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02 May 2017
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Maxence Wittebolle
CEO IBE-BVI-T&CPI group

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Normalisation activities CEN - ISO

Review ISO 21898

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CEN – ISO normalisation

Subject :

- History standards FIBC's
- Request of revew 21898
- Proposal : call for experts

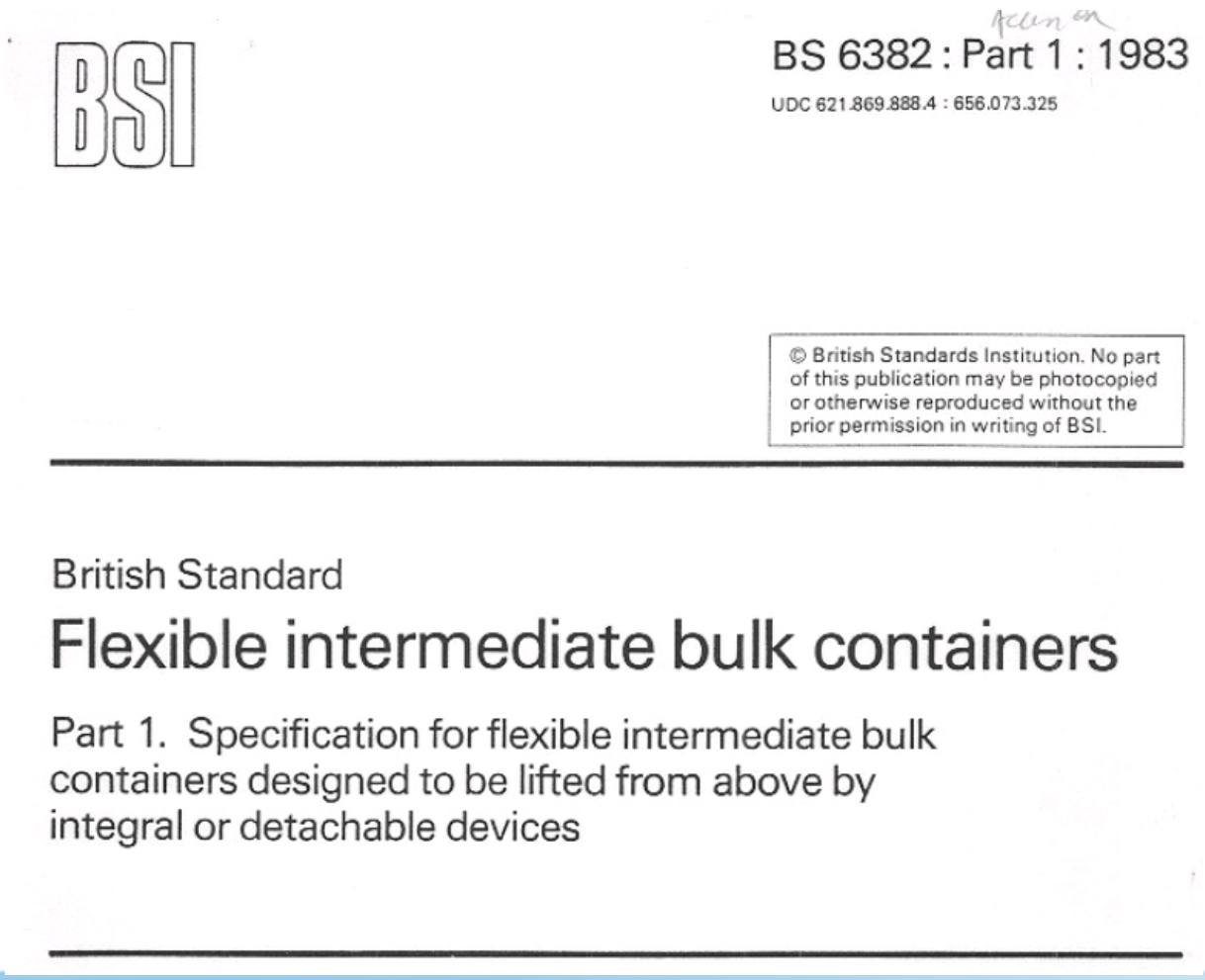
General History

Extract FIBC history (FIBCA)

Flexible intermediate bulk containers (FIBCs), also known as "big bags," "bulk bags," and "bulk sacks," were first manufactured in the late 1950s or early 1960s.

There is some controversy as to where the first FIBCs were made; however, it is known that FIBCs were made in the United States, Europe, and Japan during the time period mentioned above.

Standard history FIBC



BSI

BS 6382 : Part 1 : 1983

UDC 621.869.888.4 : 656.073.325

British Standard

Flexible intermediate bulk containers

Part 1. Specification for flexible intermediate bulk containers designed to be lifted from above by integral or detachable devices

Standard history FIBC

EFIBCA created in 1983

1985 : EFIBCA standard

Relevant test standards:

- EFIBCA 005 (SF5:1), Single trip
- EFIBCA 006 (SF6:1), Standard duty
- EFIBCA 003 (SF8:1), Heavy duty

Standard history FIBC

Non- Dangerous Goods FIBC's commonly used throughout the world include:

80's :

British Standard for FIBC's- Used to a lesser extent since EFIBCA standard was introduced

EFIBCA Standard- Commonly used in Europe for Non Dangerous goods until

ISO standard

American Standard T-4102 -1985

Australian Standard -AS3668-1989

90's :

EN 1898-1995 (confirmed in 2000 – deleted 2005 superseded by ISO)

2000-……

Japanese Industrial Standard JIS 1651-2002

(reviewed/confirmed in 2008 – 2013 - 2017)

EN/ISO Standard 21898-2004

(reviewed/confirmed in 2008 – 2013 – 2018?)

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Working groups active in FIBC testing:

CEN/TC261/SC5/WG37 – Intermediate Bulk Containers

for ISO/TC 122/SC 3 Performance requirements and tests for means of packaging, packages and unit loads

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CEN/TC261/SC5/WG37 – Intermediate Bulk Containers

WG37 : disbanded in 2016 as there were no activities since 2000

ISO/TC 122/SC 3 : still exists

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Revision request of : ISO 21898:2004
Preview

Packaging -- Flexible intermediate bulk containers (FIBCs) for non-dangerous goods

This point stands on the agenda working group meeting (ISO/TC122/SC3/WG8 and CEN/TC261/SC5/WG16) for 8-9 June 2017 Berlin.

CEN – ISO normalisation

Revision request of : ISO 21898:2004
Preview

Packaging -- Flexible intermediate bulk containers (FIBCs) for non-dangerous goods

CEN – ISO normalisation

Attention!!!!

Follow the CEN and ISO voting requests for New Work Items (NWI).

Reactivate CEN/TC261/SC5/WG37 :

- Good arguments for the revision
- Individual technical experts are appointed as WG members by CEN National Members or by organizations which have observer status in the parent body.
- Introduction of New Work Item (NWI)

Evaluation of NWI

a two-thirds majority of the votes cast (abstentions not counted) are in favour of the proposal;

5 or more Members expressed commitment to participate.

If one or both of these criteria are not met, the proposal is rejected.

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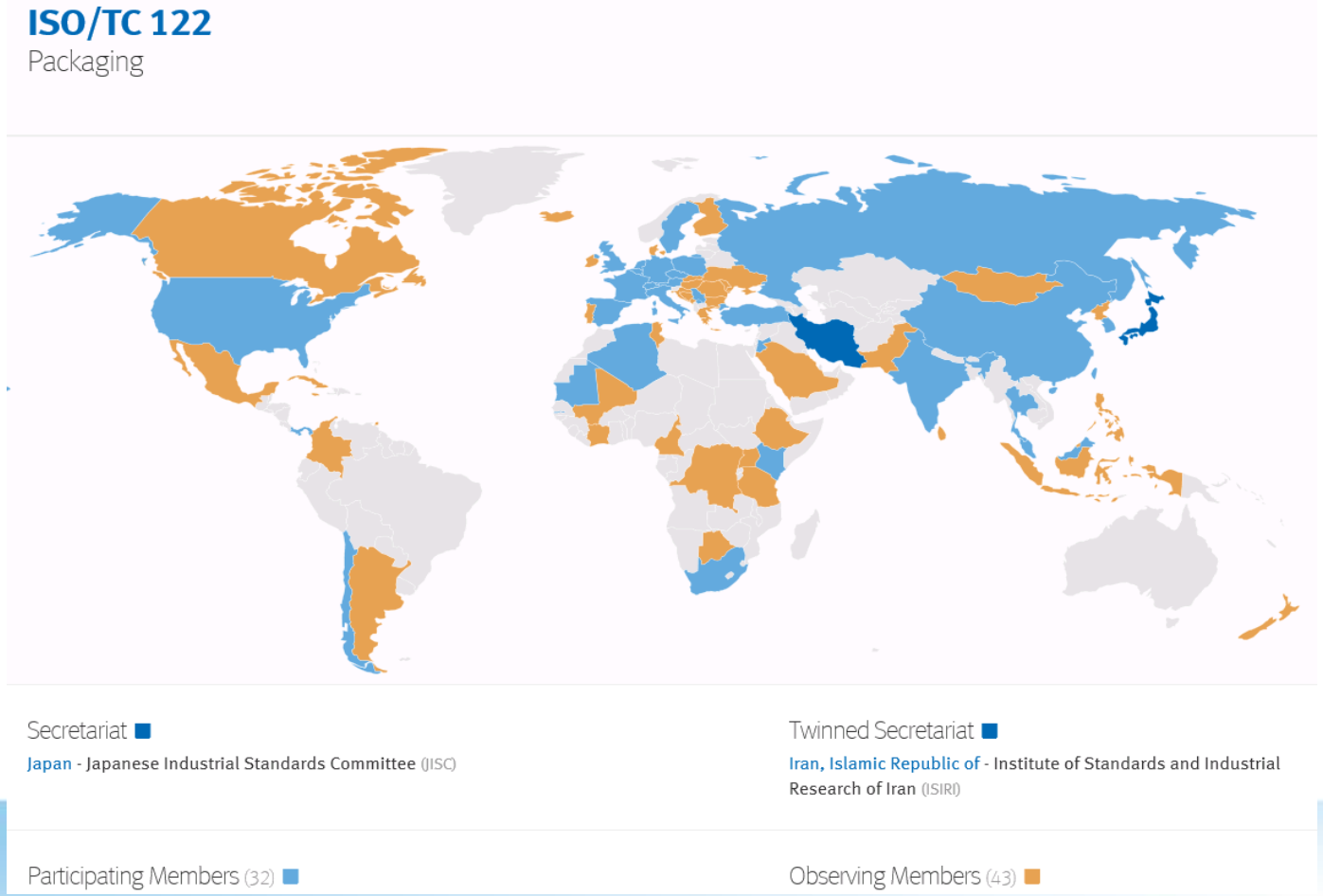
CEN members :

- CEN's National Members are the National Standardization Bodies (NSBs) of the 28 European Union countries, the Former Yugoslav Republic of Macedonia, Serbia and Turkey plus three countries of the European Free Trade Association (Iceland, Norway and Switzerland).
- There is one member per country.

CEN – ISO normalisation

ISO level:P-members with voting rights
https://www.iso.org/committee/52040.html?view=participation



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ISO level:

Analogue procedure

The following criteria for acceptance have been met:

☐ Approval by a simple majority of the voting P-members; and

☐ a commitment to participate actively in the development of the project by at least 4 P-members in committees with 16 or less P-members and at least 5 P-members in committees with 17 or more P-members (rf ISO/IEC Directives, Part 1 clause 2.3.5) and have nominated an expert

☐ Justification statements have been checked (all negative votes must be accompanied by a statement justifying the decision, or they shall not be counted. See ISO/IEC Directives Part 1, clause 2.3.4)

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If we are convinced of the need of a revision

Call for your attention !!!!

To the 39 P-member countries

Keep an eye/ear on the calls for evaluation NWI of your normalisation offices and pass your vote

Request nomination as expert to participate in the WG so that at least we obtain the requested number of positive acceptance votes.

CEN – ISO normalisation

If a NWI is accepted,.....

See you on the next WG-meeting

Thanks for your attention.

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Accredited

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ISO 17025
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Founded in 1954

IBE – BVI group

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Institut Belge de l'Emballage (IBE)
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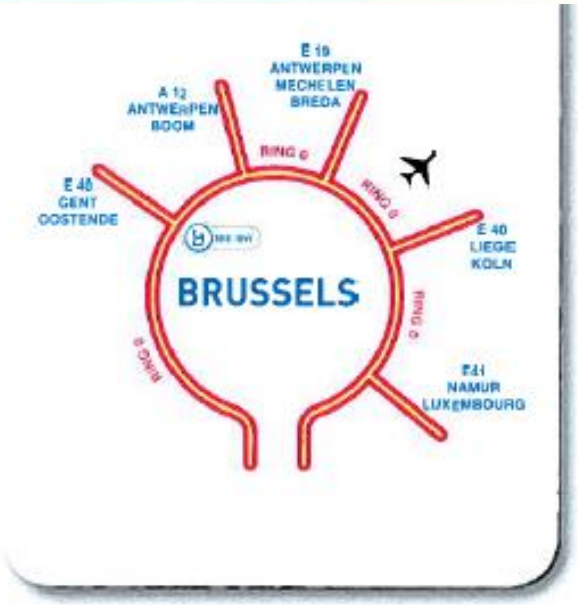


ISO 21898:2004 Packaging – Flexible intermediate bulk containers (FIBCs) for non-dangerous goods

March 31, 2017

Bill Y. Fujiwara
Nihon Matai Co., LTD. Japan
(A member of Japan FIBC association)

Contents

1. Background
2. Unclear conditions of “Annex A (normative) UV resistance test”
3. Subordination by IEC 61340-4-4 “Electrostatic classification of FIBC” is needed
4. ISO vote never started the working group
5. Conclusion

1. Background

- Since the first issue in 2004, ISO 21898 is not revised even though some unclear descriptions are confusing FIBC industries. Major confusion is “UV resistance test”.

-Subordination by new related standard; IEC 61340-4-4:2012, “Electrostatic classification of FIBC” is necessary.

- Japanese standard, JIS Z 1651:2008 according to ISO 21898, has revised to improve the above situation as JIS Z 1651:2017.

2. Unclear conditions of “Annex A (normative) UV resistance test”

Durability of FIBC is crucial for safety, but its test conditions by Accelerated weathering tester is vague.

A. How many hours in the tester?

- Technically speaking, the standard describes it’s total 300 hours, but most test firms and manufactures all claim and perform 200 hour-tests.

B. What is the irradiance?

- No specific irradiance level is defined.
The standard describes only ASTM G154-98, but it allows many irradiance levels.

A. How many hours in the tester?

ISO21898：2004

Annex A (normative) UV resistance test

A.4 Procedure Expose a test specimen to a fluorescent UV lamp for at least **200 h**, using a test cycle of 8 h at 60 ° C with UV radiation, alternating with 4 h at 50 ° C with condensation.

→ Total 300 hours in the tester?

De facto standard in Europe, India, China, Japan

→ Total 200 hours in the tester.

So, JIS Z 1651:2017 defines as Total 200 hours in the tester.

B. What is the irradiance?

ISO21898 : 2004

Annex A (normative) UV resistance test

A.3 Apparatus — The apparatus should be in accordance with ASTM G154-98, using a UV-B lamp.

ASTM G154-98

TABLE X2.1 Common Exposure Conditions

X2.1 — Any exposure conditions may be used, as long as the exact conditions are detailed in the report. Following are some representative exposure conditions. These are not necessarily preferred and no recommendation is implied. These conditions are provided for reference only (See Table X2.1).

B. What is the irradiance?

Which one?

G 154 – 04

TABLE X2.1 Common Exposure Conditions

Cycle	Lamp	Typical Irradiance	Approximate Wavelength	Exposure Cycle
1	UVA-340	0.77 W/m^2/nm	340 nm	8 h UV at 60 (± 3) °C Black Panel Temperature; 4 h Condensation at 50 (± 3) °C Black Panel Temperature
2	UVB-313	0.63 W/m^2/nm	310 nm	4 h UV at 60 (± 3) °C Black Panel Temperature; 4 h Condensation at 50 (± 3) °C Black Panel Temperature
3	UVB-313	0.44 W/m^2/nm	310 nm	8 h UV at 70 (± 3) °C Black Panel Temperature; 4 h Condensation at 50 (± 3) °C Black Panel Temperature
4	UVA-340	1.35 W/m^2/nm	340 nm	8 h UV at 70 (± 3) °C Black Panel Temperature; 4 h Condensation at 50 (± 3) °C Black Panel Temperature
5	UVB-313	0.55 W/m^2/nm	310 nm	20 h UV at 80 (± 3) °C Black Panel Temperature; 4 h Condensation at 50 (± 3) °C Black Panel Temperature
6	UVA-340	1.35 W/m^2/nm	340 nm	8 h UV at 60 (± 3) °C Black Panel Temperature; 4 h Condensation at 50 (± 3) °C Black Panel Temperature.
7	UVA-340	1.35 W/m^2/nm	340 nm	8 h UV at 60 (± 3) °C Black Panel Temperature; 0.25 h water spray (no light), temperature not controlled; 3.75 h condensation at 50 (± 3) °C Black Panel Temperature
8	UVB-313	28 W/m^2	270 to 700 nm	8 h UV at 70 (± 3) °C Black Panel Temperature; 4 h Condensation at 50 (± 3) °C Black Panel Temperature

4. ISO vote never started the working group

MB/ NC[1]	Line number	Clause/ Subclause	Paragraph/ Figure/ Table/	Type of comment[2]	Comments	Proposed change
JP				ge	Annex A (normative) UV resistance test, ISO 21898 is not expressed clearly. So, revision should be requested so that flexible Intermediate Bulk Container (FIBC, big bag, or jumbo bag) manufacturers, test houses and users can clearly justify that their UV resistant tests which are widely operated in the industry conforms to "Annex A" of ISO 21898.	**Japan voted in 2013**
JP 01	01	Annex A A.3 Apparatus	1st	te	Irradiance of UVB lamp is specified nowhere. ASTM G 154-98 to which it refers shows just several typical irradiances for UVB lamp, and does not specify irradiance.	Change as follows; The apparatus should be in accordance with ASTM G154-98, using a ~~UV-B~~ UVB-313 lamp with the setting of 0.63 or more $W/m^2/nm$ irradiance.
JP 02	01	Annex A A.4 Procedure	1st	te	Hours to expose test specimen in the apparatus, which is commonly an accelerated weathering tester, is not clearly mentioned. It could be read as 300 hours in the apparatus, but major FIBC manufacturers and test houses all over the world recognize it as 200 hours in the tester. So it should be revised according to the actual practices in the industry.	Change as follows; Expose a test specimen to ~~a fluorescent UV lamp~~ the apparatus for at least 200 h, using a test cycle of 8 h at 60 °C black panel temperature with UV radiation, alternating with 4 h at 50 °C black panel temperature with condensation. (Test specimens are to be exposed to UV light alone for at least 136 h, and to condensation alone for at least 64 h.)

3. Subordination by IEC 61340-4-4 “Electrostatic classification of FIBC” is needed

- Basic performance about strength of FIBCs is fundamental. = ISO 21898

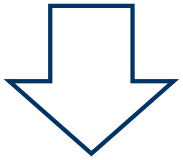
- In addition, performance to prevent electrostatic hazards are defined later. = IEC 61340-4-4

Therefore,

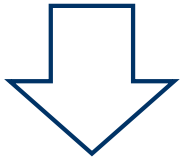
ISO 21898 should refer to IEC 61340-4-4 now.

5. Conclusion

In systematic Review in 2013, vote results showed “Not necessary to revise”.



Major player (manufacturers, test institutes, users) of FIBC industries should be involved for voting to start the working group to revise ISO 21898.



Improved edition of ISO 21898 standard are to be issued.