Certified translation from Polish

[*The annotations in italics in square brackets are the translator's comments.*]

jakość w budownictwie

THE INSTITUTE OF BUILDING TECHNOLOGY
COMPLEX OF RESEARCH LABORATORIES
accredited by Polish Centre for Accreditation
Accreditation Certificate No. AB 023

ilac-MRA PCA Polskie Centrum Akredytacji BADANIA AB 023

FIRE RESEARCH DEPARTMENT
FIRE RESEARCH LABORATORY

TEST REPORT No. LZP09-2580/16/Z00NZP-1

This report was issued in 3 copies, 2 copies were given to the Client, 1 copy was kept by ITB.

Client: INTUSEAL Sp. z o.o. INTU-A4 Intumescent product manufacturer
Client's address: ul. Nowa 17, Stara Iwiczna
05-500 Piaseczno

Information concerning the product

Manufacturer (name and address):	INTUSEAL Sp. z o.o. ul. Nowa 17, Stara Iwiczna 05-500 Piaseczno
Name and address of manufacturing plant:	INTUSEAL Sp. z o.o. ul. Kineskopowa 1, 05-500 Piaseczno
Product name:	INTU-A4 Intumescent Product
Relevant harmonized standard:	ETAG 026 part 4
Information concerning product and declared application and relevant assessment system and constancy of performance verification	Intumescent product used in intumescent bands, intumescent tapes, intumescent collars and seals. Performance and durability verification and assessment system: 1
Unique identification code of product type:	No information available on product identification code

Information concerning the subject of tests

Test subject: description, condition and identification:	INTU-A4 Intumescent product used in intumescent bands, intumescent tapes, intumescent collars and seals manufactured by INTUSEAL Sp. z o.o. before aging procedure **Product parameters declared by the Ordering Party:** Thickness: 2.0 ± 0.5mm **Product parameters determined in the laboratory:** Thickness: 2.00 mm
Samples receipt date/sampling date:	Received for testing: 14.02.2017 Sampled: product for testing was sampled by the Laboratory from supplied batch (copy of sampling report attached to the test report)
Receipt/Sampling Report No.:	Receipt report: LZP02-2580/16/Z00NZP Sampling Report: the membrane sampling for tests report has not been delivered or the copy of sampling report is attached to this report
Procedure of receipt/sampling of subject for tests:	PZ ZLB 18 Sample handling procedure

Information concerning tests

Test commencement date:	27.02.2017
Test completion date:	27.02.2017

TŁUMACZ PRZYSIĘGŁY JĘZYKA ANGIELSKIEGO BEATA DZIADUS NR TP/28/3

TEST METHOD:

EOTA TR024:2006 am:2009 "Intumescent product expansion ratio test method"

DEVIATIONS from EOTA TR024:2006 am:2009

none

SEASONING:

Air-conditioning of samples: from 14.02.2017 to 27.02.2017
Air-conditioning conditions: temperature 23 ± 2°C, relative humidity: 50 ± 5%

SAMPLES PREPARATION:

The Client prepared a batch of INTU-A4 intumescent product from which the samples for tests were collected.

TEST CONDITIONS

Air temperature [°C]	Humidity [%]	Test temperature [°C]	Temperature measurement time [min.]
20.9	26.5	1000	30

TEST RESULTS:

Tested properties		Sample no. 1	2	3	4	5	6
Cylinder height H_c/mm		120	120	120	120	120	120
Sample thickness before test g/mm	1	1.96	2.01	2.03	2.03	1.98	1.98
	2	1.95	1.99	2.02	2.02	1.98	1.99
	3	1.96	2.00	2.03	2.02	2.00	1.98
Average sample thickness before test g_p/mm		1.96	2.00	2.03	2.02	1.99	1.98
Distance of sample surface from top cylinder surface after expansion	d_{max}/mm	40.58	45.43	50.47	50.27	50.6	51.87
	d_{min}/mm	36.7	42.57	44.14	46.17	48.74	47.29
Average distance of sample surface from top cylinder surface after expansion d_p/mm		38.64	44	47.305	48.22	49.67	49.58
Sample expansion ratio H_p/mm		79.40	74.00	70.67	69.76	68.34	68.44
Average product expansion ratio H_m/mm		71.77					
Relative sample expansion ratio h_p		40.58	37.00	34.87	34.48	34.40	34.51
Average product expansion ratio h_m		35.97					

OBSERVATIONS:

-

UNCERTAINTY:

The expanded uncertainty of the expansion ratio, using a coverage factor of k=2 which gives a level of confidence of approximately 95 %, is **U_{tens} = 0.06 mm.**

ATTACHMENTS:

Copies of sampling reports.

CONCLUSION:

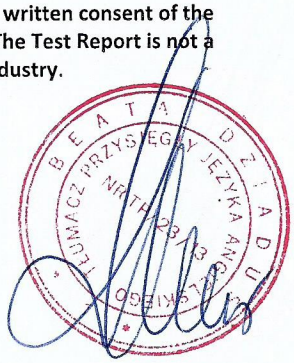
Test results relate to performance of tested samples, in specific test conditions, and cannot be the only criterion of a possible product fire hazard assessment.

Person responsible for test:
dr inż. [*Engineer, PhD*] Bartłomiej K.Papis
Title, name and surname
/-/ signature

Report authorized by:
dr inż. [*Engineer, PhD*] Andrzej Kolbrecki
Title, name and surname
/-/ signature

Warsaw, dated 04.04.2018

Acting Fire Research Department Manager
dr inż. [*Engineer, PhD*] Bartłomiej K.Papis
Title, name and surname
/-/ signature



End of test report No. LZP09-2580/16/Z00NZP-1

Z3 PZ ZLB no. 18 Rev.VI/1 15 May 2012

THE INSTITUTE OF BUILDING TECHNOLOGY
Complex of Research Laboratories

SAMPLING REPORT No. LZP02-2580/16/Z00NZP

1. Test object (name, type): Flame retardant product – INTU A4 used in bands, tapes, collars, seals manufactured by Intuseal Sp. z o.o.
collected by:
☐ LZP laboratory
☐ ~~Other (specify by whom)~~
1a. Number of relevant harmonized standard/other reference document*.....

2. Information regarding samples taking up for tests
- Manufacturer name: INTUSEAL SP. Z O.O.
- Place of manufacture (name and address of manufacturing plant): PIASECZNO 05-500, ul. KINESKOPOWA 1
- Place of sampling: Laboratorium Badań Ogniowych [*Fire Research Laboratory*], Pionki, ul. Przemysłowa 2
- Manufacturing line: 4
- Batch: No. 1/15/06/16 qty: 500 items
- Date of manufacture: 15.06.2016
- Type, kind and product model: discs fi 53mm and 2.0mm ± 0.5mm thick
- Qty/mass of taken samples: discs fi 53mm and 2.0mm ± 0.5mm thick – 100 items

3. Sampling manner according to procedure:
To each type mentioned in sect. 2 above the samples were taken up randomly out of 500 items.
3a. Remarks regarding possible specifications laid down in relevant harmonized standard: [*no entry*]

5. Samples packing and labeling manner:
Product labeling by manufacturer: signature of releasing person
Samples labeling by person collecting samples: signature of collecting person

6. External condition/description of samples:
Very good without visible damage.

7. Samples transport means/manner to the ITB Research Laboratory:
Ordering Party's own transport (car).

8. CLIENT (name, address): INTUSEAL SP. Z O.O. UL. NOWA 17, STARA IWICZNA, 05-500 PIASECZNO
8a. x Product manufacturer
☐ Manufacturer's authorized representative
☐ Importer

9. Client's application for tests (number, date): [*no entry*]

10. Other information regarding sampling: [*no entry*]

Client's representative	Person collecting samples:
[*stamp*] INTUSEAL SP. Z O.O. Ul. NOWA 17, STARA IWICZNA, 05-500 PIASECZNO, Poland NIP [*Tax no.*]: 5223031827, REGON [*Comp. no.*]: 363758444 KRS No [*Court reg. no.*]: 0000562502 */-/ signature*	BARTŁOMIEJ PAPIS */-/ signature*

Place : PIONKI Date: 14.02.2017

* If applicable

Copy of Sampling Report

[*End of translation*]

I, Beata Dziaduś, a sworn translator of English, entered into the Register of Sworn Translators kept by the Polish Minister of Justice under the number TP/23/13, hereby certify this to be a true and accurate translation of the scanned Polish document presented to me.

Lądek-Zdrój, this 06th day of April 2018
Repertory number 308/2018