



ROMANIA

**MINISTRY OF REGIONAL DEVELOPMENT AND  
PUBLIC ADMINISTRATION  
PERMANENT TECHNICAL CONSTRUCTION COUNCIL**

**TECHNICAL OPINION**

Under Minutes no. **2-147** of **22.05.2019** of the Commission for Opinion no. **2** concerning the Technical Construction Approvals:

**PERMANENT TECHNICAL CONSTRUCTION COUNCIL**

**GIVES FAVOURABLE OPINION:**

as concerns the Technical Approval no. **016-05/3771-2019** drawn-up by **ICECON SA BUCHAREST**, for **CROSSLINKED POLYETHYLENE (PE-Xa) PIPES, WATER SUPPLY NETWORKS** manufactured by **S.C. INNOTUBE S.R.L., Târnăveni, Mures County, Lucrative facility: Odorheiu Secuiesc, Harghita County**

This **TECHNICAL OPINION** shall be valid until **22.05.2021**, and it may be extended in case the holder proves the maintenance of the utilization aptitude of the object of the technical approval according to the provisions of Chapter "Conditions" of the Technical Approval.

*For the intended use of the crosslinked polyethylene (PE-Xa) pipes in contact with drinking water, the holder of the technical approval shall hold a sanitary opinion issued by the National Public Health Institute in accordance with the regulations issued by the Ministry of Health.*

The technical approval shall be valid until **22.05.2022** for the holder, manufacturer and distributors listed in the annex to the technical approval.

**PRESIDENT OF THE PERMANENT TECHNICAL CONSTRUCTION COUNCIL**

**Ciprian Lucian ROȘCA**

*[illegible signature]*

*[stamp: Permanent Technical Construction Council, Romania]*

**Head of CTPC Technical Secretariat**

**Gheorghe HAȘCĂU**

*[illegible signature]*

Subsemnata **CRISTACHE DELIA**, traducător autorizat cu nr. **27394/2020**, certific exactitatea traducerii documentului prezentat din limba română în limba engleză, care a fost vizat de mine.

I, the undersigned **CRISTACHE DELIA** authorized translator registered under no. **27394/2020**, do hereby certify the accuracy of the English translation of the Romanian document, which has been endorsed by me.

Traducător autorizat/Authorized translator  
**CRISTACHE DELIA**



MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC ADMINISTRATION  
PERMANENT TECHNICAL CONSTRUCTION COUNCIL



**Technical Approval**  
**016-05/3771-2019**

**ȚEVI DIN POLIETILENĂ RETICULATĂ (PE-Xa), PENTRU INSTALAȚII DE APĂ  
TUYAUX EN POLYETHYLENE RETICULE (PE-Xa) POUR INSTALLATIONS  
D'EAU**

**CROSSLINKED POLYETHYLENE (PE-Xa) PIPES, WATER SUPPLY NETWORKS  
VERNETZTES POLYETHYLEN (PE-Xa) ROHRE, FÜR WASSERNETZE**

*category code 29*

**MANUFACTURER S.C. INNOTUBE S.R.L.**

Registered office: Str. Avram Iancu, nr. 176, Târnăveni, Jud. Mures  
Tel.: + 4 0745 206 161

Lucrative facility (factory): Str. Vulturului, nr.14, Cod poștal 535600,  
Odorheiu Secuiesc, Jud. Harghita,  
Tel.: + 4 0266 219 410; Fax: +4 0266 219 411

**HOLDER OF THE TECHNICAL APPROVAL: SC INNOTUBE S.R.L.**

Registered office: Str. Avram Iancu, nr. 176. Târnăveni, Jud. Mures  
Tel.: + 4 0745 206 161

Lucrative facility (factory): Str. Vulturului, nr.14, Cod poștal 535600, Odorheiu Secuiesc  
Jud. Harghita, Tel.: + 4 0266 219 410; Fax: +4 0266 219 411

**TECHNICAL APPROVAL DRAWN-UP BY: ICECON SA, Bucharest, Research Institute for  
Construction Equipment and Technology**

Sos. Pantelimon 266, Sector 2. Bucharest  
Cod poștal 021652, CP 3-33  
Tel.: + 4 021 255 07 34; +4 021 255 31 49  
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**SPECIALIZED GROUP NO. 5**

Products, procedures and equipment for systems afferent to constructions for: heating, conditioning,  
ventilation, sanitary facilities, gas, electricity

*This technical approval shall be valid until 22.05.2022 only accompanied by the TECHNICAL  
OPINION of the Permanent Technical Construction Council, and it shall not replace the quality  
certificate.*



**PERMANENT TECHNICAL CONSTRUCTION COUNCIL**

*Specialized group no. 5 "Products, procedures and equipment for systems afferent to constructions for: heating, conditioning, ventilation, sanitary facilities, gas, electricity" of ICECON S.A. Bucharest, Research Institute for Construction Equipment and Technology, after reviewing the documentation by which the technical approval was requested by S.C. INNOTUBE S.R.L. from Târnăveni, Mureș County, a documentation registered under no. 18.12.016.016 on 21.12.2018 concerning the products "CROSSLINKED POLYETHYLENE (PE-Xa) PIPES, WATER SUPPLY NETWORKS" manufactured by S.C. INNOTUBE S.R.L. from Târnăveni, Mureș County, prepares this Technical Approval no. 016-05/3771-2019 in accordance with the regulatory acts afferent to the field of reference valid as at this date.*

**1. Brief definition**

**1.1 Brief description**

Crosslinked polyethylene (PE-Xa) pipes manufactured by INNOTUBE SRL are used to manufacture thermal and sanitary systems.

The pipes are manufactured by means of extrusion procedure (single layer pipes) and co-extrusion (multi-layer pipes) using peroxide reticulation technology ( $C_{16}H_{30}O_4$ ).

The single-layer and multi-layer crosslinked polyethylene (PE-Xa) pipes are made of polyethylene granules with minimum reticulation degree of 70%.

When manufactured, pigments and stabilizers are added into antioxidant formation mixture.

The protection layers (oxygen barrier - EVOH, polyethylene) are added on the outside of PE-Xa pipe, over its nominal thickness.

PE-Xa pipes are manufactured with or without protection layers, with a wide range of outer diameters  $\varnothing 16 + \varnothing 32$ , with nominal pressure of 6 bars, 10 bars.

The pipes manufactured by S.C. INNOTUBE S.R.L. bear the commercial name of **INNOPEX**, and they are made with a type and size range which contains:

♦ **single-layer PE-Xa pipes** with the following features:

- **Pn 6 bars**, of the following sizes (outer diameter x wall thickness):

$\varnothing 16 \times 2.0$  mm,  $\varnothing 17 \times 2.0$  mm,  $\varnothing 20 \times 2.0$  mm,  $\varnothing 25 \times 2.3$  mm,  $\varnothing 32 \times 2.9$  mm;

- **Pn 10 bars**, of the following sizes (outer diameter x wall thickness):

$\varnothing 16 \times 2.2$  mm,  $\varnothing 17 \times 2.4$  mm,  $\varnothing 20 \times 2.8$  mm,  $\varnothing 25 \times 3.5$  mm,  $\varnothing 32 \times 4.4$  mm;

♦ **multi-layer PE-Xa pipes**, with oxygen barrier layer (EVOH) against oxygen diffusion, and a polyethylene layer, with the following features:

- **Pn 6 bars**, of the following sizes (outer diameter x wall thickness (+layer thickness)):  $\varnothing 16 \times 1.8 (+0.2)$  mm,  $\varnothing 17 \times 1.7(+0.3)$  mm,  $\varnothing 20 \times 1.7(+0.3)$  mm,  $\varnothing 25 \times 2.0(+0.3)$  mm,  $\varnothing 32 \times 2.6(+0.3)$  mm.

- **Pn 10 bars**, of the following sizes (outer diameter x wall thickness (+layer thickness)):  $\varnothing 16 \times 2.0 (+0.2)$  mm,  $\varnothing 17 \times 2.1 (+0.3)$  mm,  $\varnothing 20 \times 2.5(+0.3)$  mm,  $\varnothing 25 \times 3.2(+0.3)$  mm,  $\varnothing 32 \times 4.1 (+0.3)$  mm.

♦ **multi-layer PE-Xa pipes**, with oxygen barrier layer (EVOH) against oxygen diffusion, with the following features:



- Pn 6 bars, of the following sizes (outer diameter x wall thickness (+ EVOH layer thickness): Ø 16 x 1.9 (+0.08) mm, Ø 17 x 1.9 (+0.08) mm, Ø 20 x 1.92 (+0.08) mm, Ø 25 x 2.22 (+0.08) mm, Ø 32 x 2.82 (+0.08) mm.
- Pn 10 bars, of the following sizes (outer diameter x wall thickness (+ EVOH layer thickness): Ø 16 x 2.12 (+0.08) mm, Ø 17 x 2.32 (+0.08) mm, Ø 20 x 2.72 (+0.08) mm, Ø 25x3.42 (+0.08) mm, Ø 32 x 4.32 (+0.08) mm.

## **1.2 Product identification**

PE-Xa pipes manufactured by INNOTUBE S.R.L. are white and automatically marked upon manufacturing by hot stamping with a colour different from the basic colour, indicating:

- name of the manufacturer;
- code of the manufacturing line;
- manufacturing date;
- technical features of the product (material, nominal diameter, pressure etc.).

The products are described in chapter 4.1.

## **2. Technical Approval**

### **2.1. Fields of use accepted in constructions**

Crosslinked polyethylene (PE-Xa) pipes manufactured by INNOTUBE S.R.L. are used to build the following systems inside buildings:

- cold and hot water supply systems;
- heating systems with static elements (through heating elements of heater type) or by radiation with radiating surfaces (under the floor, in the walls or on the ceiling).

The maximum operating pressure is of 10 bars.

Maximum allowed temperatures:

- hot water: +60°C;
- heat carrier (heating with heating elements): 95+°C;
- heat carrier (heating by low temperature radiation): +60°C.

Crosslinked polyethylene (PE-Xa) pipes shall not be used at negative temperatures. In order to use the crosslinked polyethylene (PE-Xa) pipes manufactured by INNOTUBE S.R.L. in contact with drinking water, the holder of the technical approval should hold a sanitary opinion issued by the National Public Health Institute in accordance with the regulations issued by the Ministry of Health.

### **2.2. Assessment of the product**

#### **2.2.1 Aptitude of operation in constructions**

The physical and mechanical features of the crosslinked polyethylene (PE-Xa) pipes manufactured by INNOTUBE S.R.L. from Mureş have been verified by means of specific tests by own laboratory and external laboratories (CEIS from Spain), these corresponding to the conditions required by the Romanian technical regulations and also to the fundamental conditions provided by Law no. 10/1995 on construction quality, as subsequently amended and supplemented.

- **Mechanical strength and stability** - The solutions adopted to manufacture the crosslinked polyethylene (PE-Xa) pipes, and also the peroxide crosslinking technology ( $C_{16}H_{30}O_4$ ) provide the products with mechanical strength, abrasion resistance and stability under normal operating conditions. The properties of crosslinked polyethylene (PE-Xa) - density 0.955 g/cm<sup>3</sup>, tensile strength 22 N/mm<sup>2</sup>; elasticity mode (at 80 °C), 300 N/mm<sup>2</sup>, melt flow ratio (MFR 190°C/2,16 kg) 3 g/10 min, provide the products with strength and stability.



- **Fire safety** - No test was performed in order to determine the reaction to fire.
- **Hygiene, health and environment** - The products do not present a danger for the environment or human health when used under normal conditions. The products comply with the conditions provided by the relevant legislation, namely: Law no. 319/2006 on labour security and safety (amended under Law no. 198/2018), Law no. 265/2006 on environment protection, as subsequently amended and supplemented, Law no. 211/2011 on waste regime (republished in 2014), Law no. 346/2002 on insurance against work accidents and occupational illnesses (amended under Emergency Government Ordinance no. 103/2017), Rules of hygiene and public health regarding the living environment of the population, published in the Order of the Minister of Health no. 119/2014 (amended under the Order of the Minister of Health no. 994/2018), Order of the Minister of Health no. 275/2012 regarding the approval of the "Sanitary regulation procedure for marketing of products, materials, chemical substances/mixtures and equipment used in contact with drinking water".  
In this respect, none of the components of the materials which the products are made of are radioactive or toxic.
- **Functional safety and accessibility** - The products do not pose a threat of accident when used under normal operating conditions. The products have dimensional stability upon temperature increase, guaranteeing good operation of the systems in which they are installed during their entire life cycle. The flexibility of the crosslinked polyethylene (PE-Xa) pipes allows bending with minimum radius between 8 cm and 16 cm (depending on the diameter).
- **Noise protection** - The products do not influence this requirement.
- **Energy saving and thermal insulation** - The energy incorporated upon manufacturing the crosslinked polyethylene pipes is of approximately five times lower than in the case of similar pipes manufactured with other materials. Considering the low weight of the pipes, the systems used to place and join the products into the systems, energy is saved as compared to the classical products and technologies used to build the systems in the accepted fields of use. In order to avoid condensation or heat loss, the products can be thermally insulated by using thermal insulating materials (flexible polyethylene tubes, mineral wool, expanded polyethylene, cellular rubber etc.).
- **Sustainable use of natural resources** - The products do not influence this requirement.

### **2.2.2. Sustainability (reliability) and maintenance of the product**

The solutions adopted when designing the crosslinked polyethylene (PE-Xa) pipes, the quality of the materials used to manufacture the products and also the technologies used and self-controlled on regular basis allow the achievement of products with high degree of sustainability of 50 years (according to the manufacturer) without special measures of maintenance.

The manufacturer offers a 10 year warranty as of the date of delivery.

The warranty provided by the manufacturer shall be valid provided that the operating parameters required by it are complied with.

### **2.2.3. Manufacturing and control**

The minimum curving radius of the crosslinked



The products are manufactured by INNOTUBE S.R.L. in specialized divisions, on completely automated computer-controlled technological lines, ensuring high productivity and quality of the products. The raw material used is high density polyethylene (HE1878) delivered in the form of granules by Borealis AG FROM Austria.

The pipes are manufactured by extrusion / co-extrusion, by means of a chemical reticulation process, using peroxide technology ( $C_{16}H_{30}O_4$ ). The minimum reticulation level is of 70%.

The products are manufactured in accordance with the procedure of the manufacturer and the provisions of the Quality Assurance Manual.

INNOTUBE S.R.L. from Mures has the quality management system certified in accordance with SR EN ISO 9001:2015 by SC WERT AUDIT S.R.L. (certificate no. 80C, valid until 18.03.2022). The certificate is enclosed to the technical file.

#### **2.2.4. Putting in place**

The crosslinked polyethylene (PE-Xa) pipes are put in place in accordance with the installation instructions of the manufacturer and the provisions of the technical regulations 19-2015, I 13-2015 and NP 084-2003.

The pipes are connected with special fittings, applying the crimping (pressing) procedure on the outer wall of the pipe by using special devices.

For the visible installation of PE-Xa pipes, the dilatation coefficient shall be considered, and elements shall be provided to take over the dilatation, route changes, fixed points etc.

The pipes shall be supported on continuous basis or by using flanges. The distance between the supporting elements is established according to the instructions of the manufacturer, and they vary depending on the diameter of the pipe and the temperature of the fluid running through the system.

#### **2.3.3. Delivery conditions**

Upon delivery, the products should be accompanied by

polyethylene (PE-Xa) pipes is, without special devices,  $8 \times D_{ext}$ , and with special devices,  $5 \times D_{ext}$ . After completing the installation, the pressure and sealing tests are performed under the conditions indicated by regulations 19 -2015 and I 13-2015.

Putting in place the crosslinked polyethylene (PE-Xa) pipes requires qualified personnel especially trained for this purpose.

### **2.3. Technical prescription book**

#### **2.3.1. Design conditions**

Upon developing the manufacturing technology, it was considered to obtain and maintain constant the features of the products. In this respect, the quality inspection rules provided in the Quality Management System shall be complied with.

The specialized group has ascertained that the products are designed so that, considering their performances, they are adequate for the intended use based on satisfying the fundamental requirements applicable to the construction in which the products are to be used, based on the provisions of Law no. 10/1995 on construction quality, as subsequently amended and supplemented.

#### **2.3.2. Manufacturing conditions**

PP-R pipes and fittings are manufactured by INNOTUBE S.R.L. from Mureş in accordance with the company's standard, SF 1/2019, by complying with the provisions of the Quality Assurance Manual.

### **Conclusions**

#### **Global assessment**

- The use of crosslinked polyethylene (PE-Xa) pipes in the



the sanitary opinion and declaration of conformity with this technical approval made by the manufacturer according to the valid Romanian legislation, standards: SR EN ISO/CEI 17050-1:2010. Evaluation of conformity. Declaration of conformity made by the supplier. Part 1: General requirements and SR EN ISO/CEI 17050-2:2005. Evaluation of conformity. Declaration of conformity made by the supplier. Part 2: Supporting documentation.

PE-Xa pipes are delivered in the form of 6 meter long bars or coils, with or without unwinding drum, of 50, 100 and 200 m long.

The manufacturer shall provide use instructions and also the data on transport, storage, installation and operating conditions.

#### **2.3.4. Putting in place conditions**

The pipes are put in place by complying with the prescriptions of the manufacturer and the following technical regulations:

- I 9-2015. Regulation regarding the design, execution and operation of the sanitary systems afferent to buildings.
- I 13-2015. Regulation regarding the design and execution of central heating systems.
- NP 084-2003. Regulation regarding the design, execution and operation of the sanitary systems and water supply and sewerage systems by using plastic pipelines.

accepted fields of use is **favourably assessed** under the specific conditions provided in Romania, if it complies with the provisions of this technical approval.

In order to use the crosslinked polyethylene (PE-Xa) pipes manufactured by INNOTUBE S.R.L. in contact with drinking water, the holder of the technical approval should hold a sanitary opinion issued by the National Public Health Institute in accordance with the regulations issued by the Ministry of Health.

#### **Conditions:**

- The Quality Management System was examined by the Certification Body - WERT AUDIT S.R.L. from Romania, and it was found to correspond; it should be maintained at the level of the requirements of SR EN ISO 9001:2015 during the entire validity of this technical approval.
  - Anywhere in this technical approval where reference is made to legislative acts or technical regulations it should be considered that such acts were valid as at the date of drawing-up this technical approval.
  - By granting this technical approval, the Permanent Technical Construction Council does not involve in the presence and/or absence of the legal rights of the company to market, install or maintain the product.
  - Any recommendation regarding the use of this product under safe conditions, which is contained in or referred to this technical approval, represents requirements minimum necessary upon putting it into place.
- ICECON S.A. is liable for the accuracy of the data contained in the technical approval and for the tests which such data rely upon. The technical approvals do not exonerate the suppliers and/or users from their responsibilities according to the valid legal technical regulations.

- The maintenance of the product use aptitude shall be verified according to the program established by
- In case the holder of the technical approval does not comply with the provisions of this technical



ICECON S.A., consisting in:

- verification of aspect and sizes;
- verification of longitudinal heat-contraction (in the oven);
- verification of reticulation degree;
- verification of internal pressure resistance.

The verification program shall be applied by ICECON S.A. upon requesting the extension of the technical opinion of this technical approval.

- The actions contained in the program and their means of execution shall comply with the valid regulatory acts and technical regulations.
  - ICECON S.A. shall notify the Permanent Technical Construction Council on the result of verifications, and, provided that they do not prove the maintenance of the utilization aptitude, it shall request the Ministry of Regional Development and Public Administration to cancel the technical approval from the data base.
- The approval shall be cancelled also in case of ascertaining, by means of controls carried out by market supervisory bodies, the failure to constantly maintain the product manufacturing and utilization conditions.

approval, ICECON S.A. Bucharest shall request the withdrawal of the technical approval and cancellation from the data base of the Ministry of Regional Development and Public Administration.

**Previously drawn-up technical approvals: -**

**Validity: 22.05.2022**

The extension of the validity of this technical approval should be requested at least three months prior to the date of expiry. In case of not extending the validity of the technical opinion, the technical approval shall be automatically cancelled. The technical approval shall be modified/extended by complying with the initial validity period.

**For specialized group no. 5  
President**

Eng. Octav Bărbuneanu  
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**President - General Manager**

Univ. Prof. Emeritus PhD Eng. Polidor  
BRATU  
Full Member of the Academy of Technical Sciences from  
Romania  
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**3. Complementary remarks of the specialized group**

Upon drawing-up this technical approval for the products "**CROSSLINKED POLYETHYLENE (PE-Xa) PIPES, WATER SUPPLY NETWORKS**", the documentation made available by INNOTUBE S.R.L., in the capacity of the applicant/manufacture, was reviewed.

The crosslinked polyethylene (PE-Xa) pipes have the following advantages:

- possibility to manufacture the products at industrial scale, at a constant quality verified and guaranteed by the manufacturer;
- easy to install;
- low weight;
- execution of the systems on long tracks, without joints (by delivering the pipes in coils of 50 m, 100 m and 200 m long).

The results of verifications and determinations are provided in Test Reports attached to the Technical File of this technical approval.

Any modification of the technology used to manufacture, include new raw materials and materials shall be notified to the author of the technical approval in order to be considered,

and the extension/modification of the technical approval shall be requested by the holder.

### SYNTHESIS OF THE TEST REPORTS

VERIFICATION	METHOD	LABORATORY	REQUIREMENTS	RESULTS
1. Sample no. 1 - PE-Xa pipe, Ø16 x 2.2 mm 2. Sample no. 2 - PE-Xa pipe, Ø 17 x 2.0 mm				
Longitudinal heat-contraction (Sample no. 1)	EN ISO 2505	C.E.I.S. from Spain Report no. PLA-0036/19-1 of 26.03.2019	$T = +120^{\circ}\text{C}$ , $t = 60 \text{ min.}$ $RL \leq 3\%$ Unmodified aspect	$RL = 2.4\%$ Adequate
Resistance to internal pressure - method: water-in-water (Sample no. 2)	EN ISO 1167		<ul style="list-style-type: none"><li><math>+95^{\circ}\text{C}/\geq 1\text{h}/4.8 \text{ MPa/}</math> <math>p_{\text{test}} = 12.8 \text{ bars}</math></li><li><math>+20^{\circ}\text{C}/\geq 1\text{h}/12 \text{ MPa/}</math> <math>p_{\text{test}} = 32.0 \text{ bars}</math></li></ul>	no deterioration, breakage or leaks Adequate
Reticulation degree (Sample no. 1)	EN ISO 10147		$>70\%$ $\pm 1.8\%$	69.8% Adequate
Reticulation degree (Sample no. 2)				70.8% Adequate

Specialized group no. 5 of ICECON S.A. appropriates the results of the verifications of CEIS laboratory from Spain (accreditation no. 1/LE 149 - laboratory accredited according to EN ISO/IEC 17025:2005 by ENAC from Spain),

#### 4. Annexes

- 4.1. Description of crosslinked polyethylene (PE-Xa) pipes manufactured by S.C. INNOTUBE SRL from Mureş

INNOTUBE INNOPEX 32X2.9  
 INNOTUBE INNOPEX 25X2.3  
 INNOTUBE INNOPEX 20X2.0  
 INNOTUBE INNOPEX 16X2.0

- 4.2. Excerpt from the minutes of the deliberation meeting of Specialized Group no. 5 Minutes no. 3771 of 10.05.2019

Specialized group no. 5 consisting in:

- President: Eng. Octav Bărbuneanu
- Rapporteur: Eng. Ileana Ou
- Members: PhD Eng. Mirela Lazăr  
Eng. Cristinel Sebe  
Eng. Cătălin Zaharia

after reviewing the technical approval application no. 18.12.016.016 of 21.12.2018 of S.C. INNOTUBE S.R.L. from Mureş regarding "**CROSSLINKED POLYETHYLENE (PE-Xa) PIPES, WATER SUPPLY NETWORKS**", together with the data file and technical documentations made available by the beneficiary, they propose:



- approval of the issuance of Technical Approval no. 016-05/3771-2019 valid until 22.05.2022

• **The technical file of Technical Approval no. 016-05/3771-2019, containing 83 pages is integral part of this technical approval.**

• **Holders of the Technical Approval: -**

**Rapporteur of specialized group no. 5**

Eng. Ileana Ou

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• **Members of the specialized group** PhD Eng. Mirela Lazăr [illegible signature]  
Eng. Sebe Cristinel [illegible signature]  
Eng. Cătălin Zaharia [illegible signature]

[Stamp applied on each page of the document: ICECON S.A., Technical Approvals  
Department]

Subsemnata **CRISTACHE DELIA**, traducător autorizat cu nr. **27394/2020**, certific exactitatea traducerii documentului prezentat din limba română în limba engleză, care a fost vizat de mine.

I, the undersigned **CRISTACHE DELIA** authorized translator registered under no. **27394/2020**, do hereby certify the accuracy of the English translation of the Romanian document, which has been endorsed by me.

Traducător autorizat/Authorized translator  
**CRISTACHE DELIA**

