

PTFE Vergine – FE1000

Certificazioni - *Certifications*

Prodotto certificato NSF 61, FDA, ACS, W270, WRAS, KTW, 3-A Sanitary Standard 20-27 (*)
NSF 61, FDA, ACS, W270, WRAS, KTW, 3-a Sanitary standard 20-27 certified product ()*

Valori ricavati da: *Test values from:*

A - Tondo stampato e sinterizzato secondo ASTM D 4874
A - moulded and sintered rod according ASTM D 4874.

B - Tondo stampato e sinterizzato secondo ASTM D 4874
B - moulded and sintered rod according ASTM D 4874.

C - Tondo o tubo estruso.
C - Extruded rod or tube.

Materiali Forniti ricavati da: *Products made from:*

Tondi e Manicotti a fascia grossa, Nastri e lastre sfogliati
Moulded rods and thick walled tubes, skived tapes and sheets

Lastre stampate e Manicotti a fascia sottile
Moulded sheets and thin walled tubes.

Tondi e tubi estrusi a secco
Extruded rods and tubes

Caratteristiche Fisiche *Physical Properties*

| Caratteristica <i>Property</i> | Metodo di prova <i>Test method</i> | U.M. <i>Units</i> | Valori tipici misurati <i>Typical Measured values</i> | | |
|---|--|-----------------------------|---|-------|-------|
| | | | A | B | C |
| Tipo di Prodotto - <i>product type</i> | | | A | B | C |
| Densità – <i>Density</i> | ASTM D 792 | gr/cm ³ | 2.165 | 2.160 | 2.155 |
| Carico di rottura – <i>Tensile strength</i> | ASTM D 4894 | MPa | 32 | 28 | 22 |
| Allungamento a rottura – <i>Elongation at break</i> | ASTM D 4894 | % | 320 | 250 | 220 |
| Rigidità Dielettrica – <i>Dielectric Strength</i> | ASTM D 149 | Kv/mm | 38 | 34 | 30 |
| Durezza – <i>Hardness</i> | ASTM D 2240 | Shore D | 57 | 55 | 54 |

I dati riportati sono suscettibili di variazioni che GAPI riterrà di apportare per migliorare le caratteristiche del prodotto. Le informazioni fornite sono indicative.

Since development and improvement of compounds is a continuing process, GAPI reserves the right to modify their characteristics.

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SCHEDA PRODOTTO – *PRODUCT DATA SHEET*
FE1000 rev. 09 – 06/09/2012
pag 2 di 8

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via Molinaretti, 2
24060 Castelli Calepio (BG)
Italy



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LABORATORIO PER LA CERTIFICAZIONE E RICERCA
 SUI SISTEMI ELASTOMERICI

con il patrocinio del C.N.R.



Messrs.
 LANZA NUOVA S.p.A.
 Via Tolari, 12
 24060 GANDOSSO (BG)

Date 28th October, 2005
 RP n° 570/B/bis
 Ref. Fax dated 22.12.2004

Received 11.10.2005 Start tests 18.10.2005 End tests 27.10.2005 Page 1 of 1

R A P P O R T O D I P R O V A

Subject: DETERMINATION OF THE TOTAL EXTRACTIVES IN SIMULATORS OF FOODS,
 ACCORDING TO "FDA CFR 21 - PARTS 170 to 199 - ITEM 177.1550
 PERFLUOROCARBON RESINS"

SEMIFINISHED AND FINISHED ITEMS SUPPLIED BY GAPI S.r.l. Test methods Requirements
FROM VIRGIN GRANULAR PTFE
(POLITETRAFLUOROETHYLENE)

| <u>Total extractives in simulators of foods after 2 hours at reflux temperature</u> | | FDA-CFR 21 Parts 170 / 199 Item 177.1550 |
|---|-------------------------|--|
| • Distilled water | mg/in ² 0,09 | max 0,2 |
| • n.heptane | mg/in ² 0,08 | max 0,2 |
| • 50% (v/v) ethanol | mg/in ² 0,07 | max 0,2 |
| • ethyl acetate | mg/in ² 0,08 | max 0,2 |

REMARK: The total extractives meet the requirements of "FDA CFR 21 - Parts 170 to 199 - Item 177.1550"

I risultati ottenuti si riferiscono esclusivamente al campione provato.
 Il presente rapporto di prova non può essere riprodotto parzialmente salvo approvazione del Laboratorio.

E. Badomer, *Operator*

F. Casa, *Director*

20098 San Giuliano Milanese - Via privata Cadore 13 - Tel. (02) 98.80.443 - Fax (02) 98.80.975 - P.IVA e C.F. 09984500158

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CARSO - LABORATOIRE SANTÉ ENVIRONNEMENT HYGIÈNE DE LYON
 Laboratoire Agréé pour les analyses, d'eaux par le Ministère de la Santé

CERTIFICAT DE CONFORMITE
AUX LISTES POSITIVES DE REFERENCE
 Conformément à l'arrêté du 29 mai 1997 modifié et aux circulaires du Ministère de la santé
 DGS/VS4 n° 99/217 du 12 avril 1999 et DGS/VS4 n° 2000/232 du 27 avril 2000
 et à l'avis paru au Journal Officiel du 24 Février 2012 (texte n°119)

| | |
|---|---|
| Coordonnées du demandeur : GAPI S.P.A. Via Molinaretti, 2 24060 CASTELLI CALEPIO (BG) Italie | Nom(s) commercial(aux) du produit fini : PTFE FE 1000 (à base des matériaux Gujarat ou Dyneon) |
|---|---|

Type de produit fini :

lubrifiant joint de diamètre inférieur à 63mm autre :
 graisse colle
 ajout ou adjuvant organique pour ciment revêtement à base de ciment

Commentaires : Renouvellement du certificat 07 CLP LY 005

N° de dossier attribué par le laboratoire habilité : **12 CLP LY 015**

Formulation chimique :
 La formulation chimique vérifiée par le laboratoire est conforme aux listes positives de référence. Ce certificat est établi sous réserve de la non-modification de la composition du produit et des préparations commerciales qui le constituent. Il peut par ailleurs être remis en cause par l'évolution des listes positives.

Remarque :
 Ce certificat couvre toutes les sources d'approvisionnement pour les préparations commerciales qui peuvent être utilisées alternativement.

Certificat de CLP délivré par : Christelle AUTUGELLE **Signature :**
 Responsable Laboratoire MCDE
 CARSO - L.S.E.H.L.

A la date du : 24 Avril 2012

Date d'expiration du certificat de CLP : 06 Mars 2017

F_MC130-b 11.04.2012 CAU

1/1

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Hygiene-Institut des Ruhrgebiets

Institut für Umwelthygiene und Umweltmedizin
Direktor: Prof. Dr. rer. nat. L. Dunemann



Hygiene-Institut, LWAFELF · Postfach 10 17 11 · 45813 Gelsenkirchen

GAPI S.p.A.
Via Molinaretti, 2
24060 CASTELLI CALEPIO
ITALY

Rotthaus Str. 19
45879 Gelsenkirchen

Phone: (0209) 9242-230
Fax: (0209) 9242-222
E-Mail: c.schell@hyg.de
Internet: www.hyg.de

Reference: W-198348-11-SI
Before: W-192373e-10-SI
Responsible: Mrs. Dr. Ch. Schell
Gelsenkirchen, 07.01.2011

TEST CERTIFICATE

(Transcription and Prolongation of test certificate W-192373e-10-SI)

Enhancement of Microbial Growth on Materials to Come into Contact with Drinking Water
Test pursuant to DVGW Technical Standard W 270, November 2007

Client: GAPI S.p.A.
Via Molinaretti, 2
24060 CASTELLI CALEPIO
ITALY

Test material: PTFE FE1000

Test method: Material test

According to test report **W-136547-06-SI** of 13.02.2006, the afore mentioned material **PTFE FE1000** is conform to the requirements for the use in the area of drinking water systems pursuant to DVGW Technical Standard W 270. Details to test run and test results are itemized in the test report.

This test certificate shall become valid upon date of issue and shall expire on **13.02.2016** if conditions and requirements remain unaltered.

The Director of the Institute
on behalf

Dr. Ch. Schell

Department of Water Hygiene and Environmental Microbiology

The test results and assessments refer exclusively to the assessed test specimens and the existing regulations.
The validity of this document expires in case of modifications in the composition of the material or the processing conditions.
The present document may only be published and reproduced analogical and unaltered.
This document is no DVGW certification.



Träger des Hygiene-Instituts: Verein zur Bekämpfung der Volkskrankheiten im Ruhrkohlengebiet e.V., Gelsenkirchen

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Our Ref: HL/M120283
 Test Report: MAT/LAB 472E

4th September 2012

Gapi Spa.
 Via Molinaretti,
 2-24060 Castelli Calepio (BG),
 Italy

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.

POLYTETRAFLUOROETHYLENE (PTFE) 5295

PTFE FE 1000. White coloured PTFE material manufactured by interring and skiving. For use with water up to 85°C.

APPROVAL NUMBER: 1208510
APPROVAL HOLDER: GAPI SPA.

The Scheme reserves the right to review approval. This approval is valid between August 2012 and August 2017.

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

Water Regulations Advisory Scheme Ltd.
 30 Fern Close, Pen-y-Fan Industrial Estate,
 Oakdale, Gwent NP11 3EH, UK.
 Tel: 01495 248454. Fax: 01495 236289.
 E-mail: info@wras.co.uk Website: www.wras.co.uk

The Water Regulations Advisory Scheme Ltd.
 Registered in England No. 04540000
 Registered Office: 1 Crown House Court,
 London WC1R 4TH

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Institut für Umwelthygiene und Umweltmedizin
 Direktor: Prof. Dr. rer. nat. L. Dunemann

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

Reference No.: K-201858-11-Bs
 Contact person: Anasse Bernoussi (Eng.)

Gelsenkirchen, 11.04.2011

TEST CERTIFICATE according to the KTW-Guideline

Product: PTFE FE 1000
Test specimen: Seals made of Fluon (AGC) and Algoflon (Solvay)
 Ø, 10 mm Ø, 4,5 mm thickness 2 mm

The test specimen meets the requirements according to the test report dated 11.04.2011 Ref.-No.: K-201858-11-Bs for the following applications and temperatures:

| 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 | --- | --- | --- |
| Fittings for pipes with 80 mm ≤ DN < 300 mm | --- | --- | --- |
| Fittings for pipes with DN ≥ 300 mm | --- | --- | --- |
| Sealings for pipes with DN < 80 mm | passed | --- | passed |
| Sealings for pipes with 80 mm ≤ DN < 300 mm | passed | --- | passed |
| Sealings for pipes with DN ≥ 300 mm | passed | --- | passed |
| Tanks in the domestic installations including repair systems | --- | --- | --- |
| Tanks other than in domestic installations including repair systems | --- | --- | --- |

as far as technically suited.

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 11.04.2016 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 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.



Träger des Instituts: Verein zur Bekämpfung der Volkskrankheiten im Ruhrkohlegebiet e.V., Gelsenkirchen, Vereinsregister: VR 519 Amtsgericht Gelsenkirchen
 USt-ID: DE125018356, Vorstand: Henriette Reker (Vorsitzende), Prof. Dr. Jürgen Kretschmann, Dr. Emanuel Grün, Volker Vohmann, Prof. Dr. Lothar Dunemann

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| | | |
|-------------------------------|----------------|--------------------|
| GAPI S.p.A. | Attention | Mr. Ryan Shinabery |
| Via Molinaretti, 2 | Your Reference | 011040 |
| Castelli Calepio (Bg) - Italy | Report Number | ENB012354P-1 |
| | Author | Kimberly Hoffman |
| | Date | February 17, 2011 |

Subject Evaluation of FE1000 Virgin PTFE per 3-A Sanitary Standard 20-27

Dear Mr. Shinabery:

Forty molded two inch diameter disks of polytetrafluoroethylene (PTFE), with a surface area of $7.00 \pm 0.10 \text{ in}^2$ as required by the 20-27 procedure, labeled FE1000 Virgin PTFE, were submitted for testing in accordance with 3-A Sanitary Standard Procedure No. 20-27 (latest revision). The 3-A Sanitary Testing Procedure subjects the specimens to accelerated use-simulating tests to determine the cleanability for use in dairy equipment.

The results from the cleanability response testing, in which specimens were subjected to a series of cleaning solutions, are indicated in Table 1. The results show that the samples had either no appreciable weight gains, or gains that were less than the maximum allowable limit. The maximum allowable limit for fluorocarbons including PTFE is 0.05%.

The results for the product treatment, where the samples were divided into two groups, are detailed in Table 2. The M-series set of specimens was placed in cream at room temperature for seven days, which resulted in either no appreciable weight gains, or gains that were less than the maximum allowable limit of 0.05%. The L-series of specimens was placed in a lactic acid solution at 155 °F for seven days. These specimens had either no appreciable weight gains, or weight gains less than the maximum allowable limit of 0.05%.

The results from the cleanability comparison testing, in which the surfaces appear better than the surface of polished 316 stainless steel, are presented in Table 3.

The results indicated that the PTFE samples, labeled FE1000 Virgin PTFE, met the requirements as specified in 3-A Sanitary Standard Procedure No. 20-27. The scope of this testing does not include verification of Section H5 of the Standard, regarding compliance with FDA regulations and/or FC&C Act requirements.

EAR-CONTROLLED DATA

Report No. ENB012354P-1

February 17, 2012

Page 1 of 5

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