

Fondation Louis Vuitton, Paris, France

Architects: Frank Gehry, Los Angeles and STUDIOS Architecture, San Francisco and Paris

Structural Engineering: RFR, T/E/S/S, Paris

A ghost ship with billowing sails was the idea that the architect had in mind when conceiving a unique structure for the art collection of French tycoon Bernard Arnaud. Twelve glass sails span over the “Iceberg”, the central volume housing the exhibition. A combined wood and steel design was selected for the primary structure of the sails. 540 duplex stainless steel inserts join the wooden elements with the steel components, which include 430 geometrically complex nodes made from composite carbon steel and duplex stainless steel plate 120 mm thick. The secondary structure, which holds the customized glazed elements, is fully made from duplex stainless steel type 2205, which was selected for its mechanical properties. Compared with an equivalent structure in 316, weight was reduced by about 30%. The structure involves 10 km of curved mullions, 5 km of transoms and 2 km of gutters for rainwater drainage made from 20 mm thick duplex stainless steel. Besides 9,000 “ears” for connectors and hundreds of securing fasteners, also tension rods for the structure and rails for the suspended cleaning cradles were all made from 2205 duplex stainless steel. The interior water piping was fully designed in type 316L stainless steel. (Information courtesy of IMOA)

Details

Environment:	Urban
Fabrication process:	High-pressure water jet cutting, welding, milling
Grade and finish:	Duplex 2205 plate and rod, 220-grit directional polish (structural parts): 316L (interior water piping)
Material thickness:	various
Weight:	1,500 tons
Date of completion:	2014
Manufacturing company:	VINCI Construction, Rueil-Malmaison (France) and Eiffage Construction Métallique, Colombes (France)
Material supplier:	ThyssenKrupp Materials France

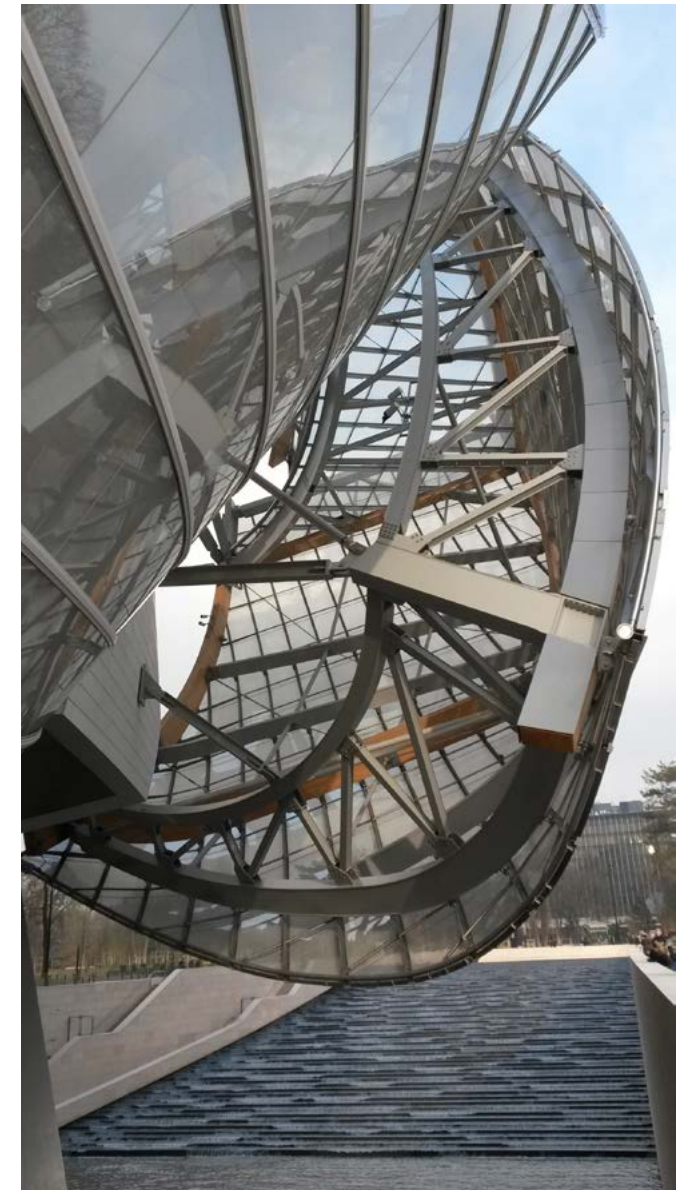


Photo by Thomas Pauly.