

More than  
100 years of experience

DMT Rope Testing Centre



Cable supported  
bridge inspections



### Our services for all rope testing requirements comprise:

- MRT for new ropes
- MRT for ropes in the field
- Single wire testing
- Damage analyses
- Mechanical and technological determination of properties in our Rope Testing Centre:
  - Determination of tensile strength up to 20 MN
  - Determination of rope moduli of elasticity
  - Torque analysis
  - Fatigue test
  - Creep test

### We are accredited by:

#### DAkKS (National accreditation body for the Federal Republic of Germany)

DMT GmbH & Co. KG, DMT Laboratory for Non-Destructive and Destructive Testing -Rope Testing Centre-, Bochum, Germany: For manual non-destructive testing (UT, MT, PT, VT, magneto-inductive testing) and mechanical testing of metallic and non-metallic materials.

#### SQS (Swiss Association for Quality and Management Systems)

DMT GmbH & Co. KG in Bochum, Germany: Quality management system for consultancy, exploration of raw materials, geoengineering, expert appraisals, research and development, testing and training. The QMS complies with DIN EN 9001:2008.

#### DMT GmbH & Co. KG

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DIN EN ISO  
9001  
certified

DIN EN ISO  
14001  
certified



## Cable supported bridge inspections

### Reference projects

#### Second Bosphorus Bridge (Fatih Sultan Mehmet Bridge), Turkey (1)

Service rendered in 2007:

- Magnetic inductive inspection of the suspender cables along the ropes' free sections

#### Köhlbrand Bridge, Germany (2)

Service rendered in 2010:

- Magnetic inductive inspection of 80 stay cables

#### Solidarity Bridge, Germany (3)

Service rendered in 2011:

- Ultrasonic inspection of the suspender cables at the terminal connectors
- Magnetic inductive inspection of the suspender cables along the ropes' free sections

#### Malpensa Airport Bridge, Italy (4)

Service rendered in 2011:

- Ultrasonic testing of the strand anchoring sections at selected stay cables
- Ultrasonic testing of the strand anchoring areas at selected pretensioning cables

#### Zárte-Brazo Largo Bridges, Argentina (5)

Service rendered from 1996 to 2002:

- Ultrasonic testing of the anchorages for all 144 stay cables and validation of the testing procedure

### Trust us!

#### Research, development and experience.

#### You can rely on our results!

Modern bridge designs require entirely new test instrumentation. It was in the 1930s that DMT developed the first electromagnetic testing equipment for steel wire ropes. In this way, and for the first time, the cables used in guyed structures like bridges could be examined in the field.

In the intervening years we have amassed a broad background in non-destructive testing and decades of experience in interpreting the charts involved.

Working in partnership with the EMPA (Eidsgenössische Material Prüfungsanstalt in Dübendorf, Switzerland), DMT has now developed an entirely new electromagnetic testing device. For the first time ever, wire ropes exceeding 200 mm in diameter and those encased in cladding tube can be inspected.

#### Technical details:

- MFL – magnetic flux leakage
- New approach to magnetisation
- Coil magnetisation combined with hall sensing
- New data storage concept: SD Card
- This kind of rope testing will deliver reliable data for all types of rope – regardless of the design

