In this study, specimens made of WAAM Ti-6Al-4V were tested and analysed focusing on two key areas of structural integrity and durability:

High cycle fatigue and effect of defects. Details can be found under the Topic 1.

Fatigue crack growth rate: effect of heterogeneous microstructure was investigated via two different material deposition methods and two crack orientations. Fatigue crack growth rates were measured for damage tolerance design considerations. Microstructure features and their effect on the property anisotropy are discussed.

X. Zhang, A. K. Syed, R. Biswal, F. Martina, J. Ding, and S. Williams, “High cycle fatigue and fatigue crack growth rate in additive manufactured titanium alloys,” in Lecture Notes in Mechanical Engineering, 2020, doi: 10.1007/978-3-030-21503-3_3.

https://link.springer.com/chapter/10.1007/978-3-030-21503-3_3