



EA MLA Signatory
Český institut pro akreditaci, o.p.s.
Olšanská 54/3, 130 00 Praha 3

issues

according to section 16 of Act No. 22/1997 Coll., on technical requirements for products, as amended

CERTIFICATE OF ACCREDITATION

No. 232/2018

ÚJV Řež, a. s.
with registered office Hlavní 130, Řež, 250 68 Husinec, Company Registration No. 46356088

to the Testing Laboratory No. 1093.3
Testing Laboratory of the Radiation Chemistry and Environmental Qualification Department

Scope of accreditation:

Determination of selected physico-chemical, mechanical, thermodynamic and electrical properties of materials and industrial products to verify their functionality in the environment of both nuclear and non-nuclear plants; determination of parameters of radiation fields of gamma radiation and accelerated electrons to the extent as specified in the appendix to this Certificate.

This Certificate of Accreditation is a proof of Accreditation issued on the basis of assessment of fulfillment of the accreditation criteria in accordance with

ČSN EN ISO/IEC 17025:2005

In its activities performed within the scope and for the period of validity of this Certificate, the Body is entitled to refer to this Certificate, provided that the accreditation is not suspended and the Body meets the specified accreditation requirements in accordance with the relevant regulations applicable to the activity of an accredited Conformity Assessment Body.

This Certificate of Accreditation replaces, to the full extent, Certificate No.: 381/2015 of 29. 5. 2015, or any administrative acts building upon it.

The Certificate of Accreditation is valid until: **10. 5. 2023**

Prague: 10. 5. 2018



Jiří Růžička
Director
Czech Accreditation Institute
Public Service Company

**The Appendix is an integral part of
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The Laboratory is qualified to update standards identifying the test procedures.

The laboratory has a flexible scope of accreditation permitted as detailed in the Annex.

Updated list of activities provided within the applied flexible scope of accreditation is available at the Laboratory from the Laboratory Manager.

The Laboratory provides expert opinions and interprets test results.

Tests:

Ordinal number ¹⁾	Test procedure/ method name	Test procedure/method identification	Tested object
1.	Accelerated thermal ageing test	QA-2305/PP01 (ČSN EN 60216-1; IEC 60216-1; ČSN EN 60216-2; IEC 60216-2; ČSN EN 60216-3; IEC 60216-3; ČSN EN 60216-4-1; IEC 60216-4-1; ČSN EN 60216-5; IEC 60216-5; ČSN EN 60505; IEC 60505; ČSN EN 60811-100; IEC 60811-100; ČSN EN 60811-401; IEC 60811-401)	Items and materials subject to thermal degradation, e.g. plastic cable insulation, plastic sealing etc.
2.	Accelerated radiation ageing test (in gamma radiation field)	QA-2305/PP02 (ČSN EN 60544-1; IEC 60544-1; ČSN IEC 544-2; IEC 60544-2; ČSN EN 60544-4; IEC 60544-4; ČSN EN 60544-5; IEC 60544-5)	Items and materials used in environment with ionising radiation, e.g. cables, sealing, etc.
3.	Test by pressure steam load	QA-2305/PP03 (IEC/IEEE 60780-323, p. 7.4.1.7, 7.4.1.10, 8.4; IEEE 383, p. 6.5.4)	Products designed for the containment of nuclear power facilities, which shall remain functioning even in case of design accidents of LOCA type, e.g. cables



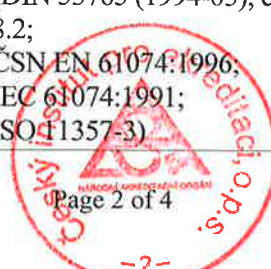
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Ordinal number ^{b)}	Test procedure/ method name	Test procedure/method identification	Tested object
4.*	Determination of insulation resistance	QA-2305/PP06 (ČSN IEC 60502-1, cl. 17.1; ČSN IEC 93; ČSN IEC 167)	Electrical products, e.g. electric cables
5.	Determination of mechanical properties of materials ^{a)} at static uniaxial tensile test	QA-2305/PP07 (ČSN EN 60811-100; IEC 60811-100; ČSN EN 60811-501; IEC 60811-501) QA-2305/PP07 (ČSN EN ISO 527-1; ČSN EN ISO 527-2) QA-2305/PP07 (ČSN ISO 37) ČSN EN 6892-1 ČSN EN 683-2	Plastic insulation and sheathing of electric cables Plastics (dumbbell shaped test specimens) Rubberlike materials (dumbbell shaped or O-ring shaped test specimens) Iron or aluminium alloys Flat rolled products of aluminium or aluminium alloys
6.	Determination of material properties by means of differential scanning calorimeter (DSC)		
6.1	Determination of basic thermal characteristic of material	QA-2305/PP08, Annex 4, chap. 1 (DIN 53765 (1994-03), excl. cl. 2.2.4; ČSN EN 61074:1996; IEC 61074:1991; ČSN EN ISO 11357-1)	Matters in gaseous, liquid or solid phase, both metallic and nonmetallic
6.2	Determination of thermooxidation stability	QA-2305/PP08, Annex 4, chap. 3 (DIN 53765 (1994-03), cl. 7.3, 7.4, 8.4, 8.5; ASTM D 3895; ISO 11357-6)	Matters in solid or liquid phase at room temperature, e.g. cable insulation, sealing, oils and lubricants, metals
6.3	Determination of thermal characteristics in inert atmosphere	QA-2305/PP08, Annex 4, chap. 3 (DIN 53765 (1994-03), excl. cl. 2.2.4; ČSN EN ISO 11357-1)	Matters in solid or liquid phase at room temperature, e.g. plastics, oils and lubricants
6.4	Determination of melting point	QA-2305/PP08, Annex 4, chap. 4 (DIN 53765 (1994-03), cl. 7.2, 8.2; ČSN EN 61074:1996; IEC 61074:1991; ISO 11357-3)	Matters, which change their phase from solid to liquid within the temperature range -40 to +650 °C



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Ordinal number ¹⁾	Test procedure/ method name	Test procedure/method identification	Tested object
6.5	Determination of melting heat and crystallization	QA-2305/PP08, Annex 4, chap. 5 (DIN 53765 (1994-03), cl. 7.2, 8.2, 8.3; ČSN EN 61074:1996; IEC 61074:1991; ISO 11357-3)	Matters, which change their phase from solid to liquid within the temperature range -40 to +650 °C
6.6	Determination of glass transition temperature	QA-2305/PP08, Annex 4, chap. 6 (DIN 53765 (1994-03), cl. 7.1, 8.1; ČSN EN 61006, chap. 5; (idt. IEC 61006); ISO 11357-2)	Plastic materials showing glass transition above the temperature of -40 °C
6.7	Determination of activation energy of thermodegradation	QA-2305/PP08, Annex 4, chap. 7 (ASTM E 698)	Plastic materials, e.g. cable insulation, sealing, coating compounds, adhesives, resins, bonding agents etc.
6.8	Determination of specific heat capacity	QA-2305/PP08, Annex 4, chap. 8 (DIN 53765 (1994-03), cl. 7.5, 8.6; ČSN EN ISO 11357-4)	Liquid and solid, metallic and nonmetallic materials
7.*	Determination of absorbed dose caused by gamma radiation or accelerated electrons	QA-2305/PP09 (ISO/ASTM 51607)	Irradiated alanine dosimeters
8.*	Leak testing with pressure difference detection	QA-2305/PP12 (ČSN EN 1593)	Sealing materials or sealing units of utility facilities, e.g. cable penetrations, distribution boxes etc.
9.	Determination of solid matter density by double weighing method	QA-2305/PP13 (ČSN EN ISO 1183-1, cl. 5.1)	Nonporous solids
10.*	Measurement of electric voltage and current	QA-2305/PP14 (Drechsler et al.: "Electrical measurement II. Basic methods". SNTL Praha, 1973)	Electric equipment and conductors
11.*	Determination of resistance and impedance	QA-2305/PP15 (ČSN 34 5660 (1953-10); ČSN EN 60228; IEC 60228)	Electric equipment and conductors



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12.*	Determination of electric capacity and loss factor $\text{tg } \delta$	QA-2305/PP16 (ČSN 34 7010-41 (1986-09); ČSN 34 7010-42 (1975-04); IEC 61196-1-103)	Electric equipment and conductors
13.	Determination of compression set	QA-2305/PP25 (ČSN ISO 815-1; ASTM D 395)	Sealing materials (e.g. rubber etc.)

¹⁾ Asterisk at the ordinal number identifies the tests performed outside/also outside the laboratory premises.

Annex:

Flexible scope of accreditation

Ordinal numbers of tests
1, 2, 3, 4, 5, 6.1 to 6.8, 7, 8, 9, 10, 11, 12, 13

The Laboratory is allowed to modify the test methods listed in the Annex within the specified scope of accreditation provided the measuring principle is observed.

The flexible approach to the scope of accreditation cannot be applied to the tests not included in the Annex.

Explanations:

^{a)} - elongation at break, strength, Young modulus, secant modulus, stress and deformation at yield stress

QA2305/PPXX — Internal Test Procedure prepared by the Testing Laboratory of the Department of Radiation Chemistry and Environmental Qualification

