


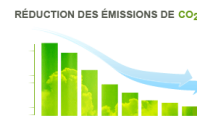


Very Low Frequency Magnetic Particle Testing

Advantages of Very Low Frequency (VLF) magnetic field use:

By Very Low Frequency Magnetic Particle Testing (MT) we mean the use of magnetic fields with a frequency <10 Hz. This technology offers significant gains compared to traditional systems working at a frequency of 50 Hz:

- ☐ **Decrease power consumption by about a factor of 5** by lowering the output voltage required to supply the magnetization circuits.
- ☐ **Better detection of defects in depth**, by the reduction of the skin effect. Defects are detectable up to 3mm deep (depending on size and morphology).
- ☐ For the safety of operators in terms of exposure to magnetic fields, the use of very low frequencies **allows complete compliance with the requirements described in European Directive 2013/35 / EU**. 
- ☐ Testing of painted parts, the use of very low frequency magnetic field (VLF), due to the generation of a magnetic flux interacting with the entire depth extension of the defect, significantly increases the amount of magnetic particles retained on the surface and thus allows **magnetic particle testing on painted parts** (e ~ 100 to $500 \mu\text{m}$ depending on the type of paint). Therefore the **probability of detecting the defect is significantly increased**.
- ☐ **Degaussing in depth**, the use of the very low frequency makes it possible to demagnetize parts of very high thicknesses ($>20\text{mm}$). For frequencies between 2 and 10 Hz, the **penetration depth of magnetic field lines is higher than 10mm**.



Equipment available for very low frequency magnetic particle testing

Yoke kit



Working frequency: 10 Hz
Model with battery or mains power supply - weight 4 kg

Test bench



Current generator and accessories

