Record Nr. UNINA9910633978803321 Aluminium alloys: design and development of innovative alloys, **Titolo** manufacturing processes and applications / / edited by Giulio Timelli Pubbl/distr/stampa London:,:IntechOpen,,2022 **ISBN** 1-83968-730-4 Descrizione fisica 1 online resource (182 pages): illustrations Disciplina 620.186 Soggetti Aluminum alloys Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia 1. Development and Characterization of New Functionally Graded Nota di contenuto Aluminium Alloys -- 2. New-Age Al-Cu-Mn-Zr (ACMZ) Alloy for High Temperature-High Strength Applications: A Review -- 3. Characteristics of Al-Mg Test Pieces with Fe Impurities Fabricated by Die Casting, Roll Casting, and Hot Forging -- 4. Characterization of Casting Properties of Rare-Earth Modified A356 -- 5. Selection of Optimal Material from Stir Cast Aluminum Graphene Nano Platelets Composites for Aerospace Applications -- 6. Assisting Liquid Phase Sintering of Pure Aluminum (Al) by the Tin Addition -- 7. Drilling of 7075 Aluminum Alloys -- 8. Application of the Aluminothermic Reduction Process for Magnesium Removal in Aluminum Scrap -- 9. Mechanical Resistance of a Superficially Treated Alloy Drill Pipe during Onshore Drilling -- 10. How Impact the Design of Aluminum Swaging Circle Fitting on the Sealing for Piping Systems: Analytical and Numerical Model. Aluminium alloys are among the most interesting materials being Sommario/riassunto adopted for weight reduction and recycling benefits. The increasing importance of aluminium alloys over the years is due to their widespread use and applications in automotive, aerospace, food handling, building, heat exchange, and electrical transmission industries. Their high strength/weight ratio makes aluminium alloys

useful for applications where simultaneous high strength and lightness are needed. This book provides a comprehensive review of the design and development of innovative aluminium alloys and composites.

Chapters discuss manufacturing processes and applications and are heavily illustrated to make the concepts clear.