

Development of procedures for the acquisition of metal additive manufacturing (AM) parts for use in the CSIR's wind tunnel models

Charmaine Johnston

ABSTRACT

The first Additive Manufacturing (AM) non-load-bearing, client furnished part was used in the CSIR's wind tunnels in 2007. The advent of metal-grown materials, and the acquisition of machines to grow them in South Africa, has made it feasible to incorporate load-bearing parts in CSIR wind tunnel models. However, the safety requirements for wind tunnel models are stringent, and the acquisition procedures for wind tunnel models were revised. Lessons learnt from the manufacture of a recent wind tunnel model are discussed. The AM technique demonstrates advantages over traditional methods and further investigations will be undertaken.