

Zonotip

Ultrasonic corrosion and erosion quantification of coated metal components

Plastic or rubber coated pipes are common in the Oil & Gas industry. It is important to know if the steel pipeline is in a good condition without removing the coating. Thick layers are very inconvenient, if thick enough, they produce echoes with sufficient amplitudes. The Zonotip+ with A-Scan display and the multi echo-mode are utilized for such scenarios.

In this example, we used the 4.0 MHz twin crystal transducer with the multi-echo mode and calibrated on steel. The coating layer is omitted from the measurement and the displayed output is the base material thickness (shown below as 8.1 mm). Any erosion or corrosion on the steel inner surface would show a lower value. It is not necessary to know the thickness of the coating or its material velocity, but there needs to be a good adhesive bond of the coating to the metal to achieve transmission of ultrasound in the steel.



Display shows output of the measuring, shown as 8.1 mm. Any erosion or corrosion on the steel inner surface would show a lower value.

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