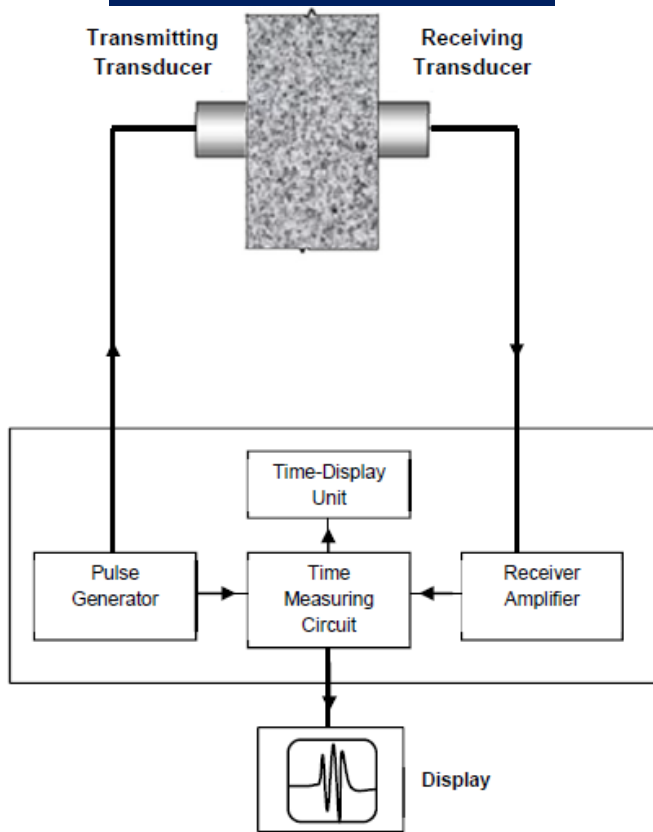


Schematic of Ultrasonic Device



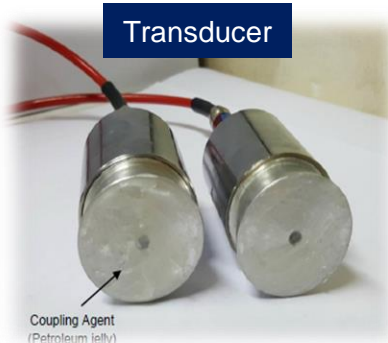
Ultrasonic Test (UT) is a Non-Destructive Testing (NDT) method to assess quality concrete materials, presence of voids or cracks and also determination of crack depth. The test method is based on ASTM C597 "Standard Test Method for Pulse Velocity through Concrete"

Here a high frequency sound energy is transmitted through concrete for flaw detection/evaluation. A typical UT consists of pulser, receiver, transducer and display devices. The transducer generates high frequency ultrasonic waves driven by pulser which then transfer through the material medium in form of waves. Whenever, a crack or discontinuity is encountered the part of energy will be reflected back from the flawed surface then, the receiver end on the other side receives lower strength signal which is then transformed into electrical signal by transducer and displayed on screen. The signal travel time which is displayed on screen can be used to determine the flaw location, size and orientation. Ultrasonic testing of concrete is an effective way for quality assessment and uniformity, and crack depth estimation.

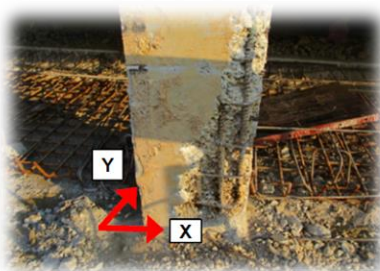
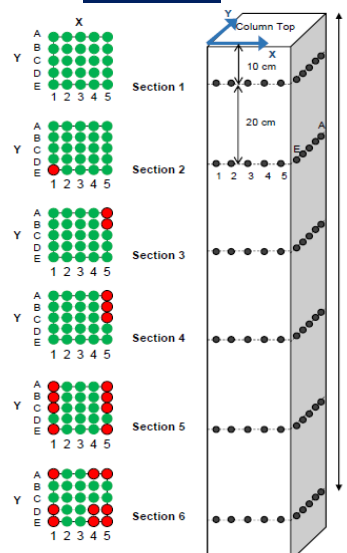
Ultrasonic Equipment



Transducer



Results



Ultrasonic Inspection is a very useful and versatile NDT method to determine both surface and subsurface discontinuities with immediate results. The depth of penetration of flaw detection is greater and highly accurate in determining the position and estimating the size. Unlike other NDT tests, not much surface preparation is required. It also helps in determination of thickness. It should be noted that, proper coupling with gel should be conducted for signal transfer and until the stable signal is displayed. Cast iron and other coarse-grained materials are difficult to detect because of low transmission