



## Fondation Louis Vuitton pour la Création, Paris

Buildings

2007 - 2010



FRANCE - Paris

Client

SETEC BATIMENT

Owner

Fondation Louis Vuitton

Lead Designer

Setec Bâtiment

Highlights

Slab surface: 7500 m<sup>2</sup>

Excavation 15 m deep



### The Project

The « Fondation Louis Vuitton pour la Création » is a great project currently being constructed at the Jardin d'Acclimatation in Paris.

Its construction was entrusted with the architect Frank Gehry, author of many prestigious projects, including the Guggenheim museum in Bilbao.

More modestly for the geotechnical part, it is still an exceptional building, both by its structure and size, imposing very strict constraints on the foundations, and because it is built inside a 7500 m<sup>2</sup> and 15 m deep excavation.

**The « Grand Prix National de l'Ingénierie » was awarded in 2012 to Claude Maisonnier (Setec Bâtiment, Setec group), Louis-Marie Dauzat (Quadrature Ingénierie), Marc Chalaux (RFR) and Matt King (T/E/S/S), for the « Fondation Louis Vuitton pour la Création ».**

### Our Services

This excavation is protected by diaphragm walls and was completed without any particular difficulties. However, the design of the raft foundation is more sensible, due to the presence of deformable clay layers (Sparnacian, False Clay and Plastic Clay), located 6 m below the raft foundation.

Although stresses are globally balanced between excavated earth and loads transferred by the building, the structure induces load concentrations exceeding initial stresses, whereas other zones are unloaded.

This is a new opportunity to develop 3D numerical modeling for accurate settlements analysis, where time effects must be considered. A geotechnical issue not much different from that of the nearby towers in La Défense.

The observational method was developed during the construction, confirming the predictions of the models, especially a delayed but continuous heave of the raft, reaching about 1 cm.

### Key features

- Definition of geotechnical assumptions
- Follow-up of geotechnical works
- Check calculations (settlements below the slab, retaining structures, etc)

terrasol

Immeuble central seine  
42 - 52 quai de la rapée  
75583 Paris cedex 12 France  
Tél +33 1 82 51 52 00  
Fax +33 1 82 51 52 99  
info@terrasol.com