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**Laser powder bed fusion produced Ti-6Al-4V: Microstructural transformations and changes in deformation behaviour through thermal treatments**

The novelty of metal additive manufacturing has led to concerns about the material's mechanical properties. This is primarily due to a lack of fundamental understanding between the process-structure-property relationships. This study investigated the additively manufactured titanium alloy, Ti-6Al-4V. It aims to establish an in-depth understanding of the unique material attributes due to the manufacturing process and subsequent improvement in mechanical properties through thermal treatments. The knowledge gained will achieve wider acceptance of additively manufactured Ti-6Al-4V in the industry, particularly in high-end applications as aerospace and biomedical applications.