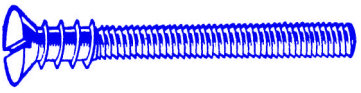

G.K.N. loudspeaker fixing screw

Telcon-Magnetic Cores. Geo. L. Scott also supply flat laminations of this material 0.012in thick for cores assembled in the conventional manner. Joseph Sankey and Sons have introduced a new interlaminar coating which will withstand re-annealing temperatures of 800°C and is also waterproof.

Ferrite moulded cores for television line timebase transformers and deflection yokes, and extruded rod for r.f. inductors and aerials have been added to the range of moulded magnetic materials made by Salford Electrical Instruments.

Among "hard" magnetic materials the new Mullard "Ticonal L" anisotropic alloy, designed for loudspeaker magnets, is of special interest to manufacturers of loudspeakers using a centre-slug type of magnet assembly. It has a remanence of 14,000 gauss, and increases of up to 10 per cent on the previous upper limit of flux density of gauss/cm^2 are possible.

Most manufacturers of winding wires are now in production with polyurethane coatings which need not be previously removed before soldering. A new coating with exceptional resistance to the action of solvents has been developed by Connollys. It is known as "Conyclad" and consists of a basic layer of vinyl acetal enamel, coated with nylon. The outer layer protects the base enamel from "crazing" under the action of varnish solvents, and eliminates the annealing process which is normally adopted to reduce crazing.

The successful production of wave-wound coils depends upon the mechanical as well as the electrical properties of the wire, and Fine Wires, Ltd., have produced a range of single and multiple conductors with a variety of textile coverings specially for use on wave-winding machines.

Manufacturers of r.f. cables have anticipated the demand for Band III television aerial downleads with coaxial cables in which the dielectric is cellular polythene. Compared with a sold polythene dielectric cable the attenuation may be reduced by as much as 40 per cent, and typical figures for a 0.290 in outside diameter cable are 3.3 db/100 ft at 200 Mc/s with a capacitance of 17 pF / ft. Another advantage of the cellular type of filling is that no elaborate precautions are necessary to seal the ends, as there are no connecting passages between the air cells, and moisture cannot penetrate the dielectric.

Polythene-insulated cables can give rise to microphonic noise which may be troublesome at very low signal levels. This has been overcome in Tecon "G" coaxial cables by coating the outer surface of the polythene with graphitic conducting film to disperse charges which might otherwise fluctuate with intermittent movement of the outer braiding. This year a further improvement has been effected in a "GG" cable in which similar treatment is applied to the inner surface of the insulant.

Silicone elastomer materials are finding increasing applications in the preparation of insulating cloths, tapes and sleeving. In the "Symel" grade of sleeving made by H. D. Symons the mechanical strength is improved by glass braiding applied on the inside and/or the outside of the silicone. A similar combination of special interest for high-temperature applications was shown by Suflex, Ltd.

Electrical insulating tapes coated with a thermosetting adhesive have been added to the already wide range of "Scotch Boy" tapes made by the Minnesota Mining and Manufacturing Company. Curing is effected during the normal drying-out process in coil manufacture, to give a permanent bond which will withstand subsequent varnishing or impregnation. The composition of the adhesive is controlled to obviate any possibility of initiating corrosion in the wires.

Impregnating resins of the ethoxyline type with low viscosities at room temperature are among the new plastics introduced by Aero Research, Ltd. No solvent is necessary and polymerization on heating is effected with out the evolution of any vapours which might cause voids. Another recent "Araldite" product is a cold-setting adhesive for fixing electrical strain gauges.

Formers for the resistance elements of wire-wound potentiometers are usually of phenolic plastic strip, and difficulty is often experienced in finding material of suitable thickness which will not crack when bent. A suitable grade has been developed by H. Clarke & Co. (Manchester) which can be bent into circles of less than 1in diameter without cracking.

Printed circuits and dip soldering techniques have made new demands on the services of solder manufacturers. who have responded with a full range of special alloys, fluxes, and chemicals for preparing and preserving metal surfaces. Other new products in this field include a neat and robust junction pyrometer by Multicore for measuring rapidly the temperature of soldering baths or soldering iron bits. The scale is calibrated in Centigrade and Fahrenheit with a maximum of 400°C (752°F). Enthoven have demonstrated a new cored aluminium solder which functions at ordinary soldering iron temperatures without any auxiliary aids such as ultrasonic vibration. Copper wires can be soldered to aluminium of light-gauge and commercial purity and also to a number of aluminium alloys.

Finally, since screws can be regarded as a raw material as far as radio engineers are concerned we mention two interesting developments by Guest, Keen and Nettlefold. One is the introduction of B.A. and wood screws in solid nylon, which, apart from their obvious non-conducting and good dielectric properties, are free from corrosion. The tensile strength is 5 tons/in^2 at room temperature and 7 ton/in^2 at −40°C. The other Nettlefold screw is a combination of a left-hand wood screw and a B.A. screw on the same shank for fixing loudspeakers to baffle boards. The left-hand wood thread ensures that any movement when finally tightening the fixing nuts will tend to draw the screw further into the woodwork.

Makers*: AeriaIlte (C, IS, W); Aero Research (IM); Associated Technical Manufacturers (B, C, IM, IS, W); Bakelite (IM); Geo. Bray (CF, CE); B. I. Callenders (C, CO, IS, W); British Moulded Plastics (IM); Bullers (CF, CE); Clarke (CF, IM, IS); Connolly, (C, IM, W); Cosmocord (CF); Creators (IS); De La Rue (IM. IS); Ouratube and Wire (B, C, CO, IS. W); Ediswan (W); English Electric (L); Enthoven (S); Fine Wires (W); Guest, Keen and Nettlefolds (Ba); Hellerman (CF, IM, IS); Henley's (C, CO, IM, W); Insulating Components and Materials. Ltd. (IM); Langley, London (IM); Long and Hambley (IM. IS, RP); Magnetic and Electrical Alloys (L. M); Marrison and Catherall (M. L); Micanite and Insulators (CF, IM, IS); Minnesota Mining (IM); Mullard (DC. M); Mulucore (S); Murex (RM, M); Mycalex (CF, IM); lames Neill (M); Permanoid (C, IM, IS, W); Plessey (CE, DC, M); Reliance Wire (C, CO, IS, W); Rola Celestion (D. L, M); Salford (DC, M); Sankey (L); Geo. L. Scott (L); F. D. Sims (C, CO. W); S.T.C. (M); Steatite (CF. CE); Stranon (CP); Suflex (B, CO. IM, IS, W); Swift Levick (M); H. D. Symon. (IM, IS); Taylor Tunnicliff (CE); Telcon (C. DC, IM, L, M, RN, W); Te1con Magnetic (L); Telephone Manufacturing Co. (DC); Thermo Plastics (CF. IM); Transradio (B. C, IS. W); Tufnol (IM); United Insulator (CF, CE, IM); Vactite Wire (RM, W), Whiteley Electrical (CF, M)

*Abbreviations: B. braiding; BO, bolts; C, cables; CE, ceramics. CF, coil formers. bobbins; CO, cords; DC, dust cres, ferrites: IM, insulating materials; IS. insulating sleeving; L, core laminations and strip; M. magnets and magnetic alloys; RM. refractory metals; RP. rubber products; S. solder; W, bare or covered wires.

DIRECTORY OF METALS

A COMPREHENSIVE guide to the physical properties of the non-ferrous metal elements and their alloys is contained in the "Metal Industry Directory handbook and 1955". Not the least useful section of this work is the list of proprietary alloys, their makers, properties and uses.

A separate set of tables gives the specific resistances of alloys which are not normally found in electrical reference books and there is a large section in the technique of electroplating, anodizing and other electrolytic processes which should be of value to workers in the radio industry.

Published by the Louis Cassier Company, Ltd., Dorset House, Stamford Street, London, S.E.1, this directory costs 15s.