

ABSTRACT

Ultrasonic testing (UT) is a commonly used inspection method for buildings and bridges, yet variability in inspector performance has brought the validity of the UT process into question. While practical tests and performance testing are required as part of most UT certification processes and some industry standards, the building and bridge industries currently have no standardized testing body to verify the qualification of UT technicians. This research aimed to lay out and implement a possible standardized testing format based off of the American Welding Society (AWS) structural welding codes. Results from the performance testing carried out in this research demonstrate high variability and low precision in UT measurements and generally poor performance amongst the 20 technicians that took part in the performance testing. It is clear from this research that certification from the existing certification programs do not always indicate qualification and that standardized performance testing would add value and increase the reliability of UT inspections by weeding out those technicians that are clearly unqualified.