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aerospace materials and applications addresses materials selection and use in aircraft spacecraft launch vehicles and propulsion systems and power systems advances in aerospace systems are strongly dependent on advances in materials and processing technologies the fundamental opportunities for metal additive manufacturing in aerospace applications include significant cost and lead time reductions novel materials and unique design solutions mass reduction of components through highly efficient and lightweight designs and consolidation of multiple components for performance enhancement or risk management aerospace applications and energy saving strategies in general raised the interest and study in the field of lightweight materials especially on aluminum alloys aluminum 7075 t6 alloy which is used in this research work is widely used in industry and in particular in aircraft structure 1 aerospace applications represent an extremely challenging field for the development

of new materials and for the improvement of the existing ones with the important additional requirement of complying with highest safety standards particularly as concerns civil and commercial aviation interests high temperature materials for aerospace applications ceramic matrix composites materials ceramic thermal protection system re entry hypersonic systems and technologies heat transfer high speed aerodynamics space technologies manufacturing processes for aerospace industry special issues collections and topics in mdpi journals composite materials are one such class of materials that play a significant role in current and future aerospace components composite materials are particularly attractive to aviation and aerospace applications because of their exceptional strength and stiffness to density ratios and superior physical properties aerospace engineers develop leading edge technologies and integrate them into aerospace vehicle systems used for transportation communications exploration and defense applications 2317 accesses 9 citations abstract in recent years a lot of progress has been created on aerospace materials for structural and engineering applications composites are made when two or more different materials are combined to create superior and distinctive materials the most notable ar applications are the head up display hud and the helmet mounted display hmd which are used to provide navigation assistance to pilots flying high profile missions in recent years various aerospace corporations have turned to ar technology to enhance their

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