

NDT: Ductile Iron Casting: Nodularity

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

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

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

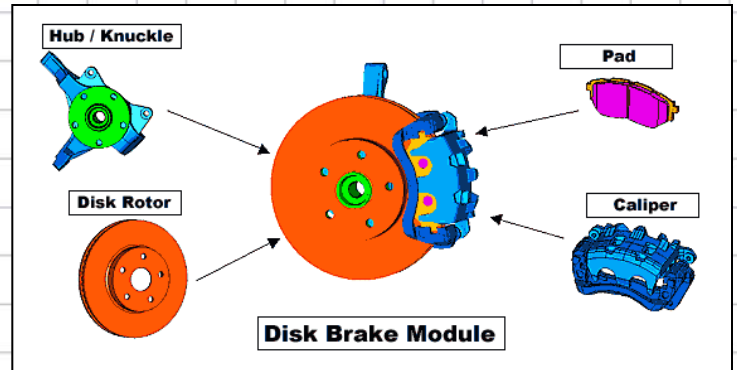


Fig 1. Brake system with ductile iron parts

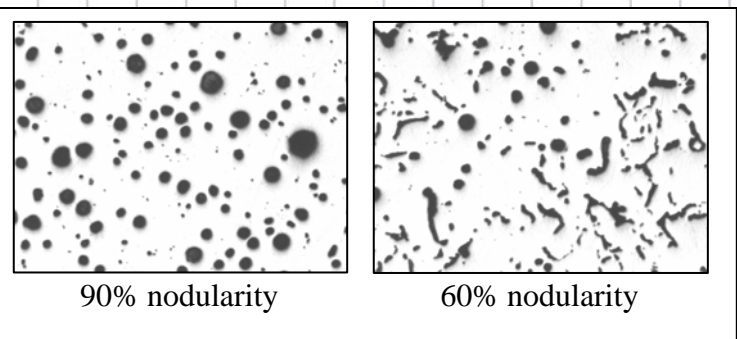


Fig 2. Sectioned samples of various nodularity. NDT-RAM can accurately detect nodularity changes of approximately 5% in ductile iron.

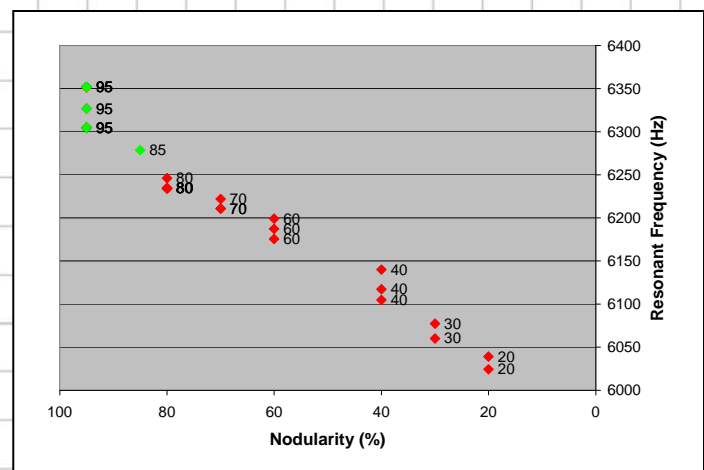


Fig 3. Example resonant frequency plots of conforming and non-conforming brake calipers.



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