

### CHALLENGES

For the grinding process industry, the hardness of the steels used is a key point. These steels are composed of a very hard martensitic phase and of a softer austenitic phase.

The post-manufacturing control of steel parts in terms of austenite quantity ensures the supply of a material whose **hardness complies with the customer's requirements**. In a competitive environment, this **control must be simple, reliable and relatively inexpensive**.

### SOLUTION

**MATEX PHASE** is a non-destructive solution for the control of magnetic materials. It is adapted to steel control and is equipped with :

- A powerful, permanent magnet to magnetize the sample
- An automated system for the insertion and removal of the sample in the permanent magnet
- Coils that measure the quantity of magnetic phase in the sample when it is removed from the permanent magnet

The martensite phase is magnetic, whereas the austenite phase isn't. The austenite quantity is thus obtained by the difference between the total sample mass and the martensite phase mass.

### BENEFITS

#### Compliance control

- Sample hardness is ensured by controlling the austenite level in the supplied steel
- Measurement results are recorded and traceable
- Applicable to Quality Assurance to check raw material

#### Simplicity, reliability, and cost

- Less material costs thanks to non-destructive control
- Automated measurement, result within seconds
- Does not require specialized personnel

### MATEX PHASE



#### ESSENTIAL MEASUREMENT

For controlling hard and specialty metals : content of residual austenite, cobalt or nickel, carbon balance

#### MEASUREMENT ACCURACY AND PRECISION

Even with large samples, and with samples containing large amounts of magnetic phase

#### FAST AND EASY CONTROL

Quick (within seconds) and automated tests, independent of the operator's skills