



# TANGENT DELTA TESTER

# When quality really matters

DSE Test Solutions A/S is a Danish company supplying high-quality test equipment for the wire and cable industries. Our extensive range of intelligent test equipment is used for quality control and production optimisation of enamelled wire and cable.

## World market leader

Our profound knowledge of industry demands and customer needs means that we know where and when quality really matters. Demonstrating more than 25 years of market experience and more than 30 per cent of the world market, you can count on the best products and the best service around.

## Second-to-none test equipment

All our products are of high European quality, representing state-of-the-art technology and refined Scandinavian design. Our test equipment is renowned for its reliability. And rightly so. The Tangent Delta Tester has all the durability and reliability that customers expect from high-quality test equipment. Further we are certified in accordance with the ISO certificate 2001:9000 standard.

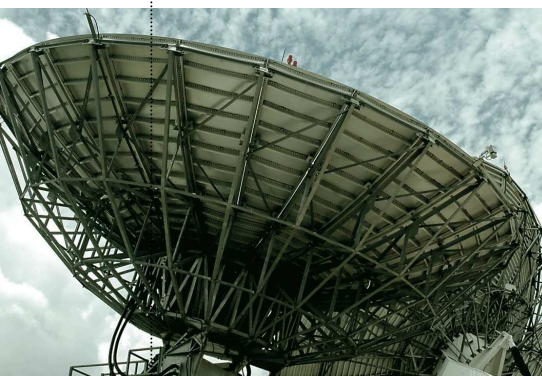
In cooperation with Danfoss, we created the world standard method of determining enamel curing and obtaining information on its chemical quality by introducing Tangent Delta measurement technology, which has been implemented in the TD300 and TD9000 products and now also TD5.

## Extensive research and development

At DSE, we are dedicated to continuous research and development. Working actively within the areas of air traffic management, test systems and wire technology, our highly educated team possess expert knowledge of test systems, information technology and software development. Using our skills and expertise to the full, we strive to build innovative features and functionality into all aspects of test technology, thus optimising and creating value for our customers' businesses.

## Global presence

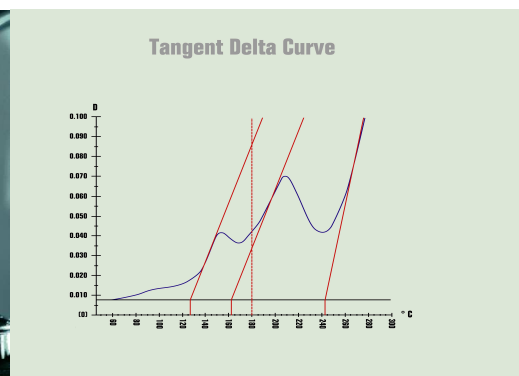
We are there where you need us. You can always get expert advice and assistance from one of our many specialists in Denmark. But we also offer global sales and service through our many agents worldwide.



Future-prof technology



High-quality testing



Accurate measurement

# Tangent Delta - that's **reliability**

## Optimizing the processes

Knowing and controlling the parameters within a production of enamel wire, is absolute essential for the economy in manufacturing enamelled wire.

The Tangent Delta Tester from DSE deliver all the information needed for optimising and controlling the many processes. The measuring data is compressed and displayed in a full curve, showing the Tangent Delta as a function of the temperature.

This method is the ultimate way of making a fast, accurate and reliable determination of the enamelled curing, and at the same time, showing any residual solvents or additives in the insulation. Both residual solvents and curing state are factors that have high influence on temperature index, lifetime and physical behaviour of the wire.

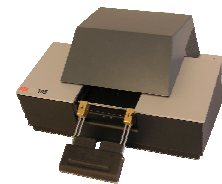
## DSE Test Solutions delivers a complete product range

The TgD testers from DSE are based on high level ground knowledge and adapted into the different needs within the enamel wire industry. Different needs, means different solutions ! By increasing the product range with the new **TD5**, DSE can deliver the right solution, for optimising the production or for research and development.

### TD5 - The TgD instrument made for the future

- By introducing the *NEW TD5*, DSE meets future requirements as:

- ◆ High temperature range up to **400° C**.
- ◆ Oven for both round or rectangular wire.
- ◆ Automatic analysing and helping tool.
- ◆ High number of customised setups.
- ◆ Multiple curves.



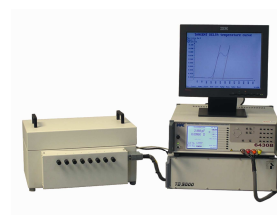
### TD300 and TD300 PF Tangent Delta Tester

- ◆ For ultra fast production control.
- ◆ Multiple sample holder gives advantage of sample preparation and cooling while testing.
- ◆ Produces a full Tangent Delta curve in 3-5 minutes.
- ◆ Easy to operate.
- ◆ Applicable for round and profile wire.
- ◆ Duo-oven to speed up the cycle.



### TD9000 Tangent Delta Tester

- ◆ High-position laboratory tester for research and product documentation.
- ◆ Offers multiple features, e.g. eight samples with different dimensions.
- ◆ Produces a full Tangent Delta curve of eight wires within one hour.
- ◆ Duo-oven to speed up the cycle.
- ◆ Selectable test frequencies.






# Innovation is the essence

## Dedication makes the difference

### DSE Test Solutions in general

DSE Test Solutions A/S is a high technology company founded in 1981 and situated in Horsens, Denmark. We provide innovative and customised solutions based on a mix of software, hardware and mechanics through our 3 divisions organised in Test Solutions, Wire Solutions and Moisture Measurements Solutions.

Our core competencies are:

-  Quality control products for wire and cable industries.
-  Advanced test systems and solutions, functional test systems, JTAG/Boundary Scan, test fixtures and test software solutions.
-  Moisture measurement equipment for biomass products