

# application note



## Aluminium Alloy Hardness Testing

# Saint-Jean Industries

**Heat-treatment of aluminium parts: continuous monitoring of the process is necessary to guarantee the mechanical properties of the product in accordance with Six Sigma.**

Heat treatment is an important process which improves the performance of the end product. It is used, for example, in the conditioning of automotive parts. If the treatment fails, vehicles can break down and passengers can be endangered. Monitoring heat treatment by means of hardness testing provides an efficient way to control the manipulation of a material's mechanical properties. For example, the strengthening of high integrity aluminium components can be observed.

## Application

Using stationary hardness testers is time-consuming and inflexible. Portable testers provide greater versatility in accessing test locations on parts. This enhances applicability and efficiency. It also helps to reduce possible negative influence of the operator on parts validation measurements.

Saint-Jean Industries uses Equotip devices for the validation of batches after heat treatment. The Equotip Piccolo 2 and Bambino 2 can be used at any time during the processing cycle. The instruments also allow measurements in narrow locations (with the slim DL probe). The hardness results are used to decide whether individual parts can be accepted or have to be rejected. Results are automatically transmitted to the system database with the Piccolink PC software. Equotip helps to identify and remove the causes of defects and errors in manufacturing, following Six Sigma.

## Customer Quote

"We have been using Equotip for many years, but this application is the first one with a real time management of the measurement data by an automated system."

*QSE Manager, Saint-Jean Industries (France)*

*- Proceq customer since 2000*

## Profile

### Customer

Saint Jean Industries, an established and innovative company, specializes in the design and manufacturing of high integrity / critical safety aluminium components and sub-assemblies for the automotive, truck, motorcycle and industrial markets.

### Employees

1'100 in 4 countries (France, USA, Croatia, Germany)

### Requirements

- Efficient hardness measurements for the heat treatment process
- Minimize human influence on measurement results
- Provide real time parts validation

### Proceq Product

Equotip Piccolo 2 with the HB scale setting

### Benefits to the Customer

- Portability: low weight, small size of device
- Versatility: accessibility through the D and DL probe, display of hardness in various scales
- Efficiency and cost reduction: real time process monitoring, automatic data recording and parts validation

# proceq