TECHNICAL TRAINING PROGRAM

METALTEK
Test & Analysis Laboratory

More than a Lab

VISION

We are excited and happy to share with you our strong knowledge and experience, which we have gained as the first test laboratory in Turkey to be accredited for corrosion-aging tests since 2012. Each of our training programs includes comprehensive and practical information that complies with current international standards.

Our aim with these trainings is to contribute to the increase of talent and competence by providing the participants with the technical information they need on a sectoral basis. In addition, the training of qualified professionals will help institutions develop and advance their quality standards.

ABOUT US

Our company, which has a laboratory accreditation certificate in accordance with the **TS EN ISO/IEC 17025:2017** standard, provides testing services within the scope of international (DIN, EN, ISO, IEC, NATO AEP, ASTM, MIL) standards.

It helps all industrial companies that produce in the automotive, white goods, paint, defense, aviation, metal, general industry, electrical-electronics, glass and others to find their place in the world markets by obtaining the quality certificates they want with internationally valid test reports.

In addition, Metaltek, which is the only authorized authority in Turkey approved by the based in Switzerland based **QUALICOAT** Quality Institution, performs the necessary tests for Qualicoat approvals for powder paint, wet paint, chemical manufacturers and companies that produce and coat aluminum with powder paint.

With the **ISO/IEC 17043:2023** accreditation, we have added another quality system to our company and have reached the position of an arbitrator laboratory competent to conduct comparison tests between laboratories.

METALTEK ACADEMY

- Training programs are supported with videos, visual materials, sample examples, and interactive presentations.
- A Training Participation Certificate is provided to all participants and training materials are shared.
- Special programs created with subjects selected from the subjects included in our training program can be carried out in the training halls within the companies or at Metaltek Academy.
- The number of participants is determined by the company requesting the training.
- Training can be given ONLINE by utilizing the Zoom platform.

Materials World - Welding Technology - Corrosion Reactions - Coating Technologies

Contents:

- Material types and base metal selection
- Iron-steel-casting, aluminum, stainless steel, polymer and composite production, types
- Processing stages of metals
- Welding technology
- Definition and types of corrosion
- Surface preparation processes
- Surface coating technologies and corrosion performances
  - Chemical conversion coatings (Phosphating, Chromatization, Anodizing)
  - Metallic coatings
  - Organic coatings (Paint, cataphoresis, varnish, lacquer, protective oil)

Corrosion Environments - Tests Appropriate to Environments - Quality Classification of Paints

Contents:

- Classification of corrosion environments according to international standards
- Classification of paints according to corrosion categories
- Relationships between real life and laboratory tests
- Test requirements, test procedures, and end-of-test evaluation criteria as required by standards

  EN ISO 12944 - 1/2/5/6/9

Mechanical Tests

Contents:

- Coating resistance tests on wet paint and powder coated products to mechanical effects
  - Film thickness, adhesion (cross cut and pull-off), collapse, indentation, impact, bending, scratching, abrasion, pencil hardness, stone chip, color, gloss, water jetting
- International standards of the tests, post-test evaluations, points to be considered in the tests

Corrosion and Environmental Aging Tests

Contents:

- Salt spray corrosion test
  EN ISO 9227 / ASTM B117
- Resistance to humidity test
  EN ISO 6270-1/2, ASTM 2247
- Resistance to humid environments containing sulphur dioxide test
  EN ISO 22479, ASTM G87
- Chemical resistance tests
  EN ISO 2812
- Cyclic corrosion tests
  Ford, Volkswagen, Fiat, Renault, GM, MAN, BMW
- UV sunlight resistance tests (Xenon lamp, UV fluorescent lamp)
  EN ISO 4892-2/3, EN ISO 16474 2/3
- Details of the test equipment used, test procedures, and post-test evaluations

Salt Spray Corrosion Test

Contents:

- Salt spray corrosion test
  EN ISO 9227 / ASTM B117
- Introduction to the test device, test execution in accordance with the standard, sample preparation steps
- End-of-test evaluation standards
  EN ISO 4628-1/2/3/4/5/8
  EN ISO 10289 (Rp/Ra)

Testing Standards Accordance with Military Standards

Contents:

- Purpose and differences of military standards
- Basic tests, test conditions, special standard requirements
  - High temperature / low temperature / humidity / salt fog / solar radiation / chemical effect / shock temperature change / icing-freezing test methods

MIL-STD-810
NATO AEP 64
RTCA-DO-160G

Quality Systems Training

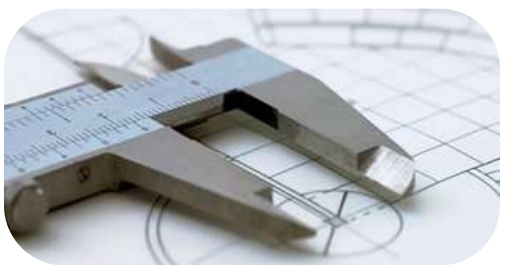
Contents:

- Quality definition, importance, improvements it provides
- How to establish a quality system?
- What are 17025/ 17065/ 17024/ 17043 quality systems?
- The most common quality systems used by sectors
  - ISO 9001/ 14001
  - IATF 16949
  - AQAP
  - AS 9100
  - NADCAP
- Preparation of procedures, instructions and forms

Metrological Traceability - Statistical Evaluations Training

Contents:

- Measurement uncertainty calculations
- Definition of calibration, its importance, parameter determination, and calibration certificate review
- Importance of laboratory interim control and maintenance plans, planning process
- Internal quality control studies
- Method validation studies
- Standard deviation calculations
- Interlaboratory comparison studies



Training on Tests to be Performed on Wet and Powder Paint and International Standards

Contents:

- Quality standard for liquid paints
  EN ISO 12944-6/9
- Quality standards for powder coatings
  QUALICOAT
  QUALISTEELCOAT
- AAMA/GSB quality standards
- Application and renewal procedures
- Application of required tests and post-test evaluations

Paint Industry Specialized Training Program

Contents:

- First of all, the most intensively used metals in the industrial sector are Steel and Aluminum production models, their obtaining, processing and welding processes
- Definition, cause and formation reactions of corrosion
- Coating technologies to be done to protect metals (steel, aluminum) against corrosion
  - Chemical-mechanical surface preparations and controls
  - Sandblasting process, roughness, salt residue tests
  - Phosphating, Nano ceramic coatings, Chromating and Metallic coatings
- Corrosion categories of the world according to international acceptances, introduction of these areas, Correlation between real life and artificial aging tests of corrosion classes, Targeted life spans according to corrosion classes and tests to be done accordingly, their durations and requirements
- All corrosion tests that the paint may be exposed to in terms of corrosion
  - Salt fog, Humidity resistance, Cyclic corrosion tests, S02 resistance to humid environments test, Chemical resistance tests, artificial and natural aging tests
  - Controls to be done before, during and after tests
- Physical tests of wet paint
- density, solid substance, Creps viscosity, Fineness determination
- Tests performed on wet paint in mixed form
  - Ready-to-use mixture Viscosity-Ford cup or Din cup 4, Touch dry time determination, Full drying (curing) determination, Pot life, Covering
- All mechanical tests performed on painted parts
  - Film thickness, adhesion, Pull-off, stone throwing, abrasion, bending, scratching, hardness, impact, collapse, sinking
- Information, tests and requirements on International Quality certificates (Qualicoat, GSB, AAMA, Qualisteelcoat ..) that powder coating companies must have

Training duration: 2 days

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