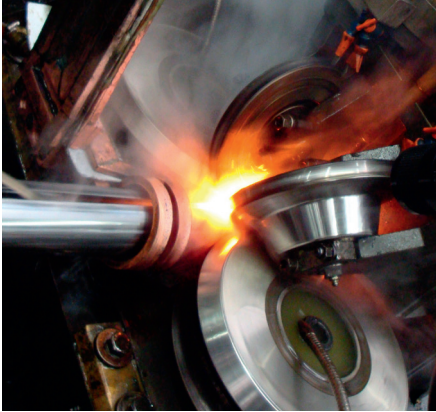


INDUCTION TUBE WELDING



The Opportunity

One solution for the production of welded tubes or pipes is the induction welding process. The incoming material for tubes with longitudinal welds is a steel strip, which is run through a forming mill to obtain a tubular shape with a seam. This slit tube then undergoes continuous inductive heating in one or multiple coils (inductor). Immediately downstream from the inductor, the soft tube edges are squeezed together by pinch rolls.

Temperature is a crucial process parameter for satisfactory weld qualities, i.e. the weld seam temperature must be measured and controlled continuously. The only reliable method for this is non-contact temperature measurement based on infrared technology (pyrometers and thermal imaging cameras). The measuring units are designed to withstand the extremely rough ambient conditions (massive formation of vapors or splashing coolant).

Our Solution

Stationary thermal imaging system MCS640

- Accurate measurement of temperature distribution on the weld seam by cameras that measure in the short waveband
- Rapid detection of temperature changes, e.g. for alarming purposes (high measuring frequency of 60 Hz)
- Comprehensive analyses of thermal imaging sequences implemented in the software (temperature-time profiles, hot spots, etc.)
- Robust enclosure with air purge fitting for the optical unit

Ratio pyrometer ISR 12-LO with protective system

- Ratio pyrometer for reliable measurement through vapors or mildly dirty optical units
- Special system to protect the pyrometer, fiber optic cable, and optical unit from rough ambient conditions
- Air purging for clean optical units and unobstructed line of sight (additional automatic monitoring of dirt by the software)
- Pyrometer with fiber optic cable and protective device can be used close to the inductor without interference from its electromagnetic field

Your Benefits

- ✓ Full-coverage process documentation
- ✓ Increased process reliability
- ✓ Optimized process control and enhanced product quality
- ✓ Minimized energy consumption