The Open University

Structural Integrity: Materials Testing

How is safety built into the design of new structures? What sort of tests are used to ascertain the safety of proposed designs? Structural integrity, the study of the safe design and assessment of materials and structures under load, has become crucial in engineering design. Concepts within stress analysis have wide applicability, as there are very few manufactured components and products that do not experience any loading during their life. The tracks on this album demonstrate a selection of specialised tests designed to tell us about the behaviour of materials under certain conditions. They also show how failure assessment can be used to obtain information as to why a component or structure failed, to better inform future designs. This material forms part of the course T357, Structural integrity: designing against failure.