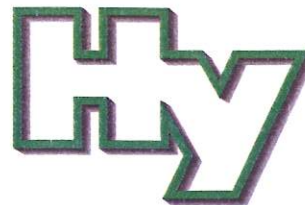


Hygiene-Institut des Ruhrgebiets

Institut für Umwelthygiene und Toxikologie

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

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



HYGIENE-INSTITUT · Postfach 10 12 55 · 45812 Gelsenkirchen / GERMANY

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36066 SANDRIGO (VI)
ITALY

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Rotthausen Str. 21
45879 Gelsenkirchen

Telephone +49 (0) 209 9242-0
Extension +49 (0) 209 9242-351
Telefax +49 (0) 209 9242-212
E-Mail a.bernoussi@hyg.de
Internet www.hyg.de

Reference-No.: K-232227-13-Bs/st
Contact person: Anasse Bernoussi (Eng.)

Gelsenkirchen, 17.07.2013

TEST CERTIFICATE according to the KTW-Guideline

Product: CRISTALLO Extra without yarn and cover layer

Test Specimen: inner hose \varnothing_a 6 mm \varnothing_i 4 mm (transparent)

The test specimen meets the requirements according to the test report no.: **K-232227-13-Bs/st dated 17.07.2013** for the following application(s) and temperature(s), 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 **17.07.2018** as far as there are no changes in the formula.

The Director of the Hygiene-Institute
on behalf of

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



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 methods used in qualification tests of materials in contact with potable water

| Parameter | Test method |
|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Odour / taste threshold (TON / TFN) | DIN EN 1622 (B3) |
| Qualitative determination of colour, turbidity and foaming tendency | In-house test method Hy-KTW-5 (visual assessment) |
| Total organic carbon (TOC) | EN 1484 (H3) |
| Chlorine demand | In-house test method KTW-14.6 after the BGA recommendation 1977 (photometric method) |
| Formaldehyde | In-house test method KTW-14.7 (photometric method) |
| Primary aromatic amines | In-house test method KTW-14.8 according to Section 35 (§ 35) of the German Federal Food and Consumer Goods Act (LMBG) (photometric method) |
| Phenols | DIN EN ISO 14402 (H37) |
| Zinc | DIN EN ISO 17294-2 (E29) |
| Lead | DIN EN ISO 17294-2 (E29) |
| Epichlorohydrine | DIN EN 14207 (P9) |
| 3-Mono-chloro-1,2-propanediol | In-house test method Hy-AW-13 (gas chromatographic method) |
| Bisphenol A BADGE and Hydrolysis products BFDGE and Hydrolysis products | } In-house method Hy-W-37 (HPLC) |

For the above-mentioned methods we are accredited.

We reserve the right to submit samples to qualified subcontractors for the verification of specific migration limits.

Deutsche Akkreditierungsstelle GmbH

Entrusted according to Section 8 subsection 1 AkkStelleG in connection with Section 1 subsection 1 AkkStelleGBV

Signatory to the Multilateral Agreements of EA, ILAC and IAF for Mutual Recognition

Accreditation



The Deutsche Akkreditierungsstelle GmbH attests that the testing laboratory

**Hygiene-Institut des Ruhrgebiets
Institut für Umwelthygiene und Toxikologie
Rotthausen Straße 21, 45879 Gelsenkirchen**


is competent under the terms of DIN EN ISO/IEC 17025:2005 to carry out tests in the following fields:

physical, physicochemical, chemical, biological and specific ecotoxicological analyses of water, surface water, natural water, leachate, swimming pool water, waste water, sludge, sediments, biowaste, solid wastes, matters for recycling, solid matters and soils; microbiological analyses of water, surface water, swimming pool water as well as mineral and table water; analyses of drinking water as specified by the Trinkwasserverordnung (German drinking water ordinance) excluding radiological parameters; specific physicochemical, chemical and microbiological analysis of non-metallic materials in potable water supply; specific microbiological examination of disinfectants and materials; selected procedures for the determination of overall migration of food contact materials; analyses of organic trace elements in water, migrates and solid matters (i.a. food contact materials) by means of HPLC-MS; analyses of organic trace elements in water, migrates and solid matters (i.a. food contact materials) by means of gas chromatography (GC-MS); sampling of water, waste water, surface water, ground water, natural and potable water, leachate, swimming pool water, sludges, biowaste, sediments, solid waste and matters for recycling as well as soil vapour; determination (sampling and analysis) of airborne organic gaseous particles, fibrous particles and microbiological substances within the frame of indoor measurements; determination (sampling and analysis) of airborne fibrous particles within the frame of measurements at workplace; determination (sampling and analysis) analysis of particle precipitations within the frame of immission measurements; analysis of solid matters and dust with regard to fibrous particles; determination (sampling and analysis) of inorganic and organic gaseous or particulate air constituents in immission; determination (sampling and analysis) of fibrous particles in immission; sampling of airborne polyhalogenated Dibenzo-p-Dioxins and Dibenzofuranes in immission; modul immission control; technical modules water, soil and contaminated sites as well as waste

The accreditation certificate shall only apply in connection with the notice of accreditation of 21.05.2012 with the accreditation number D-PL-13042-02 and is valid until 18.06.2014. It comprises the cover sheet, the reverse side of the cover sheet and the following annex with a total of 68 pages.

Registration number of the certificate: D-PL-13042-02-00

Berlin, 15.06.2012


Andrea Valbuena
Head of Division

This document is a translation. The definitive version is the original German accreditation certificate.

See notes overleaf.

ZERTIFIKAT

LW-BU0440

über die Anerkennung als DVGW-Prüflaboratorium

Das Prüflaboratorium

**Hygiene-Institut des Ruhrgebiets -Umwelthygiene-
Rotthaus Str. 19, 45879 Gelsenkirchen
DEUTSCHLAND**

ist als

DVGW-Prüflaboratorium Wasser

anerkannt und damit berechtigt, Produktprüfungen für die DVGW CERT GmbH in dem bescheinigten Bereich durchzuführen. Die Anerkennung ist an die Person der Leitung des Prüflaboratoriums bzw. dessen Stellvertretung gebunden.

Leitung des Prüflaboratoriums: **Dr. rer. nat. Andreas Koch**

Stellvertretung: **Dr. rer. nat. Georg-Joachim Tuschewitzki
Dr. rer. nat. Christiane Schell**

Die Anerkennung gilt nur in Verbindung mit der gültigen Anlage zum anerkannten Prüfumfang, sowie der aktuellen Geschäftsordnung zur DVGW-Zertifizierung von Produkten. Sie gilt bis zum 04.01.2015, sofern die Voraussetzungen, die zur Anerkennung geführt haben, unverändert bleiben. Die Erstanerkennung erfolgte am 04.01.2010.

13.01.2010 St. A

Datum, Bearbeiter, bratt, Leiter der Zertifizierungsstelle

DVGW CERT GmbH - allgemein anerkannte Zulassungsstelle für die Prüflaboratorien im Gas- und Wasserfach

DVGW CERT GmbH - commonly recognized approval body for testing laboratories in the German gas and water industry

DVGW CERT GmbH
Josef-Wirmer-Straße 1-3
53123 Bonn

Telefon: +49 228 91 88-888

Telefax: +49 228 91 88-993

eMail: info@dvgw-cert.com

Warranty/Damages for Default

The Association, its legal representatives, agents and employees are liable to the Principal and third parties which are protected by the Agreement, for all claims for default, irrespective of which legal reason, which arise under this Agreement or due to an offence (Art. 823 BGB [*German Civil Code*]) only in case of intent or gross negligence but not in case of ordinary negligence.

The personal liability of the legal representatives, agents and employees of the Association to the Principal shall be excluded except in case of intent or gross negligence.

The exemption from liability shall apply especially to claims for damages which arise from positive breach of the Agreement and from unlawful acts. The exemption from liability comprises any and all property damages, deficiency losses and consequential damages as well as indirect and direct financial damages of the Principal and the persons which are protected under this Agreement.

In case of Agreements with a consumer (consumer agreements) the above mentioned legal limitations shall not apply to the liability for damages arising from the injury of life, body or health which were caused by the negligent breach of obligations of the Association or an intended or negligent breach of obligations of a legal representative, agent or employee of the Association.

If individual parts of this exemption from liability or this limitation of liability are invalid, the validity of the clause shall not be affected.



FITT S.p.A. - SOCIETÀ UNIPERSONALE
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Tel. +39 0444 461000 - Fax +39 0444 461099
www.fitt.it - info@fitt.it

Reg. Imp. / C.F. 00162620249
R.E.A. Vicenza N. 113648
P.IVA IT 00162620249 - Cap. Soc. Euro 5.200.000,00 i.v.

DECLARATION OF COMPLIANCE FOR MATERIALS AND ARTICLES INTENDED TO COME INTO CONTACT WITH FOOD

1. We hereby certify that the supplied hose CRISTALLO EXTRA (notes and/or simulants used in the migration tests, as indicated in point 3 of this declaration, allow to determine foodstuffs which may come into contact with the product according to the Annex III of Regulation (EU) n. 10/2011 and D.M. 26/04/1993, n°. 220 and following revisions and amendments) produced by:

| |
|--------------------------------------------------------------------------------------------------------------|
| Fitt S.p.A. Via Piave, 8 36066 Sandrigo, VI (Italy) Tel. +39 0444 46 10 00 Fax +39 0444 46 10 99 |
|--------------------------------------------------------------------------------------------------------------|

complies

with all relevant regulations, and particularly with the following:

- Regulation (EU) 10/2011,
- Regulation 1935/2004/EC,
- Directive 2002/72/EC, 2007/19/EC and following amendments,
- Regulation EC 2023/2006 (GMP),
- Regulation 1895/2005/EC

and with the following Italian Regulations:

- Ministerial Decree 174 of 24/09/2008 amending D.M. 21/03/1973 and following revisions and amendments,
- DPR 777/82 and following revisions and amendments.

2. The above mentioned product is manufactured with the following materials suitable for food contact:
- PVC Plasticized (contact side).
3. The following substances subject to restrictions and/or specifications are used in the above mentioned products:

| Substance name | Ref. No | CAS No | SML [mg/kg] | Group restriction No | Restrictions and specifications |
|-----------------------------------------------------------|---------|--------------|--------------------------------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Terephthalic acid, bis(2-ethylhexyl)ester | 92200 | 0006422-86-2 | LMS = 60 mg/Kg | (32) | - |
| Soybean oil, epoxidised | 88640 | 0008013-07-8 | LMS = 60.0mg/Kg LMS = 30.0 mg/Kg* | - | (*) In the case of PVC gaskets used to seal glass jars containing infant formulae and follow-on formulae as defined by Directive 2006/141/EC or processed cereal-based foods and baby foods for infants and young children as defined by Directive 2006/125/EC, the SML is lowered to 30 mg/kg. Oxirane < 8 %, iodine number < 6. |
| Polyethylene waxes, oxidised | 80077 | 0068441-17-8 | LMS = 60 mg/Kg | - | - |
| Calcium salts of fatty acid | - | - | - | - | no SML, DUAL USE (art. 11 3a) |
| Zinc salts | - | - | LMS = 25mg/Kg as Zinc | - | - |
| Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate | 68320 | 0002082-79-3 | LMS = 6mg/Kg | - | - |
| Vinyl chloride | 26050 | 0000075-01-4 | ND* | - | (*) 1 mg/kg in final product |

4. We certify that:

- The article meets the overall migration limits and specific migration limits under the following test conditions:
 - Simulant A: AQUEOUS SOLUTION OF ETHANOL at 10% v/v (for aqueous foodstuffs).
Testing time and temperature: 10 days at 40°C,
 - Simulant B: AQUEOUS SOLUTION OF ACETIC ACID at 3% p/v (for acid foodstuffs).
Testing time and temperature: 10 days at 40°C,
 - Simulant C: AQUEOUS SOLUTION OF ETHANOL at 20% v/v (for alcoholic foodstuffs).
Testing time and temperature: 10 days at 40°C.

The product complies with the overall migration limits and other specific restrictions under which the monomers and/or additives contained in the material can be submitted, at the abovementioned usage conditions. All declared is supported by analytical tests carried out in compliance with the DM 21/03/1973 and articles 17 and 18 of Regulation (EU) 10/2011 in conjunction with Annex V or based on calculations made taking into account the % of the substances submitted to migration limits in the test conditions. Calculations presume that 1 kg of food enters into contact with 6 dm² of product. We remind that the Migration Limit is 60 mg/Kg food [ppm], also expressed as 10 mg/dm² (if the certificate reports mg/kg it is possible to convert it into mg/dm² dividing the value by 6) and we underline that the change in the analytical tolerance is between 10 and 20% (12 mg/kg or 2 mg/dm²).

5. We suggest giving notice to the writing Society if the usage conditions of the product do not correspond to the advice here supplied or whether the foodstuff which come into contact with the product (Food Contact Material) is different from the applicable conditions and from the simulants listed above.
6. The user of the product which is intended to come into contact with food has the responsibility of informing the writing Company about any restriction due to particular component characteristics (additives and aromas) of the foodstuff which has to be transported.
7. This declaration complies with art. 16 of the 1935/2004/EC Regulation.
8. Industrial or commercial usage of the product concerned in this declaration is subject to the evaluation of its compliance to actual regulations and to the technological suitability to the declared final usage.
9. This declaration is valid as from the date indicated below and will be renewed when substantial changes in the processing (final product/raw material) will bring about modifications in some

necessary requirements or when new amendments to the regulations mentioned at point 1) will require new controls to verify the compliance.

10. Moreover, we inform that all necessary support documents are at the disposal of the control authorities, in accordance with art. 16, par. 1 of Regulation 1935/2004/EC.

11. Declaration Code: 12LA00706-13LA01992

Date: 29/03/2013

This document and its attachments are addressed solely to the person or company above and contain confidential information.



Società soggetta a direzione e coordinamento di EUROCONDOTTE SpA - c.f. 00792620247

CRISTALLO EXTRA



ANWENDUNGEN UND STRUKTUR

Schlauch zum Durchleiten von nicht unter Druck stehenden Nahrungsflüssigkeiten. Flexibler PVC-Schlauch ohne Textilverstärkung.

APPLICATIONS AND STRUCTURE

Hose for food liquids transport without pressure. Flexible PVC hose without reinforcement.

TECHNISCHE HAUPT-EIGENSCHAFTEN MAIN TECHNICAL FEATURES

- Flexibel - Flexibility
- Glatte Oberfläche - Smooth surface
- Ozonbeständig - Ozone resistance
- Chlorbeständig - Chlorine resistance
- 20°C/+60°C Temperaturbeständigkeit - Working temperature

Unter Beachtung der Europäischen Richtlinie Reg. (EU) 10/2011 für Simulanten A-B-C. Entspricht den Richtlinien von KTW "C".

Produced in compliance with the European Regulation Reg. (EU) 10/2011 for simulants A-B-C and the guidelines of KTW "C".



PHTHALATFREIE ZUSAMMENSETZUNG*
PHTHALATE FREE FORMULATION*

| Ø INSIDE | Ø INSIDE | Ø OUTSIDE | THICKNESS | WORKING PRESSURE | BURSTING PRESSURE | VACUUM | BENDING RADIUS | LENGTH | WEIGHT PER METER |
|----------|----------|-----------|-----------|------------------|-------------------|--------|----------------|--------|------------------|
|----------|----------|-----------|-----------|------------------|-------------------|--------|----------------|--------|------------------|

| inc | mm | mm | mm | bar | bar | mH ₂ O | mm | m | g/m |
|------|----|----|-----|-----|-----|-------------------|----|-----|-----|
| - | 2 | 4 | 1 | - | - | - | - | 100 | 12 |
| - | 3 | 5 | 1 | - | - | - | - | 100 | 15 |
| - | 3 | 6 | 1,5 | - | - | - | - | 100 | 26 |
| - | 4 | 6 | 1 | - | - | - | - | 100 | 19 |
| - | 4 | 7 | 1,5 | - | - | - | - | 50 | 32 |
| - | 4 | 7 | 1,5 | - | - | - | - | 100 | 32 |
| 3/16 | 5 | 7 | 1 | - | - | - | - | 100 | 23 |
| 3/16 | 5 | 8 | 1,5 | - | - | - | - | 50 | 37 |
| 3/16 | 5 | 8 | 1,5 | - | - | - | - | 100 | 37 |
| 1/4 | 6 | 8 | 1 | - | - | - | - | 100 | 27 |
| 1/4 | 6 | 9 | 1,5 | - | - | - | - | 50 | 43 |
| 1/4 | 6 | 9 | 1,5 | - | - | - | - | 100 | 43 |
| 1/4 | 6 | 10 | 2 | - | - | - | - | 100 | 62 |
| - | 7 | 9 | 1 | - | - | - | - | 100 | 30 |
| - | 7 | 10 | 1,5 | - | - | - | - | 100 | 49 |
| 5/16 | 8 | 10 | 1 | - | - | - | - | 100 | 35 |
| 5/16 | 8 | 10 | 1 | - | - | - | - | 50 | 35 |
| 5/16 | 8 | 11 | 1,5 | - | - | - | - | 100 | 55 |
| 5/16 | 8 | 12 | 2 | - | - | - | - | 100 | 77 |
| 5/16 | 8 | 12 | 2 | - | - | - | - | 50 | 77 |
| - | 9 | 13 | 2 | - | - | - | - | 100 | 84 |
| - | 9 | 13 | 2 | - | - | - | - | 50 | 84 |
| 3/8 | 10 | 13 | 1,5 | - | - | - | - | 50 | 66 |
| 3/8 | 10 | 14 | 2 | - | - | - | - | 50 | 92 |
| - | 12 | 16 | 2 | - | - | - | - | 50 | 107 |
| 1/2 | 13 | 17 | 2 | - | - | - | - | 50 | 112 |
| 1/2 | 13 | 19 | 3 | - | - | - | - | 50 | 184 |
| - | 14 | 18 | 2 | - | - | - | - | 50 | 123 |
| - | 15 | 19 | 2 | - | - | - | - | 50 | 130 |
| 5/8 | 16 | 20 | 2 | - | - | - | - | 50 | 138 |
| - | 18 | 23 | 2,5 | - | - | - | - | 50 | 196 |
| 3/4 | 19 | 24 | 2,5 | - | - | - | - | 50 | 206 |
| - | 20 | 25 | 2,5 | - | - | - | - | 50 | 212 |
| - | 20 | 26 | 3 | - | - | - | - | 50 | 260 |
| - | 22 | 28 | 3 | - | - | - | - | 50 | 282 |
| 1 | 25 | 31 | 3 | - | - | - | - | 50 | 318 |
| 1 | 25 | 33 | 4 | - | - | - | - | 50 | 436 |
| - | 30 | 38 | 4 | - | - | - | - | 25 | 514 |

*Phthalatgehalt ≤ 0.1% *Phthalate content ≤ 0,1%