ALUMINIUM ALLOY COMPONENTS

Modern Tendencies in Forging and Casting Techniques

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Since the discovery by Wilm in 1909 of the aluminium-copper alloy and its capacity to increase in strength by "age hardening," some spectacular advances have been made in aluminium-alloy metallurgy. Some of these have stemmed from the aluminium-copper system, and the original alloy of Wilm has now developed into a whole family of alloys, which have found wide application in airframe structures. The family is a large one, comprising the earliest airframe materials known by the specification numbers L1, L39, D.T.D.150 and D.T.D.390 and the more modern alloys D.T.D.546, D.T.D.646, L64, L65 and many others. Of this family also are such alloys as 14S, 17S and 24S, equally familiar to aircraft designers in America. Some of the British specifications for alloys of this group are now obsolete or obsolescent, for the members of the family had become so numerous that some rationalization was necessary. In this process it was decided to retain a composition which could provide the naturally aged and precipitation-hardened properties in all wrought forms and required high temperature usage of these materials is, however, of fairly recent origin; it became stabilized in composition as early as 1942. Large-scale usage of these materials is, however, of fairly recent origin; it became stabilized in composition as early as 1942. Large-scale usage of these materials is, however, of fairly recent origin; it became stabilized in composition as early as 1942. Large-scale usage of these materials is, however, of fairly recent origin; it became stabilized in composition as early as 1942. Large-scale usage of these materials is, however, of fairly recent origin; it became stabilized in composition as early as 1942. Large-scale usage of these materials is, however, of fairly recent origin; it became stabilized in composition as early as 1942. 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