MOORPARK PRIMARY SCHOOL – KILBIRNIE

A Modern School With A Faceted Timber Drum

Project: Moorpark Primary School

Location: Kilbirnie, North Ayrshire

Company: Robertson Timber Engineering

Sector: Education

Technology: Timber Frame

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Moorpark Primary School in Kilbirnie, North Ayrshire, is a purpose-built education facility designed to replace the town's previous primary school and support the needs of a growing local community. Delivered as part of North Ayrshire Council's Capital Investment Programme through the Hub South West Scotland framework, the project provides a modern learning environment including 12 primary classrooms, a 16-place early years provision, breakout learning spaces, a sports hall and an all-weather pitch.

The timber frame structure for the building was delivered by STA member Robertson Timber Engineering. The structural system uses an open-panel timber frame solution, manufactured offsite and assembled on site to form the primary structure of the school. The design includes 170mm timber studs across most of the building, with 220mm studs used in the central drum structure to accommodate increased height. Glue-laminated beams were incorporated within the roof of this feature space to provide structural strength.

A distinctive circular drum sits at the centre of the building and presented a key engineering challenge during the design stage. Instead of curved structural elements, the form was created using a series of faceted timber panels. This approach allowed the components to be manufactured offsite using repeatable panel sections and assembled efficiently on site, supporting programme efficiency and construction accuracy.

The project demonstrates how timber frame construction can support the delivery of modern education facilities with strong environmental performance. The use of timber as the primary structural material helped reduce embodied carbon while supporting a faster construction programme. Combined with renewable energy generation through solar PV panels and a natural ventilation strategy, the building provides an energy-efficient learning environment designed to serve the local community for years to come.