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Stress and Strength Series organisation: preface amendment record

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STRESS AND STRENGTH SERIES ORGANISATION

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STRESS AND STRENGTH SERIES ORGANISATION

1. PREFACE TO STRESS AND STRENGTH SERIES

The design engineer who is concerned with plant and equipment is faced with an ever-increasing demand for products with a performance that must be substantiated under stringent conditions of cost and environment. The customers for these products are becoming better educated in the ways of achieving, and what can be achieved by, competitively designed plant. Assuming the basic skill of the designer, no other factor can contribute more to the economic preparation of a satisfactory, competitive engineering design than the data upon which that design is based and the speed at which those data can be found and applied.

The data concerning stress and strength, in common with those relating to many other phenomena of concern to the engineer in industry, are widely scattered and when located are of variable quality and relevance to the industrial application. The engineering designer does not, generally speaking, have the facilities required to collect and evaluate all the data available that may be applicable to each aspect of their work. Even if they had the desire to undertake such a task, it is unlikely that they could allow the necessary time to prepare their own data 'working tool' at the expense of time spent in the application of their own unique personal skills, knowledge and experience to the particular job in hand. In any case, the customer will increasingly wish to view the design, not against some locally derived data, but against what can be demonstrated to be the best data which can be ascertained at any given time, and which are vouched for by a significant cross-section of the engineering and scientific community concerned with both the derivation and application of data in that particular field. It is the purpose of ESDU to provide data of this nature relating to stress and strength as in many other fields. This information has been prepared by ESDU for both the designer and their customer and, by serving the needs of many, accomplishes the task at much lower cost than would be applied by the individual performing on their own behalf.

A qualified staff, with the assistance of many individuals and establishments throughout the world in research, teaching and industry, collects and evaluates existing data. The staff discards that are irrelevant or unreliable, correlating and distilling what remains into an authoritative working tool for engineering application. Throughout, their work is guided and monitored by an expert group and ad hoc working parties. The Series on Stress and Strength is prepared under the guidance of the Stress Analysis and Strength of Components Committee that has the following construction:

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