

NON-DESTRUCTIVE TESTING

DUCTILE IRON CASTING

RESONANT INSPECTION FOR NODULARITY

PROBLEM

The measurement of nodularity in ductile iron castings is time consuming and subjective by means of both visual sectioning and ultrasonic immersion. Often parts are repositioned on ultrasonic probes to gain a forced pass and additional steps and costs are incurred to prevent rust and oxidation after immersion.

SOLUTION

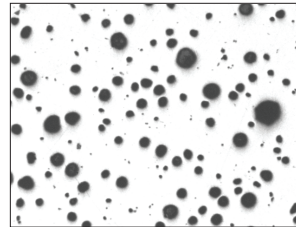
NDT-RAM provides an extremely fast, whole body indication without immersion or part preparation. By impacting parts and windowing critical resonant frequencies, the system screens for parts exhibiting nodularity below your customer's critical specification.

BENEFIT

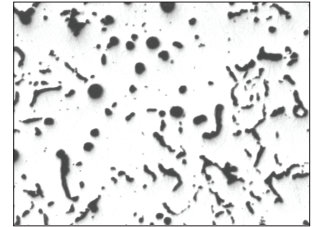
Computerized testing with NDT-RAM ensures a simple, reliable, affordable means to screen for nodularity without the compounding troubles caused by immersion. Additionally, resonant inspection provides a whole body indication of nodularity rather than merely a local spot check.



Brake system

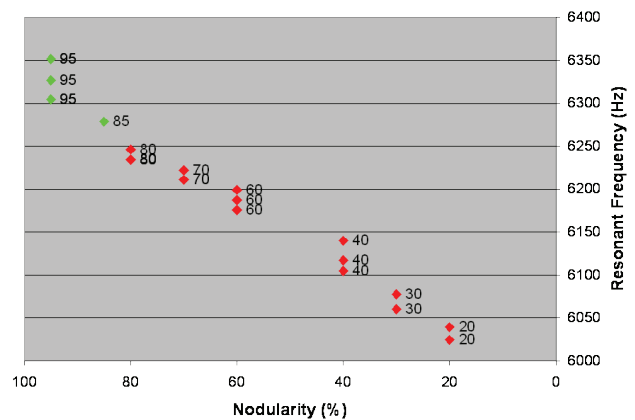


90% nodularity



60% nodularity

Sectioned samples of various nodularity. NDT-RAM can accurately detect nodularity changes of approximately 5% in ductile iron.



Example resonant frequency plots of conforming and non-conforming brake calipers