shopping mall. As part of the expansion and renovation of the center by the architects Carbondale, the existing atrium glass roof is replaced by a new structure, whose iconic shape is intended to become its new emblem.

With the architects, it was decided to develop a structure that descends into the volume of the atrium and supports a 4-sided skylight with 36 meters on each side. The structure acts as a filter for the skylight, reflecting the light and projecting shadows on the atrium floor.

The structure is a 2D grid of inverted arches. At the periphery of the skylight, their curves reverse to join the edges elegantly. The thickness of the beams adapts to this curved movement: in the center, the arch structure becomes thinner, while it thickens towards the periphery of the atrium. As a result, the central part of the skylight is more transparent than its perimeter.

The beams are designed as "welded plates". However, local manufacturing practices mean that they are made like fine trusses clad in anodized aluminum, with particular attention to the details of assembly.

The skylight above this suspended structure is held by a thin steel frame with 4 slopes, to allow water drainage in all directions.