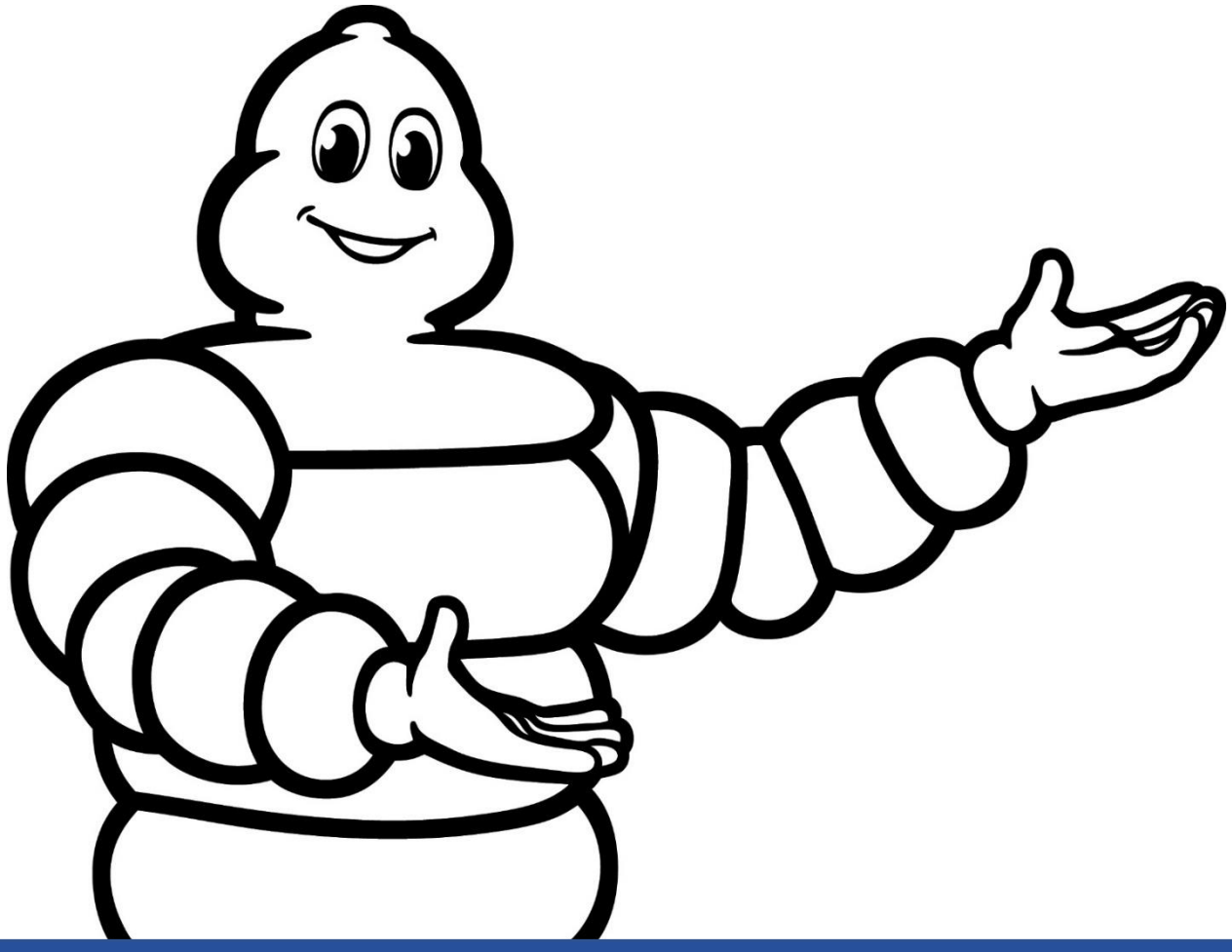


DEFINITION AND DESCRIPTION OF SUPPLIER "BIGBAGS" FOR THE TRANSPORT AND STORAGE OF FILLER

JULY 2024

DIRECTION OPÉRATIONNELLE ACHAT

CONTENTS

1- Purpose:

The purpose of the present document is to define our dimensional and qualitative requirements for the BIGBAGS used for the transport and storage of carbon black and silicate.

2- Scope:

The present Specifications are to be used by all suppliers of the Michelin group.
The BIGBAGS as defined herein may be used on all sites of the Michelin group.

3- Generalities:

In general, for the packaging of raw materials delivered in the Michelin Group, the following colors are prohibited: Red / Blue / Violet / Orange

4- Definitions:

BIGBAG: Common term for **F**lexible **I**ntermediate **B**ulk **C**ontainers (FIBC) used to ship non-liquid products in bulk.
Other names used: GRVS / Flexible Großpackmittel

MIE: **M**inimum **I**gnition **E**nergy: Minimum energy required to ignite a combustible dust cloud with air or oxygen, measured by means of a standard method.

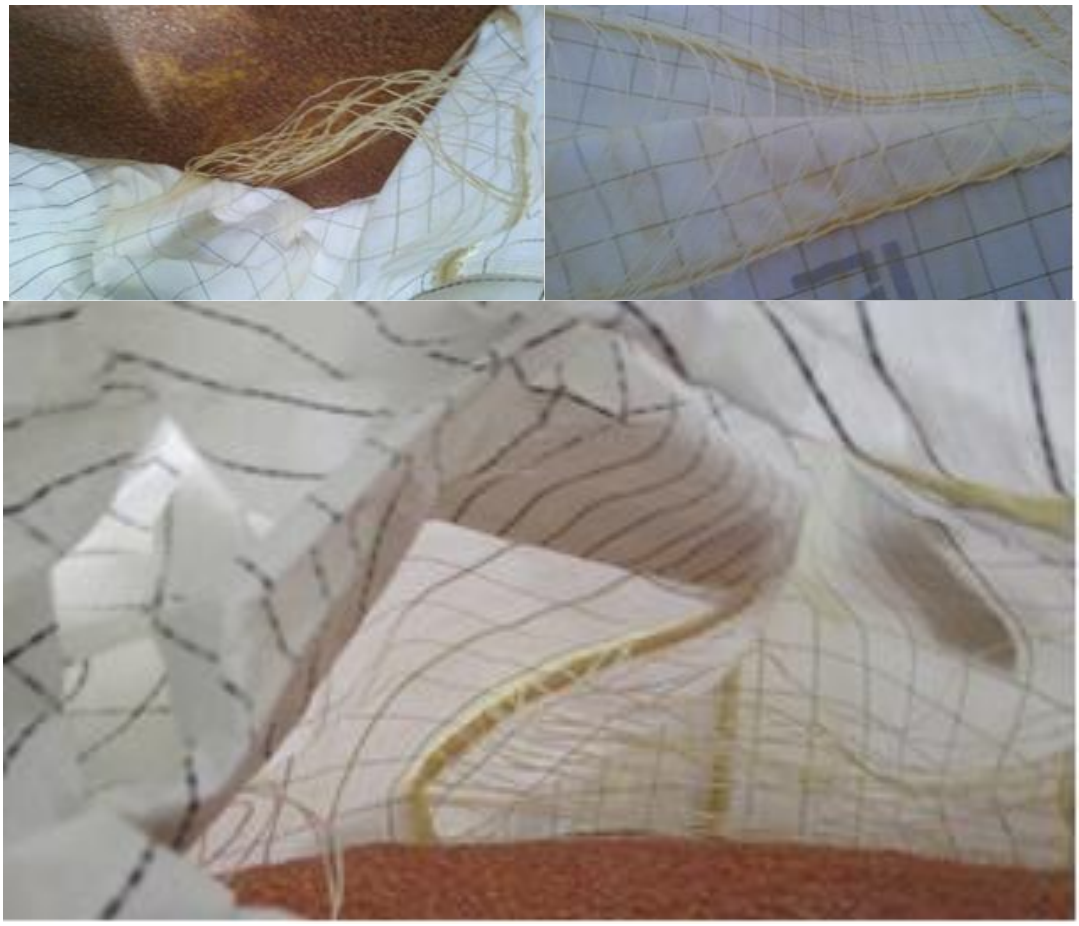
SDS: **S**afety **D**ata **S**heet providing the characteristics of the product in question.

IBC: **I**mmediate **B**ulk **C**ontainer: Flexible or rigid transportable packaging of which the capacity does not exceed $3m^3$ for solid or liquid materials of packaging groups II and III (definition for dangerous goods – ADR).

FIBC: **F**lexible **I**ntermediate **B**ulk **C**ontainer: container for semi-bulk, of which the body consists of flexible materials such as woven fabric, plastic or paper film, designed to be in contact with the contents either directly or by means of an inner lining, and collapsible when empty (definition for non-dangerous goods – standard ISO 21898).

5- Characteristics of the BIGBAGS to be used:

- ***Fabric:***
  - In most cases, this is woven polypropylene, coated with watertight molten propylene.
  - Waterproof conductive packaging
  - The seams must be waterproof
  - The fabric must not be prone to fraying
  - Some BIGBAG have reinforcing cords in the corners, it is forbidden for a reinforcement cord to be cut
  - It must be contamination-proof



- ***Body Dimensions:***
  - C: Square base: 900x900 mm to 1150x1150 mm (35x35 inches to 45x45 inches)
  - D: Body height (including conical bottom): MAXIMUM 2200 mm (87 inches)
  - Full design diameter from 1.16 to 1.25 meter (46 inches to 49 inches)
  - The BIGBAG bottom shall be of the “flat” or “conical” type with a discharge spout.

- ***"FOUR-POINT" lifting system:***

  - The BIGBAG shall be fitted with 4 lifting straps (one fitted to each of the upper corners).

  - Recommended strap color: **WHITE**

  - Safety factor (SF):
    - 6/1 for a load of 1000 kg maximum (EUR: in accordance with standard ISO 21898)
    - 5/1 for a load of 1000 kg maximum (US: in accordance with US DOT and FIBCA)

  - **A**: Width: 35 to 80 mm (1,4 to 3,14 inches).
  - **B**: Height: 150 to 250 mm (6 to 10 inches)

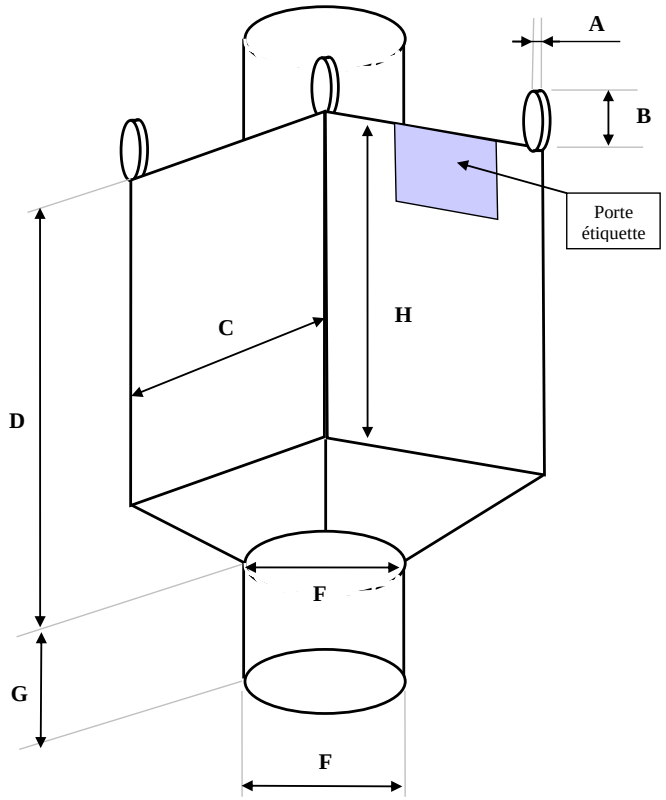
- ***Discharge spout:***

  - F: Diameter: 400 mm to 500 mm (15 inches to 20 inches) (the diameter of the discharge spout is identical over its entire length)

  - **G**: Height: 635 mm to 800 mm (25 inches to 31 inches)

  <u>Discharge spout closure</u>

  - The closure system must be easy to open, formed integrally with the BIGBAG and there must be no risk of it becoming detached (fully or partially) before or during opening (B-lock).



- ***Dimensional constraints linked to on-site storage***

- To avoid any problems during storage/supply (particularly with ASRS storage) of BBs before use:

  Height D+B: 2450 mm Maximum (96 inches)

- ***Fill opening:***

- To avoid risks of pollution, the fastening system on the upper portion of the BIGBAG must be perfectly sealed.

- ***Weight constraints:***

  - Permissible gross load: **1,100kg MAXIMUM**
  - Minimum net load: **725 kg**

- ***BIGBAG Type:***

  - The types of Referenced BIGBAG are B and C. The D, CD and D+ types are not accepted.
  - Following the IEC 61340-4-4 Standard, the BIGBAG type used is a function of:
    - The Minimum Ignition Energy (MIE) of the raw material carried, complying with the recommendations of the product SDS
    - The environment of the unloading workstation

  As a matter of principle, BIGBAG should be considered for use in powder ATEX zones 21 or 22 on industrial sites. For this reason, the selection of big bags will be limited to the following cases.

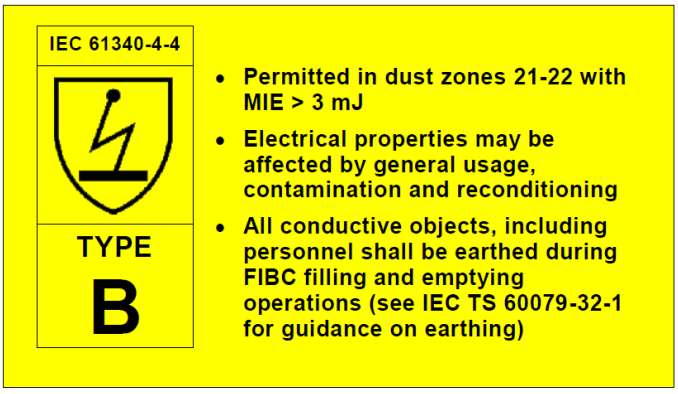
MIE of the Powder	Environment (ATEX 21 ou 22 zones)
MIE > 3 mJ	B (or C) *
MIE < or = 3 mJ	C *

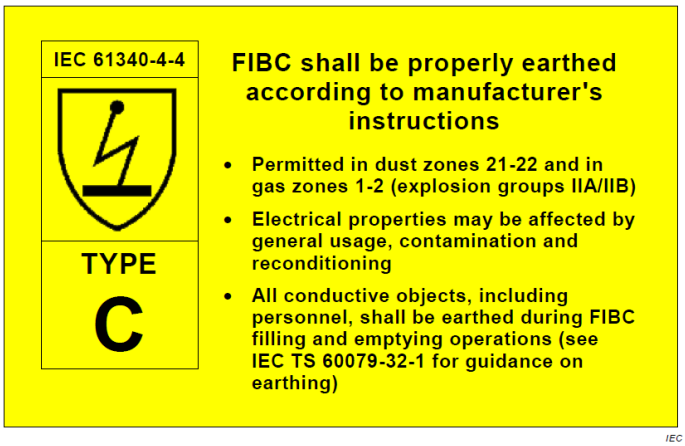
(*) The 'BIGBAG + inner bag' assembly must qualify as type B or type C.

- **Before delivery, the choice of the type of BIGBAG used shall be approved by Michelin in the specifications of the product concerned.**

Exception : BIGBAG delivered to our petrochemical sites (Louisville - USA, Cilegon - Indonesia, Bassens - France) may be used in the presence of explosive gas/vapor atmospheres. BIGBAG must therefore be selected in compliance with IEC 61340-4-4. **A prior agreement on the type of BIGBAG will have to be established between the site and the supplier before any delivery.**

In accordance with the recommendations of IEC 61340-4-4, the BIGBAG type designation - i.e. type B or type C - will be easily identifiable by users handling the BIGBAG.
Examples of BIGBAG labelling according to IEC 61340-4-4.





- ***BIGBAGS for products subjected to regulations:***

  - The BIGBAGS must comply with the applicable regulations of the countries concerned (Labor Law, Transport, Safety, etc).
  - Depending on the product carried (refer to SDS), it may be ADR approved (Europe) as an **I**mmediate **B**ulk **C**ontainer. The approval mark must be printed on the BIGBAG in a legible fashion (refer to the ADR regulations concerning this mark).

6- Pallet:

- ***Description:***

  - Pallet will be made of Plastic or Metal, recoverable or not by the supplier. In order to take environmental considerations into account, the Michelin Group encourages the use of reusable pallets rather than single-use pallets.

  - Dimensions:

    - Length 1m to 1.2m
    - Width 1m to 1.2m
    - Maximum Height 160 mm

  - Palette 4 inputs for handling with wide forks for easy transport with a truck
  - Static resistance of the pallet according to the load

Load (kg)	Static resistance (kg)
900<charge> 650	≥1000
1400<charge> 900	≥1500

7- Identification of Raw Materials:

- ***Label Holder:***

  - A transparent plastic document pocket size “DIN-A4” or “US-letter-size”.
  - It shall be designed to accommodate documents that may be inserted and removed from the top.
  - The document pockets shall be neither ripped nor unstitched.

- ***Identification of the product:***

  Identification of pallet with the label MP06. The access of specification with the web link below.
  https://purchasing.michelin.com/en/documentfilters/michelin-specification-raw-materials-label/

  (Refer to doc « **CDC_CPSFAP_104 »)**

- ***Labels for products subjected to regulations:***

  - The products must be labeled in accordance with the regulations in force (Labor Law, Transport, etc).
  - The label must be clearly visible and legible, either in a label holder formed integrally with the BIGBAG or imprinted on the BIGBAG.

8- Handling and Transport:

- ***Fundamental rules:***

  - It is strictly prohibited to stack the flexible containers during transport or in the storage areas.
  - A tilted flexible container on a pallet will not be accepted if the tilt angle is such that the container overhangs the pallet.
  - In no case shall the BIGBAG be covered with plastic film (shrinkable or not) (with the exception of materials protecting the product itself).
  - **During transport, the BIGBAGS must be prevented from coming into direct contact with the wood**.
  - If the truck boards are wooden, when loading, for each span the load will be plated to the ground using the ground rings and straps.

- ***BIGBAG and/or pallets returnable to the supplier:***

  Should BIGBAGS and/or pallets be returned to the supplier, regulations for packaging the empty items and the procedure for their return shall be clearly defined, acknowledged, and approved by the Michelin Customer.

9 - References:

Standard NF EN ISO 21898: Packaging - Flexible Intermediate Bulk Container (FIBC)
Standard NF EN ISO 61340-4-4: Electrostatic
CDC_CPSFAP_104: Relative to MP06 EU labels (ODETTE format).
REF_515_EP: Selection and use of BIGBAGS (FIBC) in an explosive atmosphere.