Dumfries Technical College

Heathhall Dumfriesshire for Dumfries County Council

ARCHITECTS
Dumfries County Architect's Department
(A.D. Macintyre RIBA County Architect in succession to the late A. A. Wilkie RIBA)

STRUCTURAL ENGINEERS
Lambhill Engineering Ltd

STEELWORK CONTRACTORS
Lambhill Engineering Ltd

Judges Comments

Exposed steel frame construction achieves a unity of expression and makes the fullest use of Cor-Ten weathering steel. This blends well with the background and resulted in savings in the costs of cladding and decoration and will be economical to maintain.

Because the site was approximately 8 hectares in area and on a disused airfield 3 miles north of Heathhall the architects decided on a low rise building. This would also permit future extension with ease.
Singe storey steel frames were chosen for the large workshops and laboratories for their economy and speed of erection. This led to the choice of an external frame which could also be used for the two-storey blocks thus achieving a consistent appearance.
Influenced by recent illustrations of buildings and bridges in Cor-Ten the architects decided that the exposed frames were a natural application for weathering steel. Additionally it was felt that Cor-Ten has an affinity with the local red sandstone and combines a 'natural' appearance with a 'mechnical' performance. The site has a background of trees and hills and Cor-Ten blends with this rather than brashly dominating it.
Relaxation of the building regulations was required in respect of fire protection of the two-storey block. Consultation with the Joint Fire Research Organisation at Boreham Wood, British Steel Corporation and Constrado resulted in the solution being proposed in which the structure was protected by vertical channel section 'flame shields' in Cor-Ten steel fixed behind the columns by stainless steel bolts and spacers with asbestos washers. Welded plate girders 1m deep act as the fascia covering for the floor/service zone in the two-storey building and as the covering for the roof/service zone in the single storey section. They also enabled the columns to be spaced at 12m centres on the ground floor. Roof and floor beams are at 4m centres and span 12m or 16m with intermediate columns. They are castellated mild steel. On the upper floor only, small columns at 4m centres carry the roof beams.
The envelope of the buildings is set back 400mm from the structural grid. It consists of metal windows set in a frame of Cor-Ten mullions, sills and combined head and soffit members. Some areas have brick infill panels.
The main columns rise from a bed of red gravel chips which absorb the wash from the steel during the weathering process.
A second phase of the college is proposed using a similar form of construction.
There will eventually also be about 200 trees near the college and these will relieve the bareness of the site and counterpoint the angularity of the building.