

Our Ref: HL/M1304121
Test Report: MA4976/L



4th April 2014

Bewo Kabel GmbH,
Cranach Strasse 1,
72202 Nagold,
Germany

WATER REGULATIONS ADVISORY SCHEME (WRAS)
MATERIAL APPROVAL

The material referred to in this letter is suitable for contact with wholesome water for domestic purposes having met the requirements of BS 6920-1:2000 'Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water'.

The reference relates solely to its effect on the quality of the water with which it may come into contact and does not signify the approval of its mechanical or physical properties for any use.

HOSES & TUBING

5140

01. Black coloured, extruded polyethylene cable sheath. For use with water up to 23°C.

APPROVAL NUMBER: 1403525
APPROVAL HOLDER: BEWO KABEL GMBH

The Scheme reserves the right to review approval. This approval is valid between March 2014 and March 2019.

An entry, as above, will accordingly be included in the Water Fittings Directory on-line under the section headed, "Materials which have passed full tests of effect on water quality".

The Directory may be found at: www.wras.co.uk/directory

Yours faithfully

A handwritten signature in blue ink, appearing to read 'Jason Furnival', is written over a light blue horizontal line.

Jason Furnival
Approvals & Enquiries Manager
Water Regulations Advisory Scheme

WRAS MATERIAL APPROVAL - MATERIALS WHICH HAVE PASSED FULL TESTS OF EFFECT ON WATER QUALITY

The material referred to in this letter is suitable for contact with water for domestic purposes. **Approval of this material does not signify the approval of its mechanical or physical properties for any use.**

Manufacturers or applicants may only quote in their sales literature terms which are used in this letter, namely that; 'the material as listed, having passed the tests of effect on water quality, is suitable for use in contact with wholesome water'

This may be abbreviated to 'Water Regulations Advisory Scheme - Approved Material' or 'WRAS Approved Material'.

The scope of an Approval does not extend to rebranded materials unless otherwise agreed by the Scheme.

Use of the WRAS Approved Material Logo

The WRAS Approved Material logo is registered under the Trade Marks Acts 1994

Approval holders may use the WRAS Approved Material logo and make reference to any approval issued by WRAS Ltd. in respect of a particular material or range of materials provided the approval is, and remains valid.

Approval holders are entitled to use the logo on the packing, promotional literature and point of sale advertising Approved Materials.

Modifications to existing Approvals

It is a condition of WRAS Material Approval that **NO** changes or modifications to the Approved Material, be made without the Approval Holder first notifying WRAS Ltd. Full details of the proposed changes must be provided to the Scheme. Failure to comply with this condition will immediately invalidate a previously granted Approval.

Re-Approval

WRAS will write to you 1 year before the approval expires asking whether you would like to renew it. Please complete the relevant section of the MA3 application form which will be included with the letter and return to WRAS (via e-mail or post).

Please note it is the responsibility of the Approval Holder to ensure the Approval remains valid. WRAS Ltd. accepts no liability for the delay in granting approval where this is caused by circumstances outside of the Scheme's control.

Our Ref: HL/M90102/Y76590000

14th May 2009

Sabic Innovative Plastics BV.
Plasticslaan 1,
4600 AC Bergen op Zoom,
Netherlands

Dear Sir

WATER REGULATIONS ADVISORY SCHEME
"ITEMS WHICH HAVE PASSED FULL TESTS OF EFFECT ON WATER QUALITY - BS 6920"

We refer to your application for the material(s) described below to be approved arising from the results of the tests of effect on water quality that have been carried out on the product(s) so described, it has been decided that there is no objection to its/their use provided the source, nature and manufacturing processes of the ingredients and products are not changed. (See notes overleaf).

POLYPHENYLENEOXIDE (PPO) – MATERIAL ONLY

5250

Noryl 731S-701. Black coloured, shiny, opaque PPO disc. For use with hot and cold water up to 85°C.

Test Report: MA3775/M

0903526

SABIC INNOVATIVE PLASTICS BV

An entry, as above, will accordingly be included in the Water Fittings Directory on-line, Part Two, under the section headed, "Materials which have passed full tests of effect on water quality".

Your attention is drawn to the statement overleaf. Manufacturers or applicants may only quote in their sales literature terms which are used in this letter, namely that the product as listed, having passed the tests of effect on water quality, is suitable for use in contact with potable water and that a reference to the product will be included in the Materials section, Part Two, of the Water Fittings Directory on-line: this may be abbreviated to "Water Regulations Advisory Scheme - Approved Material" or "WRAS - Approved Material". **Approval of this product does not signify the approval of its mechanical or physical properties for any use.**

The Technical Committee of the Scheme reserves the right to review approval. This product automatically becomes due for audit reassessment in March 2014.

Yours faithfully



Hannah Lewis
WRAS Approvals Administrator
Water Regulations Advisory Scheme

Approval Number: 1411521
Test Report: MAT/LAB 653H



2nd December 2014

Desca AG
Lerzenstrasse 14,
CH-8953 Dietikon,
Switzerland

Water Regulations Advisory Scheme Ltd.
Unit 13,
Willow Road,
Pen y Fan Industrial Estate,
Crumlin,
Gwent,
NP11 4EG

WATER REGULATIONS ADVISORY SCHEME LTD. (WRAS)
MATERIAL APPROVAL

The material referred to in this letter is suitable for contact with wholesome water for domestic purposes having met the requirements of BS6920-1:2000 and/or 2014 'Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water'.

The reference relates solely to its effect on the quality of the water with which it may come into contact and does not signify the approval of its mechanical or physical properties for any use.

HOSES & TUBING

5140

Descaflex PWH-300 also known as Descaflex PWH C-300. Black coloured, single layer, extruded HDPE cable. For use with water up to 23°C.

APPROVAL NUMBER: 1411521

APPROVAL HOLDER: DESCA AG

The Scheme reserves the right to review approval.

Approval 1411521 is valid between November 2014 and November 2019

An entry, as above, will accordingly be included in the Water Fittings Directory on-line under the section headed, "Materials which have passed full tests of effect on water quality".

The Directory may be found at: www.wras.co.uk/directory

Yours faithfully

A handwritten signature in black ink, appearing to read 'Jason Furnival', written in a cursive style.

Jason Furnival
Approvals & Enquiries Manager
Water Regulations Advisory Scheme

WRAS MATERIAL APPROVAL - MATERIALS WHICH HAVE PASSED FULL TESTS OF EFFECT ON WATER QUALITY

The material referred to in this letter is suitable for contact with water for domestic purposes. **Approval of this material does not signify the approval of its mechanical or physical properties for any use.**

Manufacturers or applicants may only quote in their sales literature terms which are used in this letter, namely that; 'the material as listed, having passed the tests of effect on water quality, is suitable for use in contact with wholesome water'

This may be abbreviated to 'Water Regulations Advisory Scheme - Approved Material' or 'WRAS Approved Material'.

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Use of the WRAS Approved Material Logo

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Approval holders are entitled to use the logo on the packing, promotional literature and point of sale advertising Approved Materials.

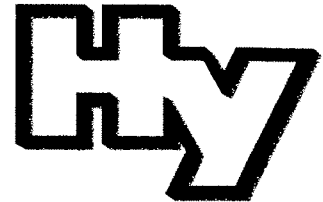
Modifications to existing Approvals

It is a condition of WRAS Material Approval that NO changes or modifications to the Approved Material, be made without the Approval Holder first notifying WRAS Ltd. Full details of the proposed changes must be provided to the Scheme. Failure to comply with this condition will immediately invalidate a previously granted Approval.

Re-Approval

WRAS will write to you 1 year before the approval expires asking whether you would like to renew it. Please complete the relevant section of the MA3 application form which will be included with the letter and return to WRAS (via e-mail or post).

Please note it is the responsibility of the Approval Holder to ensure the Approval remains valid. WRAS Ltd. accepts no liability for the delay in granting approval where this is caused by circumstances outside of the Scheme's control.



SABIC Innovative Plastics BV
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4612 PX BERGEN OP ZOOM
NIEDERLANDE

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45879 Gelsenkirchen

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

Reference: **C-169855-08-Bs**
Contact person: Mr. Bernoussi (Eng.)

Gelsenkirchen, 10.11.2008

TEST CERTIFICATE according to the KTW-Guideline

Product: Noryl* 731S-701, Noryl* 731S-801
Test specimen: discs ED 100 mm, thickness 3 mm
Kind of test: Product test / Permission test Supervision test

The discs made of the a.m. **Noryl types** meets the requirements according to the test report dated **10.11.2008, Ref.-No.: C-169855-08-Bs** for the following applications and temperatures:

Applications:	cold water (23°C)	moderately hot water (60°C)	extremely hot water (85°C)
Pipes ID < 80 mm (domestic distribution)	---	---	---
Pipes 80 mm ≤ ID < 300 mm (supply pipelines)	---	---	---
Pipes ID ≥ 300 mm (mains)	---	---	---
Simple fittings, assembled product housings for pipes ID < 80 mm	passed	---	passed
Simple fittings, assembled product housings for pipes 80 mm ≤ ID < 300 mm	passed	---	passed
Simple fittings, assembled product housings for pipes ID ≥ 300 mm	passed	---	passed
Seals for pipes ID < 80 mm	passed	---	passed
Seals for pipes 80 mm ≤ ID < 300 mm	passed	---	passed
Seals for pipes ID ≥ 300 mm	passed	---	passed
Storage systems within the domestic distribution system including repair products	---	---	---
Storage systems outside the domestic distribution system including repair products	---	---	---

as far as technically suited.

This test certificate is valid beginning with the date of issue and is ending by **10.11.2013** 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 Institute
on behalf of

(Dr. rer. nat. A. Koch)



The results and conclusions exclusively refer to the investigated samples and the relevant laws.
The validity of this document expires in case of modifications in the composition of the product or the processing conditions.
This document must not be reproduced except in full, without our written approval.



DAP-PL-2548.00

PRÜFZEUGNIS

über die Untersuchung von "Kabel aus DESCAFLEX PWH-300 und DESCAFLEX PWH C-300, schwarz" gemäß der KTW-Leitlinie des Umweltbundesamtes (UBA)

Hersteller: DESCA AG, Dietikon, Schweiz,
 Prod. st.: TecniKabel S.p.A., Volpiano (Mi), Italien
 Art der Proben: PE-Xb Qualität
 Bezeichnung der Proben: "Kabel aus DESCAFLEX PWH-300 und DESCAFLEX PWH C-300, schwarz"
 Art der Prüfkörper: Originalprobekörper
 Eingang der Proben: 30.09.2014
 Probenehmer: Auftraggeber
 TZW-Az.: KA 0323/14

Untersuchungsergebnisse

1. Rezeptur: wurde unter KC 679/14 vorgelegt und überprüft
2. Migrationstest:

Kaltwasser 23°C	1. – 3. Tag	4. – 6. Tag	7. – 9. Tag	Richtwert für 3. Extraktion
Klarheit, Färbung, Geruch, Geschmack, Schaumbildung	n nb	n nb	n nb	nicht nennenswert beeinflusst
C-Abgabe [mg C/m²d]	1,2	0,8	1,0	≤ 12,5

4 Rezepturbestandteile, die der Geheimhaltung unterliegen	Richtwert eingehalten	Trinkwasser-SML-Werte nach BedarfsgegenständeV
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Die untersuchten Proben "Kabel aus DESCAFLEX PWH-300 und DESCAFLEX PWH C-300, schwarz" für den Kontakt mit Trinkwasser entsprechen den Anforderungen der KTW-Leitlinie des Umweltbundesamtes (UBA) (Bundesgesundheitsblatt aktuelle Fassung) im Bereich Ausrüstungsgegenstände. DE

Anmerkung:

Die Gültigkeit dieses Prüfzeugnisses richtet sich nach andernorts festgelegten Bestimmungen. Sie endet jedoch spätestens 5 Jahre nach Ausstellungsdatum.

Für eine Verlängerung gelten gesonderte Bestimmungen.

Karlsruhe, den 11.12.2014



Dr. J. Klinger / i.A. Dr.-Ing. R. Turkovic
Leiter der Prüfstelle

Die Veröffentlichung des Prüfzeugnisses – vollständig oder in Auszügen – ist ohne ausdrückliche Genehmigung von seiten der Prüfstelle nicht gestattet

PRÜFZEUGNIS

über die Prüfung nach DVGW-Arbeitsblatt W 270 (11/2007) „Vermehrung von Mikroorganismen auf Werkstoffen für den Trinkwasserbereich“

Hersteller: DESCA AG, Dietkon, Schweiz
Art der Proben: Kabelummantelung, PE-HD-Qualität, schwarz
Bezeichnung der Proben: DESCAFLEX PWH-300 und DESCAFLEX PWH C-300
Eingang der Proben: 10.07.2014
Probenehmer: Auftraggeber
TZW-Az.: MO 200/14

Das vorgelegte Probenmaterial DESCAFLEX PWH-300 und DESCAFLEX PWH C-300 entspricht aus mikrobiologischer Sicht den Anforderungen des DVGW-Arbeitsblattes W 270 (11/2007).

Die Einzelergebnisse sind in einem gesonderten Prüfbericht zusammengefasst.

Die Gültigkeit dieses Prüfzeugnisses richtet sich nach andernorts festgelegten Bestimmungen. Sie endet jedoch spätestens 5 Jahre nach Ausstellungsdatum.

Das Prüfzeugnis ist nur solange gültig, wie keine Veränderungen in Zusammensetzung und Herstellungsprozess des Werkstoffes erfolgen.

Karlsruhe, den 24.02.2015



Dr. J. Klinger / i.A. Dr.-Ing. R. Turkovic
Leiter der Prüfstelle

Die Veröffentlichung des Prüfzeugnisses – vollständig oder in Auszügen – ist ohne ausdrückliche Genehmigung von seiten der Prüfstelle nicht gestattet

DECLARATION OF CONFORMITY

in accordance with
DIN EN ISO/IEC 17050

Date: 21 December 2012

Phone: +41 44 306 6257

Issuer: MRI

Declaration subject:

Material description:

EPDM 75.5/KW75F (EPDM 70.10-02)

The material described above meets the requirements stipulated in the following guidelines/standards:

Homologations: (Update acc. 05/11/2012)

WRAS (BS 6920) for drinking water, cold and warm up to 85°C; it will expire on: October 2017

In compliance with **FDA** (177.2600-21) requisites for food. RP N° 588/98 of CERISIE lab

KTW(1.3.13 D1-D2) for drinking water, cold and warm up to 85°C; it will expire on 20/09/2016

DVGW-W270 E (11/2007) for drinking water; it will expire on 26/04/2016

DVGW W534 for warm drinking water Type WA-WB N° DW-5253BQ0461.

It will expire on 26/09/2013

NSF (Standard 61) for drinking water, cold and warm up to 82°C; (Standard 51) for food till 100°C

ACS (DGS/VS4 n° 99/217 dated 12/04/1999 and DGS/VS4 n° 2000/232 dated 27/04/2002.

Annexe C) for drinking water; it will expire on 28/11/2013

ÖNORM B 5014-1 for drinking water, cold and warm up to 60°C

USP CLASS VI., KIWA (BRL 17504) for warm drinking water. **EN 681-1** Type WA-WB-WC-WD

In compliance with **3-A Sanitary Standard** N° 18-03 Class II

In compliance with the requirements of **D.M. 06/04/04 n° 174**

EC-Regulation **1935/2004 article 3** and EC-Regulation **2023/2006,**

free of Animal Derived Ingredients (**ADI**)

2011/65/EU (RoHS)

Additional information:

Expiration date of this declaration of conformity is 20.09.2013.

Angst + Pfister Group Engineering



G. Valente

Senior Engineer



J. Moreno

Senior Engineer

Zurich, 21 December 2012

(Place and date of issuance)

(Name and signature or equivalent authentication of authorized persons)