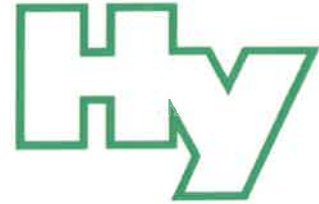


Hygiene-Institut des Ruhrgebiets

Institut für Umwelthygiene und Toxikologie

Director: Dr. Thomas-Benjamin Seiler

Legal Entity: Verein des Hygiene-Instituts des Ruhrgebiets e.V.



Hygiene-Institut · PO Box 10 12 55 · DE 45812 Gelsenkirchen · Germany

Interplast S.A.
Plastic Piping Systems
Industrial Area of Komotini
69100 Komotini
GREECE

Visitor's/Parcel Address:
Rotthauer Str. 21
45879 Gelsenkirchen

Switchboard +49 (0) 209 9242-0
Direct +49 (0) 209 9242-182
Telefax +49 (0) 209 9242-212
E-Mail d.pleschka@hyg.de
Internet www.hyg.de

Reference-No.: K-401473-25-PI/Lk
Contact person: Dr. Damian Pleschka

Gelsenkirchen, 05.05.2025

TEST REPORT according to the requirements of DIN EN 12873-1:2014-09 and DIN EN 1420:2016-05

Order of: 08-November-2024

Field of application: Pipes (P1) with ID < 80 mm
cold water and warm water (23 °C and 60 °C)

Product: Aqua Plus PPR Pipe

Test Specimen: Aqua Plus PPR Pipes SDR6 monolayer (green) made of PPR,
Ø_{outer} 2 cm, Ø_{inner} 1.32 cm, surface: 410.5 cm² (manufacturer's information)

Production Place: Interplast S.A., Industrial Area of Komotini, 69100 Komotini – Greece

Date of receipt: 26-November-2024

Sampler: samples sent

Start of migration test: 04-February-2025

End of migration test: 06-March-2025

The Director of the Hygiene-Institute
on behalf of

Dr. rer. nat. Damian Pleschka
Head of the Department for
water hygienic material testing

This test report consists of 4 pages.

Our General Terms and Conditions (<http://www.hyg.de>) apply. The assessment was carried out under the condition that the raw materials used to manufacture the product or their composition were fully disclosed and that no other substances are contained in the product. The validity of this document expires in case of changes in the composition of the material or in the processing conditions. The accreditation is valid for the scope specified in the document annex (D-PL-13042-02-00). The results of our tests and the assessments apply to the test objects examined and the legal regulations in force at the time of the test. This document may only be published or reproduced in complete and unaltered form without our express written permission.



Deutsche
Akkreditierungsstelle
D-PL-13042-02-00

Legal Entity: Verein des Hygiene-Instituts des Ruhrgebiets e.V., Register: VR 519 Local Court Gelsenkirchen (Germany); VAT ID: DE125018356
Directorate: Prof. Dr. Jürgen Kretschmann (Head), Andrea Henze, Joachim Löchte, Dr. Frank Obenaus, Dr. Thomas-Benjamin Seiler (Executive Member), Dr. Dirk Waider

Test results cold water (23 °C)

Product: Aqua Plus PPR Pipe
Specimen: Aqua Plus PPR Pipes SDR6 monolayer (green) made of PPR, $\varnothing_{\text{outer}}$ 2 cm, $\varnothing_{\text{inner}}$ 1.32 cm, surface: 410.5 cm² (manufacturer's information)
Formulation: submitted and checked (no.: 12573)

Conversion factor: 20 (Pipes with ID < 80 mm)

S/N-ratio migration test according to DIN EN 12873-1:2014-09: 41.05 dm² / 1.35 dm³ Δ 30.41 dm⁻¹

S/N-ratio odour/flavour test according to DIN EN 1420:2016-05: 41.05 dm² / 1.35 dm³ Δ 30.41 dm⁻¹

Parameter	Method	Test cycle / Result			Requirements according to KTW-BWGL ¹⁾
		1 4 th day	2 7 th day	3 10 th day	
Colour [mg/l Pt] / (pH value)	DIN EN ISO 7887:2012-04 method C	< 2 / (9.3)	< 2 / (7.0)	< 2 / (5.6)	≤ 10 mg/l Pt
Turbidity [FNU]	DIN EN ISO 7027-1:2016-11	0.1	0.1	< 0.1	≤ 0.5 FNU
Tendency to foam formation	HY-14.5, 2008-11	none	none	none	n.s.e.
Threshold odour number (23 °C)	DIN EN 1622:2006-10	1	1	1	≤ 8
Total organic carbon (TOC) C _{tap} mg/l	DIN EN 1484:2019-04	0.03	0.02	< 0.02	≤ 0.5
Formulation specific parameters with restrictions		Six formulation specific parameters with restrictions were analysed within the test water fractions. The Guidance Levels are passed. ^{2) 3)}			Guidance Level passed

The test water fractions for the analysis of odour, turbidity, colour and foam formation were prepared according to DIN EN 1420:2016-05.

The test water fractions for the analysis of TOC, additional parameters and formulation specific parameters were prepared according to DIN EN 12873-1:2014-09 or DIN EN 12873-2:2005-04.

¹⁾ KTW-BWGL, Annex A (status 2022-03)

²⁾ results are partially not accredited

³⁾ the formula specific parameters were partially analysed in accredited third laboratories (D-PL-11140-04-00)

Test results warm water (60 °C)

Product: Aqua Plus PPR Pipe
Specimen: Aqua Plus PPR Pipes SDR6 monolayer (green) made of PPR, $\varnothing_{\text{outer}}$ 2 cm, $\varnothing_{\text{inner}}$ 1.32 cm, surface: 410.5 cm² (manufacturer's information)
Formulation: submitted and checked (no.: 12573)

Conversion factor: 20 (Pipes with ID < 80 mm)
SV-ratio migration test according to DIN EN 12873-1:2014-09: 41.05 dm² / 1.35 dm³ \pm 30.41 dm⁻¹
SV-ratio odour/flavour test according to DIN EN 1420:2016-05: 41.05 dm² / 1.35 dm³ \pm 30.41 dm⁻¹

Parameter	Method	Test cycle / Result					Requirements according to KTW-BWGL ¹⁾
		1 2 nd day	2 3 rd day	3 4 th day	7 10 th day		
Colour [mg/l Pt] / (pH value)	DIN EN ISO 7887:2012-04 method C	< 2 / (7.8)	< 2 / (6.6)	< 2 / (6.4)	< 2 / (6.0)	\leq 10 mg/l Pt	
Turbidity [FNU]	DIN EN ISO 7027-1:2016-11	0.1	< 0.1	< 0.1	< 0.1	\leq 0.5 FNU	
Tendency to foam formation	HY-14.5, 2008-11	none	none	none	none	n.s.e.	
Threshold odour number (23 °C)	DIN EN 1622:2006-10	1	1	1	1	\leq 8	
Total organic carbon (TOC) c _{cap} mg/l	DIN EN 1484:2019-04	0.31	0.19	0.19	0.11	\leq 0.5	
Formulation specific parameters with restrictions	Six formulation specific parameters with restrictions were analysed within the test water fractions. The Guidance Levels for five formulation specific parameters are passed. ^{2) 3)} One formulation specific parameter was analysed prolonged.					Guidance Level passed	

The test water fractions for the analysis of odour, turbidity, colour and foam formation were prepared according to DIN EN 1420:2016-05.

The test water fractions for the analysis of TOC, additional parameters and formulation specific parameters were prepared according to DIN EN 12873-1:2014-09 or DIN EN 12873-2:2005-04.

¹⁾ KTW-BWGL, Annex A (status 2022-03)

²⁾ results are partially not accredited

³⁾ the formula specific parameters were partially analysed in accredited third laboratories (D-PL-11140-04-00)

Continuation of the test results warm water (60 °C)

Product: Aqua Plus PPR Pipe
Specimen: Aqua Plus PPR Pipes SDR6 monolayer (green) made of PPR, $\varnothing_{\text{outer}}$ 2 cm, $\varnothing_{\text{inner}}$ 1.32 cm, surface: 410.5 cm² (manufacturer's information)
Formulation: submitted and checked (no.: 12573)
Conversion factor: 20 (Pipes with ID < 80 mm)
SV-ratio migration test according to DIN EN 12873-1:2014-09: 41.05 dm² / 1.35 dm³ Δ 30.41 dm⁻¹

Parameter	Method	Test cycle / Result	Requirements according to KTW-BWGL ¹⁾
Formulation specific parameters with restrictions		12 17 th day 17 24 th day	22 31 st day Guidance Level passed

The test water fractions for the analysis of TOC, additional parameters and formulation specific parameters were prepared according to DIN EN 12873-1:2014-09 or DIN EN 12873-2:2005-04.

¹⁾ KTW-BWGL, Annex A (status 2022-03)

²⁾ results are partially not accredited

³⁾ the formula specific parameters were partially analysed in accredited third laboratories (D-PL-11140-04-00)