

## Deutsche Akkreditierungsstelle GmbH

### Annex to the Accreditation Certificate D-PL-11055-12-00 according to DIN EN ISO/IEC 17025:2005

Period of validity: 14.11.2016 to 13.11.2021

Date of issue: 14.11.2016

Holder of certificate:

**Siemens Aktiengesellschaft**  
**Materialprüflabor bei Siemens EM TS, Nürnberg**  
**Katzwanger Straße 150, 90461 Nürnberg**

Tests in the fields:

**determination of material properties of insulating liquids especially transformer oil and  
magnetic properties of electrical sheet for use in transformers**

Abbreviations used: see last page

*Within the given fields the laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, to use standard test methods listed here with different issue dates or revision status updates.*

*The laboratory maintains a current list of all test methods in a flexible scope of accreditation.*

IEC 60567 2011	Oil-filled electrical equipment - Sampling of gases and analysis of free and dissolved gases - Guidance
IEC 62021-1 2003	Insulating liquids - Determination of acidity - Part 1: Automatic potentiometric titration
IEC 62021-2 2007	Insulating liquids - Determination of acidity - Part 2: Colourimetric titration

IEC 60247 2004	Insulating liquids - Measurement of relative permittivity, dielectric dissipation factor (tan d) and d.c. resistivity
IEC 60156 1995	Insulating liquids - Determination of the breakdown voltage at power frequency - Test method
IEC 61198 1993	Mineral insulating oils - Methods for the determination of 2-furfural and related compounds
IEC 60666 2010	Detection and determination of specified additives in mineral insulating oils - (3.2) Determination of 2,6-di-tert-butyl-para-cresol by infrared spectrometry - procedure B
IEC 60666 2010	Detection and determination of specified additives in mineral insulating oils - (Annex B) Analysis method for determination of passivators in petroleum products by High Performance Liquid Chromatography
EN 12766-1 2000	Petroleum products and used oils - Determination of PCBs and related products - Part 1: Separation and determination of selected PCB congeners by gas chromatography (GC) using an electron capture detector (ECD)
EN 12766-2 2001	Petroleum products and used oils - Determination of PCBs and related products - Part 2: Calculation of polychlorinated biphenyl (PCB) content
IEC 62535 2008	Insulating liquids - Test method for detection of potentially corrosive sulphur in used and unused insulating oil
EN 14210 2003	Surface active agents - Determination of interfacial tension of solutions of surface active agents by the stirrup or ring method
IEC 60450 2004 Amendment 1 2007	Measurement of the average viscometric degree of polymerization of new and aged cellulosic electrically insulating materials
IEC 60814 1997	Insulating liquids - Oil-impregnated paper and pressboard - Determination of water by automatic coulometric Karl Fischer titration

IEC 60404-3 2010	Magnetic materials - Part 3: Methods of measurement of the magnetic properties of magnetic sheet and strip by means of a single sheet tester (IEC 60404-3:1992 + amendment1:2002 + amendment2:2009 + corrigendum:2009)
IEC 60404-11 2012	Magnetic materials - Part 11: Method of test for the determination of surface insulation resistance of magnetic sheet and strip (IEC 60404-11:1991 + amendment 1:1998 + amendment 2:2012)
ISO 12185 1996	Crude petroleum and petroleum products - Determination of density - Oscillating U-tube method
ASTM D 7042 2016e2	Standard Test Method for Dynamic Viscosity and Density of Liquids by Stabinger Viscometer (and the Calculation of Kinematic Viscosity)

**Abbreviations used:**

ASTM	American Society for Testing and Materials
e2	Editorial Change
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization