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Centrotest

DEKRA PARTNER

Centrotest S.r.l. is a company founded in 1987 by Cav. Ivano Emili after 20 years of experience gained in the NDT Division of Thyssen Krupp Acciai Speciali Terni.

Launched initially as an individual company, Centrotest has distinguished itself on the Italian market for its high level of competence and its high degree of competitiveness.

Companies of international importance such as Nuovo Pignone (General Electric Group), Enel Produzione, Thyssenkrupp, have made use of its cooperation as their partner in the verification of its plants and products.

The continuous research for new markets has pushed us to seek new solutions in order to increase the range of products on which non-destructive tests may be applicable.

This is the case of corrosion control with LPR (linear polarization) that Centrotest experienced first in Italy on a completely unexplored field: the supports of public lighting. Over 1.000.000 posts inspected thus far, make Centrotest Italy's leading operator in this field. Another strength is our ability to provide support in fields not closely connected to non-destructive testing: it's the case of destructive testing and especially heat treatments. In particular they have generated considerable interest in recent years, because of the enormous added value they confer to manufactures, welded structures or pressure vessels.

Centrotest started with localized heat treatments but nowadays operates by means of ovens that reach a length of 20 metres. Today Centrotest is positioned among the top 5 players in Italy in the field of furnace heat treatments and localized heat treatments.

In 2016 the company achieved a sales volume of 1.500.000,00 million of euros and the number of employees has risen to 12 units.

non-destructive testing

The testing work takes place both during construction and development on water systems and power plants, moving, lifting equipment, pressure vessels (PED), steel plant, machinery, automotive, pipe Mills, aerospace, medical, railway industry, the construction industry (control over concrete walls), the field of explosives.

Below we present a list of methodologies applied:

- ⊗ radiographic method: industrial radiography, digital radiography,
- ⊗ ultrasonic method: basic technique, phased array and borosonda technique on railroad axles, tests on concrete
- ⊗ penetrant method
- ⊗ magnetic particles method
- ⊗ thickness test method
- ⊗ endoscopic method
- ⊗ hammer method on concrete
- ⊗ dimensional controls
- ⊗ pressure tests



Centrotest S.r.l has 2 bunkers for the execution of radiographic testing and for storage of the isotopes. The penetration of higher thickness is achieved through the use of a linear accelerator Lilliput 4/2S with a power of 2 MeV.

corrosion control of public lighting poles

The collapse of public lighting poles caused by corrosion, is an unusual event but not rare and the consequences can be very serious for the company which takes care of them. In addition to the loss of the pole and the damage caused to the power supply, you can have interruptions of traffic, manufacturing and public utilities, as well as damage to property and people health. There is at least one known recent case in which the collapse of a pole resulted in loss of human life.

For steel poles you can clearly distinguish between the course of the corrosion in the aerial part which is easily identifiable and assessable by conventional techniques, and the underground part.

In the underground part, the corrosion is very difficult to detect and can have an unpredictable course: exposure to water and corrosive agents can give rise to particularly intense localized attacks. This is particularly serious because these superficial areas are exposed more to such attacks and become the most mechanically stressed.

The structural health monitoring based on estimating corrosion rate, developed by CENTROTEST, represents a different approach to the problem and has proved to be responsive both to economic needs as regards the technical requirements of the management entities.

By using an advanced technology called L.P. R, CENTROTEST is able to monitor and quantify the residual maturity brackets.



sample pole corroded mounting area. As you can see, the phenomenon would be impossible to detect because the corroded part is covered with protective sheath



In this case it would be required the demolition of the plinth to detect the corrosion



Pole fell in Terzi in 2008 due by corrosion



Unit T100 recently patented by Centrotest

heat treatments

Heat treatments have assumed in recent years considerable importance in metallurgy and have become an indispensable process for obtaining those characteristics that give to the metallic artifact added value in terms of quality and reliability.

Centrotest S.r.l. has more than twenty years of experience accumulated in this field and is able to carry out heat treatment both in the furnace and on site for the following types:

- ⊗ post weld heat treatments
- ⊗ heat treatments of stress relieving
- ⊗ solution annealing heat treatments
- ⊗ tempering heat treatments
- ⊗ heat treatment of normalization
- ⊗ hardening treatments

Below we present some features of our systems:

Cooperheat furnace: length: 24.6 meters, width meters, 3.4 meters height, Max: 980° C

Pit furnace 1: diameter: 3.36 m, height 2.9 metres, maximum temperature: 1200° C

Pit furnace 2: diameter: 1.6, height: 2.75 metres, maximum temperature 1200° C

Electric furnace: 1 meter length, width 0.5 meters, height 0.5 metres maximum temperature 1200° C

In terms of special handling would be not practicable (e.g. welds on pipework), our company offers portable equipment that allows the propagation of temperature in a specific area of the piece.



Well furnace



Electric furnace



Cooperheat furnace

qualifications and certifications

The Centotest S.r.l operates with highly qualified personnel who meet the following requirements:

- ⊗ Nr 6 technicians certified level II ISO9712 and ASNT TC-1A for the following methods: Visual (VT), ultrasonic (UT), magnetic particles (MT), penetrant (PT) and radiographic (RT)
- ⊗ Nr 2 technicians certified level III ISO9712 and ASNT TC-1A for the following methods: Visual (VT), ultrasonic (UT), magnetic particles (MT), penetrant (PT) and radiographic (RT)
- ⊗ Nr 3 technicians certified level III UIC rail 960
- ⊗ Nr 6 technicians certified level III to PED 97/23/EC
- ⊗ Nr 1 technician with certification of level III for massive heat treatments (TTM), heat treatments and surface thermochemical (TTS)
- ⊗ Nr 6 RT operators with license ADR for the transport of radiogenic sources

The quality of our processes is guaranteed by the most stringent ISO certifications issued by international control "CERTI W" for the following standards:

- ⊗ ISO 9001:2008
- ⊗ ISO 14001:2004
- ⊗ OHSAS18001: 2007



 **DEKRA** Centrotest is also examination center DEKRA for operators n.d.t. and qualification of welders.