

CNISF
CONSEIL NATIONAL DES INGENIEURS
ET DES SCIENTIFIQUES DE FRANCE



European Council of Civil Engineers Working Group
250 years of Civil Engineering Heritage in Europe

Buildings

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Proposal for Buildings in France (1/2)



Bourse de Commerce. Produce Exchange. Paris, France (1811).

This building comprises an remarkable dome, built in iron, replacing the wooden dome of the previous building. In a first time, the dome was covered with copper plates, later on replaced by glass. The dome was modified in 1885. One of the first buildings for which the architect and the engineer joined their respective skills.

Architect: François-Joseph Bélanger Engineer: François Brunet

Picture : Georges Pilot



Chocolaterie Menier. Menier chocolate factory. Noisiel (Seine et Marne), France (1871).

This factory, installed by the Menier family, on the Marne river, south-east of Paris, comprises several remarkable buildings, constructed from 1871 to 1905. It became the most important producer of chocolate in the world. This site always exists and it is one of the remarkable pieces of the French industrial heritage. Main elements are the mill (Saunier, 1871), the hall (Eiffel, 1884), the farm (1888), the “cathedral” (1905, Sauvestre). The mill is the most important building, constructed in steel, a first in the world: it was visited in 1878 by the “Institute of mechanical engineers”. To day, the Menier site is the headquarter of the Nestlé-France firm.

perso.wanadoo.fr/pone/lateb vide-greniers.org/articles/articleMenier.php

Picture : Georges Pilot



Bâtiment Hennebique. Hennebique Building. Paris, France (1900).

This building is one of the very first entirely built in concrete in Paris. It was designed and built by François Hennebique one of the precursors in matter of construction using reinforced concrete (Camille de Hoog bridge, 1901). This building was used as an office building for Hennebique business.

Designer and Contractor: François Hennebique

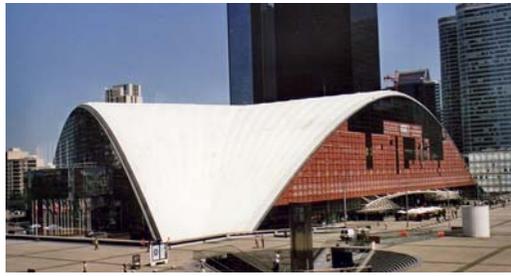
Picture : Georges Pilot

Web general references : www.planete-tp.com www.stucturae.de



European Council of Civil Engineers Working Group: 250 years of Civil Engineering Heritage in Europe

Proposal of Buildings in France (2/2)



CNIT (Centre National des Industries et Techniques). Paris, France (1958)

CNIT is a master piece of the Paris Business area named “La Défense”. The building comprises business and service offices, conference and exhibition halls, hotels and restaurants.
The concrete triangular vault of CNIT is the highest self-supported vault in the world (50 m), offering a 22.500 m² surface without any intermediate support (30.000 m³ of concrete). The span of facades is 206 m and 238 m in diagonal. The 3 bearing points are connected together using high strength steel cables.
Engineer : Nicolas Esquillan. Architects : Bernard Zehrffuss, Robert Camile, Jean de Mailly.

Picture : Georges Pilot



La Tour Montparnasse. Montparnasse Tower. Paris, France (1972).

Montparnasse tower, 210 m high, is the master-piece in rehabilitation of the “Montparnasse Railways Station” area, undertaken in the 60’ and 70’. This building is used for business offices. At the date of construction, it was the highest building in Europe. The tower uses a steel structure (7.200 tons, similar to Eiffel Tower), developed on 59 floors.
A major difficulty dealt with foundation, due to extremely dense occupation of the subsoil, especially metro lines : the Tower is founded on 56 piles 58m deep.
Architects : Beaudouin, Cassin, De Marion, Saubot Contractor : VINCI Construction Grands Projets www.groupe-vinci.com

Picture : Photothèque VINCI °



La Grande Arche de la Défense. Paris, France (1989).

This building, extremely audacious in terms of architecture and engineering, is located at the central point of the Business Paris Area named “La Défense”. It is used for offices, more especially for the Ministry of Equipment, Housing, Transport, Sea and Tourism. It has the shape of a “void” cube 112 m long, 108 m large and 110 m high (35 floors). It is built in concrete (125.000 tons), a precursory for extensive used of high performance concrete in building construction.
The roof (30.000 tons) is supported by 4 huge cast in situ high performance concrete beams : 70 m span, 9,50 m high.
Design office : Coyne et Bellier Architects : Otto von Spreckelsen Contractor : Bouygues -Construction

Picture : Georges Pilot