

REFERENCE

TENSION ROD SYSTEM M42/M27/M12

PROJECT DATA

Short description

Tension rod systems as a tie and bracing structure in a space frame

System element details

Tension rod systems system size M42/M27 as a tie structure in the space frame

M12 tension rod systems as a horizontal bracing structure

Technical parameters

Use of the tension rod systems in the space structure consisting of top chords, cross and vertical members and a tie structure

Span width 15 metres, hall length 32 metres, hall width 15 metres Skylight dome in the roof ridge, ridged roof with slight inclination

Country, year Franzburg, 2019 - 2020

PROJECT DESCRIPTION

Franzburg has gained a new single-space sports hall with a two-row seating stand. The sports hall will be primarily reserved for school sports, although the intention is to use it for leisure sports activities and smaller sports events as well. The new single-space sports hall building provides Franzburg with a modern school campus. 32 metres long and 15 metres wide, the hall is topped with a slightly inclined ridged roof with a skylight dome in the ridge. Annexes are located on the long sides of the building. Bathrooms, changing rooms and spectator spaces were designed with accessibility in mind.

SOLUTION

The Franzburg single-space sports hall roof structure uses a space frame with a roof truss design. The supporting structure comprises top chords, cross and vertical members and tie beams. Our unobtrusive tension and compression rod system mconnect features as a tie and bracing structure. Tension rod systems in system sizes M42 and M27 were chosen for the tie structure while the horizontal bracing structure was constructed using system size M12. The use of high-strength tension members allows cost-effective, architecturally ambitious space frames to be created. Timber truss structures in a space frame design are an ideal solution for sports halls, multifunctional buildings, indoor riding arenas, swimming pools and challenging industrial buildings.

New building to replace Franzburg sports hall



