Introduction

An electronic module is only suitable for a specific purpose if it guarantees safe function for a defined time. A large number of modules are installed in the terminal devices without protective coatings and operate fault-free throughout their entire service life. In an increasing number of cases, the module is used with greater electrical sensitivity or even under difficult conditions. The safe function of an assembly is then only ensured by means of a protective coating.

In the German-speaking area, there is only the GfKORR guideline for the application and properties of a protective coating available. The GfKORR working group "Corrosion protection in electronics and micro engineering" produced this guideline in cooperation of designers, producers, coaters and users of electronic construction groups. The GfKORR – Gesellschaft für Korrosionsschutz e.V. (German Society for Corrosion Protection) is an interdisciplinary association of experts from industry and R&D, aiming at reducing corrosion and consequential damages in all areas of life and technology.

SMTA is an international association for electronics engineering and manufacturing professionals seeking to improve processes through best practices and real-world solutions. SMTA offers exclusive access to local, regional, domestic and global communities of experts, as well as accumulated research and training materials from thousands of companies dedicated to advancing the electronics industry.

The greatest benefits come from the SMTA's mission of the sharing of knowledge and best processes by bringing educational content and a global network to local regions.

The aim of the seminar is to teach the participants about this guideline and the collected knowledge from the working group, so that a comprehensive and fundamental understanding of coatings and their possible applications for the functionality of electronic assemblies is achieved.

Introduction - Organisation

Target groups

Production engineering, quality assurance, process technology, analytics, design and construction as well as all users of coated assemblies

Registration

For organisational reasons, please send your registration by **10 October 2023** to:

GfKORR - Gesellschaft für Korrosionsschutz e.V.
Theodor-Heuss-Allee 25
60486 Frankfurt / Main
Phone: +49 (0) 69 7564-360 /-436
E-mail: gfkorr@dechema.de
Web: https://gfkorr.de/Veranstaltungen

Participation fees *)

Members of GfKORR	940,- €
Non-Members	980,- €
Students (under 30 years)	150,- €

*) no VAT requested according to § 4.22 UStG

The registration fees include the guidelines for the *Utilisation and Fabrication of Protective Coatings for Electronic Assemblies*.

Conditions of participation

Following receipt of the registration a confirmation and the invoice on the amount due will be sent to the course participant. Registered participants can cancel in writing free of charge no later than **10 October 2023**. After this date 80% of the participation fee will be charged. In case of absence or cancellation of participation, the full participation fee is to be paid. A replacement of a participant is possible at all times.

GfKORR – Gesellschaft für Korrosionsschutz e.V.

Seminar
Application and Utilisation of Protective Coatings for Electronic Assemblies

17 - 18 October 2023
Online Event

in cooperation with

SMTA

ZESTRON ACADEMY

Programme – 17 October 2023

09:30 **Welcome, introduction of participants and your specific focus**
Dr.-Ing. Helmut Schweigart
Dr. O.K. Wack Chemie GmbH, Ingolstadt, Germany

10:10 **Requirements of protective coatings for use on assemblies**
General requirements, requirements for environmental impact, regulations for protective coatings
Beth Turner
Electrolube, Leicestershire, United Kingdom

10:55 **Discussion**

11:05 **Classification of protective lacquers**
Subdivision according to the binder or solvent, subdivision according to drying or curing mechanism, subdivision according to layer thickness
Jens Bürger
ELANTAS Europe GmbH, Hamburg, Germany

11:30 **Discussion**

11:40 **Break**

12:40 **Summary specific focus of participants**

13:00 **Film properties of protective coatings**
Mechanical, electrical and thermal properties, condensation, water absorption and water vapour permeability, thermal resistance, flexibility (modulus of elasticity) and CTE
Beth Turner
Electrolube, Leicestershire, United Kingdom

14:00 **Discussion**

14:10 **Impact of the assembly on protective coatings**
Base material, assembly or printed circuit board layout, solder resist, soldering materials and parameters, drying parameters, keeping and uncovering areas
Dr.-Ing. Helmut Schweigart
Dr. O.K. Wack Chemie GmbH, Ingolstadt, Germany

15:10 **Discussion**

15:20 **Break**

Programme – 17 October 2023

15:50 **Surface and preparation prior to protective coating**
Requirements for module cleaning, decision on cleaning, minimum surface cleanliness before protective coating, measurement / analysis of ionic impurities, implementation / optimization of cleaning processes
Dr.-Ing. Helmut Schweigart
Dr. O.K. Wack Chemie GmbH, Ingolstadt, Germany

16:50 **Discussion**

17:00 **Summary specific focus of participants**

17:20 **End of first day**

Programme – 18 October 2023

09:00 **Welcome, summary of day 1 and your specific focus**
Dr.-Ing. Helmut Schweigart
Dr. O.K. Wack Chemie GmbH, Ingolstadt, Germany

09:30 **Application procedures for protective coatings**
Subdivision of the application processes, application by brush, coating or spray can, application by spraying, dipping, flooding or spraying process, automatic and selective coating in casting process, application by dispensing or vacuum process
Gerd Schulze
Nordson B.V., Maastricht, Netherlands

10:30 **Discussion**

10:40 **Break**

11:15 **Handling of protective lacquers**
Requirements for coating rooms and equipment, monitoring of processing parameters, contamination, maintenance of immersion systems, aging of protective coatings, environmental protection during protective coating
Jens Bürger
ELANTAS Europe GmbH, Hamburg, Germany

Programme – 18 October 2023

12:00 **Discussion**

12:10 **Break**

13:00 **Summary and specific focus of participants**

13:20 **Prevention of typical coating defects**
Application of excessive layer thicknesses, double coating, early hermetic encapsulation of coated printed circuit boards, avoidance of defects and typical abnormalities in protective coatings
Jens H. Klingel
KC Kunststoff-Chemische Produkte GmbH, Friolzheim, Germany

14:35 **Discussion**

14:45 **Coating inspection methods**
General proof of the protective coating, verification of climate resistance, verification of the coating result
Gerd Schulze
Nordson B.V., Maastricht, Netherlands

15:30 **Discussion**

15:40 **Break**

16:00 **Repair of coated assemblies**
Paint stripping of assemblies, sound soldering of coatings, repair coating
Jens H. Klingel
KC Kunststoff-Chemische Produkte GmbH, Friolzheim, Germany

16:30 **Discussion**

16:40 **Summary and specific focus of participants**

17:00 **End of seminar**

Unforeseen programme changes are reserved.

Host: GfKORR e.V.
In cooperation with the Zestron Academy (https://www.zestron.com/en/academy) and SMTA (https://smta.org/)