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**Torino Esposizioni Salone 2 e 3 [Torino  
Exhibition Hall 2 and 3]**

## Italy

Corso Massimo d'Azeglio 15  
Piamonte 10126 Torino

## Commission

1947

## Completion

1953

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## Original name

Torino Esposizioni Salone B e C [Torino Exhibition  
Hall B and C]

## Original use

Exhibitions/pavillion

## Current use

Exhibitions/pavillion

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## Engineers

Roberto Biscaretti di Ruffia, Pier Luigi Nervi

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## Concrete by reinforcement

Reinforced concrete, Ferrocement

## Construction method

Cast-in-place concrete, in-situ concrete, Precast  
concrete, precast element, Voussoirs and  
Assemblies

## Architectural concrete

Architectural concrete

## Structural types

Two-dimensional/[cylindrical two-  
dimensional/barrel] vault, Two-dimensional/shell  
structure

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## Description

The engineer Pier Luigi Nervi was a key figure in the development of concrete construction technology in the 20th century. He combined brilliance as a structural engineer with extraordinary creativity and an ability to create beautiful structures, while exploring new aesthetic frontiers and techniques in the use of concrete.

The Turin exhibition hall is a rectangular space, 75 meters wide by 96 long, with an apse at one end. One of the premises for the design was that the building needed to be completed in a very short span of time, just eight months. The structure that Nervi devised is based on prefabricated elements: it is made up of ferrocement voussoirs that are assembled on site, which form a parabolic section that covers the entire width of the building. The thickness of the concrete pieces, with a carefully studied design, ranges from 4 cm to 8 cm, and they incorporate windows to let in light from the side, making the roof into an immense lattice. The rigidity of the whole is generated

by the corrugated or waved section of the roof, which is created by joining together the prefabricated elements with the ribs, cast in situ, which are situated at the crests and troughs of each wave. At its base, the ribs are connected in groups of four to pillars, which are inclined according to the direction of the loads. This makes the structure permeable as it comes into contact with the ground, creating an additional structure on each side with loft spaces, which serve as auxiliary spaces for the central exhibition area.

The structure of the apse – a semi-dome with the form of a spherical cap – is also unique and of great interest: it was built using a system of prefabricated concrete panels, in a rhomboid shape, with a system of interconnecting ribs between them. This system is similar to what Nervi used, 10 years later, for the Palazetto dello Sport in Rome.

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## Links

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