

Long Span Structures

Architecture

The systems that cross a hall or a stadium, and what each demands.

Beyond about 30 m the system, not the finish, drives the design.

System	Span	Demands
Portal frame	15-45 m	Fixed base or haunch
Space frame	30-90 m	Many identical nodes
Arch	30-200 m	Thrust resisted at base
Cable stayed roof	40-150 m	Masts and anchorage
Tensile membrane	20-100 m	Double curvature
Shell	20-90 m	Formwork, exact geometry

Educational reference. Long spans are governed by deflection, wind uplift and movement, and are always engineer-led.