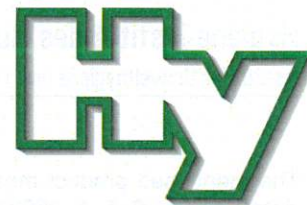


Hygiene-Institut des Ruhrgebiets

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-327138-20-Ko/sg
Contact person: Dr. Andreas Koch
Translation: K-326191-20-Bs/sg

Gelsenkirchen, 15.04.2020

TEST CERTIFICATE according to the TPE-Transition Recommendation (issue date: 11.03.2019)

Product: Thermolast K TF5WHA (55 ShA), TF6WHB (60 ShA), TF6WHA (65 ShA),
TF7WHB (70 ShA), TF7WHA (75 ShA), TF8WHB (80 ShA) and TF8WHA (85 ShA)

Test specimen: hoses TF5WHA and TF8WHA made of TPE-S (uncoloured) Øi = 8 mm

The above mentioned product was tested according to the Guideline on the hygienic assessment of thermoplastic materials in contact with drinking water of the German Environment Agency. Pursuant to the test report-no.: K-252266-15-Ko, K-252267-15-Ko dated 13.01.2015, K-260250-15-Ko, K-260255-15-Ko, K-260261-15-Ko, K-260262-15-Ko, K-260263-15-Ko dated 17.08.2015 and K-326191-20-Bs/sg dated 18.03.2020 the product meets the requirements for the product group:

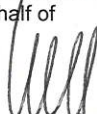
**Pipes with DN < 80 mm in contact with
cold water (23 °C) and warm water (60 °C).**

All product groups for which the requirements are met are summarised on the back side.

The certificate is valid providing that the requirements, laid down in the Guideline regarding the testing of the microbial growth are fulfilled. This can be verified for the product f.e. with a valid test certificate according to the DVGW technical rule W 270.

This test certificate is valid beginning with the date of issue and is ending by **17.08.2025**.

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 are 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. Jürgen Kretschmann (Vors.), Dr. Emanuel Grün, Dr. Dirk Waider, Joachim Löchte, Prof. Dr. Lothar Dunemann (geschäftsf. Vorstand)

The mentioned product meets the requirements according to the test report-no.: **K-252266-15-Ko, K-252267-15-Ko dated 13.01.2015, K-260250-15-Ko, K-260255-15-Ko, K-260261-15-Ko, K-260262-15-Ko, K-260263-15-Ko dated 17.08.2015 and K-326191-20-Bs/sg dated 18.03.2020** for the following product group(s) and temperature(s), as far as technically suited.

Product group	cold water (23 °C)	warm water (60 °C)	hot water (85 °C)
Pipes with DN < 80 mm (service and domestic pipes)	passed	passed	
Pipes with 80 mm ≤ DN < 300 mm (distribution pipes)	passed	passed	
Pipes with DN ≥ 300 mm (large distribution, mains)	passed	passed	
Fittings for pipes with DN < 80 mm	passed	passed	
Fittings for pipes with 80 mm ≤ DN < 300 mm	passed	passed	
Fittings for pipes with DN ≥ 300 mm	passed	passed	
Seals for pipes with DN < 80 mm	passed	passed	
Seals for pipes with 80 mm ≤ DN < 300 mm	passed	passed	
Seals for pipes with DN ≥ 300 mm	passed	passed	
Containers in the drinking water installation including repair systems	passed	passed	
Containers outside the drinking water installation including repair systems	passed	passed	
Repair systems for containers in the drinking water installation with 1/100 of the surface area of the container	passed	passed	
Repair systems for containers outside the drinking water installation with 1/100 of the surface area of the container	passed	passed	
Small contact area components of materials for pipes with DN < 80 mm that are only installed in one place in the distribution system (e.g. plain bearing of a pump)	passed	passed	
Small contact area components of materials for pipes with 80 mm ≤ DN < 300 mm, that are only installed in one place in the distribution system (e.g. plain bearing of a pump)	passed	passed	
Small contact area components of materials for pipes with DN ≥ 300 mm, that are only installed in one place in the distribution system (e.g. plain bearing of a pump)	passed	passed	

If further products or components with the same formulation are produced with the same process at one production site and differ only in geometry, this test certificate applies to further parts of this product range.