

**MINISTRY OF THE ECONOMY, DIGITALISATION, ENTREPRENEURSHIP AND
TOURISM**

**State Inspection for the Control of Boilers, Pressure
Vessels and Lifting Installations
- ISCIR -**

TECHNICAL PRESCRIPTION

**AUTHORISATION OF WELDERS PERFORMING WELDING WORK ON PRESSURE
EQUIPMENT AND LIFTING INSTALLATIONS, AND OPERATORS WELDING HIGH-
DENSITY POLYETHYLENE (HDPE) PIPES AND FITTINGS**

PT CR 9-2025

CHAPTER I
GENERAL PROVISIONS

SECTION 1

Scope

Art. 1 (1) This technical regulation sets out the requirements for the certification of welders of steel, aluminium, and aluminium alloys who perform welding operations used in the assembly, installation, and repair of pressure equipment and lifting equipment subject to ISCIR technical supervision and inspection.

(2) This Technical Prescription also establishes the conditions required for the authorization of operators performing welding operations in high density polyethylene (HDPE) used for the installation and repair of pipeline systems for the transport of fluids.

Art. 2 Optionally, legal entities performing welding works on installations/equipment not covered by Article 1 may apply to ISCIR for the certification of welders in accordance with the provisions of this technical specification.

Art. 3 Legal entities applying to ISCIR for certification of welders for steel, aluminium, and aluminium alloys, or for operators welding high-density polyethylene (HDPE) pipes and fittings, are required to first demonstrate that they have their own welding procedures approved in accordance with the provisions of the relevant technical prescription, on the basis of which the activities necessary for the certification of welders or operators are carried out, within the meaning of this technical prescription.

Art. 4 If legal entities do not have approved welding procedures, the certification of welders for steel, aluminium, and aluminium alloys, or of HDPE welding operators, may be conducted concurrently with the approval of the welding procedure.

Art. 5 For the certification of welders for welding operations on cast iron or non-ferrous materials/alloys (other than aluminium), as well as for the use of welding processes other than those covered by this technical specification, applicant legal entities must prepare specific technical instructions and submit them to ISCIR for approval.

Art. 6 (1) In order to obtain authorization for welders, legal entities are required to have employment contracts with the welders and at least one technical welding supervisor.

(2) The technical welding supervisor shall be appointed by decision, the template is provided in Annex no. 1.

SECTION 2

Normative references

Art. 7 This technical prescription refers to the following normative documents:

a) Law no. 64/2008 regarding the safe operation of pressure vessels, lifting equipment and fuel consuming devices, republished in the Official Gazette of Romania no 399 of 8 June 2015, with its subsequent amendments and additions;

b) Government Emergency Order No 49/2009 on the freedom of establishment of service providers and the freedom to provide services in Romania, published in the Official Gazette of Romania, Part I, No 366 of 1 June 2009, approved with amendments and additions by Law No 68/2010, as subsequently amended and supplemented;

c) Law No. 190/2018 on measures for the implementation of Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation), published in the Official Gazette of Romania, Part I, No 651 of 26 July 2018, as subsequently amended and supplemented;

d) Government Decision No. 1340/2001 on the organisation and functioning of the State Inspectorate for the Control of Boilers, Pressure Vessels and Lifting Equipment, published in the Official Gazette of Romania, Part I, no. 37 of 21 January 2002, as subsequently amended and supplemented,

e) Government Order No 129/2000 on vocational training for adults, republished in the Official Gazette of Romania, Part I, no. 110 of 13 February 2014, as subsequently amended and supplemented;

f) Government Decision No 918/2013 regarding approval of the National Qualifications Framework, published in the Official Gazette of Romania, Part I, no. 734 of 28 November 2013, as subsequently amended and supplemented;

g) Government Decision No. 522/2003 approving the methodological guidelines for the implementation of the provisions of Government Ordinance No. 129/2000 on adult vocational training, published in the Official Gazette of Romania, Part I, no. 346 of 21 May 2003, as subsequently amended and supplemented,

h) Joint Order No. 353/5202/2003 of the Minister of Labour, Social Solidarity and Family and the Minister of Education, Research and Youth approving the Methodology for the authorisation of vocational training providers, published in the Official Gazette of Romania, Part I, no. 774 of 5 November 2003, as subsequently amended and supplemented,

i) Joint Order No 501/5253/2003 of the Minister for Labour, Social Solidarity and Family and the Minister for Education, Research and Youth approving the Methodology for the certification of adult vocational training, published in the Official Gazette of Romania, Part I, no. 774 of 5 November 2003, as subsequently amended and supplemented,

j) Joint Order No. 35/3112/2004 of the Minister of Labour, Social Solidarity and the Family and the Minister of Education, Research and Youth approving the List of Qualifications for which programmes leading to qualification certificates may be organised, published in the Official Gazette of Romania, Part I, no. 107 of 4 February 2004, as subsequently amended and supplemented.

k) Ministry of Education Order No. 6374/2022 approving the Methodology for the certification of vocational training acquired from authorised/accredited vocational training providers in the Member States of the European Union, the European Economic Area and the Swiss Confederation, published in the Official Gazette of Romania, Part I, no. 1241 of 22 December 2022.

SECTION 3

Terms and definitions

Art. 8 For the purposes of this technical prescription, the terms and definitions shall have the following meaning:

a) **competent authority** – any body or authority of a Member State of the European Union or a signatory state to the Agreement on the European Economic Area having a supervisory or regulatory role regarding the service activities, in particular the administrative authorities, as well as the professional bodies and professional associations or other professional bodies which, in the exercise of their power of self-regulation, create the legal framework for the access to or the exercise of service activities,

b) **authorization**– assessment and certification activity carried out by ISCIR regarding the competence and capability of a natural or legal person to perform the activities stipulated by this technical prescription;

c) **authorization certificate** – administrative document certifying the right to carry out the authorized activity;

d) **approval** – assessment procedure for legal entities to provide vocational training in the field covered by this technical prescription;

- e) **qualification** – vocational training leading to the acquisition of a set of professional skills enabling a person to carry out activities specific to one or more occupations,
- f) **requirement** – any rule, obligation, prohibition, condition or limitation imposed on authorised natural or legal persons or recipients of services, which is laid down in the regulatory or administrative acts of the competent authorities, or resulting from case-law, administrative practices, rules of professional bodies or collective rules of professional associations or other professional organisations, adopted in the exercise of their self-regulatory powers, the provisions of collective bargaining agreements negotiated by the social partners are not considered requirements;
- g) **scope of validity** – the scope within which the welder is authorized to perform welded joints;
- h) **specimen** – part or portion taken from the sample taken for the purpose of being subjected to a specified destructive test, according to the provisions of this technical prescription;
- i) **examination** – the process that takes place at the end of a vocational training programme to assess technical knowledge and skills for the authorisation;
- j) **welding Procedure Qualification Record (WPQR)** – a document containing all the information required for the approval of a welding procedure specification (WPS);
- k) **type C certified trainer** – natural person certified by ISCIR according to the provisions of the applicable technical prescription;
- l) **specialist trainer** – a natural person appointed by order of the Chief State Inspector of ISCIR in accordance with the provisions of the applicable technical regulation;
- m) **provider of vocational training** – a service provider, a legal entity governed by public or private law, whose articles of association specify vocational training activities;
- n) **thickness of the deposited metal** – the actual thickness of the welding cord, excluding any cant;
- o) **imperfection** – discontinuity in the weld or deviation from the prescribed geometric shape;
- p) **ISCIR** – State Inspection for the Control of Boilers, Pressure Vessels and Lifting Installations;
- q) **heterogeneous joint** – joints in which the weld and the basic metallic material differ significantly in their mechanical characteristics and chemical composition;
- r) **homogeneous joint** – a joint in which the weld and the base metal material do not differ significantly in mechanical characteristics or chemical composition;
- s) **laboratory** – a functional unit within the authorized legal entity that performs non-destructive testing and/or destructive testing;
- t) **welding materials** - materials used to make a welded joint (base materials and filler materials);

u) **ISCIR module** – a mandatory requirement of a vocational training program designed to ensure the acquisition of the specific competencies and skills required to practice the occupation, in accordance with the provisions of this technical prescription;

v) **HDPE welding operator** – a person who welds high-density polyethylene (HDPE) pipes and fittings;

w) **upskilling / specialisation** – vocational training that leads to the development or completion of the knowledge, skills, or professional competencies of a person already holding a qualification; the development of competencies within the same qualification; the acquisition of new competencies in the same occupational field or in a new occupational field; or the acquisition of fundamental/ key competencies or new technical competencies;

x) **technical prescription** – the technical standard developed by ISCIR and approved by order of the Minister of Economy, published in the Official Gazette of Romania, Part I, which sets out, for clearly defined fields, technical conditions and requirements regarding installations/equipment, including their protective and safety distances, where applicable, and to activities specific to the field of activity, as provided for in Article 8(1) of Law No. 64/2008, which are carried out in connection therewith, with a view to the placing on the market, commissioning, and use of the respective installations/equipment under safe operating conditions;

y) **welded sample** – a welded assembly used in the welder certification process;

z) **welding process** – a general technology characterized by a joining method used to create a permanent assembly;

aa) **welding procedure** – a specified sequence of technical steps that must be followed when carrying out a weld;

bb) **vocational training programme** – a qualification, advanced training, or specialization program organized by an accredited or authorized vocational training provider, as applicable;

cc) **RTS** – specialized technical personnel responsible for welding on pressure vessels and lifting equipment;

dd) **standard dimensional ratio (SDR)** – the ratio of the nominal outside diameter “ d_n ” to the nominal wall thickness of the pipe “ e_n ”;

ee) **preliminary welding procedure specification (pWPS)** – a document containing proposed technical specifications for the welding procedure to be approved;

ff) **welding Procedure Specification (WPS)** – a document containing final technical data that has been approved on the basis of one or more WQPR;

gg) **Member State** - a Member State of the European Union or a State signatory to the Agreement on the European Economic Area,

hh) **heating element welding (where welders are certified to weld high-density polyethylene HDPE)** – a welding process in which the surfaces to be joined are heated appropriately by exposure or direct contact with a heating element and are welded under pressure;

ii) **electric resistance welding (in the case of welder certification for welding high-density polyethylene (HDPE))** – a welding process that involves joining a fitting, a socket, or shaft with a pipe by electrofusion;

jj) **welding operator** – the person performing the welding and who holds and operates the electrode holder, welding gun, welding head, or torch;

kk) **root support** – material placed at the base of the mechanically processed joint of the welded joint to support the molten metal bath;

ll) **final pass** – the bead(s), visible on the weld surface(s) after welding is complete, in the case of multi-pass welding;

mm) **filler pass** – the pass(es), applied after the root pass(es) and before the final pass(es) in multi-pass welding;

nn) **root pass** – the pass(es) of the first layer deposited at the root during multi-pass welding;

oo) **essential welding variable** – welding variable, the modification of which affects the scope of authorization of the welder and leads to the need for a new authorisation;

pp) **non-essential welding variable** – a variable that does not influence the mechanical and/or metallurgical characteristics of the welded joint;

qq) **verification** – a series of operations which must include the performance of a weld test, non-destructive testing and/or subsequent destructive testing, as well as the recording of the results in the final authorisation report.

SECTION 4

Symbols and Abbreviations

Art. 9 If the terms are not used in full, the following symbols and abbreviations shall be used when completing the documents related to welder certification:

a) *for the sample:*

- 1) BW – butt welding;
- 2) D – outer diameter of the pipe;
- 3) FW – corner welding;
- 4) P – sheet metal;
- 5) t – thickness of the sample material (thickness of the sheet or thickness of the wall of the pipe);

- 6) T – pipe;
 - 7) z – length of the cavity of a corner weld;
 - 8) b – length of the test specimen;
 - 9) a – half the width of the test specimen;
 - 10) s_1 – thickness of the metal submitted for welding process 1;
 - 11) s_2 – thickness of the metal submitted for welding process 2;
 - 12) t_1 – thickness of the sample material for welding process 1;
 - 13) t_2 – thickness of the sample material for welding process 2.
- b) *for welding materials:*
- 1) nm – without added metal;
 - 2) A – acid coating;
 - 3) B – basic coating;
 - 4) C – cellulose coating;
 - 5) R – rutile-coated electrode or tubular electrode with a rutile core and slow-setting slag;
 - 6) RA – rutile-acid coating;
 - 7) RB – rutile-basic coating;
 - 8) RC – rutile-cellulose coating;
 - 9) RR – high thickness rutile coating;
 - 10) S – full wire/rod;
 - 11) M – tubular electrode with a core of metallic powder;
 - 12) P – rutile tubular electrode and fast solidifying slag;
 - 13) V – rutile or basic/fluoric tubular electrode;
 - 14) W – basic/fluoric tubular electrode and slag with slow solidification;
 - 15) Y – rapid solidifying basic/fluoric tubular electrode and slag;
 - 16) Z – other types of tubular electrodes.
- c) *for further details on welding:*
- 1) bs – welding on both sides;
 - 2) lw – welding to the left;
 - 3) mb – root-support welding;
 - 4) ml – multilayer welding;
 - 5) nb – welding without root support;
 - 6) rw – welding to the right;
 - 7) sl – single-layered welding;
 - 8) ss – single-sided welding.
- d) *for welding processes:*

- 1) 111 – manual arc welding (electrofusion welding with coated electrode);
- 2) 114 – electric arc welding with self-protective tubular wire;
- 3) 12 – arc welding under a flux layer:
 - a) 121 – flux-cored wire welding;
 - b) 125 – fluxed welding with hollow wire.
- 4) 13 – electric arc welding with a fusible electrode in a protective gas environment:
 - a) 131 – electric arc welding in inert gas environment with fusible electrode (MIG welding);
 - b) 135 – electrofusion arc welding in an active gas medium with fusible electrode (MAG welding);
 - c) 136 – electrofusion welding in an activated gas medium with tubular wire.
- 5) 14 – arc welding in a protective gas environment using a non-fusible electrode:
 - a) 141 – electric arc welding in inert gas environment using tungsten electrode (WIG welding);
- 6) 15 – plasma welding;
- 7) 311 – oxyacetylene welding.
- e) *for details regarding the welded joint:*
 - 1) MB - basic material;
 - 2) MD - deposited metal;
 - 3) ZIT - thermally influenced area.

CHAPTER II

ORGANIZATION OF TRAINING PROGRAMS FOR THE AUTHORIZATION OF WELDERS FOR STEEL, ALUMINIUM AND ALUMINIUM ALLOYS AS WELL AS WELDING OPERATORS OF HIGH DENSITY POLYETHYLENE (HDPE) PIPES AND FITTINGS

SECTION 1

Vocational training programmes

Art. 10 Welders for steel, aluminium and aluminium alloys and authorised HDPE welding operators must provide proof of completion of a vocational training programme.

Art. 11 Vocational training programmes shall be organised by vocational training providers approved by the ISCIR and authorised in accordance with the legal provisions in force.

Art. 12 (1) For the purpose of approval, the training provider shall submit to ISCIR the following:

- a) the address for submitting the application for approval;
- b) proof that its main activity is the provision of vocational training as set out in its articles of association, in accordance with the specific NACE code specified in its memorandum of association, or in accordance with other forms of organisation and operation;
- c) the curriculum of the ISCIR module for the occupation/qualification for which the opinion is requested;
- d) specific course support for each category of staff.

(2) ISCIR shall review the documents referred to in paragraph (1) and, if they comply with the provisions of this Technical Prescription, shall issue the approval according to the template set out in Annex no. 2.

(3) The authorisation is valid for a period of 4 (four) years.

(4) The list of vocational training providers who have obtained the approval for the organization of vocational training programs shall be published on the ISCIR website.

Art. 13 (1) In order to organize a vocational training program, the vocational training provider, approved according to the provisions of art. 12, shall submit to ISCIR, 15 days before the start of the program, the following documents:

- a) a notification of the organisation of a vocational training programme, which must specify the name and type of the programme, the period and venue of the programme, and the reference number of the approval,
- b) a copy of the vocational training provider's licence for the occupation for which the programme is being organised, valid for the duration of the programme,
- c) the table with the first and last name of the certified trainers provided in paragraph (2);
- d) the curriculum of the ISCIR module, developed on topics, days, hours, trainers, both for theoretical and practical training;
- e) the written agreement of the trainers to participate in the training programme during its organisation.

(2) Natural persons certified as type C trainer, corresponding to the vocational training program specified in the applicable technical prescription, or specialist trainer, shall have the right to participate as trainer in the ISCIR module.

(3) ISCIR analyses the submitted documentation and communicates, in writing, the decision on the organization of the vocational training program.

(4) Until the start of the vocational training program, the accredited vocational training provider shall submit to ISCIR a list containing the first and last names of the trainees, their personal

identification numbers, the type of facility or equipment where the practical training will take place, and the names of the practical training supervisors.

(5) Until the start of the vocational training program, the accredited vocational training provider may modify the following only in justified cases: the location of the program, the list of the first and last names of the certified trainers, and their written consent in accordance with Article 13, paragraph (1).

(6) An accredited vocational training provider that does not obtain approval for the organization of the vocational training program may not register trainees for the authorization exam.

(7) ISCIR may check how the vocational training program is being implemented.

SECTION 2

Requirements for the qualification of welders

Art. 14 Within the framework of training programmes for the qualification of welders, the curriculum of the ISCIR module referred to in Article 12(1)c) must cover at least the curriculum referred to in Annex 3, Table 1.

SECTION 3

Requirements for the specialisation of electrical welders

Art. 15 Within the framework of the training programmes for the specialisation of electric welders, the curriculum of the ISCIR module referred to in Article 12(1)c) must cover at least the curriculum set out in Annex 3, Table 2.

SECTION 4

Requirements for the specialisation of oxy-fuel welders

Art. 16 Within the framework of the training programmes for the specialisation of oxy-gas welders, the curriculum of the ISCIR module referred to in Article 12(1)c) must cover at least the curriculum set out in Annex 3, Table 3.

SECTION 5

Requirements for the specialisation of operators in the welding of high-density polyethylene (HDPE) pipes and fittings

Art. 17 Within the framework of the training programmes for the specialisation of welding operators for high-density polyethylene (HDPE), the curriculum of the ISCIR module referred to in Article 12(1)c) must cover at least the curriculum set out in Annex 3, Table 4.

CHAPTER III

WELDER QUALIFICATION FOR STEEL, ALUMINIUM AND ALUMINIUM ALLOYS

SECTION 1

Key welding parameters and scope of authorisation

Art. 18 (1) When authorizing welders, for steel, aluminium and aluminium alloys, the essential welding variables are taken into account.

(2) For each essential welding variable, a scope of authorization is defined.

(3) The definition of authorization areas based on key welding variables is set forth in Annex no. 4.

(4) All samples welded for authorization shall be performed using essential welding variables independently.

(5) The essential welding variables are:

- a) the welding process;
- b) type of product (sheet metal or pipe);
- c) the type of joint (butt-jointed with full penetration or corner welding);
- d) material group;
- e) welding consumables;
- f) dimensions (material thickness and/or outer diameter of the pipe);
- g) welding position;
- h) welding details (root support, welding from one side, welding from both sides, welding into a layer, multi-layer welding, welding to the left, welding to the right).

Welding processes and types of joints

Art. 19 (1) The welding processes used for the certification of steel welders are: 111, 114, 121, 125, 131, 135, 136, 141, 15 and 311, and for the certification of welders for aluminium and aluminium alloys, the following welding processes apply: 131, 141 and 15.

(2) For welding process 141 used on aluminium or aluminium alloy specimens, where the type of current differs from that specified in the approved welding procedure (e.g. from alternating to direct current and vice versa), the welder must obtain a new authorisation.

(3) The welder's authorisation is valid only for the welding process used in the production of the welded specimens.

(4) A change in the welding process requires a new authorisation check, unless solid wire S (welding process 135) is replaced by metal-cored wire M (welding process 136) or vice versa, in accordance with the provisions of Annex 4, Table 6.

(5) A welder is allowed to be authorised for two or more welding processes by welding a single sample using more than one welding process (multi-process bonding).

(6) The scope of authorisation for welded joints produced using a single-process or multi-process method (full-penetration butt joints) is in accordance with the provisions of Annex 4, Tables 1 and 7.

Material groups – Grouping systems

Art. 20 (1) In order to reduce the number of examinations and tests carried out for the authorisation of welders, the basic steel materials are grouped according to the provisions of Annex no. 4, Table no. 2.

(2) In order to reduce the number of examinations and tests carried out for the certification of welders, parent materials made of aluminium and aluminium alloys are grouped in accordance with the provisions of Annex no. 4, Table no. 3.

(3) If a basic material can be classified in two groups or sub-groups of the classification systems referred to in paragraphs 1 and 2 at the same time, the material must always be classified in the group or sub-group with the lower number.

(4) The basic materials and input materials shall be identified on the basis of material inspection certificates issued by the manufacturer.

(5) The authorization areas according to the material grouping system are set out in Annex no. 4 Table no. 4 and 5.

Welding consumables

Art. 21 (1) The authorization verification carried out on steel samples welded with filler metal, (e.g. welding processes 141, 15 and 311), also covers steel samples welded without filler metal, but not vice versa.

(2) The authorization verification carried out on aluminium or aluminium alloy samples welded with filler metal, (for example welding processes 141 and 15), also covers aluminium or aluminium alloy samples welded without filler metal, but not vice versa.

(3) The authorization verification carried out on aluminium or aluminium alloy samples welded with Al-Mg alloy wire shall also cover aluminium or aluminium alloy samples welded with Al-Si alloy wire, but not vice versa.

(4) The authorization areas based on the consumables for welding are provided in Annex no. 4, Table no. 6.

Dimensions (material thickness and outer diameter of the pipe)

Art. 22 The scopes of authorization according to the dimensions of the parent materials of the welded sample (steel, aluminium or aluminium alloys) are set out in Annex no. 4, Tables no. 7 to 9.

Welding positions

Art. 23 (1) The welding positions according to which the authorization ranges are defined are set out in Annex no. 5.

(2) The scope of authorization according to a certain welding position is provided in Annex no. 4, Table no. 10.

Welding details

Art. 24 (1) The authorization areas according to welding technique, joint type and welding positions are set out in Annex no. 4, Tables no. 11 and 12.

(2) In the case of steel samples welded by process 311, a change of welding direction from right to left and vice versa requires a new authorization.

SECTION 2

Authorization requirements

Art. 25 (1) For the welder qualification examination for steel, aluminium, and aluminium alloys, candidates may apply provided they meet the following requirements:

a) hold a welder's qualification certificate or a certificate of completion of a specialised course in electric welding or oxy-fuel welding following completion of a vocational training programme, or a document obtained upon graduation from a technical college specialising in welding, in accordance with the legislation in force;

or

b) hold a "welder" qualification certificate issued in accordance with the provisions of the specific European standard on the qualification of welding personnel by a personnel certification body accredited and designated in accordance with the legislation in force, which is not accompanied by a technical assessment report, as provided for in Article 26(2);

c) have reached the age of 18;

d) hold a valid health certificate issued by an occupational health doctor, confirming that I am fit to work as a welder, or an equivalent document issued by a competent authority in this field in a Member State of the European Union or a signatory state to the Agreement on the European Economic Area.

(2) In addition individuals who meet the conditions set forth in paragraph (1), subparagraphs (c) and (d), and hold a document similar to that provided for in paragraph (1), letter a), obtained from an authorized/accredited vocational training provider in the Member States of the European Union, the European Economic Area, and the Swiss Confederation, accompanied by the certificate issued in accordance with the legislation in force.

(3) Persons who meet the conditions set forth in paragraphs (1) and (2) shall take the authorization exam, which consists of a written test and a practical test.

Art. 26 (1) Persons holding a "welder" qualification certificate issued in accordance with the provisions of the relevant European standard on the qualification of welding personnel by a personnel certification body accredited and designated in accordance with the legislation in force may be authorised without an authorization examination and comply with the provisions of paragraph 2.

(2) The welder qualification certificate shall be accompanied by a technical assessment report issued by the certification body referred to in paragraph 1, containing the additional technical requirements and demonstrating equivalence with the requirements laid down in this technical prescription.

(3) The template for the technical assessment report for the authorisation or renewal of a welder's authorisation is set out in Annex 6.

(4) In order to issue a welder's authorization to the persons referred to in paragraph 1, the provisions of Chapter VI must be complied with.

SECTION 3

Examination and testing

Supervision

Art. 27 (1) Legal entities seeking certification for welders of steel, aluminium, and aluminium alloys must submit a written request at least 15 days prior to the date of the certification exam, specifying the examination location, the assignment of a specialized inspector from ISCIR to participate in the certification examination, when the following shall also be submitted:

- a) the table with the first and last name of the candidates and the fields of authorization;
- b) the candidates' application files, including the following documents:
 - 1) the application form for the authorisation examination, the application must include consent for personal data to be collected, processed and stored by ISCIR, in accordance with the relevant legislation;
 - 2) a copy of your identity card or passport;
 - 3) the skills assessment form referred to in Article 25(1)d);
 - 4) one of the documents referred to in Article 25(1)a) or b) or (2), in copy;
- c) the material inspection certificates issued by the manufacturer for the base and filler materials used in the welding of the test specimens for certification;
- d) pWPS/WPS used for welding samples for authorization;
- e) copy of the RTS certificate, within its validity period;
- f) copies of the individual employment contracts and proof of registration in the General Register of Employees, attesting to the existence, as of the date of the application, of contractual employment relationships between the legal entity and the welder, as well as between the legal entity and RTS.

(2) The specialist inspector with ISCIR shall verify the documentation referred to in paragraph 1 and may additionally verify the documents referred to in Articles 12(2) and 13(3), where appropriate.

(3) In the case of an incorrectly prepared application or documentation or incomplete documentation, the applicant shall be informed, in writing, of the need to submit correct completed additions or documentation.

(4) If the applicant does not complete the documentation according to the requirements of paragraph (1) within a maximum of 30 days from the date of receipt of the communication, the application for authorization shall be deemed rejected and the submitted documentation shall be archived.

(5) If the documentation is accepted, ISCIR shall communicate to the legal entity, within 30 days from the date of submission of the application, the date proposed for carrying out the checks for authorization.

The authorisation examination

Art. 28 (1) The certification examination is administered by the RTS of the legal entity at locations selected to ensure that the conditions necessary for its proper conduct are met.

(2) On the date set in accordance with the provisions of Article 27, paragraph (5), the ISCIR specialist inspector shall verify the conditions under which the examination is to be conducted and the identity of the candidates.

(3) To obtain an authorisation, welders specialising in steel, aluminium and aluminium alloys must sit the examination in the presence of the specialist inspector from ISCIR and the RTS representative of the applicant legal entity.

(4) The theoretical examination shall consist of the oral examination concerning the interpretation of the technical data set out in the pWPS/WPS.

(5) The candidates declared "ADMITTED" to the theoretical examination shall perform the practical test consisting in the performance of a welded test (s) in compliance with the technical data provided in pWPS/WPS.

(6) Before starting the welding of the sample, it must be marked with both the welder's punch and that of the ISCIR specialist inspector.

(7) If, during the execution of the tests, variations in the technological parameters occur due to a drop in voltage, a power outage, peeling of the electrode coating, or similar causes, resulting in non-compliance with the technical data specified in the pWPS/WPS, the tests must be repeated.

(8) Upon completion of the welding operations required to assemble the test specimen, the ISCIR specialist inspector shall visually inspect the test specimen.

(9) Samples deemed acceptable upon visual inspection shall be additionally stamped, corresponding to the number of test specimens required for destructive testing.

(10) The ISCIR technical inspector shall prepare a technical inspection report, using the template provided in Annex 7, which shall include the candidates' scores on the written exam and the results of the visual inspection of the welded test piece(s) in relation to the applicable standards.

Form and dimensions of welding samples

Art. 29 (1) The shapes and dimensions of the weld specimens for the practical examination are specified in Annex no. 8.

(2) The preparation and welding of samples for the authorization of welders shall be carried out in full compliance with the conditions of pWPS/WPS.

(3) After welding, the samples shall be subjected to the non-destructive examinations and destructive tests provided for in Annex no. 9.

(4) In the case of pipes used for butt-welded test specimens, the number of specimens and the diameter of the pipes used must be selected so as to allow (based on the total length of the weld(s) made) the removal of all test specimens for destructive testing (as well as those required for any repeat testing) specified in Annex No. 9.

Verification methods and acceptance criteria

Art. 30 (1) Non-destructive examinations and destructive tests shall be carried out in laboratories authorized by ISCIR, according to the applicable technical prescription.

(2) The samples shall be visually examined in the state in which they are after welding; other non-destructive examinations shall be carried out after visual examination, either in the state in which they are after welding or, if applicable, after the final heat treatment provided for in pWPS/WPS.

(3) Welded samples shall be tested destructively only if non-destructive examinations yield results that meet the criteria and levels of acceptance of discontinuities in the referentials specific to each examination method.

(4) The result of the visual examination carried out by the ISCIR specialist inspector is a condition for continuing the non-destructive examinations/tests provided for in Annex no. 9.

(5) The visual examination shall be carried out according to the requirements of the applicable European standard and the quality and acceptance levels shall correspond to the B quality level.

(6) Penetrating radiation tests, ultrasound tests, penetrating liquid tests and magnetic particle tests of welded joints shall be carried out in accordance with the requirements of the applicable European standards on examination technique and acceptance levels corresponding to quality level B.

Bending test

Art. 31 (1) The bending test of the welded joints shall be carried out in accordance with the requirements of the applicable European standard, the thickness of the specimens being equal to that of the base material used to make the welded sample.

(2) The bending test shall be carried out on 4 specimens taken transversely to the axis of the weld, where the cant of the weld on both sides is removed, and 2 specimens shall be tested with the root subjected to stretching and 2 specimens with the root subjected to compression.

(3) For base material thicknesses greater than or equal to 15 mm, the transverse bending test can be replaced by the lateral bending test, performed on 4 specimens.

(4) The transverse/lateral bending test is performed by freely or guidedly bending the test specimens to an angle of 180°, in devices with a mandrel (or bending roller) diameter of 3t, except in cases where the ductility of the base material or the added material imposes other limitations, which are indicated in the material specifications.

(5) The bending test is considered successful if, after bending, the test specimens do not exhibit any cracks larger than 2 mm, measured in any direction.

(6) Defects that appear at the edges of the test specimen during the test shall not be taken into account, except for cracks caused by lack of penetration, the presence of slag, or other defects in the weld.

Technological fracture test

Art. 32 The technological fracture test of welded joints shall be carried out in accordance with the requirements of the applicable European standard as follows:

- a) for corner joints or T-joints, on at least 4 test specimens;
- b) for butt joints, on at least 2 test specimens.

Special requirements

Art. 33 (1) Destructive tests shall be performed in the presence of RTS.

(2) The ISCIR technical inspector may participate in the performance of destructive tests or, within a maximum of 14 days after their performance, may verify at the laboratory's premises whether the destructive tests to which the welded specimens were subjected and the shape of the test pieces comply with the requirements set forth in this technical specification, whether the stamps applied to the welded specimen in accordance with Article 28, paragraph (9) are identified, and

whether there is correspondence between the test specimens presented and the reports/certificates issued, at which time he shall draw up a technical verification report, a template of which is provided in Annex No. 7.

(3) Welded samples and tested specimens must be kept in the laboratory for a minimum of 14 days from the date of the tests.

Re-checks

Art. 34 (1) If the welded specimen fails to meet any of the specific acceptance criteria for the visual inspection or for any of the non-destructive tests, the welder shall be denied certification; if requested, the certification process shall be restarted from the beginning.

(2) If unsatisfactory results are obtained in any of the destructive tests specified in Annex no. 9, the test or tests may be repeated on twice the number of test specimens specified for that type of destructive test. These additional specimens must be taken from the same sample (s) welded, and which are examined non-destructively under identical conditions.

(2) If repeating these destructive tests on twice the number of test specimens still leads to unsatisfactory results, the welder is denied certification; if requested, the certification process is restarted from the beginning.

CHAPTER IV

CERTIFICATION OF OPERATORS FOR WELDING HIGH-DENSITY POLYETHYLENE (HDPE) PIPES AND FITTINGS

SECTION 1

Key welding parameters and scope of authorisation

Welding processes

Art. 35 This chapter covers the following welding processes:

- a) SD – welding with a straight heating element;
- b) SRM – electrofusion welding of superimposed sleeve joints;
- c) SRS – electrofusion welding of saddle joints (derivation).

Types of joints

Art. 36 The main types of joints used when welding high-density polyethylene (HDPE) pipes and fittings are:

- a) BW - end-to-end joint;
- b) SW – superimposed joint with sleeve;
- c) SS - weld-in saddle joint (branch joint).

Base materials

Art. 37 (1) The authorization of welding operators for high density polyethylene (HDPE) is issued for the following basic materials:

- a) PE 80;
- b) PE 100.

(2) The areas of authorization are the following:

- a) PE 80 with PE 80 and PE 100 with PE 100;
- b) PE 80 and PE 100.

Authorization areas depending on the dimensions of the welded samples and the welding process

Art. 38 (1) The types and areas of authorisation, depending on the dimensions of the welded samples and the welding processes, are set out in Annex 10.

(2) For high density polyethylene (HDPE) pipes, the usual standard dimensional ratios encountered are $SDR \leq SDR\ 9$, $SDR\ 11$, $SDR\ 13.6$, $SDR\ 17$, $SDR\ 17.6$, $SDR\ 21$, $SDR\ 26$, $SDR \geq SDR\ 33$.

(3) The authorization of HDPE welding operators based on welded samples on pipes with $SDR\ 11$ or $SDR\ 17,6$ is also valid for pipes with $SDR < 17,6$.

(4) The authorisation of HDPE welders based on weld tests carried out on pipes with an $SDR > 17.6$ is valid for the welding of pipes with the diameters specified in Annex 10.

SECTION 2

Authorization requirements

Art. 39 (1) The following persons are eligible to take the certification exam for HDPE welding operators:

a) hold a certificate of completion of a specialist course;

b) have reached the age of 18;

c) hold an aptitude certificate issued by an occupational physician attesting to their suitability to engage in the occupation of HDPE welding operator, or an equivalent document issued by a competent entity in the field in a Member State of the European Union or a State signatory to the Agreement on the European Economic Area.

(2) In addition, individuals who meet the conditions set forth in paragraph (1), subparagraphs (b) and (c), and hold a document similar to that provided for in paragraph (1), letter a), obtained from an authorized/accredited vocational training provider in the Member States of the European Union, the European Economic Area, and the Swiss Confederation, accompanied by the certificate issued in accordance with the legislation in force.

(3) Persons who meet the conditions set forth in paragraphs (1) and (2) shall take the authorization exam, which consists of a written test and a practical test.

SECTION 3

Examination and testing

Supervision

Art. 40 (1) Legal entities seeking authorization for HDPE welding operators must submit a written request at least 15 days prior to the date of the authorization exam, specifying the exam location, requesting the assignment of a specialized inspector from ISCIR to attend the authorization exam, at which time the following must also be submitted:

- a) the table with the first and last name of the candidates and the fields of authorization;
- b) the candidates' application files, including the following documents:
- 1) the application form for the authorisation examination, the application must include consent for personal data to be collected, processed and stored by ISCIR, in accordance with the relevant legislation;
 - 2) a copy of your identity card or passport;
 - 3) the skills assessment form referred to in Article 39(1)c);
 - 4) the certificate of completion of a specialisation course referred to in Article 39(1)a) or the document referred to in Article 39(2);
- c) material inspection certificates issued by the manufacturer, for materials used for welding samples for authorisation;
- d) pWPS/WPS used for welding samples for authorization;

- e) copy of the RTS certificate, within its validity period;
- f) copies of the individual employment contracts and proof of registration in the General Register of Employees, attesting to the existence, as of the date of the application, of contractual employment relationships between the legal entity and the welder, as well as between the legal entity and RTS.

(2) The specialist inspector with ISCIR shall verify the documentation referred to in paragraph 1 and may additionally verify the documents referred to in Articles 12(2) and 13(3), where appropriate.

(3) In the case of an incorrectly prepared application or documentation or incomplete documentation, the applicant shall be informed, in writing, of the need to submit correct completed additions or documentation.

(4) If the applicant does not complete the documentation according to the requirements of paragraph (1) within a maximum of 30 days from the date of receipt of the communication, the application for authorization shall be deemed rejected and the submitted documentation shall be archived.

(5) If the documentation is accepted, ISCIR shall communicate to the legal entity, within 30 days from the date of submission of the application, the date proposed for carrying out the checks for authorization.

The authorisation examination

Art. 41 (1) The authorisation examination shall be carried out in accordance with the provisions of Article 28(1) to (6), in the presence of the ISCIR specialist inspector and the RTS of the applicant legal person.

(2) The samples must be marked before the start of welding by both the welder and the specialized inspector within ISCIR.

(3) If variations in the technological parameters caused by voltage drop, current interruption and the like occur during the execution of the welded tests, which lead to non-compliance with the technical data in the pWPS/WPS, the tests shall be repeated.

(4) At the end of the practical examination, the welded samples shall be visually examined by the competent ISCIR inspector under the conditions laid down in Article 43.

(5) The samples declared admitted to the visual examination shall be additionally marked, corresponding to the number of specimens required to perform the destructive tests.

(6) At the end of the practical examination, the specialist inspector with ISCIR shall draw up a technical verification report, a model of which is set out in Annex 7, specifying the results obtained by the candidates during the theoretical examination, the results of the visual examination of the

welded sample(s) in relation to the references used, and shall, where appropriate, order the continuation of the examinations under the conditions provided for in Articles 44 and 45.

Shape and dimensions of samples

Art. 42 (1) The shapes and dimensions of the samples welded for authorization are provided in Annex no. 11.

(2) In the case of pipes used in butt-welded samples, their number must be chosen so as to allow (by the length of the weld/welds carried out) the collection of all test specimens for destructive tests, (as well as those required for their possible repetition), provided in Annex no. 12.

(3) The preparation and welding of test specimens for certification is carried out in full compliance with the conditions set out in the pWPS/WPS.

(4) After welding, the samples shall be subjected to the examinations and tests provided for in Annex No. 12.

(5) Destructive tests shall be carried out in laboratories that have been authorized by ISCIR to establish the technical capability for each test area.

Verification methods and acceptance criteria

Art. 43 (1) The visual inspection shall be carried out in accordance with the requirements of the applicable European standard.

(2) Visually inspected welded joints are considered acceptable if they comply with the acceptance criteria for defects in high-density polyethylene (HDPE) welded joints set out in Annex No. 13.

Transverse tensile test

Art. 44 (1) The transverse tensile test on the welded joint shall be carried out in accordance with the requirements of the applicable European standard, using test specimens without a calibrated section.

(2) The specimens shall be taken by mechanical processes, perpendicular to the welded joint, along the longitudinal axis of the pipe, so that they are distributed at equal distances on its circumference, and the welded joint is in the middle of the specimens.

(3) The test speed is $50 \pm 2,5$ mm/min. (unless otherwise specified in the test machine instructions).

(4) The tensile test shall be considered accepted if the following results are obtained on each test specimen:

a) the tensile strength of the welded joint is equal to or greater than the minimum tensile strength of the basic material specified in the material specification;

or

b) the tensile strength of the welded joint shall be equal to or greater than the minimum tensile strength specified in the material specification for the weakest of the base materials used (if different base materials are used in the welded test piece).

Decohesion fracture test

Art. 45 (1) The decohesion fracture test of the welded joint shall be carried out in accordance with the requirements of the applicable European standard.

(2) The test is allowed if the surface of the brittle breakage does not exceed 25% of the axial length of the weld.

Special requirements

Art. 46 (1) Destructive tests shall be performed in the presence of RTS.

(2) The specialist inspector from ISCIR may participate in the destructive tests or, within a maximum of 14 days after their completion, verify at the laboratory's premises whether the destructive tests to which the welded specimens were subjected and the shape of the test pieces comply with the requirements set forth in this technical specification, whether the markings applied to the welded specimen in accordance with the provisions of Article 41, paragraph (5) are identified, and whether there is correspondence between the test specimens presented and the reports/certificates issued, at which time he shall draw up a technical inspection report, a template of which is provided in Annex No. 7.

(3) Welded samples and tested specimens must be kept in the laboratory for a minimum of 14 days from the date of the tests.

Re-checks

Art. 47 (1) If the welded sample does not meet one of the acceptance criteria for visual examination, the welding operator shall be rejected from the authorization, and if requested, the authorization process shall be resumed in full.

(2) If any of the destructive tests specified in Annex 12 obtain unsatisfactory results, the test(s) may be repeated on twice the number of test specimens specified for that type of destructive test. These additional specimens must be taken from the same welded sample, or from samples welded and visually examined under identical conditions.

(3) If repeating these destructive tests on twice the number of test specimens still leads to unsatisfactory results, the welding operator is denied certification; if requested, the certification process is restarted from the beginning.

CHAPTER V

ISSUING THE AUTHORISATION

SECTION 1

General requirements

Art. 48 (1) Authorizations for welders of steel, aluminium, and aluminium alloys, as well as for HDPE welding operators, shall be issued by ISCIR within 30 days of the date on which the legal entity submits to ISCIR the final application file provided for in paragraph (2), for each candidate who has been declared “PASSED” in the technical verification report prepared in accordance with the provisions of Art. 28, par. (10), and Art. 41, par. (6).

(2) In the cases provided for in Article 25(1)(a) and (b) and (2), and in Article 39(1)(a) and (2), the final file shall contain, at a minimum, copies of the following documents:

a) non-destructive testing and destructive testing reports issued by laboratories authorized by ISCIR for steel, aluminium, and aluminium alloys, or destructive testing reports issued by laboratories authorized by ISCIR for HDPE;

b) destructive test reports/reports issued by laboratories authorized by ISCIR in the case of samples or tests that have been repeated under the conditions set out in this Technical Prescription;

c) photo in jpg/jpeg digital format and no more than 1 MB in size.

(3) After analysing the documents in the final file of the welder for steel, aluminium and aluminium alloys or the HDPE welding operator, the ISCIR specialized inspector draws up the report whose model is provided in Annex no. 14, type 14.1, or, where applicable, type 14.2.

(4) The specialized inspector at ISCIR shall issue the HDPE welder or welding operator certification, the template for which is provided in Annex No. 15, Type 15.1, or, as applicable, Type 15.2, for each candidate who is declared “PASSED” in the final report referred to in paragraph (3).

(5) The issuance of the authorization shall be made by ISCIR subject to the submission of the proof of payment of the equivalent value of the applicable tariffs.

(6) The legal entity receives the original copy of the HDPE welder or welding operator certification, and a copy thereof remains, along with the final file, at ISCIR.

Art. 49 (1) The authorization is valid for 2 (two) years from the date of issuance.

(2) Based on the issued authorization, the welder must possess a stamp whose design is specified in the employer’s internal procedures or instructions regarding the performance of work activities.

SECTION 2

Codification of the authorisation

Art. 50 (1) The welder authorisation for steel, aluminium, and aluminium alloys shall contain at least the following information in the order listed below, so that it can be used in the information system:

- a) the reference number of the applicable technical regulation and the reference standard;
- b) the identification of the legal entity;
- c) the identification of the natural person – welder;
- d) essential variables;
- e) area of authorization;
- f) types of tests on welded joints.

(2) The HDPE welding operator authorization shall contain at least the following information in the following order, so that it can be used in the information system:

- a) the reference number of the applicable technical regulation and the reference standard;
- b) the identification of the legal entity;
- c) the identification of the natural person – welder;
- d) essential variables;
- e) area of authorization;
- f) types of tests on welded joints.

CHAPTER VI

**EQUIVALENCE OF WELDERS' PERFORMANCE QUALIFICATION CERTIFICATES
ISSUED IN COMPLIANCE WITH THE PROVISIONS OF TECHNICAL REGULATIONS
IMPLEMENTING EUROPEAN DIRECTIVES APPLICABLE TO
INSTALLATIONS/EQUIPMENT.**

Art. 51 The verification for the purpose of recognising the equivalence of welders' performance certificates issued in accordance with the provisions of technical regulations transposing the relevant European directives is carried out by ISCIR.

Art. 52 (1) Equivalence is granted on the basis of a written application submitted to ISCIR by the legal entity with which the welder has a contractual employment relationship.

(2) The request for equivalence shall be accompanied by the following documents:

a) the application for equivalence drawn up by the certificate holder, the application must include consent for personal data to be collected, processed and stored by ISCIR, in accordance with the relevant legislation;

b) the welding certificate of qualification for steel, aluminium and aluminium alloys, issued in compliance with the provisions of Article 26(1), which is valid;

c) the technical assessment report, issued in compliance with the provisions of Article 26(2);

d) documents proving accreditation in accordance with the applicable European standard or authorisation, in accordance with the applicable ISCIR technical prescription, for laboratories issuing reports of non-destructive examinations and destructive tests for drawing up the technical assessment report referred to in point (b);

e) the skills assessment form referred to in Article 25(1)d);

f) a copy of the welding procedure authorization form specific to the field for which the authorisation is issued;

g) a digital photograph in JPG/JPEG format, no larger than 1 MB;

h) copies of the individual employment contracts and proof of registration in the General Register of Employees, attesting to the existence, as of the date of the application, of contractual employment relationships between the legal entity and the welder, as well as between the legal entity and RTS.

(3) In the event of an incomplete or incorrectly completed application or documentation, the applicant shall be informed in writing of the need to submit the missing information or correctly completed documentation.

(4) If the applicant fails to complete the documentation in accordance with the requirements within 30 days of receiving the notification, the application for authorisation shall be rejected and the submitted documentation shall be archived.

Art. 53 (1) If the documentation is accepted, the ISCIR expert inspector shall draw up the report, the template is provided for in Annex 14, type 14.1 and the welder's licence, the model of which is provided for in Annex 15, type 15.1.

(2) The scope of application for the essential welding variables of the authorization referred to in paragraph (1) shall be in accordance with the provisions of this technical specification.

(3) The authorization is valid for a maximum of 2 (two) years and may not exceed the validity period of the welder qualification certificate.

(4) The ISCIR shall issue the authorization upon presentation of proof of payment of the applicable fees.

(5) The legal entity receives the welder's certification, and a copy of it is retained, along with the final file, by ISCIR.

CHAPTER VII

EXTENSION OF THE VALIDITY OF THE WELDING CERTIFICATE FOR STEEL, ALUMINIUM AND ALUMINIUM ALLOYS OR THE HDPE WELDING OPERATOR CERTIFICATE

Art. 54 (1) The extension of the validity of a welder's licence for steel, aluminium and aluminium alloys, or of a HDPE welding operator's licence, is carried out by ISCIR.

(2) For the examination in order to extend the validity of the authorization, the legal entity with which the welder or the HDPE welding operator has contractual employment relationships shall request this in writing from ISCIR and submit the following documents:

- a) the welder's license or the HDPE welding operator's license, as applicable;
- b) a copy of the health certificate issued by an occupational health doctor, confirming that I am fit to work as a welder or as an HDPE welding operator, as applicable, or an equivalent document issued by a competent authority in the field from a Member State of the European Union or a signatory state to the Agreement on the European Economic Area;
- c) material inspection certificates issued by the manufacturer, for materials used for welding samples for authorisation;
- d) WPS used when welding samples to extend the validity of the authorisation;
- e) copy of the RTS certificate, within its validity period;
- f) copies of the individual employment contracts and proof of registration in the General Register of Employees, attesting to the existence, as of the date of the application, of contractual employment relationships between the legal entity and the welder, as well as between the legal entity and RTS.

(3) The renewal of a welder's certification without an examination shall be carried out on the basis of a welder's qualification certificate and a technical evaluation report, in accordance with the provisions of Article 26, paragraphs (1) and (2).

Art. 55 (1) For steel, aluminium and aluminium alloys, the examination for the renewal of a welder's licence shall be carried out in accordance with the provisions of Articles 28 to 34.

(2) For high-density polyethylene (HDPE), the examination for the renewal of the HDPE welding operator's licence shall be carried out in accordance with the provisions of Articles 41-47.

Art. 56 (1) In order to obtain the extension of the validity of the welder's licence or the HDPE welding operator's licence, for the situation provided for in Article 54, (2), the legal entity with which the welder has contractual employment relationships shall submit to ISCIR the final file containing at least the following documents:

- a) bulletins / reports of non-destructive examinations and destructive tests issued by laboratories authorised by ISCIR,
- b) destructive test reports/reports issued by laboratories authorized by ISCIR in the case of samples or tests that have been repeated under the conditions presented in this Technical Prescription.

(2) In order to obtain the extension of the validity of the welder's licence for steel, aluminium and aluminium alloys, for the situation provided for in Article 54, (3), the legal entity with which the welder has contractual employment relationships shall submit to ISCIR the file containing at least the following documents:

- a) welder authorisation;
- b) the skills assessment form referred to in Article 25(1)d);
- c) the welding certificate of qualification for steel, aluminium and aluminium alloys, issued in compliance with the provisions of Article 26(1), which is valid;
- d) the technical assessment report, issued in compliance with the provisions of Article 26(2);
- e) documents proving the accreditation according to the applicable European standard or the authorization according to the applicable ISCIR technical prescription, for the laboratories issuing the reports of non-destructive examinations and destructive tests for the preparation of the technical assessment report referred to in point d);
- f) copies of the individual employment contracts and proof of registration in the General Register of Employees, attesting to the existence, as of the date of the application, of contractual employment relationships between the legal entity and the welder, as well as between the legal entity and RTS.

Art. 57 (1) After reviewing the documents provided for in Article 56, the ISCIR Specialized Inspector shall draw up the final report, the model of which is provided for in Annex no. 14, type 14.1, or, as the case may be, type 14.2 and shall extend the validity of the licence.

(2) The validity of the authorization shall be extended for a period of 2 (two) years.

(3) In the case provided for in Article 54, paragraph (3), the extension of the authorization's validity may not exceed the validity period of the welder's qualification certificate.

(4) The extension of the validity of the authorisation shall be subject to the presentation of proof of payment of the amount of the applicable charges.

CHAPTER VIII

OBLIGATIONS AND RESPONSIBILITIES

Art. 58 Authorized HDPE welders or welding operators have the following duties and responsibilities:

- a) be familiar with and comply with the provisions of applicable technical regulations, specific technical instructions, and relevant legal provisions;
- b) to comply with all technical specifications in the WPS when welding;
- c) use only the filler materials specified in the WPS when welding;
- d) to apply the punch in visible places, so that all welds made by them are identifiable;
- e) not to carry out welding work outside the scope of authorization;
- f) to carry out its activity only within the term of validity of the authorization.

Art. 59 The accredited vocational training provider has the following obligations and responsibilities:

- a) to carry out the programs, within the limits of their competences and under the conditions for which they are approved;
- b) to ensure the necessary conditions for the proper conduct of the programs and to provide the specific, updated course support for each participant;
- c) to carry out the programs with certified trainers type C, corresponding to the vocational training program specified in the applicable technical prescription, or specialist trainer;
- d) to comply with the analytical curriculum, developed by topics, days, hours and trainers;
- e) to issue the document of participation in the vocational training program only to the persons who have completed the course;
- f) to draw up an attendance list of those who took part in the vocational training programme (last name, first name, date and signature), to keep a record of the attendance documents for those who have completed the vocational training programme, and to keep these for a period of at least 5 (five) years;
- g) to ensure the conditions for the scheduled or unscheduled verification of the activity by ISCIR;
- h) to submit to ISCIR any information or document requested, in writing, in connection with the approved activities.

CHAPTER IX

ADMINISTRATIVE MEASURES

Art. 60 (1) In the event of failure to comply with the obligations and responsibilities set out in this technical regulation by the holder of the HDPE welder or welding operator authorisation, authorised by ISCIR or by the approved vocational training provider, the following administrative measures may be applied, according to their nature:

- a) warning for violation of the provisions of art. 58, letter a) and art. 59, letter b), d) and f);
- b) the suspension, for a period of up to 3 (three) months, of the authorisation for welders or HDPE welding operators or of the approval granted to the vocational training provider, for breaching the provisions of Article 58(b) to (d) and Article 59(c), (g) and (h),
- c) suspension for a period of between 3 (three) and 6 (six) months of the authorisation for welders or HDPE welding operators or of the approval for the vocational training provider, for breach of the provisions of Article 58(e) and (f) and Article 59(a) and (e),
- d) the withdrawal of the welder's licence or the licence for HDPE welding operators, or the approval of the vocational training provider.

(2) The application within 3 (three) months of two administrative measures provided in para. (1), letter a) leads to the application of the administrative measure provided in para. (1), letter b).

(3) The application within 1 (one) year of two administrative measures provided in par. (1), letter b) or c) leads to the application of the administrative measure provided in para. (1), letter d).

(4) The administrative measures provided for in paragraph (1), letters b) and c) shall be applied in compliance with the legal provisions in force and the principle of proportionality.

(5) The administrative measures shall be ordered by ISCIR, by reasoned decision, based on the report concluded by the specialized inspector within ISCIR upon the verification performed; the model of the report is provided in Annex no. 7.

(6) The holder of the welder's license, the HDPE welding operator, or the vocational training provider may file an appeal with the competent court against the decision ordering the imposition of the administrative measure, in accordance with the procedure set forth in the Administrative Litigation Law.

Art. 61 (1) The holder of a welding authorization or HDPE welding operator authorization issued by ISCIR, or an accredited vocational training provider, whose authorization/accreditation has been suspended, may submit a written request to ISCIR to lift the suspension, after the suspension period has expired, provided that the non-conformities that led to the administrative measure have been resolved.

(2) Following the request referred to in paragraph (1), the specialist inspector from ISCIR shall verify and record in a report that the non-conformities that led to the imposition of the administrative measure have been rectified, and shall propose the termination of the sanction.

(3) A natural person who is the holder of a license that has been revoked may apply for a new license, in compliance with the requirements of this technical regulation, at least 6 (six) months after the date on which the administrative measure revoking the license was imposed.

(4) An accredited vocational training provider whose accreditation has been revoked may apply for a new accreditation, in compliance with the requirements of this technical regulation, at least one (1) year after the date on which the administrative measure revoking the accreditation was implemented.

CHAPTER X

FEES

Art. 62 (1) The fees charged for activities performed by ISCIR in accordance with the provisions of this technical regulation are those set out in the fee schedule approved under applicable law.

(2) ISCIR shall perform the activities set forth in this technical regulation only for natural and legal persons against whom no debt collection proceedings have been initiated under applicable law.

CHAPTER XI

TRANSITIONAL PROVISIONS

Art. 63 The authorisations issued by ISCIR prior to the effective date of this technical regulation remain valid until their expiration, in accordance with the provisions of Article 66.

Art. 64 Applications for the issuance or renewal of permits submitted prior to the effective date of this technical regulation shall be processed in accordance with the provisions of the technical regulation in effect on the date of their filing.

Art. 65 The extension of the validity of a welder's or HDPE welding operator's certification applies only to certifications issued after the effective date of Order No. 442/2010 of the Minister of Economy, Trade, and the Business Environment approving the technical specifications PT CR 6-2010, " Authorization of personnel and laboratories performing non-destructive testing and assessment of the technical capability of laboratories performing destructive testing," PT CR 7-2010 "Approval of welding procedures for steel, aluminium, and aluminium alloys for high-density

polyethylene (PE-HD)” and PT CR 9-2010 “ Authorization of welders performing welding work on pressure equipment and lifting equipment made of steel, aluminium, aluminium alloys, and high-density polyethylene (PE-HD),” published in the Official Gazette of Romania, Part I, no. 226 and 226 bis of April 9, 2010.

Art. 66 Documents obtained following the completion of vocational training programmes organised before the entry into force of this technical prescription, in compliance with the requirements of the technical prescription applicable on the date of completion, shall remain valid.

CHAPTER XII

FINAL PROVISIONS

Art. 67 The welder's certification or HDPE welding operator's certification is valid only for the legal entity with which the welder or HDPE welding operator has an employment contract.

Art. 68 The period of time between the date of issuance of the technical inspection report prepared by the ISCIR specialist inspector during the authorization examination or the examination for the renewal of the authorization, following the visual inspection of the welded specimens and the date on which the legal entity submits the final file to ISCIR, must not exceed 90 days; otherwise, the authorization examination or the examination for the extension of the authorization’s validity must be repeated in its entirety.

Art. 69 (1) The documents to be submitted to ISCIR must be drafted/translated into Romanian by an authorized translator.

(2) The copies of the documents to be submitted to ISCIR must be marked "certified true copy" and signed by the person designated by the applicant.

Art. 70 The examination of welders and HDPE welding operators shall be carried out in Romanian.

Art. 71 The welder/HDPE welding operator is entitled to perform the activity for which he/she is authorized only if he/she is in possession of the authorization provided for in this Technical Prescription.

Art. 72 (1) In case of a change of the welder's employer, the new employer shall apply for a new authorization for the welder only if he/she holds a WPQR covering the scope of validity of the authorization held by the welder.

(2) In order to obtain the new authorization, the employer submits to ISCIR the following documents:

- a) application for authorization;
- b) copy of welding authorization;
- c) copy of the WPQR;
- d) the skills assessment form referred to in Article 25(1)d);
- e) a digital photograph in JPG/JPEG format, no larger than 1 MB;
- f) copy of the RTS certificate, within its validity period;
- g) copies of the individual employment contracts and proof of registration in the General Register of Employees, attesting to the existence, as of the date of the application, of contractual employment relationships between the legal entity and the welder, as well as between the legal entity and RTS.

(3) ISCIR analyzes the submitted documents and issues a new authorization with the new identification data while maintaining the validity of the old authorization.

Art. 73 Vocational training providers who have obtained the ISCIR approval before the date of entry into force of this Technical Prescription have the right to organize the qualification/refreshers/specialization programs for which they have obtained the approval, provided that the course supports are updated according to the analytical programs provided for in this Technical Prescription.

Art. 74 (1) The issuance of copies of authorizations/approvals shall be made by ISCIR, in the following cases and under the following conditions:

- a) in the event of loss, provided that the document holder submits a sworn statement to ISCIR;
- b) in case of theft, provided that the holder of the document submits to ISCIR the registration document to the Police of the complaint, in copy;
- c) in case of damage, provided that the holder of the document submits to ISCIR the damaged document or the applicant's statement in case of total destruction.

(2) To obtain a copy of the notice, the applicant shall submit to ISCIR, in addition to the documents referred to in paragraph (1), a request for the issuance of the copy.

(3) To obtain a copy of the authorization for the natural person, the applicant shall submit to ISCIR, in addition to the documents referred to in paragraph (1), the following:

- a) request for the issuance of the copy;
- b) the copy of the identity document;
- c) a color photo in digital format jpg/jpeg and size of not more than 1 MB, in the case of authorization;
- d) copy of the graduation/qualification certificate of the vocational training program.

(4) ISCIR shall review the documents referred to in paragraphs (2) and (3) and shall take a decision on the issuance of the duplicate of the requested document within 30 days of the submission of the documents.

Art. 75 1. In order to grant derogations from the provisions of this technical prescription, the applicant shall submit to ISCIR the following:

- a) request, mentioning the derogation from the provisions of this technical prescription;
- b) supporting memorandum containing the description of the situation;
- c) other documents in support of the application, as appropriate.

(2) Based on the submitted documentation, ISCIR accepts or rejects, in writing, the request.

Art. 76 The explanatory list of the standards used in this prescription can be found in Annex no. 16.

Art. 77 Annexes no. 1 - 16 are an integral part of this Technical Prescription.

RTS Appointment Decision

HEADER OF THE LEGAL ENTITY

DECISION No.

of

The legal entity¹⁾....., represented by as legal representative, in accordance with the legislation in force regarding the safe use and operation of pressure equipment, lifting equipment, and fuel-consuming appliances, for the purpose of implementing the measures provided for in technical prescription PT CR 9-2025 and technical prescription²⁾

DECIDES:

1. Mr./Ms., who is employed by
....¹⁾..... in accordance with current labour laws, is a specialist holding the position of and holding certificate no. effective as of, is hereby appointed as the technical welding supervisor - RTS for the activity of³⁾ within the facility, *to be named in the authorization* ⁴⁾.
2. The Technical Welding Supervisor (RTS) is required to be familiar with and apply the provisions of current legislation and technical specifications, their duties are those set out in the relevant technical prescription.
3. The activity of the responsible person will be coordinated and guided by the management by
.....⁵⁾..... who is jointly responsible for taking measures for the application of the legislation in force and the applicable technical prescriptions.
4. The failure to comply with the obligations set forth in the applicable technical regulations may result, as appropriate, in disciplinary, financial, civil, or criminal liability for those at fault.

The legal representative of the legal entity

First and last name, position,

.....

(signature and stamp)

¹⁾ Legal entity name

²⁾ To be filled in where applicable.

³⁾ To be filled in with the activity for which the authorization/updating of the authorization or other activities is requested according to the provisions of art. 2 of this Technical Prescription.

⁴⁾ To be filled in where applicable.

⁵⁾ Position, first name and last name of the designated person.

Notice template for training provider

ISCIR HEADER

Registration No. /

To

Address:

Trade Register No.: / /

Tax identification number.....

Tel./fax:.....

Email.....

To the attention of

In response to your request No. /, registered with ISCIR under No. /, regarding the approval of the curriculum and course materials for the program for the occupation/qualification (COR code/Qualifications Nomenclature code), we are pleased to inform you that we have approved your request.

The curriculum complies with the provisions of PT CR 9-2025, Annex 3, Table no.....

This approval is valid for 4 (four) years, according to the legislation in force.

Chief State Inspector

.....

(first and last name, signature and stamp)

Table no. 1.

ISCIR module for the welder qualification programme

No .	THEORETICAL TRAINING	Number of teaching hours
1	The importance of welding as a modern means of assembly used in the mounting and repair of pressure installations and lifting installations	3
2	Classification of welding processes	5
3	General properties of steels used in the installation and repair of pressure equipment and lifting equipment	21
4	Weldability of weak, medium and high-alloyed steels. The chemical composition and the influence of chemical constituents on the weldability of steels	16
5	Welding technology	21
6	Welding consumables	11
7	Introduction to carbon electrode welding	3
8	Welding equipment Notions of equipment maintenance	11
9	Deformations and stresses occurred during the welding process. Methods of combating	11
10	Thermal treatments of welded joints	8
11	Defects of welded joints, causes, methods of prevention and remedy	21
12	Quality control of welded joints	11
13	Representation and inscription of welds on drawings	5
14	Legislation, technical prescriptions, norms governing the installation and repair of pressure installations and hoisting installations	13
TOTAL		160
PRACTICAL TRAINING		
1	Protection equipment	3
2	Welding equipment / machine	27
3	Preparation of welding equipment / machines	13
4	Welding regime adjustment	27
5	Welding techniques and technologies	130
6	Inspection of welded joints	40
7	Welding defects	21
8	Applications	6
9	Air arc gouging equipment	12
10	Arc-air gouging technique	12
11	Methods for preventing and correcting deformities	16
12	Applications	13

TOTAL	320
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Table no. 2.**ISCIR module for the electric welding specialisation programme**

No	THEORETICAL TRAINING	Number of teaching hours
1	The importance of welding as a modern means of assembly used in the mounting and repair of pressure installations and lifting installations	2
2	Classification of welding processes	3
3	General properties of steels used in the installation and repair of pressure equipment and lifting equipment	10
4	Weldability of weak, medium and high-alloyed steels. The chemical composition and the influence of chemical constituents on the weldability of steels	9
5	Welding technology	10
6	Welding consumables	5
7	Introduction to carbon electrode welding	2
8	Welding equipment Notions of equipment maintenance	5
9	Deformations and stresses occurred during the welding process. Methods of combating	5
10	Thermal treatments of welded joints	4
11	Defects of welded joints, causes, methods of prevention and remedy	10
12	Quality control of welded joints	5
13	Representation and inscription of welds on drawings	4
14	Legislation, technical prescriptions, norms governing the installation and repair of pressure installations and hoisting installations	6
TOTAL		80
PRACTICAL TRAINING		
1	Protection equipment	2
2	Welding equipment / machine	14
3	Preparation of welding equipment / machines	7
4	Welding regime adjustment	13
5	Welding techniques and technologies	65
6	Inspection of welded joints	20
7	Welding defects	11
8	Applications	3
9	Air arc gouging equipment	5
10	Arc-air gouging technique	5
11	Methods for preventing and correcting deformities	8
12	Applications	7
TOTAL		160

Table no. 3.**ISCIR module for the oxy-gas welding specialisation programme**

No	THEORETICAL TRAINING	Number of teaching hours
1	The importance of welding as a modern means of assembly used in the mounting and repair of pressure installations and lifting installations	1
2	Classification of welding processes	2
3	General properties of steels used in the installation and repair of pressure equipment and lifting equipment	5
4	Weldability of weak, medium and high-alloyed steels. The chemical composition and the influence of chemical constituents on the weldability of steels	4
5	Welding technology	5
6	Welding consumables	2
7	Fundamentals of gouging	1
8	Welding equipment Notions of equipment maintenance	3
9	Deformations and stresses occurred during the welding process. Methods of combating	2
10	Thermal treatments of welded joints	2
11	Defects of welded joints, causes, methods of prevention and remedy	5
12	Quality control of welded joints	3
13	Representation and inscription of welds on drawings	2
14	Legislation, technical prescriptions, norms governing the installation and repair of pressure installations and hoisting installations	3
TOTAL		40
PRACTICAL TRAINING		
1	Protection equipment	1
2	Welding equipment / machine	7
3	Preparation of welding equipment / machines	3
4	Welding regime adjustment	7
5	Welding techniques and technologies	32
6	Inspection of welded joints	10
7	Welding defects	5
8	Applications	2
9	Gouging equipment	3
10	Gouging technique	2
11	Methods for preventing and correcting deformities	4
12	Applications	4
TOTAL		80

Table no. 4.

**ISCIR module for the specialisation programme of welding operators performing welded joints
in high density polyethylene (HDPE) pipes and fittings**

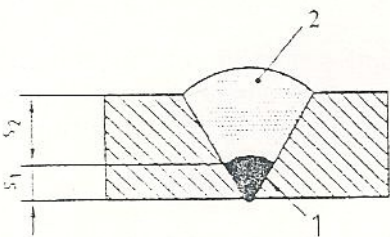
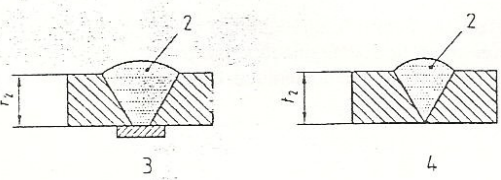
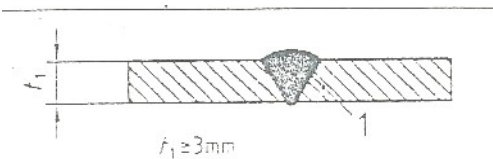
No .	THEORETICAL AND PRACTICAL INSTRUCTION	Number of teaching hours
1	The importance of welding plastics - polyethylene (HDPE) as a modern means of assembly in pipeline installation and repair works for the transport of pressurized fluids	1
2	Classification of welding processes of plastics - description: a) straight heater welding; b) welding with profiled heater element; c) electric resistance welding.	1
3	General properties of polyethylene (HDPE)	2
4	Machinery used for polyethylene welding (HDPE) depending on the welding process and the type of joint	6
5	Polyethylene welding technology (HDPE) by welding process and type of joint	4
6	Defects in welded joints, their causes, and methods of prevention	4
7	Quality control of welded joints	4
8	Legislation, prescriptions and normative acts governing the installation and repair of polyethylene pipes (HDPE) for the transport of fluids under pressure	2
9	Practical training	16
TOTAL		40

ANNEX No. 4

to the Technical Prescription

Essential welding variables and scopes of authorization for steel, aluminium and aluminium alloys

Table 1 – Scope of authorization depending on the thickness of the test piece produced using a single welding process and those produced by combining several butt-welding processes with full penetration. Steel, aluminium and aluminium alloys.

Welding process used for the sample	Permit range as a function of sample thickness	
	Single process joint	Multi-process joint
 Legend: 1 – welding process 1 (nb) 2 – welding process 2 (mb)	In accordance with Table 7 for the welding procedure 1: $t = s_1$ for the welding process 2: $t = s_2$	According to the Table No. 7 with $t = s_1 + s_2$
 Legend: 2 – welding process 2 3 – root-support welding (m) 4 – welding without root support (nb)	In accordance with Table 7 for the welding procedure 1: $t = t_1$ for the welding process 2: $t = t_2$	According to the Table no 7 with $t = t_1 + t_2$ welding process 1: for root pass welding only
 Legend 1 – welding process 1		

NOTES:

- 1) In the case of BW-type welded joints (butt welds), the following equivalence criteria may be applied:
 - a) welded joints in pipes with an external diameter $D > 25$ mm, this covers the case of welded joints in sheet metal,
 - b) the welded joints of the sheets cover the case of welded joints of the pipes as follows:
 - 1) Welding positions PA, PB and PC, cover the case of welded pipe joints with external diameter $D > 150$ mm.
 - 2) all welding positions, this applies to welded pipe joints with an external diameter $D \geq 500$ mm.
- 2) In the case of BW-type full-penetration welded joints (butt welds) and FW-type welded joints (fillet welds), the following equivalence criteria may be applied:
 - a) welded joints with full penetration type BW - butt welding, covers the cases of welded joints type BW - butt welding of any kind;
 - b) fully penetrated, root-support-free pipe welds of the BW type (butt welds) may cover welded joints of fittings made at an angle of $\geq 60^\circ$, provided that the conditions regarding the scope of application specified in Tables 1 and 4–11 are met.

Table 2 - Classification system for steel base materials

Group	Subgroup	Steel type
1		Steels with a specified minimum yield strength $ReH \leq 460 \text{ N/mm}^2$ ^a and with chemical composition in %: $C \leq 0.25$ $Si \leq 0.60$ $Mn \leq 1.8$ $Mo \leq 0.70$ ^b $S \leq 0.045$ $P \leq 0.045$ $Cu \leq 0.40$ ^b $Ni \leq 0.5$ ^b $Cr \leq 0.3$ (0.4 for castings) ^b $Nb \leq 0.06$ $V \leq 0.1$ ^b $Ti \leq 0.05$
	1.1	Steels with a specified minimum yield strength of $ReH \leq 275 \text{ N/mm}^2$
	1.2	Steels with a specified minimum yield strength of $275 \text{ N/mm}^2 < ReH \leq 360 \text{ N/mm}^2$
	1.3	Fine-grained, normalised steels with a specified minimum yield strength $ReH > 360 \text{ N/mm}^2$
	1.4	Steels with resistance to atmospheric corrosion, whose chemical composition may exceed the requirements for individual elements specified in Group 1
2		Thermomechanically treated fine-grained steels and cast steels with a specified minimum yield strength $ReH > 360 \text{ N/mm}^2$
	2.1	Thermomechanically treated fine-grained steels and cast steels with a specified minimum yield strength of 360 N/mm^2 and a $ReH \leq 460 \text{ N/mm}^2$
	2.2	Thermomechanically treated fine-grained steels and cast steels with a specified minimum yield strength $ReH > 460 \text{ N/mm}^2$

Table 2. (continued)

Group	Subgroup	Steel type
3		Fine-grained quenched and tempered steels, except for stainless steels with a specified minimum yield strength $ReH > 360 \text{ N/mm}^2$
	3.1	Fine-grained quenched and tempered steels with a specified minimum yield strength of $360 \text{ N/mm}^2 < ReH \leq 690 \text{ N/mm}^2$
	3.2	Fine-grained quenched and tempered steels with a specified minimum yield strength $ReH > 690 \text{ N/mm}^2$
	3.3	Fine-grained quenched and tempered steels, excluding stainless steels
4		Low-alloy Cr-Mo-Ni steels with $Mo \leq 0.7\%$ and $V \leq 0.1\%$
	4.1	Steels with $Cr \leq 0.3\%$ and $Ni \leq 0.7\%$
	4.2	Steels with $Cr \leq 0.7\%$ and $Ni \leq 1.5\%$
5		Vanadium-free Cr-Mo alloy steels with $C \leq 0.35\%$
	5.1	Steel $0.75\% \leq Cr \leq 1.5\%$ and $Mo \leq 0.7\%$
	5.2	Steels with $1.5\% < Cr \leq 3.5\%$ and $0.7\% < Mo \leq 1.2\%$
	5.3	Steels with $3.5\% < Cr \leq 7.0\%$ and $0.4\% < Mo \leq 0.7\%$
	5.4	Steels with $7.0\% < Cr \leq 10.0\%$ and $0.7\% < Mo \leq 1.2\%$
6		Cr-Mo-(Ni)-V high-alloyed steels
	6.1	Steels with $0.3\% \leq Cr \leq 0.75\%$, $Mo \leq 0.7\%$ and $V \leq 0.35\%$
	6.2	Steel $0.75\% < Cr \leq 3.5\%$, $0.7\% < Mo \leq 1.2\%$ and $V \leq 0.35\%$
	6.3	Steels with $3.5\% < Cr \leq 7.0\%$, $Mo \leq 0.7\%$ and $0.45\% \leq V \leq 0.55\%$
	6.4	Steel $7.0\% < Cr \leq 12.5\%$, $0.7\% < Mo \leq 1.2\%$ and $V \leq 0.35\%$
7		Self-hardening and ferritic-martensitic stainless steels with $C \leq 0.35\%$ and $10.5\% \leq Cr \leq 30\%$
	7.1	Stainless ferritic steels
	7.2	Stainless martensitic steels
	7.3	Self-hardened stainless steels
8		Stainless steels of the austenitic type, $Ni \leq 31\%$
	8.1	Stainless austenitic steels with $Cr \leq 19\%$
	8.2	Austenitic stainless steels with $Cr > 19\%$
	8.3	Austenitic manganese stainless steels with $4\% < Mn \leq 12\%$

Table No. 2 (end)

Group	Subgroup	Steel type
9		Nickel-alloyed steels, with $\text{Ni} \leq 10.0\%$
	9.1	Nickel-alloyed steels, with $\text{Ni} \leq 3.0\%$
	9.2	Nickel-alloyed steels, with $3.0\% < \text{Ni} \leq 8.0\%$
	9.3	Nickel-alloyed steels, with $8.0\% < \text{Ni} \leq 10.0\%$
10		Austenitic-ferritic (duplex) stainless steels
	10.1	Austenitic-ferritic stainless steels with $\text{Cr} \leq 24\%$
	10.2	Austenitic-ferritic stainless steels with $\text{Cr} > 24\%$
11		Steels in Group 1 ^c , excluding $0.25\% < \text{C} \leq 0.85\%$
	11.1	Steels listed in Group 11, with $0.25\% < \text{C} \leq 0.35\%$
	11.2	Steels listed in Group 11, with $0.35\% < \text{C} \leq 0.5\%$
	11.3	Steels listed in Group 11, with $0.5\% < \text{C} \leq 0.85\%$
NOTE: Based on the actual resulting chemical composition, group 2 steels can be considered as group 1. steels.		
^a In accordance with the material specifications and product standards, R_{eH} can be replaced with $R_{p0.2}$ or $R_{t0.5}$.		
^b A higher value is accepted provided that: $\text{Cr} + \text{Mo} + \text{Ni} + \text{Cu} + \text{V} \leq 0.75\%$.		
^c A higher value is accepted provided that: $\text{Cr} + \text{Mo} + \text{Ni} + \text{Cu} + \text{V} \leq 0.1\%$.		

Table No. 3 – Aluminium and Aluminium Alloy Core Materials Grouping System

Group	Subgroup	Types of aluminium and aluminium alloys
21		Pure aluminium containing impurities or alloying elements $\leq 1\%$
22		Aluminium alloys which cannot be heat treated
	22.1	Al-Mn alloys
	22.2	Al-Mg alloys with $\text{Mg} \leq 1.5\%$
	22.3	Al-Mg alloys with $1.5\% < \text{Mg} \leq 3.5\%$
	22.4	Al-Mg alloys with $\text{Mg} > 3.5\%$
23		Aluminium alloys that can be heat-treated
	23.1	Al-Mg-Si alloys
	23.2	Al-Zn-Mg alloys

Table No. 3 (end)

Group	Subgroup	Types of aluminium and aluminium alloys
24		Al-Si alloys with Cu ≤ 1%
	24.1	Al-Si alloys with ≤ 1% and 5% < Si ≤ 15%
	24.2	Al-Si-Mg alloys with Cu ≤ 1 %, 5 % < Si ≤ 15 % and 0.1 % < Mg ≤ 0.80 %
25		Al-Si-Cu alloys with 5% < Si ≤ 14%, 1% < Cu ≤ 5% and Mg ≤ 0.80%
26		Al-Cu alloys with 2% < Cu ≤ 6%
NOTE: Groups 24, 25 and 26 in Table 3 refer to cast materials		

Table 4 - Scope of authorization based on the steel base material classification system

Sample material group		Scope of authorization												
		1.1 1.2 1.4	1.3	2	3	4	5	6	7	8	9		10	11
											9.1	9.2+9.3		
1.1. 1.2.1.4		X	-	-	-	-	-	-	-	-	-	-	-	-
1.3		X	X	X	X	-	-	-	-	-	X	-	-	X
2		X	X	X	X	-	-	-	-	-	X	-	-	X
3		X	X	X	X	-	-	-	-	-	X	-	-	X
4		X	X	X	X	X	X	X	X	-	X	-	-	X
5		X	X	X	X	X	X	X	X	-	X	-	-	X
6		X	X	X	X	X	X	X	X	-	X	-	-	X
7		X	X	X	X	X	X	X	X	-	X	-	-	X
8		-	-	-	-	-	-	-	-	X	-	X	X	-
9	9.1	X	X	X	X	-	-	-	-	-	X	-	-	X
	9.2+9.3	X	-	-	-	-	-	-	-	-	-	X	-	-
10		-	-	-	-	-	-	-	-	X	-	X	X	-
11		X	X	-	-	-	-	-	-	-	-	-	-	X
X – indicates the groups of materials for which the welder is authorised.														
- indicates the groups of materials for which the welder is not authorised.														

Table 5 - Scope of authorization based on the classification system for base materials made of aluminium and aluminium alloys

Sample material group	Scope of authorization					
	21	22	23	24	25	26
21	x	x	-	-	-	-
22	x	x	-	-	-	-
23	x	x	x	-	-	-
24	-	-	-	x	x	x
25	-	-	-	x	x	-
26	-	-	-	x	x	x
x – indicates the groups of materials for which the welder is authorised. - indicates the groups of materials for which the welder is not authorised.						

NOTES:

- 1) A verification for authorization conducted using base materials that are not part of the grouping system is treated as a separate authorization.
- 2) The verification for approval, carried out on groups of rolled or forged materials, grants approval for cast materials as well as for combinations of cast, rolled, and forged materials within that group.
- 3) The welding test performed with filler materials from group 8 respectively 10, is also valid for the authorization of all combinations of base materials from group 8, (respectively group 10), with other groups of base materials, for which the filler materials from group 8, (respectively group 10) are used.
- 4) The welding test performed with materials from groups 21, 22 and 23, together with materials from groups 24 or 25, is considered valid for all possible combinations of materials from these groups.
- 5) All heterogeneous joints of materials in group 26, shall be treated as separate authorization.

Table 6 - Scope of authorization based on welding consumables

Welding process	Welding materials used to weld the sample	Scope of authorization			
		A, RA, RB, RC, RR, R		B	C
111	A, RA, RB, RC, RR, R	x		-	-
	B	x		x	-
	C	-		-	x
-	-	Solid wire (S)	Tubular electrode core (M)	Tubular electrode core (B)	Tubular electrode core (R, P, V, W, Z, Y)
131	S Solid Wire	x	x	-	-
135	Tubular electrode core (M)	x	x	-	-
136					
141					
136	Tubular electrode core (B)	-	-	x	x
114	Tubular electrode core (R, P, V, W, Z, Y)	-	-	-	x
136					

x – indicates the consumable welding materials for which the welder is authorised.

- indicates the consumable welding materials for which the welder is not authorised.

Table 7 - Scope of authorisation depending on the thickness of the base material for butt-welded specimens with full penetration

Thickness t ^a (mm)	Scope of authorization
t < 3	t up to 2 x t ^b
3 ≤ t ≤ 12	3 to 2 x t ^c
t > 12	≥ 5
^a for multi-process welding, the values s ₁ and s ₂ from Table 1 apply. ^b for oxyacetylene welding (311): t at 1,5 x t. ^c for oxyacetylene welding (311): 3 mm at 1.5 x t. ^b and ^c refer to welded samples of steel.	

Table No. 8 – Scope of authorization based on the outer diameter of the pipe

Sample diameter D (mm)	Scope of validity of the approval
$D \leq 25$	D to 2D
$25 < D \leq 50$	min. 25 to 2D
$50 < D \leq 168,3$	0.5D to 2D
$D > 168,3$	$> 0.5 D$ and sheets
1) D is the outer diameter of the pipe or the outer diameter of the connecting pipe. 2) D is the smallest dimension in the case of tubular structures with rectangular tubes.	

NOTE: In the case of joint welding samples, the dimensional criteria in Table no. 7 and no. 8, are as follows:

- a) for a “seated on” connection: the thickness of the material and the outer diameter of the service pipe,
- b) for the connection "seated through" or "seated in", directly on the main pipe or on the ferrule: the thickness of the material of the main pipe or the ferrule and the outer diameter of the connection pipe.
- c) for samples with different outer diameters of pipes and different material thicknesses, the welder is authorized to:
 - 1) the smallest and largest thickness of the material specified in Table no. 7;
 - 2) the smallest and largest external diameter of the pipe specified in Table No. 8.

Table No. 9 – Scope of authorization based on material thickness for fillet weld tests ¹⁾

Thickness of the sample material t (mm)	Scope of authorization
$t < 3$	t up to 3
$t \geq 3$	≥ 3
¹⁾ See also Table 12.	

Table No. 10 – Scope of authorization based on welding positions

Welding position of the test sample	Scope of authorization										
	PA	PB	PC	PD	PE	PF (sheet)	PF (pipe)	PG (table)	GP (pipe)	H-L045	J-L045
PA	x	x	-	-	-	-	-	-	-	-	-
PB	x	x	-	-	-	-	-	-	-	-	-
PC	x	x	x	-	-	-	-	-	-	-	-
PD	x	x	-	x	-	x	-	-	-	-	-
PE	x	x	x	x	x	x	-	-	-	-	-
PF (sheet)	x	x	-	-	-	x	-	-	-	-	-
PF (pipe)	x	x	-	x	x	x	x	-	-	-	-
PG (table)	-	-	-	-	-	-	-	x	-	-	-
GP (pipe)	x	x	-	x	x	-	-	x	x	-	-
H-L045	x	x	x	x	x	x	x	-	-	x	-
J-L045	x	x	x	x	x	-	-	x	x	-	x

x indicates the welding positions for which the welder is authorised.

- indicates welding positions for which the welder is not authorised.

Position J-L045 concerns only welded steel samples.

NOTE: For samples with D-pipe outer diameters ≥ 150 mm, welding by different welding positions on the same sample can be used, such as PF or PG on 2/3 of the circumference and PC on 1/3 of the circumference.

Table No. 11 – Scope of authorization for butt welds with full penetration

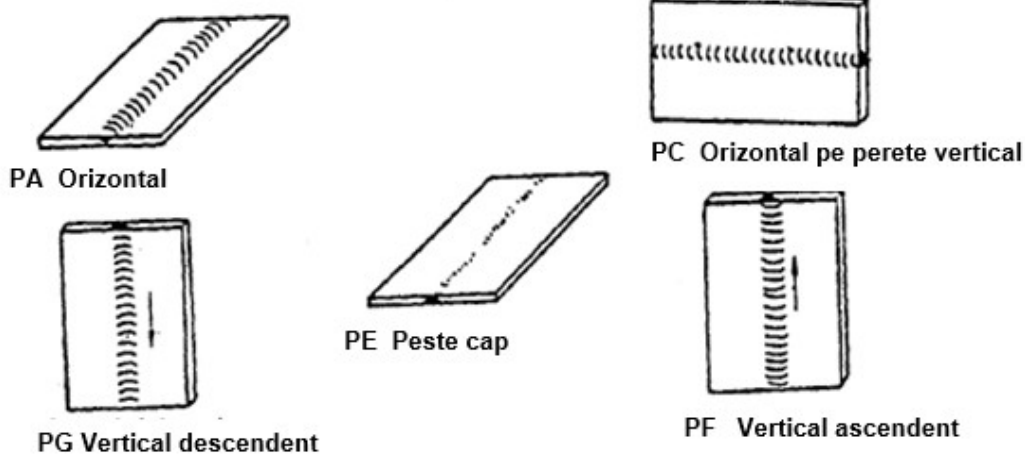
Details of the welding of the verification test	Scope of authorization		
	Single-sided welding/root-pass welding (ss, nb)	Single-sided welding/root support welding (ss, mb)	Welded on both sides (bs)
Single-sided welding/root-pass welding (ss, nb)	x	x	x
Single-sided welding/root support welding (ss, mb)	-	x	x
Welded on both sides (bs)	-	x	x
x indicates the types of welds for which the welder is authorised. - indicates welds for which the welder is not authorised.			

Table No. 12 – Scope of authorization for corner welded samples by number of layers

Verification sample ^{a)}	Scope of authorization	
	single-layer (sl)	multi-layer (ml)
single-layer (sl)	x	-
multi-layer (ml)	x	x
^{a)} the weld thickness shall be in the range $0,5 \times t \leq a \leq 0,7 \times t$. x indicates the coating deposition technique for which the welder is authorised - indicates the coating deposition technique for which the welder is not authorised		

Welding positions

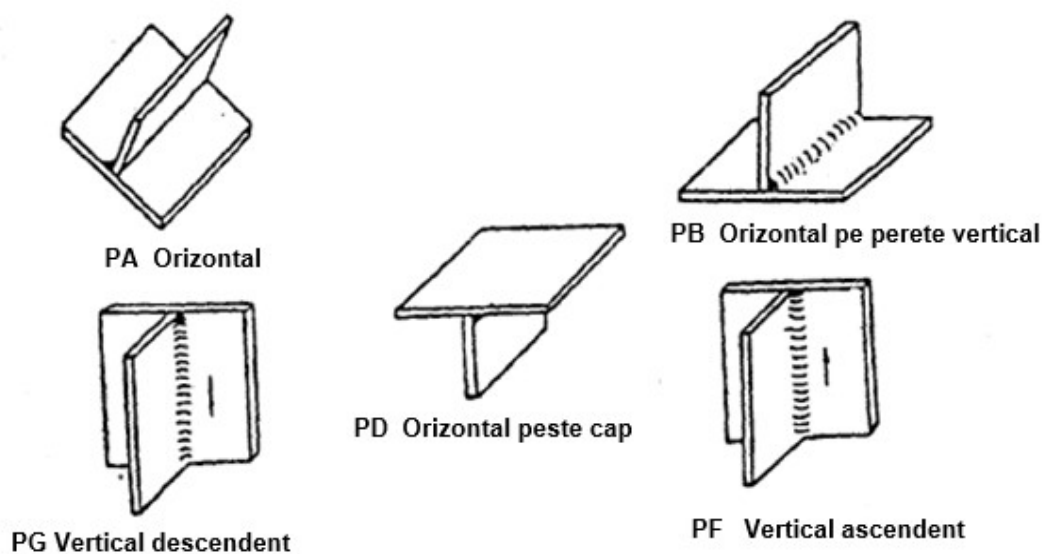
5.1 Welding positions for sheets



PA Horizontal, PE Horizontal pe perete vertical, PG Vertical descendent, PE Peste cap, PF Vertical ascendent

PA Horizontal, PE Horizontal on a vertical wall, PG Vertical downward, PE Overhead, PF Vertical upward

a) butt welds



PA Horizontal, PB Horizontal pe perete vertical, PG Vertical descendent, PD

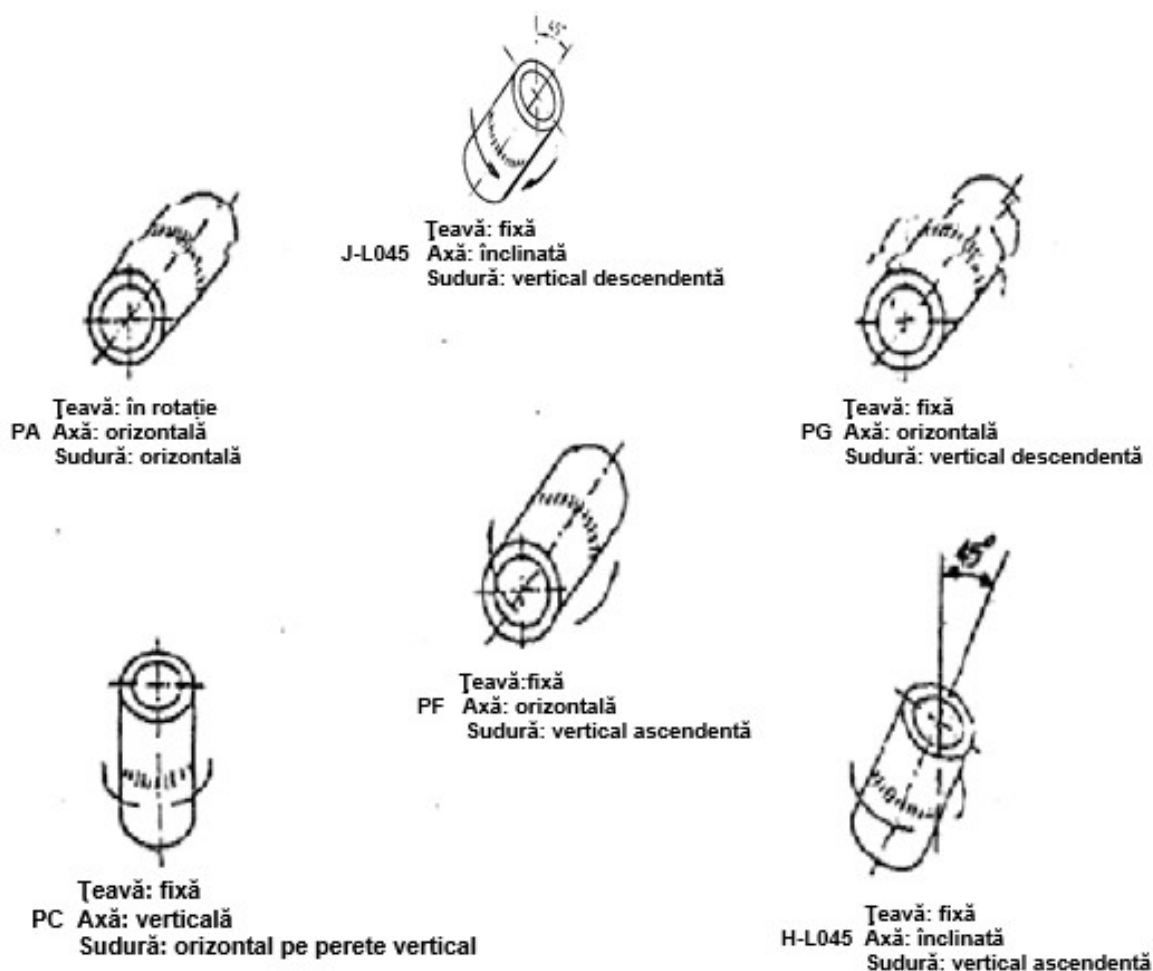
PA Horizontal, PB Horizontal on a vertical wall, PG Vertical downwards, PD

Horizontal peste cap, PF Vertical ascendent Horizontal overhead, PF Vertical upwards

b) fillet welds

5.2 Welding positions for pipes

a) butt welds



Teava: in rotatie PA Axa: orizontala, Sudura: orizaontala

Pipe: in rotation PA Axis: horizontal, Weld: horizontal

Teava: fixa, PG Axa orizontala, Sudura: vertical descendenta

Pipe: fixed, PG horizontal axis, Weld: vertical downward

Teava: fixa, PF Axa: orizontala, Sudura: vertical ascendenta

Pipe: fixed, PF Axis: horizontal, Weld: vertical, ascending

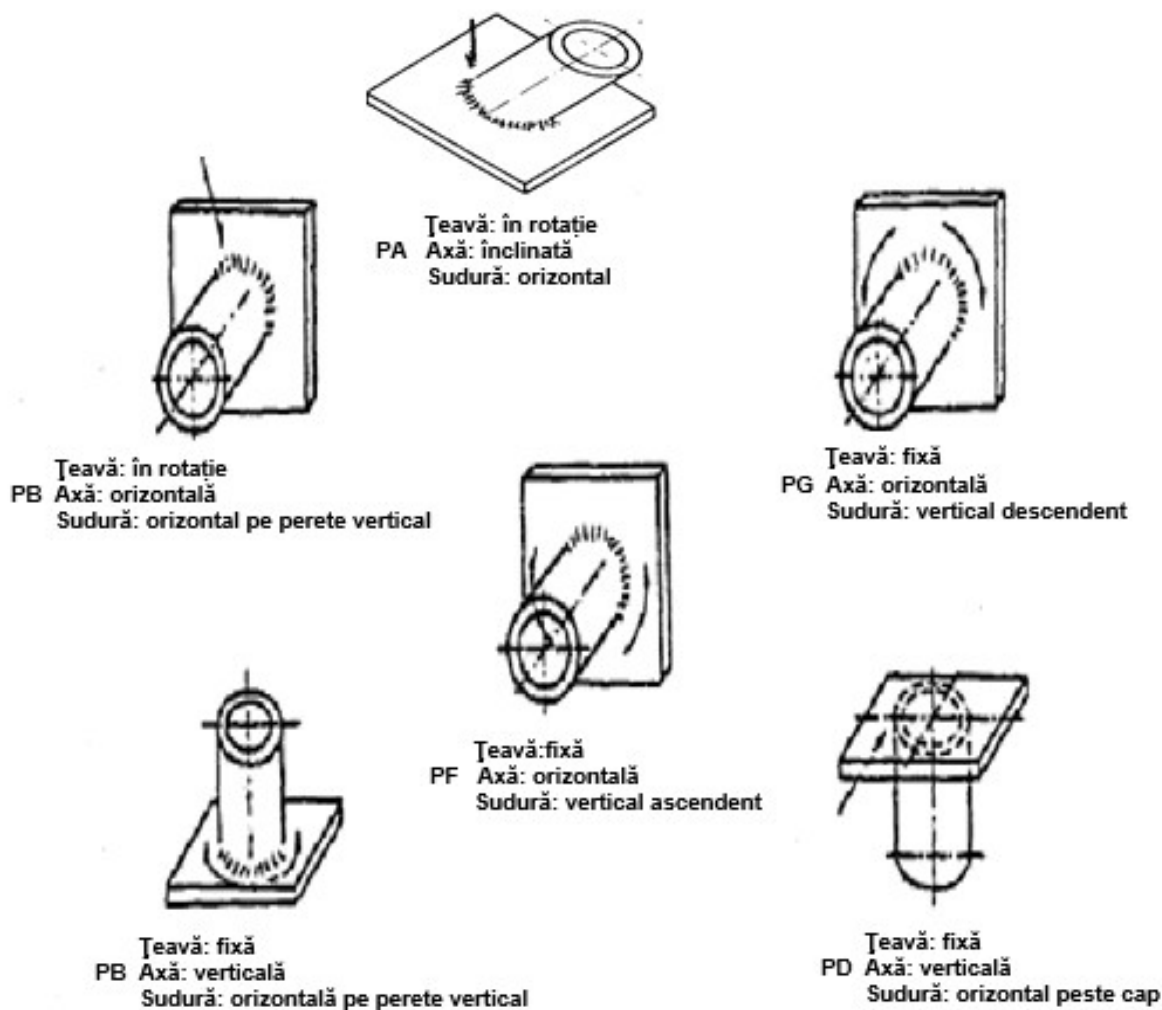
Teava: fixa, PG Axa verticala, Sudura: orizontal pe perete vertical

Pipe: fixed, PG Vertical axis, Weld: horizontal to vertical wall

Teava: fixa, H-L045 Axa: inclinata, Sudura: vertical ascendenta

Pipe: fixed, H-L045 Axis: inclined, Welding: vertical ascending

b) connection welds



Teava: in rotatie, PB Axa: orizontala,
Sudura: orizontal pe perete vertical

Pipe: in rotation, PB Axis: horizontal,
Weld: horizontal on vertical wall

Teava: in rotatie, PA Axa: inclinata,
Sudura; orizontal

Pipe: in rotation, PA Axis: inclined, Weld,
horizontal

Teava: fixa, PG Axa: orizontala, Sudura:
vertical descendent

Pipe: fixed, PG Axis: horizontal,
Welding: vertical downward

Teava: fixa, PB Axa: verticalz, Sudura:
orizontala pe perete vertical

Pipe: fixed, PB Axis: vertical, Welding:
horizontal on vertical wall

Teava: fixa, PF Axa: orizontala, Sudura:

Pipe: fixed, PF Axis: horizontal, Weld:

vertical ascendent**vertical upward****Teava: fixa, PD Axa: verticala, Sudura:
orizontala peste cap****Pipe: fixed, PD Axis: vertical, Weld:
horizontal over the top**

NOTE: The PA welding position referred to in Annex No. 5, point 5.2(b) applies only to steel.

to the Technical Prescription

Technical assessment report for authorisation / extension the validity of the welder's licence

(name , accredited certification body:)

(certification number)

(address and contact details/telephone/email)

(tax identification number/order number in the Trade Register)

ASSESSMENT REPORT _____/Date _____

The applicant legal entity

No .	First and last name welder	Personal identification n number	Codification of authorisation n	Punch welder no.	WPS/WPQR (WPQR ISCIR registration no.)	Assessment result A (admitted) R (rejected)
1.						
2.						

Welding variables	Details of the welded sample	Scope of validity
Welding process		
Joint type		
Welding position		
Sheet metal or pipe		
Sample thickness		
Outer diameter of the pipe		
Base material group		
Filler material type		
Shielding gas		
Welding consumables		
Welding details		

Type of verification	Laboratory/Report No.	Result
Visual inspection		
Examination with penetrating radiation		
Ultrasonic examination		
Bending test ¹⁾		
Technological break test ¹⁾		
Tensile test ¹⁾		
Magnetic particle testing		
Examination with penetrating liquids		
Other examinations ¹⁾		

NOTE: ¹⁾ The inspections were carried out in compliance with the provisions of the technical prescription PT CR9-2025.

A copy of the documents for the above candidates is on file with the accredited personnel certification body.

Legal representative

Designated person

of the certifying body personnel accredited to carry out the assessment
(Position, first and last name, signature and stamp)

(First and last name, signature)

ANNEX No. 7
to the Technical Prescription

Report drafted by the specialist inspector from ISCIR

	Report inspection report no.	ISCIR ¹⁾ Address..... Telephone..... Fax.....
---	--	---

Concluded today on the occasion of carried out in accordance with the provisions of ²⁾ and the applicable technical requirements ³⁾
 la >type with serial number and installation certificate no. with the parameters of the last inspection.....

Owner /Applicant from town street No. county/district..... Tel./Fax/Email:

Tax identification number/J.....legal representative.....

The inspection took place in town str. no. county/district Tel./Fax/Email.....

I, the undersigned⁴⁾ found the following:

.....

I have issued the following instructions:.....

.....

Following this review, it was accepted.....

The due date of the next verification shall be set in on

For this verification, the amount of lei is payable in accordance with Annex .
 , Section , by of the town of
 , street, no. , county/district , to account
 held at the Bank/Treasury,
 branch.....

I have read and understood the above

Representative
ISCIR

.....

Legal representative
legal entity/welding applicant

.....

Technical representative

.....

¹⁾ It is mentioned: ISCIR or the ISCIR Regional Inspectorate.

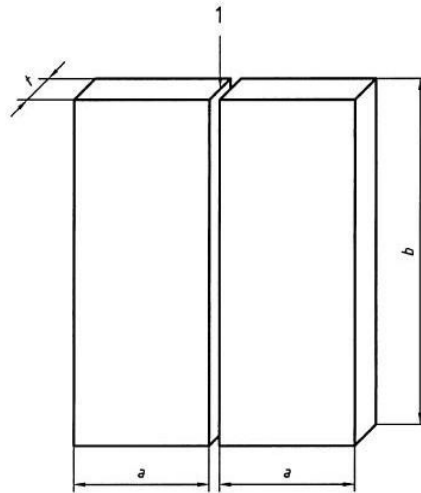
²⁾ The normative act in force on the date the report was drawn up (Law No. 64/2008 on the safe operation of pressure equipment, lifting equipment, and fuel-consuming appliances) shall be specified, as it served as the basis for conducting the technical inspection.

³⁾ The applicable technical specification on which the technical inspection was based shall be specified.

⁴⁾ Position, first and last name.

Form and dimensions of welding samples

Figure 1 - Dimensions of the butt-welded test specimen with full penetration on the plates

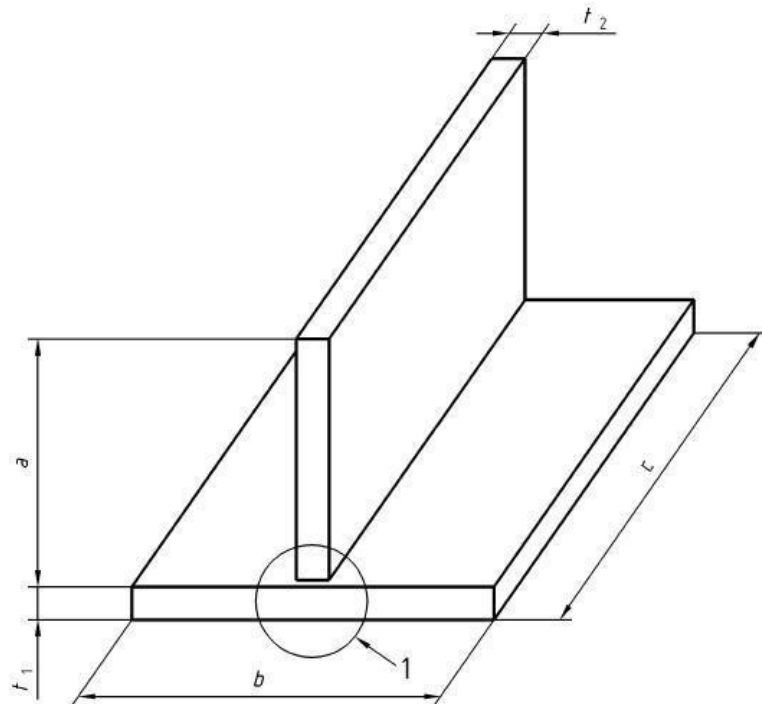


$a \geq 150 \text{ mm}$,

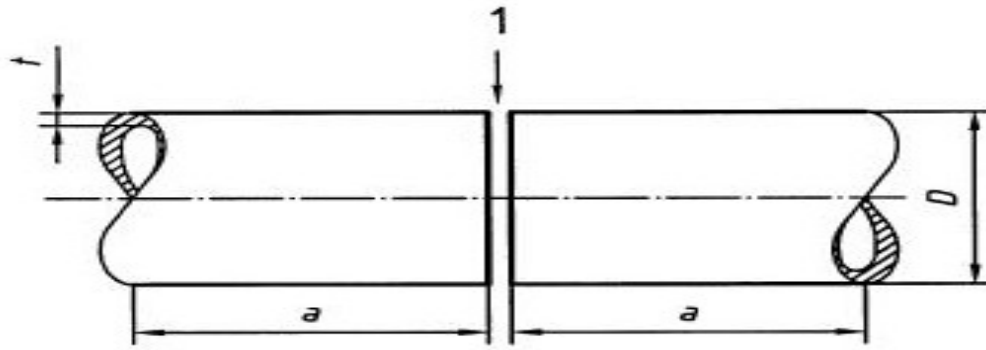
$b \geq 350 \text{ mm}$,

t – sheet thickness, 1 – location of the welded joint,

Figure 2 – Dimensions of the corner weld test sample



$a \geq 200 \text{ mm}$, $b \geq 250 \text{ mm}$, t_1, t_2 - sheet thickness, 1 - location of the welded joint, $c \geq 300 \text{ mm}$.

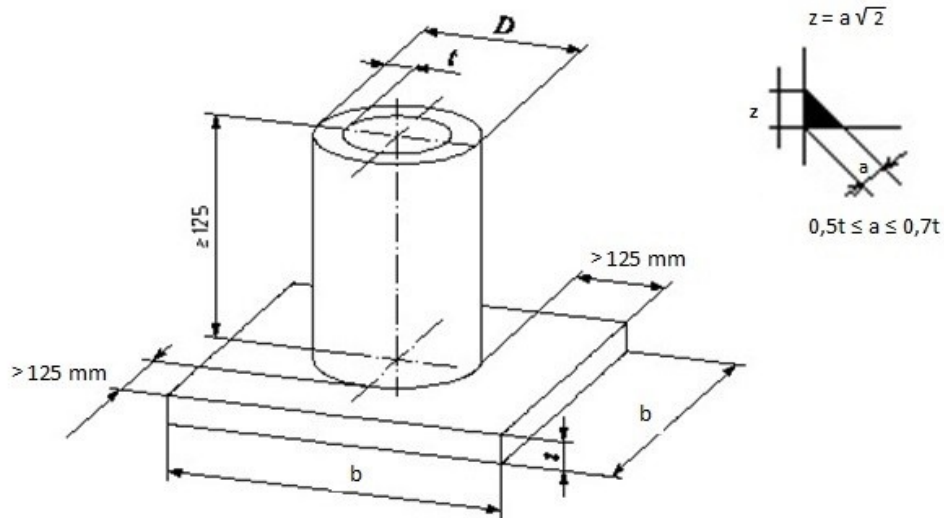
Figure no. 3 - Sample dimensions for a full-penetration butt weld on pipes

$a \geq 150 \text{ mm}$,

t - wall thickness of the pipe,

1 - location of the welded joint,

D – the outer diameter of the pipe;

Figure 4 – Test specimen dimensions for a fillet weld on a pipe

t – pipe wall thickness;

D – the outer diameter of the pipe;

b - board dimensions;

z, a – dimensions of the welded joint.

Examination and testing of steel, aluminium and aluminium alloys samples

Test/inspection method	Butt welding (sheets or pipes)	Corner and fillet welds
Visual inspection ^{a)}	binding	binding
Penetrating examination test ^{b)}	binding	non-binding
Examination with penetrating liquids	non-binding	binding
Transverse bending test	binding ^{c)}	not applicable
Tensile strength test	binding ^{c)}	binding
^{a)} For welding consumables belonging to groups other than Group 1 (as specified in Annex 4, Table 2), the visual inspection shall be supplemented by a penetrant or magnetic particle inspection. ^{b)} Penetrating radiation examination may be replaced by ultrasound examination only for parent material thicknesses ≥ 8.0 mm. ^{c)} For pipes with a diameter $D \leq 40$ mm, the transverse bending test and the technological rupture test may be replaced by four flattening tests and one tensile test for the entire pipe section, with four $\varnothing 4$ mm holes drilled in the weld along two perpendicular axes.		

ANNEX No. 10
to the Technical Prescription

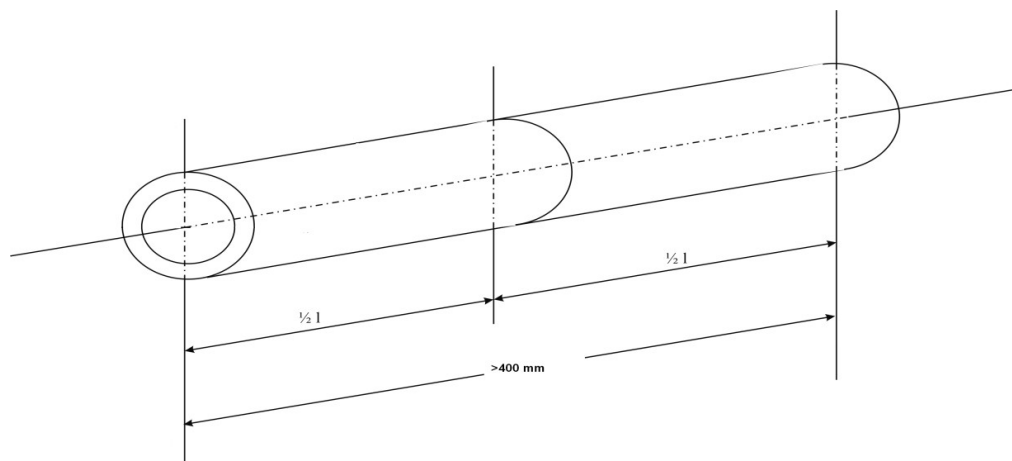
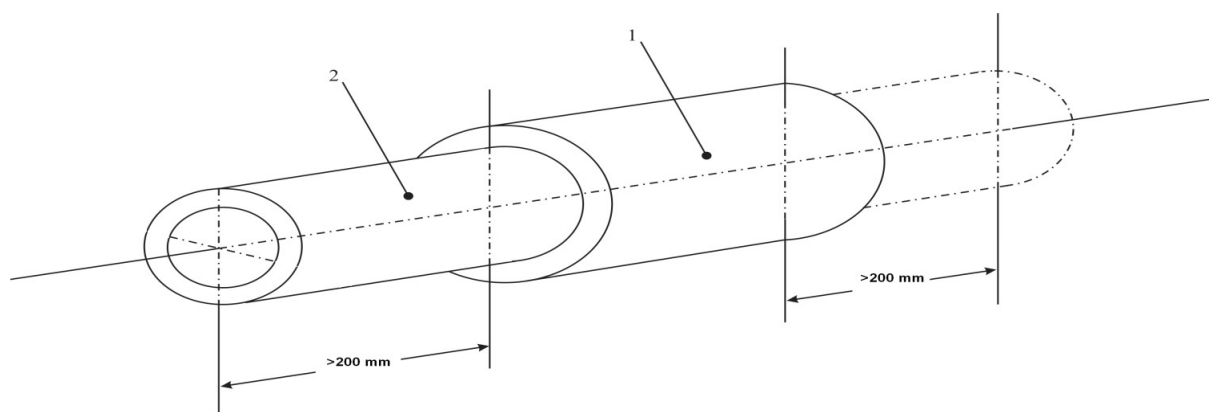
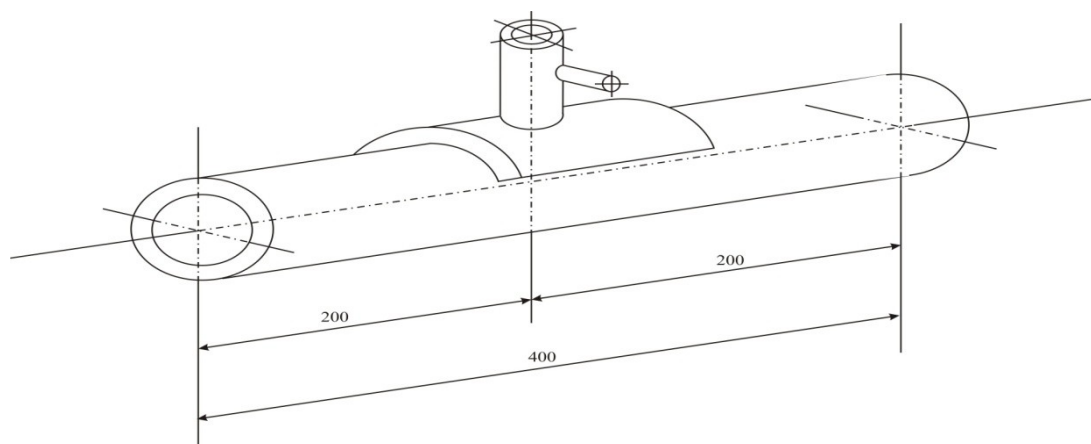
Types and scopes of authorization depending on the dimensions of welded samples and welding processes

Types of authorization	d_n (mm)*	SDR**	Welding process	Joint type	Scope of authorization d_n (mm)
A	110 or 180	11 or 17,6	SD	BW	≤ 315
	≥ 400	$\leq 17,6$			> 315
B	90 or 110	11	SRM	SW	≤ 225
	315	17,6			> 180
C	32/90 or 32/110	11	SRS	SS	all

* d_n - nominal outer diameter

**SDR - *standard dimensional ratio* - the ratio between the nominal outer diameter " d_n " and the nominal wall thickness of the pipe " e_n ", calculated using the formula:

$$SDR = \frac{d_n}{e_n}$$

Shape and dimensions of samples**Figure 1** - Sample for a BW butt-welded joint**Figure 2** - Sample for an electrofusion welded joint with SW sleeve**Figure 3** - - Sample for a so-called SS electrofusion joint (derivation)

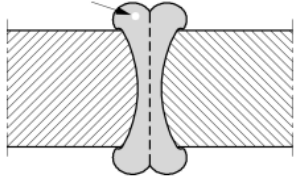
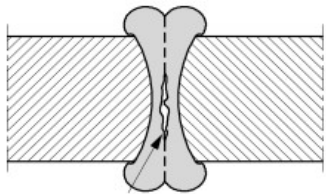
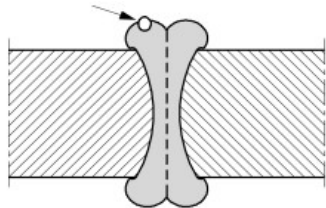
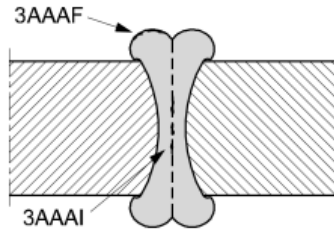
Examination and testing of high-density polyethylene (HDPE) samples

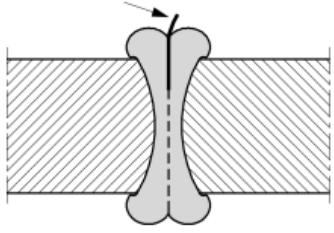
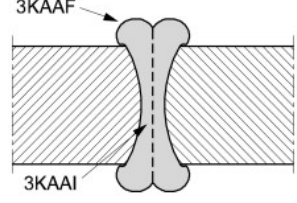
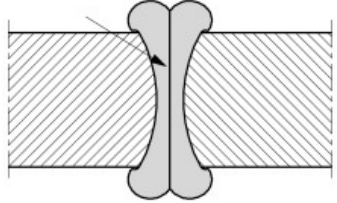
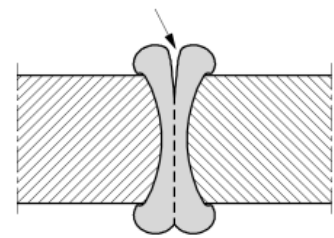
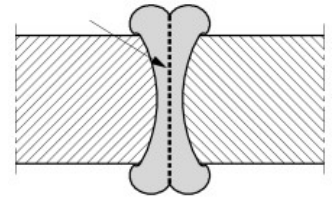
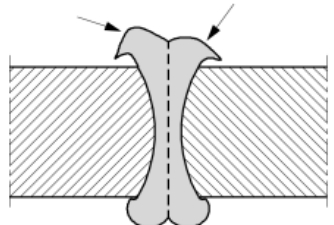
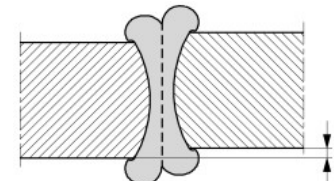
Sample	Verification type	Test volume
BW end-jointing	Visual inspection	100 %
	Tension test	4 specimens
Overlapping joint with SW sleeve	Visual inspection	100 %
	Decohesion fracture test	4 specimens
Saddle joint (derivation) SS	Visual inspection	100 %
	Decohesion fracture test	2 specimens

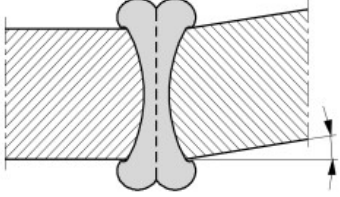
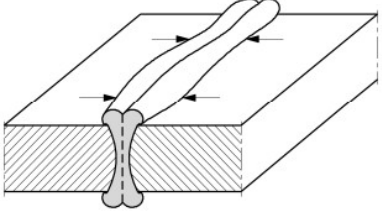
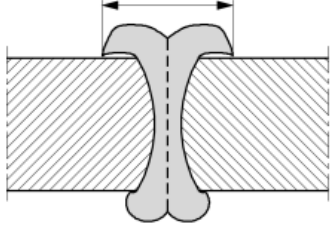
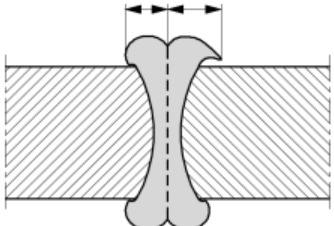
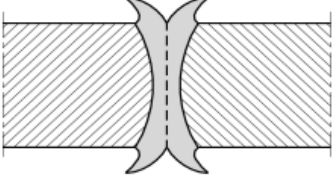
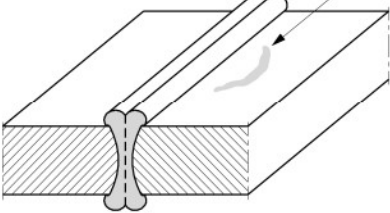
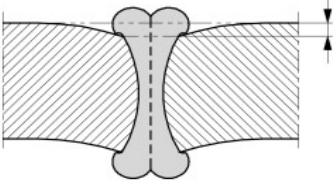
to the Technical Prescription

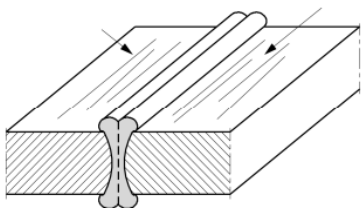
Acceptance criteria for defects in welded joints

13.1 Defect acceptance criteria for butt welds with a heating element

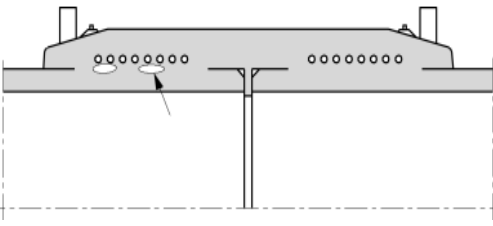
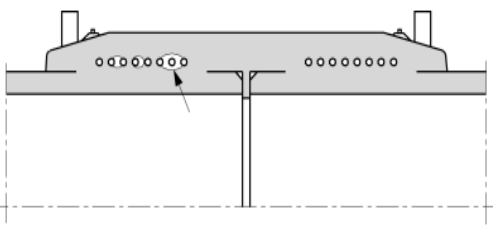
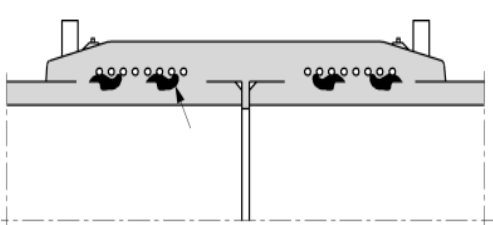
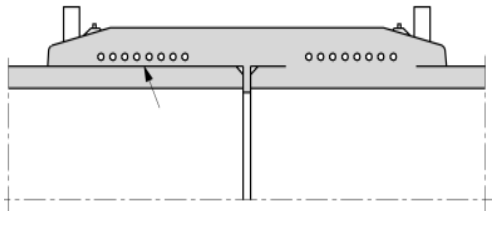
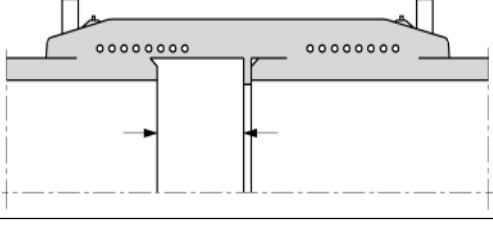
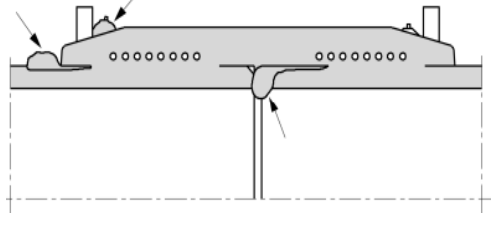
No.	Scoring ¹⁾	Name	Description	Illustration
1	2BAAA	Blow	Cavity formed by releasing or attracting gas(es). This cavity is identifiable by its colour which is similar to the one of the material that it surrounds. It may be spheroidal elongated tubular (vermicular)	
2	2CAAI	Blister	Cavity caused by weld shrinkage during solidification. This cavity can be identified by the presence of ductility, or the whitening caused by tensions.	
3	2MAAA	Surface blow	on the weld.	
4	3AAAI 3AAAF	Solid inclusion	Foreign material built into the weld of the weld. Foreign material built into the welds surface.	

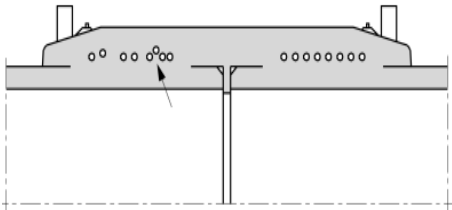
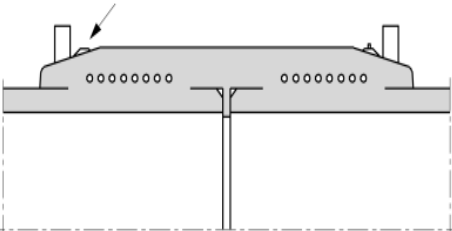
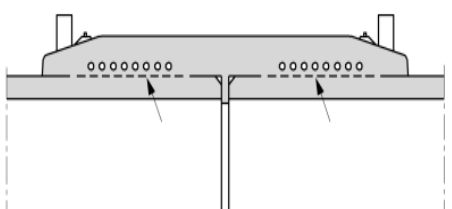
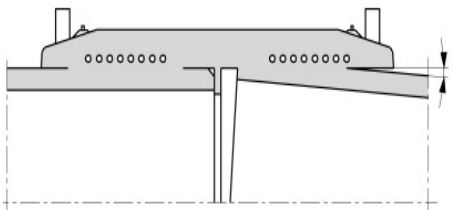
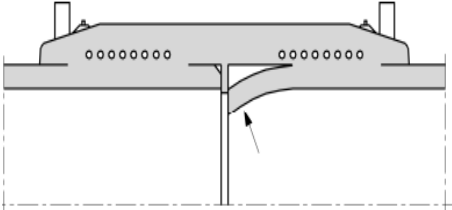
5	3JAAI	Fragment material inclusion	Fragment material inclusion on the weld of the weld.	
6	3KAAI 3KAAF	Degraded polymer	Inclusion from decomposition products into the weld interface. Inclusion from decomposition products into the surface of the welds.	
7	4BAAA	Lack of fusion / Lack of connection	There are no fusion / connection via the interface of the weld.	
8	4QBAF	Notch in burr or in the weld bead	Excessive depth of the notch in the centre of the weld.	
9	4WAAA	Cold weld	Merger / connection incomplete due to the weld interface.	
10	5CAAA	Incorrect profile of the weld	Deviation from the standard form of the weld.	
11	5EIAA	Wrong alignment	Deviation from the specified tolerances for coplanarity between two welded parts.	

12	5EJAA	Angular misalignment	Deviation from the specified angle between two welded parts	
13	5GAAA	Irregular width	Excessive variation in the width of the weld, or of the thickening.	
14	6DAAA	Excessive width	Weld width higher than the one.	
15	6HAAA	Excessive weld asymmetry	Asymmetrical thickening of the weld.	
16	6MAAA	Insufficient backflow material	Backflow material with smaller size than the specified one.	
17	7BAAA	Thermal damage outside the welding area,	Surface damage as a result of the accidental action of a heating source.	
18	7VAAA	Excessive connection	Deviation between the outer diameter at the end of the pipe and the outer diameter at distance from the end	

			of the pipe.	
19	9CAAA	Tool trace	Local deterioration from the reason for the arrest.	
Legend				
----	good fusion/bonding at the interface			
.....	cold welding at the interface			
——	lack of fusion / lack of connection at the interface			
1) The explanation for each symbol in the notation can be found in Table 13.3				

13.2 Defect Acceptance Criteria for Resistance Welded Joints

No.	Scoring ¹⁾	Name	Description	Illustration
1	2BAAA	Blow	Cavity formed by release or attraction of gas(es).	
2	2CAAA	Blister	Cavity formed due to shrinkage of the weld during solidification.	
3	3AAAA	Solid inclusion	Foreign material incorporated in the welding.	
4	3DAAA	Oxide inclusion	The absence of evidence of pipe pickling or incomplete pickling.	No illustration is required
5	4BAAA	Lack of fusion / Lack of connection	Area where there is no fusion / connection between the pipe and the fitting	
6	4CAAA	Incomplete penetration (of the pipe)	Insufficient penetration of the pipe into the sleeve.	
7	4PAAA	Material extrusion	Extrusion of material outside the joint or welding indicator	
No.	Scoring ¹⁾	Name	Description	Illustration

8	4TAAA	Displaced heating wire	Excessive displacement of the heating wire during the welding cycle.	
9	4UAAA	Malfunction welding indicator	Lack of movement of the welding indicator during welding.	
10	4WAAA	Cold weld	Merger / connection between the pipe and the fitting.	
11	5EJAA	Angular misalignment	Alignment deviation between pipe and the fitting.	
12	7VAAA	Excessive connection	Deviation between the outer diameter at the end of the pipe and outer diameter at a distance from the end of the pipe.	
¹⁾ The explanation for each symbol in the notation can be found in Table 13.3				

13.3 Explanations for each symbol

Symbol 1 given in Table A.1 defines the group of imperfections:

Table A1 – Definition of the first symbol

No.	Symbol	Imperfections group
1	2	Cavities
2	3	Strong inclusions
3	4	Imperfect fusion / bonding or penetration
4	5	Defective form
5	6	Incorrect dimensions
6	7	Miscellaneous imperfections
7	9	Surface imperfections not directly caused by welding

Symbol 2, given in Table A.2, defines the subgroup of imperfections:

Table A.2 – Definition of the second symbol

No.	Symbol	Imperfections subgroup
1	2A	Cavities
2	2B	Strong inclusions
3	2C	Imperfect fusion / bonding or penetration
4	2M	Defective form
5	3A	Incorrect dimensions
6	3D	Miscellaneous imperfections
7	3J	Surface imperfections not directly caused by welding
8	3K	Degraded polymer
9	4A	Imperfect fusion / bonding or penetration
10	4B	Lack of melting
11	4C	Lack or incomplete penetration
12	4D	Excessive penetration
13	4E	Notch or notch at the root
14	4F	Non-existent welding
15	4P	Material extrusion
16	4Q	Notch in the burr or in the thickened section
17	4T	Displaced heating wire
18	4U	Displaced heating wire
19	4W	Cold weld
20	5A	Defective form

No.	Symbol	Imperfections subgroup
21	5B	Excessive deformation

22	5C	Incorrect weld profile
23	5D	Leakage of material
24	5E	Angular non-alignment
25	5F	Piercing
26	5G	Irregular width
27	5H	Uneven surface
28	5N	Over-melting
29	6A	Incorrect dimensions
30	6B	Excessive thickening (excessive over-elevation)
31	6C	Welding thickness greater than prescribed
32	6D	Excessive width
33	6F	Incomplete thickness
34	6G	Welding thickness lower than prescribed
35	6G	Excessive asymmetry
36	6J	Removal at the root
37	6M	Insufficient backflow material
38	7A	Miscellaneous imperfections
39	7B	Thermal damage outside the welding area
40	7G	Faulty restart
41	7T	Weld intersections
42	7V	Excessive connection
43	9C	Tool trace

Symbol 3, given in Table A.3, defines the form of individual imperfections:

Table A.3 – Definition of the third symbol

No.	Symbol	Form of the individual imperfections
1	A	Undefined form
2	B	Longitudinal (x-axis)
3	C	Transverse (y axis)
4	D	On the thickness (Z-axis)
5	E	Tubular or vermicular
6	F	Branched
7	G	Spherical
8	H	Radial (star)
9	I	Elongated or linear
10	J	Angular

Symbol 4 given in Table A.4 defines the morphology of the groups of imperfections:

Table A.4 – Definition of the fourth symbol

No.	Symbol	The morphology of groups of imperfections
-----	--------	---

1	A	The morphology of groups of imperfections
2	B	Localised (limited to a certain portion of the examined area)
3	C	Intermittence
4	D	Locally intermittent
5	E	Continuous
6	F	Grouped (in the nest)
7	G	Evenly distributed
8	H	Aligned (arranged in a line)
9	I	Separate
10	J	Insulated (single defect throughout the whole area under examination)
11	K	Irregular
12	L	Open to the surface
13	M	Grouped locally

The symbol 5 given in Table A.5 defines the position of the imperfections:

Table A.5 – Definition of the fifth symbol

No.	Symbol	Position of the imperfections
1	A	Position to be confirmed
2	B	Welding / Melted polymer
3	C	Weld joint / Weld connection / Core edge / Brazed joint (including the diffusion zone)
4	D	Thermally influenced zone (TIZ)
5	E	Unaltered base material
6	F	Face of the weld / Upper edge of the cut
7	G	Weld root / Bottom edge of the cut
8	H	Side wall / cutting surface
9	I	Plan of the joint
10	J	Between rows
11	K	Crater / End of passage
12	L	Fusion welding
13	M	Foil
14	N	Cut joint

to the Technical Prescription

14.1. Report template

ISCIR HEADER

Legal person...../address, UNIQUE IDENTIFICATION NUMBER, J, email

REPORT No..... of.....

**Regarding the authorization of welders for steel, aluminium and aluminium alloys
according to the technical prescription PT CR 9-2025**

WELDERS	FIRST AND LAST NAME	1.	PUNCH NO.	1.
		2.		2.
		3.		3.
		4.		4.
		5.		5.
		6.		6.
Welding process..... Welding position..... Process specification..... Welding joint type..... (WPS)				
BASE MATERIALS Designation.....Group..... Thickness.....mm Diameter.....mm Other details.....		FILLER MATERIALS Name..... Dimensions.....mm Shielding gas..... Other details.....		
ELECTRICAL CHARACTERISTICS The nature and polarity of the current..... Intensity.....A Voltage.....V Other details.....		WELDING TECHNIQUE Welding speed..... cm/min Wire feed speed..... cm/min Thread-like or pendulous bead..... Oscillation..... Root gouging..... Other details.....		
THERMAL TREATMENT Temperature..... Maintenance..... Cooling.....				
EXAMINATION WITH: ☐ PENETRATING RADIATION/ ☐ ULTRASOUNDS Bulletin No..... The nature of the radiations..... Result..... Control laboratory..... Other details.....				
Technological bending/tensile test				
Punch no.	Specimen code	Result	Bulletin No.	Lab
Other examinations.....				
SCOPE OF VALIDITY Welding process..... Welding position..... Joint type..... Base material..... Sizes..... Filler material.....		AUTHORISATION Practical exam grade..... Theoretical exam grade: passed/not graded Conclusions on authorisation: pass/fail		

For this inspection, the amount of lei is payable in accordance with annex, section, by of the town of, on street. No. county/district in the account open at Bank/Treasury..... branch

 Representative
ISCIR

 Legal representative
legal entity/applicant

 Technical officer
with welding

14.2. Report template

ISCIR HEADER

Legal entity...../address, unique identification number, J, e-mail

REPORT No..... of.....**Regarding the authorisation of HDPE welding operators, in accordance with the technical prescription****PT CR 9-2025**

WELDER S	FIRST AND LAST NAME	1	WELDER PUNCH No.	1
		2		2
		3		3
		4		4
		5		5
		6		6
WPQR/WPS		JOINT TYPE:		
DIMENSIONAL REPORT STANDARD (SDR):		WELDING PROCESS:		
BASE MATERIALS				
MB 1	Designation:	MB 2	Designation:	
	Standard:		Standard:	
	PE type:		PE type:	
	Diameter (mm)		Diameter (mm)	
WELDING PARAMETERS				
Heating pressure _____		Heating time _____		
Pressure holding _____		Maintenance time _____		
Curing time _____		Welding temperature _____		
Pressure rise time _____		Welding pressure _____		
Welding time _____		Cooling pressure _____		
Cooling time _____				
VISUAL INSPECTION		TENSILE TEST		
Lab		Lab		
Bulletin No:		Bulletin No:		
Result		Result		
DECOHESION FRACTURE TEST				
Bulletin No.		Lab		
Result				
SCOPE OF VALIDITY		AUTHORISATION		
Welding process _____		Rating for the practical exam _____		
Joint type _____		Rating for the theoretical knowledge examination _____		
Base materials _____		Conclusions regarding authorisation _____		
Diameter range (mm) _____				
Standard Dimensional Ratio (SDR) _____				
Other details _____				

For this verification, the sum of lei is payable in accordance with Annex Point....., by from the locality of , street. , no.. , county/district , into account held at , Bank/Treasury , branch

Representative
ISCIR.....
.....Legal representative
legal entity/applicant.....
.....Technical officer
with welding.....
.....

to the Technical Prescription

15.1. (front)

**STATE INSPECTION FOR THE CONTROL OF BOILERS, PRESSURE
VESSELS AND LIFTING INSTALLATIONS
NATIONAL AUTHORITY FOR THE CONTROL OF BOILERS AND PRESSURE VESSELS
AND HANDLING EQUIPMENT**

Pursuant to Law No 64/2008, as republished, with subsequent amendments and additions

ISCIR

WELDER'S LICENSE

WELDER PERFORMANCE QUALIFICATIONS

Code/Designation:

According to the provisions of the Technical Prescription PT CR9-2025 approved by
Order No..... of the Minister for the Economy, Digitisation, Entrepreneurship and Tourism
and
standard aplicabil¹⁾

LEGAL ENTITY/Company:

ADDRESS/Address

REGISTRATION/Reg. Number: Tax ID

number, J

PRENUMELE/First name:

NUMELE/Last name

CNP/SSN:

PUNCH NO./Mark no.:

PROCES-VERBAL Nr./Minutes No.:

WPS/WPQR ²⁾:

(photo)

Variabile esențiale/Essential variables	Welded sample details/ Weld test details	Scope of authorization/ Range of aproval
Procedeu de sudare/Welding process:		
Tipul îmbinării/Joint type:		
Poziția de sudare/Welding position		
Placă sau țevă/Plate or pipe:		
Grosime probă/Test piece thickness:		
Diametrul exterior al țevii/Outside pipe diameter:		
Grupă material de bază/Parent material group:		
Tip material adaos/Filler material type:		
Gaz de protecție/Shielding gas:		
Mat. auxiliare de sudare/Welding auxiliaries		
Detalii de sudare/Welding details:		

Alte date/Other data:

Tip verificări probe sudate/Type of test	Executat/ Performed	Nr. raport/Report No.
Vizual/Visual		
Radiații penetrante/Radiographic test		
Ultrasunete/Ultrasonic test		
Îndoire/Bend Test		
Rupere tehnologică/Fracture test		
Particule Magnetice/Magnetic particles		
Lichide Penetrante/Dye penetrant		
Other examinations		

¹⁾ This is the European standard for the qualification of welders, specific to the type of material shall be entered;

²⁾ The WPQR's ISCIR registration number shall be entered;

Data emiterii/Date of issue

Nr. /No.:

Valabil până la/Valid until:

Emitent/Issuer:

ISCIR

Name Chief Inspector

Inspectorul examinator/Specialty Inspector,

Semnătura și ștampila
Signature and stamp

Nume/Name:
Semnătura și ștampilă/Signature and stamp:

15.1. (back page)

**PRELUNGIREA VALABILITĂȚII AUTORIZAȚIEI/
RENEWAL OF VALIDITY OF THE AUTHORISATION**

Aut. No. _____

No. no.	PROCES-VERBAL/DATA REPORT/DATE	VALABILITATE/ Validity		
		De la/From	Până la/Until	ISCIR Semnătura și ștampila/ Signature and stamp
1	1) _____			
2	_____			
3	_____			
4	_____			
5	_____			
6	_____			

NOTES:

¹⁾ Enter the number and date of the report.

15.2. (front)

ROMANIA
STATE INSPECTION FOR THE CONTROL OF BOILERS, PRESSURE
VESSELS AND LIFTING INSTALLATIONS
NATIONAL AUTHORITY FOR THE CONTROL OF BOILERS AND PRESSURE VESSELS
AND HANDLING EQUIPMENT
Pursuant to Law No 64/2008, as republished, with subsequent amendments and additions
ISCIR
AUTORIZAȚIE DE OPERATOR SUDARE PE-HD
WELDER PERFORMANCE QUALIFICATIONS PE-HD

Code/Designation:

In accordance with the provisions of technical specification PT CR 9-2025, approved by
 Order of the Minister for the Economy, Digitalisation, Entrepreneurship and Tourism
 No.

LEGAL ENTITY/Company:

ADDRESS/Address

REGISTRATION/Reg. Number: Tax ID
number, J

PRENUMELE/ First name:

NUMELE/Last name

CNP/SSN:

PUNCH NO./Mark no.:

PROCES-VERBAL Nr./Minutes No.:

WPS/WPQR¹⁾:

(photo)

Variabile/Variables	Welded sample details/ Weld test details	Domeniul de valabilitate/ Range of aproval
Procedeu de sudare/Welding process:		
Tipul îmbinării/Joint type:		
Diam.ext.al țevii/Pipe outside diameter (mm):		
SDR		
Material de bază/Parent material:		
Tipul verificării/ Type of test	Executat și acceptat/ Performed and accepted	Nr. buletin/ Certificate No.
Vizual/Visual		
Încercare la tracțiune/Tensile test		
Rupere prin decoeziune/Decohesion test		
Rupere tehnologică/Fracture test		

¹⁾The WPQR's ISCIR registration number shall be entered;**Data emiterii/Date of issue****Nr. /No. :****Valabil până la/Valid until:****Emitent/Issuer:****ISCIR****Name Chief Inspector****Semnătura și ștampila****Signature and stamp****Inspectorul examinator/****Specialty Inspector,****Nume/Name:****Semnătura și ștampilă/Signature and stamp:**

15.2. (back page)

**PRELUNGIREA VALABILITĂȚII AUTORIZAȚIEI/
RENEWAL OF VALIDITY OF THE AUTHORISATION**

Aut.Nr./
Authorisation

No. no.	n No PROCES-VERBAL/DATA/ REPORT/DATE	VALABILITATE/ Validity		
		De la/From	Până la/Until	ISCIR Semnătura și ștampila/ Signature and stamp
1	1) _____			
2	_____			
3	_____			
4	_____			
5	_____			
6	_____			

NOTES:

¹⁾ Enter the number and date of the report.

INDICATIVE LIST OF STANDARDS

SR EN ISO 9606-1:2017 Qualification testing of welders. Fusion welding. Part 1: Steels

SR EN ISO 9606-2:2005 Qualification of welders. Fusion welding. Part 2: Aluminium and aluminium alloys

SR CEN ISO/TR 15608:2017 Welding. Guideline to a system for sorting metal materials

SR EN 10028-2:2017 Flat steel products for pressure vessels. Part 2: Unalloyed and alloyed steels with specified high-temperature properties

SR EN 10216-2:2024 Seamless steel pipes for use under pressure. Technical delivery terms. Part 2: Non-alloy steel tubes with specified room temperature properties

SR EN ISO 5817:2023 Welding. Fusion-welded joints made of steel, nickel, titanium, and their alloys (excluding energy-beam welding). Quality levels for imperfections.

SR EN ISO 10042:2018 Welding. Arc-welded joints in aluminium and its alloys. Quality levels for imperfections.

SR EN ISO 17635:2025 Non-destructive testing of welds. General rules for metallic materials

SR EN ISO 17637:2017 Non-destructive testing of welds. Visual testing of fusion-welded joints.

SR EN ISO 17636-1:2022 Non-destructive testing of welds. Radiographic examination. Part 1: Techniques using X-ray or gamma radiation with film

SR EN ISO 17636-2:2023 Non-destructive testing of welds. Radiographic examination. Part 2: Techniques using X-ray or gamma radiation with digital detectors

SR EN ISO 10675-1:2022 Non-destructive testing of welds. Acceptance levels for radiographic examination. Part 1: Steel, nickel, titanium and their alloys

SR EN ISO 17640:2019 Non-destructive testing of welded joints. Ultrasonic testing. Techniques, examination and assessment levels

SR EN ISO 11666:2018 Non-destructive testing of welds. Ultrasonic testing. Acceptance levels

SR EN ISO 3452-1:2021 Non-destructive testing. Penetrant testing. Part 1: General principles

SR EN ISO 23277:2015 Non-destructive testing of welds. Examination of welds with penetrating liquids. Acceptance levels

SR EN ISO 17638:2017 Non-destructive testing of welds. Magnetic particle testing

SR EN ISO 23278:2015 Non-destructive testing of welded joints. Magnetic powder examination of welded joints. Acceptance levels.

SR EN ISO 6506-1:2015 Metallic materials. Brinell's hardness test. Part 1: Test methods

SR EN ISO 6507-1:2023 Metallic materials. Vickers hardness test. Part 1: Test method

SR EN ISO 6892-1:2020 Metallic materials. Tension test. Part 1: Test method at ambient temperature

SR EN ISO 4136:2022 Destructive tests on welds in metallic materials Transverse tensile test

SR EN ISO 148-1:2017 Metallic materials. Charpy pendulum impact test. Part 1: Test method

SR EN ISO 9016:2022 Destructive tests of welds in metallic materials.

Impact tests. Test specimen location, notch orientation and examination

SR EN ISO 7438:2020 Metallic materials. Bending test

SR EN ISO 5173:2023 Destructive tests on welds in metallic materials Bend tests

SR EN ISO 8495:2014 Metallic materials. Tube. Ring-expanding test

SR EN ISO 17639: 2022 Destructive tests on welds in metallic materials. Macroscopic and microscopic examination of welds

SR EN ISO 3887:2023 Steels. Determination of the decarburization depth

STAS 4203-74 Metallography. Taking and preparing metallographic samples

SR 5000:1997 Microstructures and metallographic constituents of ferrous products. Glossary

STAS 5500-74 Metallography. Defects. Terminology

STAS 11961/1:1983 Metallography. Methods for highlighting and assessing the macrostructure of steels.

STAS 7626:1979 Metallography. Microstructures. Steel standard ladders

SR EN ISO 643:2024 Steels. Micrographic determination of the size of the apparent grain

SR EN 10247: 2017 Micrographic determination of the non-metallic inclusions content of steel by reference to standard images

SR EN ISO 9017:2018 Destructive tests of welds in metallic materials. Fracture test

SR ISO 14250:2001 Steel. Metallographic characterization of duplex grain size and distributions

SR EN ISO 3651-2:2020 Determination of resistance to intergranular corrosion of stainless steels Part 2: Ferritic, austenitic and ferritic-austenitic (duplex) stainless steels. Corrosion test in sulphuric acid medium

SR CR 10316: 2002 Optical emission analysis of low alloy steels (routine method). Guidelines for the preparation of standard routine method for optical emission spectrometry

SR EN ISO 9015-1:2011 Destructive tests on welds in metallic materials. Hardness test. Part 1: Hardness testing of electric arc welded joints

SR EN ISO 18265:2014 Metallic materials. Conversion of hardness values

SR EN 14728/31.7.2019: Imperfections in thermoplastics welded joints. Classification.

SR EN 16296/30.7.2021: Imperfections in welded joints of thermoplastics; Quality levels.

SR EN 12814-1:2001 Testing of welded joints of thermoplastics semi-finished products Part 1:
Bending test

SR EN 12814-2:2021 Testing of welded joints of thermoplastics semi-finished products Part 2:
Tension test

SR EN 12814-4+AC:2018 Testing of welded joints of thermoplastics semi-finished products Part 4:
Peel test

SR EN 12814-5:2001 Testing of welded joints of thermoplastics semi-finished products Part 5:
Macroscopic examination