

	<p>GW</p>	<p>Nanteuil le Haudouin, 17 listopada 2023 r.</p>
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CERTYFIKAT

My, niżej podpisani, zaświadczamy, że **GW** jest zgodny z normą EN 751-2 do stosowania do podgrzewania wody i gazu zgodnie z raportem nr 3496 A1 23 z dnia 10/07/2023 z Instytutu Naffty I Gazu.

Raport załączony w języku angielskim.

Laboratorium Badawczo-Rozwojowe GEB SAS



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AB 041

Archive number: **DK-5100-341/23**

Archive number of report: **GU-5101-341/23**

Internal order INiG-PIB number: **3496/GU/23/01**

REPORT NUMBER 3496 A1 23 (laboratory tests)

Type of product: **Impregnated fibre for threaded fittings sealing**

Tested model: **GW**

Tests Orderer: **GEB Polska Sp. z o.o.
ul. Heroldów 6, 01-991 Warszawa**

DIRECTOR OF INSTITUTE

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dr inż. Krzysztof Sowiński

Cracow 2023-07-10

Copy No: 1 of 4

INiG-PIB	Report Number 3496 A1 23	2 z 8
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Accredited body:

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Type of tested object:

Impregnated fibre for threaded fittings sealing

Tested model:

GW

Trade name:

-

Tests Orderer:

GEB Polska Sp. z o.o.
ul. Heroldów 6, 01-991 Warszawa

Manufacturer's name:

GEB Polska Sp. z o.o.
ul. Heroldów 6, 01-991 Warszawa

Tests make by:

Mateusz Rataj

Authorized by (+ signature):

Robert Wojtowicz
Head of Department



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1. FOREWORD

The product declared to the laboratory was synthetic impregnated fibre for threaded fittings sealing type GW.

The commission concerned the execution of tests in order to confirm the compliance of the product with reference standard PN-EN 751-2:2005. The tests were carried out in accordance with the test methods included in PN-EN 751-2: 2005. Producer declared Class ARp of synthetic impregnated fibre for threaded fittings sealing type GW.

Synthetic impregnated fibre for threaded fittings sealing was tests according to PN-EN 751-2:2005 for class ARp include checking:

- general,
- corrosive properties,
- sealing properties:
 - soundness,
 - soundness after adjustment (additional requirement for Class ARp only),
 - resistance to gas condensates,
 - resistance to hot water,
 - resistance to temperature cycling,
 - resistance to vibration,
- compatibility with foam forming leak testers,
- hardening and dismantling.

2. DOCUMENTS AND REFERENCE STANDARDS

- Contract No. 54/3496/GU/2023 of 2023-05-22.
- Internal order INiG-PIB No. 3496/GU/23/01.
- Scope of Research Laboratory Accreditation No. AB 041 issue 27 of 2023-06-20
- PN-EN 751-2:2005 (EN 751-2:1996) Sealing materials for metallic threaded joints in contact with 1st, 2nd and 3rd family gases and hot water – Part 2: Non-hardening jointing compounds.
- Technical data sheet of impregnated fibre for threaded fittings sealing type GW delivered by manufacturer.

3. SUMMARY

- The tests results presented in this Report are related only to the received for tests object.
- On the basis of obtained tests results it can be concluded that synthetic impregnated fibre for threaded fittings sealing type GW meets the requirements of reference standard within the range specified in a point 5 of PROGRAM AND CONFIRMATION OF COMPLIANCE OF TEST RESULTS of this Report.

4. IDENTIFICATION OF TESTED OBJECT



PL NIĆ USZCZELNIAJĄCA / Do połączeń metalowych i plastikowych / Repozycyjowalna 1/8
 UA ВОДОСТІЙНИЙ ДРІТ / Для з'єднань для металевих і пластикових труб
 SIULAS / Metalinėms ir plastikinėms jungiamosioms dalims
 IZOLACIJAS AUKLA / Metāla un plastmasas savienojumiem
 TĪNENDUSNĪT / Metall-ja plastlīmīke jaoks
 ПРОКЛАДКА / ЛЯ МЕТАЛЛИЧЕСКИХ И ПЛАСТИКОВЫХ РЕЗЬБОВЫХ СОЕДИНЕНИЙ



Ø	Ø
1/2"	6 → 7
3/4"	7 → 9
1"	8 → 12
1 1/2"	10 → 15
2"	15 → 25
3"	20 → 30
4"	35 → 45

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Edit 2303

Photo 1. View of markings on the packaging with synthetic impregnated fibre for threaded fittings sealing



Photo 2. View of test assembly

5. PROGRAM AND CONFIRMATION OF COMPLIANCE OF TESTS RESULTS

Table 1.					
Subject of the requirements PN-EN 751-2:2005 (EN 751-2:1996)	Point	Confirmation of the compliance of the results			
		OK	NO	NT	NA
Requirements	5				
Requirements to be met by the jointing compound as received	5.1				
General	5.1.1	X			
Corrosive properties	5.1.2	X			
Storage properties	5.1.3	X			
Requirements to be met by the compound after assembly	5.2				
Sealing properties	5.2.1				
Soundness	5.2.1.1	X			
Soundness after adjustment (additional requirement for Class ARp only)	5.2.1.2	X			
Resistance to gas condensates	5.2.1.3	X			
Resistance to hot water	5.2.1.4	X			
Resistance to temperature cycling	5.2.1.5	X			
Resistance to vibration	5.2.1.6	X			
Compatibility with foam forming leak testers	5.2.2	X			
Hardening and dismantling	5.2.3	X			

OK - Result meets the requirements.

NT - Not tested

NO - Result doesn't meet the requirements.

NA - Not applicable.

6. TESTS CONDITIONS

Product samples in the form of synthetic impregnated fibre for threaded fittings sealing type GW was delivered to the Laboratory GU-1 on 2023-05-15. Protocol of admission to the laboratory GU-1 No. 22/GU-1/23.

Delivered product for testing was in good technical condition, there weren't any marks of damages.

Environmental tests conditions were in accordance with Reference Standards.

Tests were executed on basis of methods depicted in Reference Standards and Documents published in approved through PCA Scope of Research Laboratory Accreditation No AB 041.

Each of tested assemblies consisted of elements shown in Table 2.

Table 2. Parts list for test assemblies for class A			
Quantity	Part	Thread	Characteristics
5	Treaded pipe	R 1½	EN 10255 – DN 40; medium series, length 250 mm
5	Socket	R 1½	EN 10242
5	Reducing socket	R 1½ x ½	EN 10242
5	Plug	R 1½	EN 10242
5	Plug	R 1½	EN 10242

Test start: 2023-05-23

Test end: 2023-06-23

The test results are summarized in TEST PROTOCOL No. 3496 A1 23, stored in the archive of the Laboratory GU-1.

7. TESTS RESULTS

Table 1. Tests results

TESTED PARAMETERS AND TEST CONDITIONS	Confirmation of the compliance of the results			
	OK	NO	NT	NA
Test of general requirements – test of visual quality PN-EN 751-2:2005 (EN 751-2:1996), p. 7.1.1				
The jointing compound shall be homogenous and free of lumps	X			
Test of corrosive properties PN-EN 751-2:2005 (EN 751-2:1996), p. 7.1.2				
The jointing compound shall not cause corrosion of the following surface:				
– aluminum	X			
– brass	X			
– copper	X			
– low carbon steel or zinc	X			
Soundness test PN-EN 751-2:2005 (EN 751-2:1996), p. 7.2.1.2				
The test assemblies after 1 h of preparation, were pressurized with compressed nitrogen to the pressure $p = 7,5 \pm 0,3$ bar, while being immersed in a water bath at 20 ± 5 °C for a time of 5 minutes. Mounted test assemblies shall not leak during testing.				
– test assembly No. 1	X			
– test assembly No. 2	X			
– test assembly No. 3	X			
– test assembly No. 4	X			
– test assembly No. 5	X			
The test assemblies have been subjected to a hydraulic test by filling with water at a test pressure of $16,0 \pm 1,0$ bar. The tests were carried out 72 hours after of assembly. Mounted test assemblies shall not leak during 1 h of test.				
– test assembly No. 1	X			
– test assembly No. 2	X			
– test assembly No. 3	X			
– test assembly No. 4	X			
– test assembly No. 5	X			
Soundness test after adjusting PN-EN 751-2:2005 (EN 751-2:1996), p. 7.2.1.3				
The test assemblies after turned back for $(45 \pm 2)^\circ$ were pressurized with compressed nitrogen to the pressure $p = 7,5 \pm 0,3$ bar. The tests were carried out 72 hours after of assembly and turned back of $(45 \pm 2)^\circ$. Mounted test assemblies shall not leak during testing				
– test assembly No. 1	X			
– test assembly No. 2	X			
– test assembly No. 3	X			
– test assembly No. 4	X			
– test assembly No. 5	X			
Test of resistance to gas condensates PN-EN 751-2:2005 (EN 751-2:1996), p. 7.2.1.4				
The test assemblies were pressurized with compressed nitrogen to the pressure $p = 7,5 \pm 0,3$ bar, while being immersed in a water bath at 20 ± 5 °C for a time of 5 minutes. Mounted test assemblies shall not leak during testing.				
– test assembly No. 1 (test with n-pentane)	X			
– test assembly No. 2 (test with n-pentane)	X			
– test assembly No. 3 (test with a mixture of 70 parts iso-octane and 30 parts toluene)	X			
– test assembly No. 4 (test with a mixture of 70 parts iso-octane and 30 parts toluene)	X			
– test assembly No. 5 (test with a mixture of 70 parts iso-octane and 30 parts toluene)	X			

Table 2. Tests results

TESTED PARAMETERS AND TEST CONDITIONS		Confirmation of the compliance of the results			
		OK	NO	NT	NA
Hot water resistance test					
PN-EN 751-2:2005 (EN 751-2:1996), p. 7.2.1.5					
The test assemblies were pressurized with compressed nitrogen to the pressure $p = 7,5 \pm 0,3$ bar, while being immersed in a water bath at 20 ± 5 °C for a time of 5 minutes. Mounted test assemblies shall not leak during testing.					
– test assembly No. 1		X			
– test assembly No. 2		X			
– test assembly No. 3		X			
– test assembly No. 4		X			
– test assembly No. 5		X			
Temperature cycling test					
PN-EN 751-2:2005 (EN 751-2:1996), p. 7.2.1.6					
The test assemblies were pressurized with compressed nitrogen to the pressure $p = 7,5 \pm 0,3$ bar, while being immersed in a water bath at 20 ± 5 °C for a time of 5 minutes. Mounted test assemblies shall not leak during testing.					
– test assembly No. 1		X			
– test assembly No. 2		X			
– test assembly No. 3		X			
– test assembly No. 4		X			
– test assembly No. 5		X			
Vibration test					
PN-EN 751-2:2005 (EN 751-2:1996), p. 7.2.1.7					
The test assemblies were pressurized with compressed nitrogen to the pressure $p = 7,5 \pm 0,3$ bar, while being immersed in a water bath at 20 ± 5 °C for a time of 5 minutes. Mounted test assemblies shall not leak during testing.					
– test assembly No. 1		X			
– test assembly No. 2		X			
– test assembly No. 3		X			
– test assembly No. 4		X			
– test assembly No. 5		X			
Compatibility test with foam forming leak testers					
PN-EN 751-2:2005(EN 751-2:1996), p. 7.2.2					
The jointing compound shall not destroy the film of aqueous leak test fluid within 1 min.		X			
Hardening and dismantling					
PN-EN 751-2:2005 (EN 751-2:1996), p. 7.2.3					
After all test the screwed joints shall be dismantled with commercial tools without heating.		X			
There shall be no damage or corrosion of the threads after dismantling.		X			
The jointing compound between the threads shall not form a loose powder.					
Storage properties		Confirmation of the compliance of the results			
PN-EN 751-2:2005 (EN 751-2:1996), p. 5.1.3					
Requirement		OK	NO	NT	NA
The storage life of the jointing compound shall be at least two years in its original unopened container when stored at a temperature less than 25 C, indicated and declared by the manufacturer.	Storage stability is at least two years in its original packaging, stored at a temperature below 25°C according to declared by the manufacturer.	X			

OK – Compliance **NO** – Non compliance **NT** – Not tested **NA** – Not applicable

THE END OF TEST REPORT