Annex No. 1 – technical specifications

1. Delivery of a device for measuring hydrogen in the furnace

System for measuring and monitoring the atmosphere in industrial furnaces - measurement of H_2, hydrogen and humidity

Technical parameters:

• Real-time measurement of hydrogen content in the atmosphere of an industrial furnace for heating molds in the hot stamping process

• Measurement of humidity in the furnace atmosphere in real time

• Monitor hydrogen concentration continuously or sequentially

• Ability to save results to the hard desk

• Hydrogen concentration analysis

• Alarms when thresholds are exceeded

Performance properties:

• Industrial use, device capable to operate in an industrial environment, witth proper interface to furnace which will be specified at delivery

• Interface: computer application for data recording and analysis

Requirements:

• Brand new, with a 24-month warranty

• PL or EN instructions, CE certificate

---

2. Delivery of a device for measuring hydrogen in the hot stamped

Non-invasive measurement of diffusive hydrogen content in metals using a heated probe

Technical parameters:

• Thickness range of the tested sheet metal: up to 2mm

• Measurement surface dimensions: minimum 45×45mm

• Repeatability accuracy: low deviation – e.g. for 0.48ppmw: ±0.09ppmw, compatible with the TDA method

• User interface: control via a PC panel with a dedicated application and the possibility of remote access and calibration updates

• Measurement without removing the AlSi coating,

• Measurement of sheets of the following grades: Usibor2000 Usibor 1500, MBW 1500, MBW 1900

- Magnetic holding of the probe on the Surface of the sheet metal being measured
- Measurement report: H_2 content in ppmw,
- Measurement of atomic hydrogen in less than 400 seconds
- Feated probe up to 180 st.
- Measurement using the non-destructive method
- Measurement in accordance with CEN 17794:2021

Requirements:

- Brand new, min. 24 months warranty
- PL or EN instructions, CE certificate