INSTITUTE FOR TESTING AND CERTIFICATION
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Division CSI - Centre of Civil Engineering

Authorized Body No. 224

SURVEILLANCE REPORT

No. 345200607/2023

Applicant:	**HIDROTEN, S. A.** **P.I.Pla Vallonga, C/7, Parcela 37** **03006 Alicante** **Spain**
Product:	**PVC-U fittings and valves with glue-joint or threaded coupling, PN 6 – PN 16, d 10 mm – d 630 mm, for pressure distribution of drinking water application**
Manufacturer:	**HIDROTEN, S. A.** **P.I.Pla Vallonga, C/7, Parcela 37** **03006 Alicance** **Spain**
Certificate number:	**09 0711 V/AO**
Assessed by:	**Martina Červenková**
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Mgr. Jiří Heš
Representative of the Authorized Body No. 224

I. Method and extent of inspection

The inspection included verification of conformity of selected properties of the certified product with the requirements given in the specified standards, namely ČSN EN ISO 1452-3, ČSN EN ISO 1452-4 and ČSN EN ISO 1452-5.

The product inspected is as follows:
PVC-U fittings and valves with glue-joint or threaded coupling,
PN 6 – PN 16, d 10 mm – d 630 mm, for pressure distribution of drinking water application.

Applicant requesting the service: HIDROTEN, S. A., P.I.Pla Vallonga, C/7, Parcela 37, 03006 Alicante, Spain.

Institut pro testování a certifikaci, a.s. (Institute for Testing and Certification), in Zlín, Czech Republic, issued a certificate No. 09 0711 V/AO. The certificate was elaborated on the basis of the Final Test Report No. 7935 00844/2009 dated 19th October 2009. The certificate was issued by Institut pro testování a certifikaci, a.s. (Institute for Testing and Certification) – Authorized Body (AO) No. 224, in Zlín, Czech Republic, on 19th October 2009.

The inspection tests were carried out to check whether the specified requirements for the product had been met. The product characteristics examined were as follows:

- determination of the resistance to internal pressure according EN ISO 1167-1, 3
- health safety according to Decree of the Ministry of Health of the Czech Republic No. 409/2005 Coll., as amended by Decree of the Ministry of Health of the Czech Republic No. 446/2021 Coll.

The supervision of the operation of the factory production control system was carried out on 4th October 2022 at the manufacturer HIDROTEN, S. A., P.I.Pla Vallonga, C/7, Parcela 37, 03006 Alicante, Spain, and is documented by the document as follows:
Checklist – assessment of factory production control system under supervision at the manufacturing plant of the company HIDROTEN, S. A., P.I.Pla Vallonga, C/7, Parcela 37, 03006 Alicante, Spain, dated 4th October 2022.

The above document has been recognized as sufficient for demonstration of the fact that the manufacturer has assured a proper operation of the factory production control system for the product under certification.

II. Sampling

As required by AO (Authorized Body) No. 224 samples as follows were taken:

- 2 pcs fittings – elbow HIDROTEN of PVC-U, DN 63, 90°, PN 16, EN ISO 1452, date of production 09/2022, color gray.
  Registration number of the samples: 345200607/2.

- 1 pc assembly of PVC-U pipe with fittings HIDROTEN of PVC-U, DN 63, PN 16, EN ISO 1452, color gray (3x coupling, 1x end cap).
  Registration number of the sample: 345200607/4.

III. Test result

The test ware carried out by Institut pro testování a certifikaci, a. s., (Institute for Testing and Certification) in Zlín – Accredited Testing Laboratory No. 1004, between 13 th December 2022 and 7 th February 2023.

The test results obtained are given in Tables I to II.

Table I – Evaluation of leaching of the fitting material – elbow HIDROTEN of PVC-U, DN 63, 90°, PN 16, EN ISO 1452, date of production 09/2022, color grey in test water according to Decree of the Ministry of Health of the Czech Republic No. 409/2005 Coll., as amended by Decree of the Ministry of Health of the Czech Republic No. 446/2021 Coll. Registration number of the sample: 345200607/2.

Order no. 252/2004 Coll.	Indicator	symbol	unit	limit	limit in leachate [3]	$K_{72,3}$ [1]	$C_{72,3}$ [2]
A. Microbiological and biological parameters - not assessed for leachates from new products							
B. Physical, chemical and organoleptic characteristics							
40.	Copper	Cu	$mg.l^{-1}$	1.0	0.10	-	< 0.005
-	Barium	Ba	$mg.l^{-1}$	0.7	0.07 [6]	-	< 0.005
-	Cobalt	Co	$\mu g.l^{-1}$	10.0	1.0 [6]	-	< 0.37
-	Manganese	Mn	$mg.l^{-1}$	0.05	0.005	-	< 0.0009
-	Zinc	Zn	$mg.l^{-1}$	3.0	0.30 [6]	-	< 0.005
-	Primary aromatic amines	PAA [4]	$mg.l^{-1}$	0.1	0.01 [6]	-	< 0.0009 [5]

1) $K_{72;n}$ is the concentration of the monitored substance over a 72-hour period, expressed as the arithmetic mean of a pair of samples of parallel leachates

2) $C_{72,3}$ is the modified concentration of the migrated substance in the 3rd leachate in mg/l for conversion factor F = 4.02; geometric factor F_g = 8.04 and operational factor F_0 = 0.5, the symbol "<" indicates the limit of quantification (LOQ) of the method

3) 10 % of the hygienic limit for drinking water according to Decree of the Ministry of Health of the Czech Republic No. 252/2004 Coll., Annex No. 1

4) PAA = primary aromatic amines

LC-MS/MS screening was performed for the following PAHs: CAS No. 92-67-1, CAS No. 992-87-5, CAS No. 95-69-2, CAS No. 91-59-8, CAS No. 97-56-3, CAS No. 99-55-8, CAS No. 106-47-8, CAS No. 615-05-4, CAS No. 101-77-9, CAS No. 91-94-1, CAS No. 119-90-4, CAS No. 119-93-7, CAS No. 838-88-0, CAS No. 120-71-8, CAS No. 101-14-4, CAS No. 101-80-4, CAS No. 139-65-1, CAS No. 95-53-4, CAS No. 95-80-7, CAS No. 137-17-7, CAS No. 90-04-0, CAS No. 60-09-3, CAS No. 108-45-2, CAS No. 80-08-0, CAS No. 88-68-6, CAS No. 106246-33-7 with a limit of detection (LOD) for individual PAHs = 0.002 mg/l

5) $C_{72,3}$ for PAHs is calculated from the limit of detection (LOD) for each PAH = 0.002 mg/l

6) 10 % of the hygienic limit according to Decree of the Ministry of Health of the Czech Republic No. 409/2005 Coll., § 3, paragraph 6, as amended; in the case of PAA it is the hygienic limit.

The evaluated technical parameters of the leachate tests **meet** the hygienic requirements set out in § 3, paragraph 2 of Decree No. 409/2005 Coll. of the Ministry of Health of the Czech Republic *on hygienic requirements for products coming into direct contact with water and for water treatment,* as amended by Decree No. 446/2021 Coll. of the Ministry of Health of the Czech Republic, in accordance with Act No. 258/2000 Coll., *on the protection of public health and on amendments to certain related acts*, as amended.
Selected parameters for the material were chosen for testing according to Decree of the Ministry of Health of the Czech Republic No. 446/2021 Coll.

Test methods used:
1. Determination of Ba, Co, Cu, Mn and Zn by ICP MS in aqueous effluents according to IZP A-10-97
2. Determination of primary aromatic amines in leachates by LC-MS/MS according to IZP A-95-28

Table II – assembly of PVC-U pipe with fittings HIDROTEN of PVC-U, DN 63, PN 16, EN ISO 1452, color gray (3x coupling, 1x end cap). Registration number of the sample: 345200607/4.

Technical characteristics	Measuring unit	Technical characteristics level	Value obtained	Determination procedures (test methods)
Determination of the resistance to internal pressure [1)]	h	≥ 1	> 1 [2)]	EN ISO 1167-1,3

1) Test conditions: testing pressure 4,2 x PN = 67,2 bar, 1 pc test specimen - assembly, test temperature (20 ± 1) °C, test time period (duration of the test) 1 hour, ambient air, pressure medium water, multiplier device (25 MPa), end cap type "A", conditioning 20°C/1 h.

2) The test was terminated without any failure (no break) of 1 pc test specimen – assembly.

IV. Evaluation of results obtained

The certified product **meets** the requirements as regards the characteristics examined.

The operation of the factory production control system was supervised in the extent of a Checklist – assessment of factory production control system under supervision. Meeting of the requirements by the manufacturer is described in the Checklist.

V. Conclusion

Based on the inspection tests, **conformity** of the selected properties of the certified product with the requirements of the specified EN ISO 1452-3, EN ISO 1452-4 and EN ISO 1452-5 standardsin the characteristics monitored **was shown**.

The result of the inspection demonstrated that no change in the essential properties of the certified product had occurred.

In carrying out the surveillance at the manufacturer's facility 22 elements of factory production control system were assessed. As a result 0 % of non-compliances were found. The factory production control system complies with the appropriate technical documentation and assures that the products placed on the market meet the technical specification.

Result: **satisfactory**.

VI. A list of documents used to elaborate the Report

- Zkušební protokol akreditované laboratoře (Accredited Laboratory Test Report), reference No. 345200607-01, elaborated by Institut pro testování a certifikaci a. s. (Institute for Testing and Certification) – Accredited Laboratory No. 1004, in Zlín, Czech Republic, on 7 th February 2023
- Zkušební protokol akreditované laboratoře (Accredited Laboratory Test Report), reference No. 345200607/2, elaborated by Institut pro testování a certifikaci a. s. (Institute for Testing and Certification) – Accredited Laboratory No. 1004, in Zlín, Czech Republic, on 18 th January 2023
- Certificate No. 09 0711 V/AO issued by Institut pro testování a certifikaci a. s. (Institute for Testing and Certification) - AO (Authorized Body) No. 224 at Zlín, on 19 th October 2009
- Final Test Report No. 7935 00844/2009 elaborated by Institut pro testování a certifikaci a. s. (Institute for Testing and Certification), Authorized Body No. 224, in Zlín, Czech Republic, on 19th October 2009
- ČSN EN ISO 1452-3:2011 „Plastové potrubní systémy pro rozvod vody a tlakové kanalizační přípojky a stokové sítě uložené v zemi i nadzemní - Neměkčený polyvinylchlorid (PVC-U) - Část 3: Tvarovky“ (ČSN EN ISO 1452-3:2011 Plastics piping systems for water supply and for buried and above-ground drainage and sewerage under pressure – Unplasticized poly(vinyl chloride) (PVC-U) – Part 3: Fittings)
- ČSN EN ISO 1452-4:2010 „Plastové potrubní systémy pro rozvod vody a tlakové kanalizační přípojky a stokové sítě uložené v zemi i nadzemní - Neměkčený polyvinylchlorid (PVC-U) - Část 4: Ventily“ (ČSN EN ISO 1452-4:2010 Plastics piping systems for water supply and for buried and above-ground drainage and sewerage under pressure – Unplasticized poly(vinyl chloride) (PVC-U) – Part 4: Valves)
- ČSN EN ISO 1452-5:2015 „Plastové potrubní systémy pro rozvod vody a tlakové kanalizační přípojky a stokové sítě uložené v zemi i nadzemní - Neměkčený polyvinylchlorid (PVC-U) - Část 5: Vhodnost použití systému“ (ČSN EN ISO 1452-5:2015 Plastics piping systems for water supply and

for buried and above-ground drainage and sewerage under pressure – Unplasticized poly(vinyl chloride) (PVC-U) – Part 5: Fitness for purpose of the system)

- Checklist – assessment of factory production control system under supervision at the manufacturing plant of the company HIDROTEN, S. A., P.I.Pla Vallonga, C/7, Parcela 37, 03006 Alicante, Spain, dated 4 th October 2022.