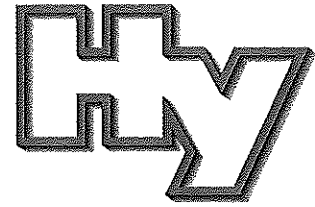


# Hygiene-Institut des Ruhrgebiets

Institut für Umwelthygiene und Toxikologie

Direktor: Prof. Dr. rer. nat. L. Dunemann

Träger: Verein zur Bekämpfung der Volkskrankheiten im Ruhrkohlengebiet e.V.



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Reference-No.: K-278187-16-Bs/st  
Contact person: Anasse Bernoussi (Eng.)

Gelsenkirchen, 25.11.2016

## TEST CERTIFICATE according to the KTW-Guideline

**Product:** parts made of PVC-U compound FIP01/02, grey

**Test Specimen:** elbow 90°-PVC-U, RAL7011 grey (surface: 33,0 cm<sup>2</sup> manufacturer's information)

The test specimen meets the requirements according to the test report-no.: K-278189-16-Bs/st dated 25.11.2016 for the following applications and temperatures, as far as technically suited.

Applications:	cold water (23°C)	warm water (60°C)	hot water (85°C)
Pipes with DN < 80 mm (domestic distribution)	---	---	---
Pipes of diameter 80 mm ≤ DN < 300 mm (supply pipes)	---	---	---
Pipes of diameter DN ≥ 300 mm (main pipes)	---	---	---
Fittings for pipes with DN < 80 mm	passed	---	---
Fittings for pipes with 80 mm ≤ DN < 300 mm	passed	---	---
Fittings for pipes with DN ≥ 300 mm	passed	---	---
Sealings for pipes with DN < 80 mm	passed	---	---
Sealings for pipes with 80 mm ≤ DN < 300 mm	passed	---	---
Sealings for pipes with DN ≥ 300 mm	passed	---	---
Tanks in the domestic installations including repair systems	---	---	---
Tanks other than in domestic installations including repair systems	---	---	---

If pipes, sealings or fittings and ancillaries do not differ in their material composition and process of manufacture, testing of the smallest diameter of the product range is sufficient.

This test certificate is valid beginning with the date of issue and is ending by 25.11.2021 as far as there are no changes in the formula. After this time it can be extended for further 5 years if demanded.

The Director of the Hygiene-Institute  
on behalf of

Dr. rer. nat. Andreas Koch  
Head of the Dept. for water  
hygienic material testing



The assessment was based on the assumption that the used starting substances and monomers used to manufacture the product may completely known and no other substances are present in the product. The validity of this document expires in case of modifications in the composition of the product or the processing conditions. The results and evaluations refer to the groups of test items. This document may not be published without our written permission only complete and unchanged or duplicated.

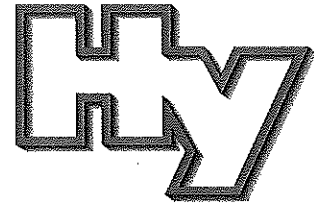
Träger: Verein zur Bekämpfung der Volkskrankheiten im Ruhrkohlengebiet e.V., Vereinsregister: VR 519 Amtsgericht Gelsenkirchen, USt-ID: DE125018356  
Vorstand: Prof. Dr. Werner Schlake (Vors.), Prof. Dr. Jürgen Kretschmann, Dr. Emanuel Grün, Volker Vohmann, Prof. Dr. Lothar Dunemann (geschäftsf. Vorstand)

# Hygiene-Institut des Ruhrgebiets

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Träger: Verein zur Bekämpfung der Volkskrankheiten im Ruhrkohlengebiet e.V.



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Reference-No.: K-278189-16-Bs/st  
Contact person: Anasse Bernoussi (Eng.)

Gelsenkirchen, 25.11.2016

## TEST REPORT according to the KTW-Guideline

**Order of:** 29.09.2016

**Field of application:** Fittings for pipes with DN < 80 mm  
cold water (23°C)

**Product:** parts made of PVC-U compound FIP01/02, grey

**Test Specimen:** elbow 90°-PVC-U, RAL7011 grey  
(surface: 33,0 cm<sup>2</sup> manufacturer's information)

**Production place:** FIP - Formatura Iniezione Polimeri S.p.A., 16015 Casella (Genova) ITALY

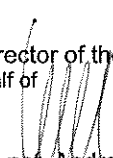
**Date of receipt:** 29.09.2016

**Sampler:** transmitted by mail

**Start of migration test:** 04.10.2016

**End of test:** 23.11.2016

The Director of the Hygiene-Institute  
on behalf of

  
Dr. rer. nat. Andreas Koch  
Head of the Dept. for water  
hygienic material testing

This test report consists of 2 pages.

The assessment was based on the assumption that the used starting substances and monomers used to manufacture the product may completely known and no other substances are present in the product. The validity of this document expires in case of modifications in the composition of the product or the processing conditions. The results and evaluations refer to the groups of test items. This document may not be published without our written permission only complete and unchanged or duplicated.



Deutsche  
Akkreditierungsstelle  
D-PL-13042-02-00

test results cold water (23°C)

**Product:** parts made of PVC-U compound FIP01/02, grey  
**Specimen:** elbow 90°-PVC-U, RAL7011 grey (Surface: 33,0 cm<sup>2</sup> manufacturer's information)  
**Formulation:** submitted and checked (No. 6455)

**Conversion factor:** 4 (Fittings for pipes with DN < 80 mm)  
**SN-ratio migration test:** 16,50 dm<sup>2</sup> / 3,30 dm<sup>3</sup> ± 5,00 dm<sup>-1</sup>  
**SN-ratio odour/flavour test:** 1,65 dm<sup>2</sup> / 1,10 dm<sup>3</sup> ± 1,50 dm<sup>-1</sup>

Parameter	Method	Test cycle / Result			Requirements
		1 4. day	2 7. day	3 10. day	
Colour	Hy-KTW-14.05	colorless	colorless	colorless	n.s.e.
Turbidity	Hy-KTW-14.05	clear	clear	clear	n.s.e.
Tendency to foam formation	Hy-KTW-14.05	none	none	none	n.s.e.
Threshold odour number (23°C)	DIN EN 1622	1-2 *)	1-2 *)	1	< 2
Threshold flavour number (23°C)	DIN EN 1622	n.e.	n.e.	1	< 2
Total organic carbon (TOC) C <sub>Tap</sub> mg/l	DIN EN 1484	0,02	< 0,02	< 0,02	≤ 0,5
Formulation specific parameters with restrictions		The Guidance Levels are, as far as analysed, passed <sup>1)</sup>			Guidance Level passed

\*) tentative determination of Threshold odour number

<sup>1)</sup> Attached results are partially not accredited

n.s.e.: not significant effected

n.e.: not examined