Record Nr. UNINA9910719780003321 Forming Technologies and Mechanical Properties of Advanced Materials **Titolo** // Tomasz Trzepiecinski, Valentin Stefan Oleksik, editors Pubbl/distr/stampa [Place of publication not identified]:,: MDPI - Multidisciplinary Digital Publishing Institute, , 2023 **ISBN** 3-0365-7283-X Descrizione fisica 1 online resource (256 pages) 621 Disciplina Mechanical engineering Soggetti Lingua di pubblicazione Inglese Materiale a stampa **Formato** Livello bibliografico Monografia This book focuses on the forming technologies and mechanical Sommario/riassunto properties of advanced materials. Plastic working is the most efficient and an important manufacturing technology in today's industry. Plastic working technologies enable giving the material the appropriate

functional properties, which depend on the rheological conditions of the plastic forming process and on the thermoplastic treatments carried out during the forming process. Metal processing is one of the most important sectors of the economy. In addition to the continuous improvement in the existing methods of plastic working, new technologies are also implemented, the purpose of which is to reduce the energy consumption of processing and the modernization of technological machines and tools. The subjects of research articles published in this book are multidisciplinary, including friction and lubrication in sheet metal forming, the single-point incremental forming of polymeric and lightweight metallic sheets, the optimization of shear spinning parameters and the cutting performance of cutting tools, the numerical and experimental analysis of titanium sheet forming, the mechanical and structural properties of titanium alloy subjected to impact-oscillatory loading, macro- and microdeformation characteristics of Ti-2.5Al-1.5Mn foil, and the optimisation of the thermomechanical process of nickel-based oxide-dispersionstrengthened superalloys.