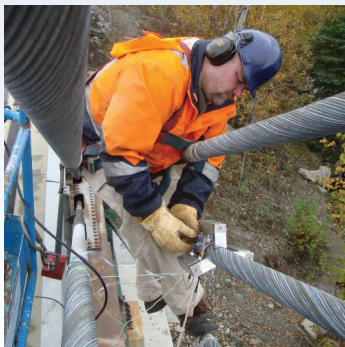




### Inspection Applications

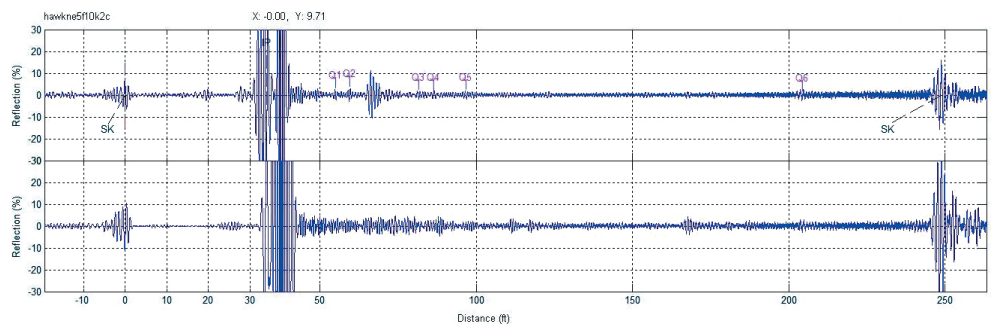
- › Steel bridge cables
- › Bridge suspender ropes
- › Mining wire rope
- › Oilfield wire rope
- › Ski-lift cables
- › Ocean cable systems
- › Elevator wire rope



## Steel Cable & Wire Rope Inspection

WavesinSolids (WINS) specializes in the nondestructive testing of steel cables and wire ropes using long range ultrasound (LRUT). The technology is recommended for cables up to 4" in diameter. The technology exploits the power of guided wave ultrasound to inspect hundreds of feet of cable from a single sensor position. 350 feet of cable may be inspected in as little as 15 minutes.

Corrosion and wire breaks in steel cables and wire rope are often undetected by visual inspection if the cable is coated or if the corrosion is subsurface. WINS' guided wave technology travels underneath coatings and penetrates into the core of the cable to detect corrosion and wire breaks anywhere in the wire rope cross-section.



### Sensors and Instrumentation

The technology deploys magnetostrictive sensors (MSS) which may be installed in 15-30 minutes depending on access and cable conditions. The MSS sensor consists of conductors wrapped around the cable and centered between two permanent magnets. Guided waves are generated in the cable through induction. The instrumentation is lap-top based and transports easily to the inspection site and in between inspection locations on-site.

### Guided Waves

Guided waves are a powerful screening tool used for in-service inspection of railroad track, steel cables and wire rope, and pipelines. Over 10 years of R&D has positioned guided wave technology as a reliable and cost effective method for rapidly inspecting large structures remotely. The technology is unique

because the waves can travel hundreds of feet in structures under coatings, insulation, and underground. Guided waves are the economical solution for remote inspection. Competing inspection technologies require direct access to the cable and may not detect subsurface defects.

### Data and Reporting

Guided wave data is acquired and interpreted by professionally trained technicians and engineers with expertise in long-range ultrasound. Reflections are clearly identified as wire breaks, corrosion, cable supports, and other relevant wire rope features. Cable and suspender rope ends provide strong reflections that are used to calibrate for speed of sound and defect sensitivity. A single ultrasonic waveform summarizes the size and position of the reflectors in the cable.