**The need for Thickness Testing by Qualified Certifiers**

Original Equipment Manufacturers (OEMs) base much of their inspection criteria on material thickness. Acceptable allowances for depth of corrosion, pitting, dents and gouges is determined by component wall thickness. A common guideline is 10% of wall but there are OEMs that have more stringent guidelines. Link-Belt is 7.5%. Component wall thicknesses vary significantly from machine to machine, position in the machine, by boom design and by lift capacity. A focus of modern crane design has been to increase capacity and reduce weight. Advanced plate mills are producing steel that is thinner but stronger. 10% of a lattice with an .095 wall thickness is not much.

As cranes age we are finding internal corrosion issues that often cannot be seen externally. *As an inspector, how can you make a fitness determination if you are unable to measure material thickness with standard “pocket” tools like tape measures, calipers, etc.? How can you make a determination of fitness when you find drain holes plugged with rust and are unable to access the affected area to determine extent of damage?* Any area of the machine not fully closed allows air exchange and with it comes moist air. Moisture is deposited inside these cavities in areas that never had protective coatings applied when manufactured. What happens?....... hidden RUST slowly degrades wall thickness!

OEMs and their representatives can be slow to respond to questions from independents who are not a part of their dealer networks. Crane owners often schedule inspections because they need to put a machine to work promptly. They are either expecting inspectors to quickly give their equipment a “Clean Bill of Health” or provide a list of notable deficiencies needing to be corrected in order for the machine to be operated safety.

Ultrasonic thickness testing (UT) is a type of Non-destructive Testing (NDT) which has been in use for a long time. Older UT equipment often requires the removal of paint to insure accuracy. How many crane owners do you know that would appreciate the idea of removing paint on parts of their machine to facilitate thickness testing as a part of your inspection?

The CCAA would like to introduce a tool that could easily be an essential part of a qualified inspector’s tool bag. The model UTG-2900 Ultrasonic Thickness Gauge is a new model of thickness tester that discounts paint film and internal flaking rust to provide very accurate thickness readings. Paint does not need to be removed. The tool can accurately measure up to 19” in thickness. One of our members reports that he was able to find a crack in a pin because the tool rendered a reading far short of the pin length. The tool read the distance only to the crack.

Make thickness testing a part of your inspection process.

**Please see the UTG-2900 Specification page for CCAA member discounted pricing.**