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# SANITARY CERTIFICATION

INTERNAL COATING ANTIFREEZE LIQUID WRAS

Quality means doing it right when no one is looking.

Henry Ford





# SANITARY CERTIFICATION INTERNAL COATING, ANTIFREEZE LIQUID, WRAS

These certificates are related with the products suitability to public health. Such certificates are the potable water certificate, the enamel liquid coating certificate, the safety of contact with edible products certificate and the no-toxic antifreeze liquid certificate. Furnishing our products with such kinds of certification has to do with the fact that the water in solar systems comes directly or indirectly in contact with foods as well as with our drinking glasses. This is why their existence is considered necessary. These certificates are now considered necessary not only for the end user's safety but also for the legal protection and security of all the third parties involved in the buying and selling of the products.

Concerning heat-producing units and water heaters, the ecological design directive (Ecodesign), defines the minimum performance requirements that have been in effect throughout Europe since September 26, 2015. Products that do not meet these requirements may not be sold from that date onward. At the same time, it is mandatory to apply energy labeling in all heaters. Energy labels are uniform for heaters, water heaters and systems and they aim to provide clear instructions to consumers and to facilitate comparison between products. These regulations, however, present important challenges for manufacturers, official representatives and installation technicians. In order to provide adequate advice to the end users and to help them in identifying the appropriate and most affordable solution, it is required to possess pertinent knowledge and experience, better support for professional design and advice. Thorough information regarding regulations, special training, informational brochures and electronic files make up the basis needed to meet the law's requirements. Of course, all our products and complete systems, meet the most recent performance requirements, ensuring that you are always on the safe side.

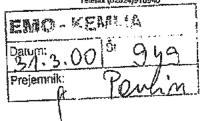
## FACHHOCHSCHULE KOBLENZ

## Amtliche Prüfstellen

Fachinochschule Koblenz - Amtiiche Prüfsteilen - Rheinsr, 56 203 Höhr-Grenzhausen - Telefon (02624)910915/910914 Telefax (02624)910940

Fa.

EMO Kemija d.o.o. Mariborska c.86 3000 CELJE Slowenien



Prüfbericht KP 33-1/00 vom 29.3.2000 Prüfung von Boileremail.

Auftraggeber: EMO Kemija d.o.o.

Probeneingang: 5.1.2000

Emailtyp: Boileremail - Versatz Nr 201030-18300 Amtliche Prüfstellen Keramik

- ☐ Keramische Technik und Baustoffe
- ☐ Feuerfeste Werkstoffe
- ☐ Thermophysikalische Untersuchungen
- □ Chemische Analytik
- O Mineral- und Gefügeuntersuchungen
- □ Wärme- und Verfahrenstechnische Untersuchungen

Prüfnorm:

Beständigkeit gegen Warmwasser

DIN 4753, Teil 3, Punkt 4.4.2 und 5.4.2.

"Die Prüfung wird als Vierfach-Parallelprüfung nach DIN ISO 2744 mit einer Prüfdauer von zweimal je 540 Stunden (21 Tage) durchgeführt". Gewertet wird die zweite Prüfrunde.

## 2. Warmwasserbeständigkeit Flüssigphase:

 $0,44 \text{ g/m}^2$ Versuch 1:  $1.08 \text{ g/m}^2$ Versuch 2: Versuch 3:  $0.80 \text{ g/m}^2$ Versuch 4:  $0.68 \text{ g/m}^2$ Mittelwert:  $0.75 \text{ g/m}^2$ 

## 3. Beständigkeit gegen Warmwasser gemäß Punkt 4.4.2.:

"Der Bmailabtrag darf nach der Prüfung (zwischen dem 21. Und 42. Tag) nicht größer als 3,5 g/m<sup>2</sup> sein.

Die Normbedingungen sind erfüllt.

Prüfstellenleiter

Landes

Bearbeiter Dipl.Ing.(FH)J.Müller

# CERTIFICATE FOR BOILER ENAMEL

## TYPE OF PRODUCT

Boiler enamel for wet enameling of boilers and hot water tanks.

### TEST METHOD

Enamel is prepared with mixing with water than applied on steel suitable for enameling. Steel sheet must be cleaned and pickled or shot blasted before enameling.

## QUALITY TEST in accordance

DIN 4753/3 Water heaters and water heating installations for potable water and for service water, corrosion protection on the water side by enameling requirements and testing

DIN 4753/3:			
4.3.1 Adhesion with falling ball	1-2		DEZ MB 7.10.3
4.3.2 Impact test	10N		DIN 51155
4.4.1 Temperature shock test	200°C		5 times
4.4.2 Hot water resistance	$< 3,5g/m^2$		ISO 2744
4.4.3 Cold hydrochloric acid resistance	Class AA		EN 14483-1:2004
4.5 Health suitability	$< 0.3 \text{ mg/m}^2$	Pb	DIN 51032, EN 1388-2
	$< 0.03 \text{mg/m}^2$	Cd	

Enamel gives good results when testing to DIN 4753/3 point 4.2.4. ( $i < 22,5\text{mA/m}^2$ ). This property can be measured only on boiler.

## RESULT

Enamel passed tests in accordance to standard DIN 4753/3. It is suitable for enameling boilers-water heaters and hot water tanks that comes into contact with drinking water.

Quality control Nada Božiček

ferri

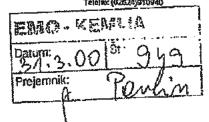
## **FACHHOCHSCHULE KOBLENZ**

## Amtliche Prüfstellen

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Fa. EMO Kemija d.o.o. Mariborska c.86 3000 CELJE

Slowenien



Amtliche Prüfstellen Keramik

- O Keramische Technik und Baustoffe
- ☐ Feuerleste Werkstoffe
- Thermophysikalische Untersuchungen
- □ Chemische Analytik
- 🗆 Mineral- und Gefügeuntersuchungen
- ☐ Wärme- und Verfahrenstechnische Untersuchungen

Prüfbericht KP 33-1/00 vom 29.3,2000 Priifung von Beileremail.

Auftraggeber:

EMO Kemija d.o.o.

Probencingang: 5.1.2000

Emailtyp:

Boileremail - Versatz Nr 201030-18300

Prüfnorm:

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Die Normbedingungen sind erfüllt.

Prüfstellenleiter

Bearbeiter Dipl.Ing.(FH)J.Müller Approval Number: 1702529 Test Report: LGC/WAT/2017/001



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

7th March 2017

EMO FRITE d.o.o Mariborska 86, 3000 Celje, Slovenia

# 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.

#### COATINGS, PAINTS & LININGS - FACTORY APPLIED PIPE & FITTINGS COATINGS.

5030

'R-4401, E-4413, E-4414, E-4420, E440001, E441001, E440002, E441002, E-5402, E-5403, E-5404, E540001. E541001, E540002, E540003 & E541003'. Factory applied, grey-blue coloured enamel coatings. Apply as per manufacturer's instructions 'issue 02/2016' dated 05.10.2016. Cure for 6 minutes@840°C. For use with water up to 85°C. This material is only approved for the curing conditions that appear on the approval. If the cure conditions are varied from those specified on the approval then the material is not covered by the scope of the approval.

**APPROVAL NUMBER: 1702529** 

APPROVAL HOLDER: EMO FRITE D.O.O

The Scheme reserves the right to review approval.

Approval 1702529 is valid between February 2017 and February 2022

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

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

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.



This is to certify that

# **ELDON'S ILIOTHERMINE**

supplied by

## **ELDON'S SA**

20 Souliou Street, N. Halkidon, 143 43, Athens, Greece

has been registered by InS Services (UK) Ltd



## **Incidental Food Contact**

This product is acceptable as a heat transfer fluid in locations where there is a possibility of incidental food contact. The amount used should be the minimum required to accomplish the desired technical effect.

Signed: ..

Date: 6 November 2013

This certificate is only valid when the product is listed in the InS Register at www.insservices.eu