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-287968-17-Ko**
Contact person:	Dr. Andreas Koch
Translation:	K-287963-17-Ko
Gelsenkirchen,	07.08.2017

TEST CERTIFICATE
according to the KTW Guideline

Product: **KLINGER®top-chem 2000**

Test specimen: segments from Klinger®top-chem 2000, grey,
dimension: 200x80x2mm, 45x45x2mm, 100x100x2mm (manufacturer's information)

The above mentioned product was tested according to the Guideline on the hygienic assessment of organic materials in contact with drinking water of the German Environment Agency. Pursuant to the test report-no.: **K-287963-17-Ko dated 07.08.2017 and K-277584-16-Sf/st dated 11.11.2016** the product meets the requirements for the product group:

Seals for pipes with DN < 80 mm in contact with cold water (23°C) and hot water (85°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 **11.11.2021**. The test certificate may be extended for further five years, provided that the formulation, the relevant evaluation criteria (restrictions in the positive lists), the production process and the production place of the product have not changed.

The Director of the Hygiene-Institute
on behalf of

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

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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 This document may not be published without our written permission only complete and unchanged or duplicated.

The mentioned product meets the requirements according to the test report-no.: **K-287963-17-Ko dated 07.08.2017 and K-277584-16-Sf/st dated 11.11.2016** 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)			
Pipes with 80 mm ≤ DN < 300 mm (distribution pipes)			
Pipes with DN ≥ 300 mm (large distribution, mains)			
Fittings for pipes with DN < 80 mm			
Fittings for pipes with 80 mm ≤ DN < 300 mm			
Fittings for pipes with DN ≥ 300 mm			
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			
Containers outside the drinking water installation including repair systems			
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.