

III — Vacuum Processing Techniques — III	Abstract No. and References
30 — EVAPORATION — 30	
<p>Computations in Thin Film Optics See Abstract No. : 102/I</p>	55/III
<p>Optical Properties of Evaporated Aluminium Films See Abstract No. : 104/I</p>	56/III
<p>Optical Properties of Silicon Monoxide in the Wavelength Region from 0.24 to 14.0 Microns See Abstract No. : 105/I</p>	57/III
<p>Apparent Density of Thin Evaporated Films See Abstract No. : 103/I</p>	58/III
<p>Optical Semi-Reflectors. Suitable Methods and Materials <i>United Kingdom.</i> The optical properties and methods of preparation of various materials—metals, semi-metals and dielectrics—are surveyed which may be used as optical semi-reflectors. Specific suggestions are made for obtaining any desired reflectance. (Authors) <i>Sommaire :</i> Les propriétés optiques et méthodes de préparation de différents matériaux, métaux, semi-métaux et diélectriques qui peuvent être employés comme semi-rélecteurs optiques sont passés en revue.</p>	59/III Article by K. H. Spring & N. P. Barton <i>Vacuum</i> 4, Jan. 1954 20-25
<p>Some 'Black' Interference Reflectors <i>United Kingdom.</i> The construction of various types of interference mirror, designed to reflect near infra-red and to absorb visible radiation, is described. The spectral discrimination of the simple type of interference mirror may be enhanced by taking advantage of the optical properties of gold or germanium. (Authors) <i>Sommaire :</i> La construction de types variés de miroirs à interference faits pour réfléchir aux environs des rayons infra-rouge, at pour absorber les radiations visibles est décrite.</p>	60/III Article by K. H. Spring & N. P. Barton <i>Vacuum</i> 4, Jan. 1954 26-29
<p>An Improved Process for Colouring Transparent Material Especially for Optical Goods <i>Italy.</i> A process is described for the colouring of transparent optical elements such as glass lenses by coating these elements with a layer of coloured glass deposited by vacuum evaporation. The material to be evaporated is powdered before use. The evaporation source is a molybdenum, tantalum or tungsten crucible. The components to be coated are situated above the source. An evaporation plant of conventional design is suitable for the process. Good adhesion of the layer is ensured, if proper cleaning methods such as discharge cleaning are employed. The deposit may be of any thickness, but should preferably not exceed 20 micron. The method described is claimed to offer the following advantages: The shade of the colour of the coating can be properly controlled and this assists colour matching with articles produced by the same method previously. The transmission factor can be accurately predetermined. The coating is as corrosion resistant as the coated (glass) component. The colouring obtained is uniform over the whole surface. <i>Sommaire :</i> Des articles transparents en verre, peuvent être colorés en évaporant sous vide de la poudre de verre coloré.</p>	61/III Metal-Lux <i>Brit. Pat.</i> 705,253
<p>Improvements i.o.r.t. Graticules for Optical Sighting Instruments <i>United Kingdom.</i> A method is described of manufacturing glass graticules for optical instruments employing the vacuum evaporation process. The glass plate is covered with a silver layer on top of which a photoengraving resist is placed. This resist is differentially hardened and developed exposing the glass in the required pattern. The material for the resist preferably used in this method is bi-chromated fish glue and the removal of the silver is effected by applying alcoholic ferric nitrate. The exposed parts of glass can at this state be etched by means of vapours of hydrofluoric acid in order to render the surface of the glass slightly granular. Subsequently the matrix is coated with an aluminium film over the whole area in a vacuum evaporation plant and, if desired, an additional coating of magnesium fluoride is deposited for protective purposes. Finally the matrix is treated with nitric acid removing the silver deposit and the resist without destroying the aluminium film. The end product is a graticule of specular aluminium on clear-glass. The diffusivity of the graticule lines is controlled by the intensity of the etching of the glass and the type of glass used for the plate. <i>Sommaire :</i> On décrit une méthode employant le procédé d'évaporation sous vide, pour la fabrication de grilles de verre pour instruments optiques.</p>	62/III O. G. Hay & Ross Limited <i>Brit. Pat.</i> 705,927