

Retained Austenite Measuring Device

The amount of retained austenite in steel – which can be measured by available visual, radiographic and magnetic technologies – is an important parameter for determining hardness and stability. The first two of these methods, however, have the disadvantages of not only being rather imprecise but also very time consuming. For this reason the magnetic method is used to take advantage of the characteristic fact that the austenitic particles, as opposed to the ferritic particles, are not magnetic.

Process

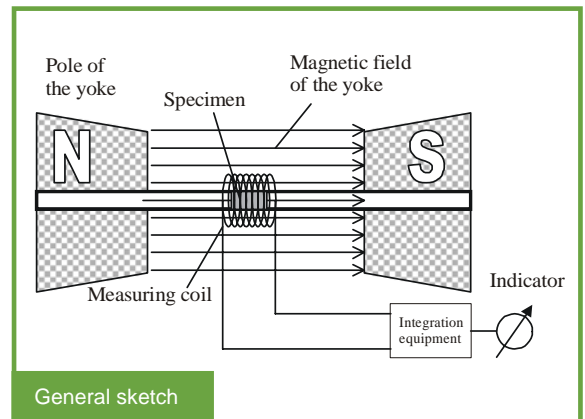
In order to determine the retained austenite in steel, a sample is magnetized to saturation and the saturation polarization is then measured. The nonmagnetic portion of the retained austenite is derived from the difference between the actually measured and the theoretical saturation polarization which can be calculated on the basis of the employed alloying elements. Conversely, the measured magnetic portion is used to determine the ferrite content of the sample for nonmagnetic steels. The saturation polarization is measured by means of the "Joch-Isthmus" - method.

Properties

- Easy to use Windows™-program
- Can be used with nearly any sample form if sizing into the instrument (small or large, cylindrical, square, long or short, grains,...)
- Sample sizes (dependent on the used spool and tailored to the customer's needs); usual values ar 200 mm long, 4 mm diameter
- Measuring range from 1 to 30% retained austenite content in ferritic steels
- Measuring range from 1 to 30% ferritic content in austenitic steels
- Precision: $\leq 0.5\%$.

ADVANTAGES

- Non destructive measurement
- Precise results
- No expensive safety requirements necessary
- Quick measurements



Products & services

- automatic test centers
- commissioning, training, services
- control systems
- development of measuring methods and systems
- engineering, documentation
- engineering, manufacture and operation of simulators, models and prototypes
- gas analyzing systems
- inspection equipment
- measuring devices
- monitoring and forecasting equipment for production facilities
- numerical simulation of control circuits
- operational measurements
- plant automation, electrical and instrumentation

Driving directions & contacts



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