

AM part integrity: the NDT in-process and post-build perspectives

There is an urgency to increase the quality assurance for Additive Manufacturing (AM) parts. A number of standards are being generated which will pave the road to initiate such efforts. In particular, non-destructive testing (NDT) standards are necessary to achieve such goal. AM creates NDT challenges due to inherent freedom to manufacture complex shapes, which typically have rough surface finish. AM industrial processes usually rely on post-built NDT inspections, but by exploiting AM's unique layer-by-layer or bead-by-bead build method these inspections may be better placed during the processes. These would reduce the complexity of the part challenge to a plane and the added advantage to reduce or eliminate post-build NDT. MTC's efforts on in-process inspection, post build NDT and standard developments are presented.