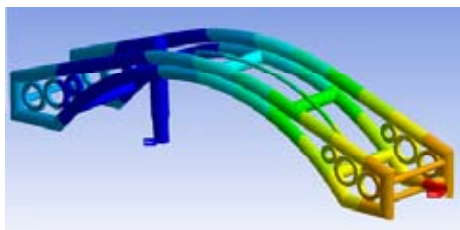




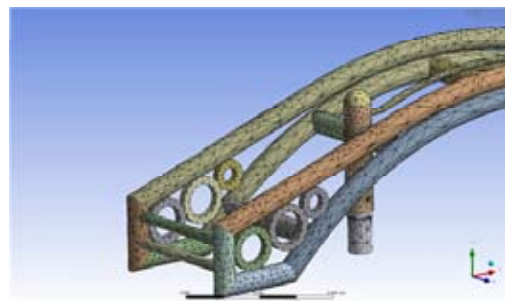
ALC Takes the Lead in New Technology

ALC operate a policy of early adoption of selected new technologies, where there are clear benefits to our company, our products, and our customers.



The latest addition to our facilities is “Finite Element Analysis”, used in product design to refine construction details, and to shorten development time. “FEA” is particularly useful in the design of bespoke items, and is already showing benefits in shortened lead times and early delivery. The system is entirely in-house, and is in everyday use by our design team.

FEA is a computer modelling system where the components of a structure are represented on screen, with each component and each joint separately identified. The characteristics of the construction materials are part of the data required. The software then lays a “calculation mesh” over each component, and as loading is simulated, colour changes shown in the structure indicate the different stress levels, and highlight those areas where the stress is abnormally high. Subsequent minor changes to the construction design can then be made, and the sequence re-run on screen to reach a position where stress levels are all within required limits. The system also allows precise measurement of the deflection produced by typical loads. The benefits of the FEA system are that risk-free “testing” can be carried out on screen, and design time dramatically shortened. Using FEA also enables us to ensure product compliance with the requirements of BS EN 40, the design standards for lighting columns and brackets.



One of the earliest beneficiaries of this new system was a project to re-light the William Edwards Bridge at Pontypridd in South Wales. The bracket on each lighting column replicated the form of the bridge, and was constructed of tubular aluminium elements in a complex assembly. FEA was used to model the structure, and to assess performance under loading.

Minor construction adjustments were made once the earliest results emerged, and we were able to produce a completed design in a very short period. The project moved from concept outline to finished products in 6 weeks, with delivery made ahead of schedule.

ALC will continue the policy where the best available technology is used to support the highest levels of customer service.

