

Integrally heated Thermolam flooring is fitted to the Hawker Siddeley Trident 2Es being delivered to BEA. Manufactured by Palmer Aero Products Ltd, the flooring provides positive insulation between the passenger cabin and the unheated freight compartment. A heating element is incorporated under the upper skin of standard Aerolam.

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outputs of 10A, 20A and 30A, thyristor-controlled to within an accuracy of plus or minus 2 per cent. Charging time is indicated by a four-digit counter operating in increments of 0.1 min.

All units are suitable for operation on 23V 50 Hz or 115V 60Hz supply. When a tester is rack-mounted together with one or more chargers, a programme can be supplied for automatic switchover from discharge to charge.

**Flight Data Recorder** Developed to meet present and future in-flight recording requirements for both civil and military aircraft, the Fell Avionics accident data recorder is specifically designed to combine both data and voice closed loops in a single crash-protected package; this eliminates the need for two separate installations and results in a considerable saving in weight. The voice deck, however, is optional, to meet the needs of customers in those countries where voice recording is not yet a

requirement; it can be added later without modification.

The recorder, which is manufactured by A & M Fell (Manufacturing) Ltd, (F. G. A. Works, Denton, Newhaven, Sussex) has been tested to meet the technical and survival requirements of the American Federal Aviation Authority, the British Board of Trade, and the Canadian Department of Transport; and it can be readily incorporated in any flight data recording system. Crash protection is provided by a titanium outer sphere and a micro-silica heat insulation layer.

The equipment uses 900ft of  $\frac{1}{4}$ in high-temperature magnetic tape for data recording and 300ft of similar tape, but of  $\frac{1}{2}$ in width, for the voice loop. It weighs 15lb and is of 9 $\frac{1}{2}$ in overall diameter. Power can be either 115V 400Hz or 26V 400Hz, two-phase at about 5VA. Minimum MTBF is quoted as 3,000hr. The tape speed, which can be specified by the customer, is between 0.05in and 1in per second.

**New Triplex Research Centre** A £450,000 research and development centre for the Triplex Safety Glass Co Ltd, was being opened last Tuesday, November 19, at Kings Norton, Birmingham, by Sir Reay Geddes, chairman of the Dunlop Co Ltd. The new centre has a useful floor area of 45,000 sq ft and will employ about 200 people, including engineers, physicists and chemists. Its research and development manager is Dr L. M. Fitzgerald, a physics graduate of the University of Melbourne. Others closely concerned with the supervision of the new establishment are Mr S. E. Kay, Triplex technical director, and Dr H. R. S. Jack, company chief engineer, who has specialist knowledge of furnace theory, design and operation.

The main technical programme, it is stated, will have three main areas—first, to develop new products and processes which will replace existing products as they become obsolete. The second objective will be to improve production processes in order to enhance quality and

reduce operating costs. The third consideration will be the responsibility for providing a consultancy service both within the company and to customers.

The main bay of the centre houses an engineering workshop, heat-treatment furnaces, glass-toughening and laminating equipment, life test and environmental test rigs for flight-simulation testing of aircraft panels, and numerous other experimental facilities.

Flanking the development bay are two floors of laboratories. The upper floor, devoted to glass physics, includes small-scale studies of glass-processing techniques and the measurement of product properties. On the lower floor is housed work directed towards new and improved products for the aerospace industries. This includes study of the deposition of electrothermal films on glass surfaces. The ground floor of another two-storey block houses essential services such as compressors, fans, electrical switchgear and a general store area. The upper floor contains the chemistry laboratory and project engineering laboratories.

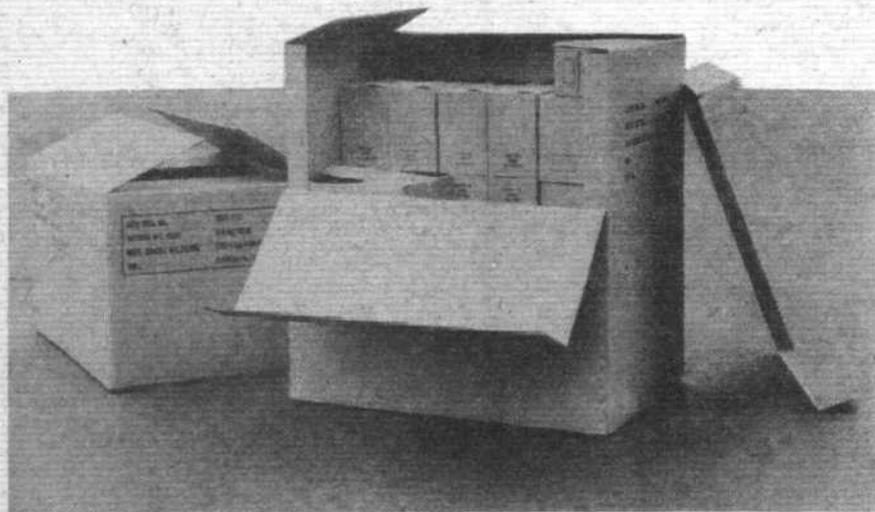
**Structural Panel Fastener** The Voi-Shan Milson fastening system is suitable for aerospace applications requiring quick removal of structural panels. Where panels are an integral part of the primary structure, yet at the same time must allow repeated access, the system is particularly suitable.

Milson fasteners are available in three diameters ( $\frac{1}{4}$ in,  $\frac{5}{16}$ in, and  $\frac{3}{8}$ in), five standard receptacle assembly types (two of which are self-sealing), and both flush and pan-head forms. These fasteners—in alloy steel and two types of corrosion-resistant steels rated at 700°F and 1,200°F—should provide high-strength assembly and dependable performance for many diverse panel applications. They are distributed in the UK by the Douglas Kane Group Ltd (Swallowfields, Welwyn Garden City, Herts).

**Greaseless Protective Coating** LPS No 1 is a non-greasy, organic preservative compound designed to protect any metal from rust and/or corrosion, to act as a lubricant and to displace water. Claims made are that it penetrates to free frozen parts; is di-electric; dries out wet electrical systems in seconds and keeps them dry; lubricates even the most delicate mechanisms without changing tolerances; is effective at extreme temperatures; will not oxidise and is harmless to paint, rubber, plastics and fabrics.

Produced by LPS Research Laboratories Inc (1934, Cotner Avenue, Los Angeles, Calif. 90025, USA), LPS No 1 is available in 2, 7, 12 and 16oz aerosols and in 1, 5, or 55USgal drums.

**Trident 3B Electrics** Ward Brooke & Co Ltd, of Loudwater, High Wycombe, Bucks, have received a pilot order from Hawker Siddeley Aviation Ltd, for electrical ancillary equipment for the Trident 3B. Comprising Ward Brooke terminal blocks, covers, pillars and accessories, it is required for the first of 26 of these aircraft on order for BEA.



Two sizes of IATA-registered air freight containers made by Hugh Stevenson & Sons Ltd, Bowater House, London SW1, are now available from distributors. The picture shows, right, No 16 container (DSC 265) and, left, No 17 (DSC 213). Freight packed in them qualifies for discounts of up to 10 per cent on the rates normally charged by airlines all over the world.