DETERMINATION DES PROPRIETES ELASTIQUES PAR LES ESSAISDE TRACTION ET D'ULTRASON DE L'ALLIAGE EUTECTIQE AlSi13

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Abstract: Aluminum has very low mechanical properties. To significantly increase them, we actedon three main modifying factors of the microstructure. Addition to aluminum of a very lowdensity element including 13% silicon which facilitates the flowability of the metal, gravitysand molding and structural hardening treatments.Al-Si alloys are highly indicated by their lightness, their high tensile and corrosionresistance. The study focuses on the influence of maturation on the evolution of the elasticproperties determined by the tensile and ultrasound tests of the Al-13% mass eutectic alloy. Iffor six states: raw casting noted - F and maturation in 6h steps noted - M0h, M6h, M12h,M18h and M24h. The parts produced from this alloy are part of the components used invarious projects by SNVI Rouïba and Electro-Industries de Fréha (covers, pump casing,motor pistons, etc.).All the results of the mechanical and structural properties gathered in Part III of our thesisshow us that we should recommend for the molding of parts whatever the series: the grossreference state designated - F.

Keywords : Al-Si, sand, ripening, mechanical properties