

Francis Crick Institute



Rendered Image of the Francis crick Institutue

Architect: HOK International

Structural engineer: Aktil

Services engineer: Arup

Facade engineer: Emmer Pfenninger Partner

Contractor: Laing O'Rourke

Steelwork contractor: Severfield (UK)

Size: 635,000 sq. ft.



The investigation focuses on the doublecurved steel-framed that lies under the roof of the Francis Crick Institute. The structure is painted steel and hooped in the north-south direction and slightly curved in the east-west direction. Steelwork contractor Servefield (UK) was responsible for the connection design and fabrication of around 2,300 tonnes of structural steelwork. The whole frame consists of stainless steel, which is used for both practical and aesthetic reasons. In metallurgy, stainless steel, also known as inox steel is a steel alloy with a minimum of 10.5% chromium content by mass. Stainless steel does not readily corrode, rust or stain with water as ordinary steel does. Since the framework consist of a curved metal elements, the steel most probably has been "rolled". In metalworking, rolling is a metal forming process in which metal stock is passed through one or more pairs of rolls to reduce the thickness and to make the thickness uniform. The concept is similar to the rolling of dough.

Steel is a very tough and stiff material. The toughness is steel's strength and weakness at the same time. A crack can quickly result in a 'brittle fracture'. The risk of brittle fracture increases with thickness, tensile stress, stress raisers and at colder temperatures.

