



Date of test 23.2.2022  
Date of expiry 23.2.2025  
Number of pages 4 B / B

## Test Certificate No. 12336.1/22-2

This Certificate is only valid when printed in colour and complete with all 4 pages.

**Applicant** BulkPack Exports Ltd.  
"507", "B" Block, 5<sup>th</sup> Floor, Corporate House, RNT Marg, Indore – 452 001 (M.P.), India

**Test pieces** *Flexible Intermediate Bulk Containers - SWL = 1000 kg, SF = 5:1*  
*Single trip FIBCs for non-dangerous goods acc. ISO 21898*

**Manufacturer's type designation** N/A

**Design**

|                    |   |                           |                    |
|--------------------|---|---------------------------|--------------------|
| <b>Dimensions</b>  | Sample a : (90 cm x 90 cm) x 90 cm <sup>1)</sup>  | <b>Volume</b> 800 litres  | <b>Tare</b> 910 g  |
|                    | Samples b + c: (90 cm x 90 cm) x 200 cm <sup>1)</sup>   | <b>Volume</b> 1800 litres | <b>Tare</b> 1510 g |
| <b>Body fabric</b> | Polypropylene 120 g/m <sup>2</sup> , uncoated <sup>2)</sup> , white flat woven fabric layers, each with one green, one yellow and one blue coloured tape  |                           |                    |
| <b>Suspension</b>  | Four black PP-webbings (40 mm wide, 28 g/m), sewn into the vertical seams in a length of 35 cm / 75 cm (lowest size) resp. 70 cm / 115 cm (highest size); anchorage lengths for intermediate sizes see page 4   |                           |                    |
| <b>Details</b>     | Four vertical seams, two horizontal seams at the bottom (U-panel design) / overlock + chain stitching / fabric folded in all the seams / open top <sup>3)</sup> / no inliner / discharge spout d = 35 cm <sup>3)</sup> made of PP-fabric 90 g/m <sup>2</sup> + 20 g/m <sup>2</sup> coating, double seam |                           |                    |

**Kind of tests** *Type Tests according ISO 21898*

**Tests a + b** Cyclic top lift tests acc. Annex B      **Test c** Compression test acc. Annex C

**Test conditions** Charging with plastic granules (filling height approx. 85 cm (lowest size) resp. 195 cm (highest size), load application with piston and pressure plate (d = 90 cm), rate of load application 70 kN/min.

**Cyclic load and load to failure** **Sample a** After 30 cycles of load application to  $P_c = 20$  kN (2040 kg) no visible damages occurred in the test piece. The load has then been increased until failure. On reaching a load of  $P_b = 52,7$  kN (5370 kg) the fabric tore at a vertical seam.

**Sample b** After 30 cycles of load application to  $P_c = 20$  kN (2040 kg) no visible damages occurred in the test piece. The load has then been increased until failure. On reaching a load of  $P_b = 57,8$  kN (5890 kg) the fabric tore at a vertical seam.

**Compression** **Sample c** After six hours compression by  $P_k = 40$  kN (4080 kg) no visible damages occurred in the test piece.

**Test result** *A safe working load SWL = 1000 kg / SF = 5:1 is allowable.*

**Statement of conformity** The FIBCs tested comply with the requirements of ISO 21898.  
FIBCs of this design type are in a condition for safe operation.

**Notes**

This Certificate is restricted to FIBCs produced by BulkPack Exports Ltd.

<sup>1)</sup> This certificate covers all FIBCs with heights of between 90 cm and 200 cm.

All material weights are minimum weights and may not be lower than the values shown.

Test diagrams see page 2. Photos of the test pieces see page 3. This certificate expires on 23.2.2025.

<sup>2)</sup> Raw material: Pure virgin polypropylene (statement of the manufacturer)

<sup>3)</sup> "Directions for use referring to this certificate" see page 4.

Competent Engineer

Jorg Bartel

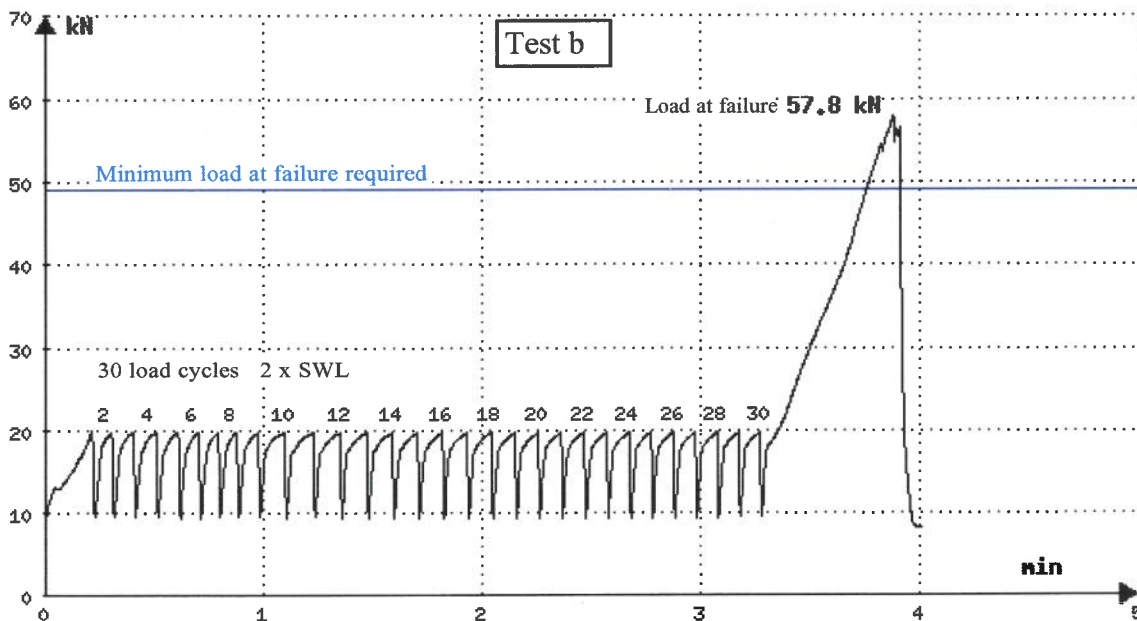
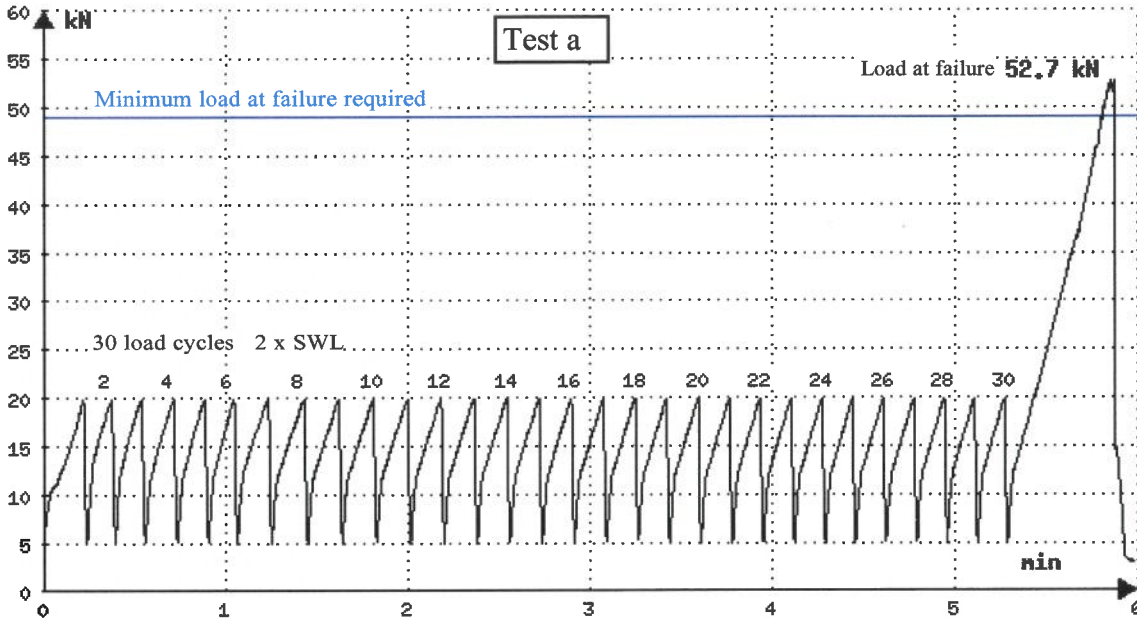


Head of Institute

Dr. Herbert Kielbassa



### FIBC - Cyclic top lift tests Test diagrams 12336.1 a + b / 22 - 2



#### Project data

Applicant : BulkPack Exports Limited.  
Test piece a : FIBC 90 cm x 90 cm x 90 cm  
Test piece b : FIBC 90 cm x 90 cm x 200 cm  
Safe working load : SWL = 1000 kg  
Safety factor : SF = 5 : 1

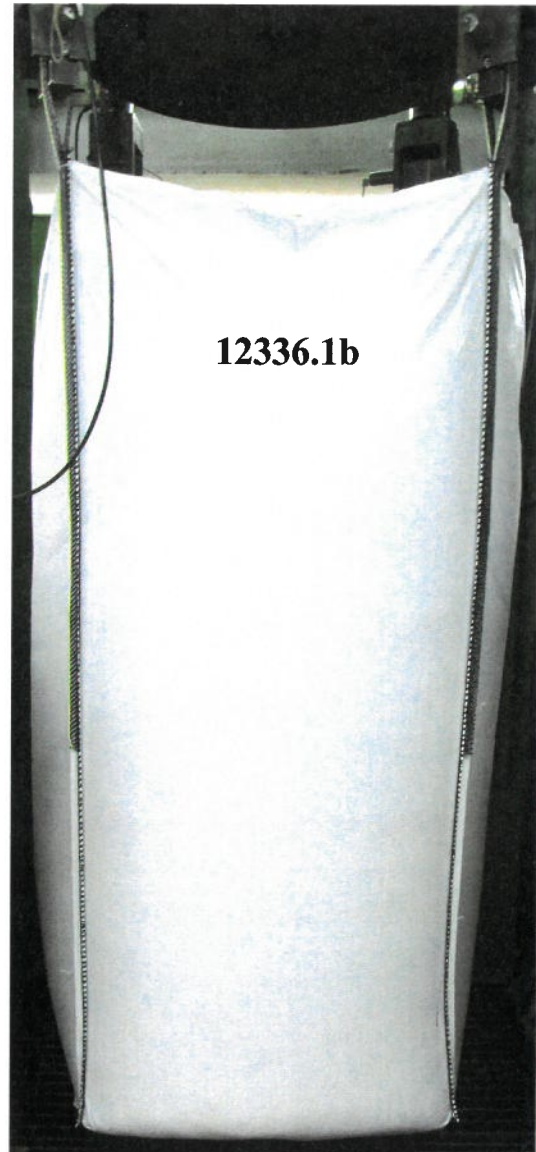
#### Test data

Test date : 23.2.2022  
Test Standard : ISO 21898  
Load at failure, test a :  $P_b = 52,7 \text{ kN} = 5370 \text{ kg}$   
Load at failure, test b :  $P_b = 57,8 \text{ kN} = 5890 \text{ kg}$



Page 3

## FIBC - Cyclic top lift tests Photos of the test samples



### Project data

Applicant : BulkPack Exports Limited.  
Test piece a : FIBC 90 cm x 90 cm x 90 cm  
Test piece b : FIBC 90 cm x 90 cm x 200 cm  
Safe working load : SWL = 1000 kg  
Safety factor : SF = 5 : 1

### Test data

Test date : 23.2.2022  
Test Standard : ISO 21898  
Load at failure, test a : Pb = 52,7 kN = 5370 kg  
Load at failure, test b : Pb = 57,8 kN = 5890 kg



### Directions for use referring to this certificate

This certificate covers FIBCs of like design, manufactured using like materials and methods of construction as set down in this certificate and showing dimensions as listed below and in the certificate. The use of other methods or components may render the certificate invalid. It is the responsibility of FIBC manufacturers to ensure the samples tested are representative of the production.

| <b>Allowed</b><br>(covered by this certificate)   | <b>Not allowed</b><br>(not covered by this certificate)   |
|---|---|
| Diameters of discharge spout smaller than <b>35 cm</b>  | Diameters of discharge spout larger than <b>35 cm</b>   |
| Base without discharge spout  |   |
| Base dimensions of between <b>90 cm x 90 cm</b> and <b>99 cm x 99 cm</b> provided the same geometry is maintained | Base dimensions smaller than <b>90 cm x 90 cm</b><br>Base dimensions larger than <b>99 cm x 99 cm</b> |
| Bag heights of between <b>90 cm</b> and <b>200 cm</b>   | Bag heights smaller than <b>90 cm</b><br>Bag heights larger than <b>200 cm</b>                        |
| Use for one filling and one discharge only  | Re-use of the FIBCs   |
| Open top or any other design of top construction  | Manufacture after expiry date of this certificate: <b>23.2.2025</b>                                   |

### Anchorage lengths of the webbings

|                 |    |     |     |     |     |     |     |     |     |     |     |     |
|-----------------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Bag height (cm) | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | 200 |
| Short leg (cm)  | 35 | 38  | 41  | 45  | 48  | 51  | 54  | 57  | 60  | 64  | 67  | 70  |
| Long leg (cm)   | 75 | 79  | 82  | 86  | 90  | 93  | 97  | 100 | 104 | 108 | 111 | 115 |

### Label

All FIBCs shall be durably marked by means of a permanently attached and easily visible and readable label. The layout of the label referring to this certificate shall be as shown below with the following data:

|   |   |
|---|---|
| Manufacturer's Name & Address and Logo<br>Manufacturer's Reference (unique to the hereby certified FIBC type)   |   |
| <b>SWL 1000 kg</b>  | <b>Safety Factor 5 : 1</b>              |
| Your logos etc.   | Test Certificate No <b>12336.1/22-2</b> |
|   | Test Certificate Date <b>23.2.2022</b>  |
|   | Approved Laboratory <b>LABORDATA</b>    |
|   | Test Standard <b>ISO 21898</b>          |
|   | FIBC Class <b>Single trip</b>           |
|   | Date FIBC manufactured                  |
| Handling Recommendations / Pictograms (proposals see <a href="http://www.labordata.com">www.labordata.com</a> ) |   |
| Supplier's Name & Address (if required)   |   |