



Process Safety

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What are the certificate requirements for FIBC ?

The IEC 61340-4-4 2nd edition, issued in 2012, describes the specific tests that must be carried out for each type of liner and FIBC to get a certification. These certificates are valid for 3 years and their content is also clearly defined.

This newsletter aims to summarize all the elements that must be present on a certificate of conformity.

Since FIBC is a mobile equipment, it does not fall under the ATEX directives. However, it is the responsibility of the plant manager to avoid any ignition source when handling flammable products. This is why several types of FIBC were developed. Simultaneously, test procedures were defined to ensure the avoidance of ignition sources.

The following table presents ignition sources prevented per type of FIBC.

	Type B FIBC	Type C FIBC	Type D FIBC
Spark discharge	✓	✓ ¹	✓
Brush discharge		✓	✓
Propagating brush discharge	✓	✓	✓
Cone discharge			

¹ If correctly grounded

Required tests

The IEC 61340-4-4 2nd edition describes

- The required characteristics of a bag or a liner depending on its type,
- The experiments to perform to assess the conformity of a bag
- The experimental testing conditions

The following table presents the tests per FIBC type.

	Type B FIBC	Type C FIBC	Type D FIBC
Resistance to groundable point		✓ ²	
Breakdown voltage	✓	✓ ³	✓
Surface resistance	✓ ⁴	✓ ²	
Ignition tests			✓ ²
Control of the bag	✓	✓	✓
Label control	✓	✓	✓
Climatic conditioning	✓	✓	✓

² Can be required for labels depending on their materials and geometry

³ Optional, depends on the results of resistance to groundable point

⁴ Required for labels

Testing conditions

The following table presents the testing conditions for the different experiments:

	23 ± 2 °C 20 ± 5% rH	23 ± 2 °C 50 ± 10% rH
Resistance to groundable point	✓	
Breakdown voltage	✓	
Surface resistance	✓	✓ ⁵
Ignition tests	✓	✓

⁵: Only for Type C FIBC

Content of certificate and experimental report

Some general information is required for any type of bag. They must all be mentioned in an experimental report joined to the certificate:

- Reference to IEC 61340-4-4 2nd ed.
- Date of testing
- Details of equipment calibration
- Atmosphere for conditioning and testing
- Description of the test samples
- Details of any pre-treatment
- For each FIBC sample tested, a statement as to whether or not it meets the requirements
- Details of any deviations

Accredited testing authorities must also add:

- Their accreditation number
- An unique certificate or test report number

Depending on the tests carried out, additional information is required. The complete list is available in chapter 10 of the standard. Any reports failing to fulfil these requirements invalidate the certificate.

TÜV SÜD Process Safety tests and controls the electrostatics properties of FIBCs in a methodical and systematic way. It is usual that more than 100 points are measured per test. This is one of the reasons why our certificates are trusted and recognized by major actors of the chemical and pharmaceutical industries.

Do not hesitate to contact us if you have any questions regarding this topic.

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