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Sommario/riassunto	In recent years, the fascination with shape memory alloys (SMAs) has grown across industries such as aerospace, automotive, naval, civil, and biology. SMAs possess unique properties, including the ability to recover from deformation when heated, exhibit pseudoelastic stress-strain behavior for large deformations, and exceptional biocompatibility for bioengineering applications. However, a comprehensive understanding of critical characteristics like transformation temperature and stress values is necessary to fully utilize SMAs. The shape memory effect, where SMAs regain their original shape after deformation under specific thermal conditions, has driven innovative applications in various sectors. In aerospace, SMAs are used in wing structures and actuation systems, enabling morphing and improving aerodynamics. In healthcare, they are integrated into orthopedic devices, simplifying surgical procedures and providing necessary support. The automotive industry also benefits from SMAs, using them in seatbelts and vibration damping systems for enhanced safety and comfort. Accurate knowledge of critical characteristics is essential for effective utilization of SMAs, unlocking their potential in different fields. The remarkable versatility of SMAs, with their deformation recovery, pseudoelasticity, and biocompatibility, positions them as a material of immense interest. As research and development continue, SMAs are poised to drive future innovations, shaping various industries.