



Member of Q-InPaLab® Global Quality Association of Independent Packaging Laboratories
Authorized Laboratory for Packagings and IBCs of Dangerous Goods. Authorized Third Party Inspectors

Test Certificate No. 9823.2/15-10

Date of test 22.10.2015
Date of expiry 22.10.2018
Number of pages 4 B / B

Applicant

Test pieces **Flexible Intermediate Bulk Containers - SWL = 1250 kg, SF = 5:1**
Single trip FIBCs for non-dangerous goods acc. ISO 21898

Design Manufacturer's type designation **CSR-1050**

Dimensions Sample a : (90 cm x 90 cm) x 90 cm (lowest size)¹⁾ Volume 800 litres Tare 990 g
Samples b + c: (90 cm x 90 cm) x 200 cm (highest size)¹⁾ Volume 1800 litres Tare 1720 g

Body fabric Polypropylene **135 g/m², uncoated**, white flat woven fabric layers, each with two yellow coloured tapes²⁾

Suspension Four white PP-webbing (40 mm wide, 34 g/m), sewn into the vertical seams in a length of 40 cm / 75 cm (lowest size) resp. 40 cm / 135 cm (highest size)³⁾, anchorage lengths for intermediate sizes see page 4

Details Four vertical seams, two horizontal seams at the bottom (U-panel design) / overlock + chain stitching / fabric folded in all the seams / open top³⁾ / no inliner / discharge spout d = 35 cm³⁾ made of PP-fabric 70 g/m² + 20 g/m² coating, single seam

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

Tests a + b Cyclic top lift tests plus final load to failure Test c Compression test

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/mh.

Cyclic load and load to failure Test a After 70 cycles of load application to $P_c = 42 \text{ kN}$ (4280 kg) no visible damages occurred in the test piece. The load has then been increased until failure. On reaching a load of $P_c = 62,1 \text{ kN}$ (6330 kg) the fabric tore at a vertical seam.

Test b After 70 cycles of load application to $P_c = 42 \text{ kN}$ (4280 kg) no visible damages occurred in the test piece. The load has then been increased until failure. On reaching a load of $P_c = 74,6 \text{ kN}$ (7600 kg) the fabric tore at a vertical seam and the webbing tore below the short leg.

Test c After six hours compression by $P_c = 50 \text{ kN}$ (5100 kg) no visible damages occurred in the test piece.

Test result **A safe working load SWL = 1250 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 Cesur Ambalaj San. Tic. AS.

¹⁾ This certificate covers all FIBCs with heights of between 90 cm and 200 cm

Test diagrams see page 2. Photos of the test pieces see page 3.

²⁾ Raw material: Pure virgin polypropylene (statement of the manufacturer)

³⁾ "Directions for use referring to this certificate" see page 4.

Two test pieces are kept in our store for three years. This certificate expires on 22.10.2018.

Competent Engineer

J.O. Bartel
Jorg Bartel



Head of Institute

Dr.-Ing. Kielbassa
Dr.-Ing. Kielbassa

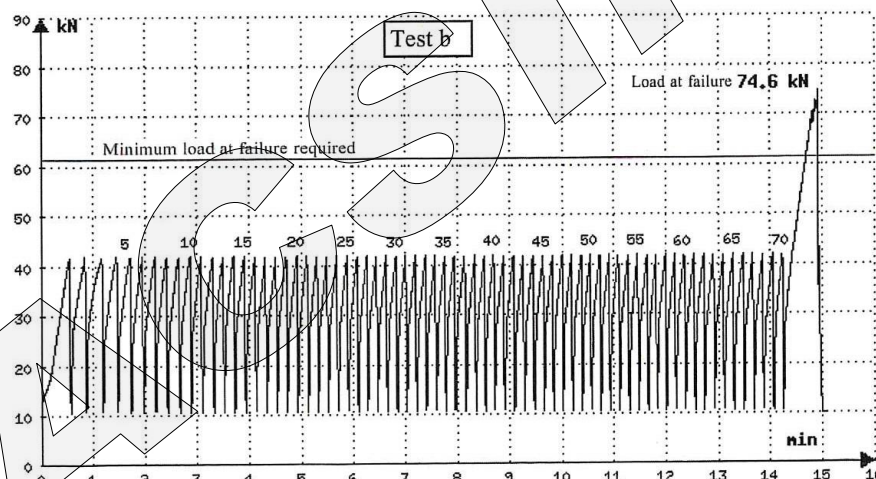
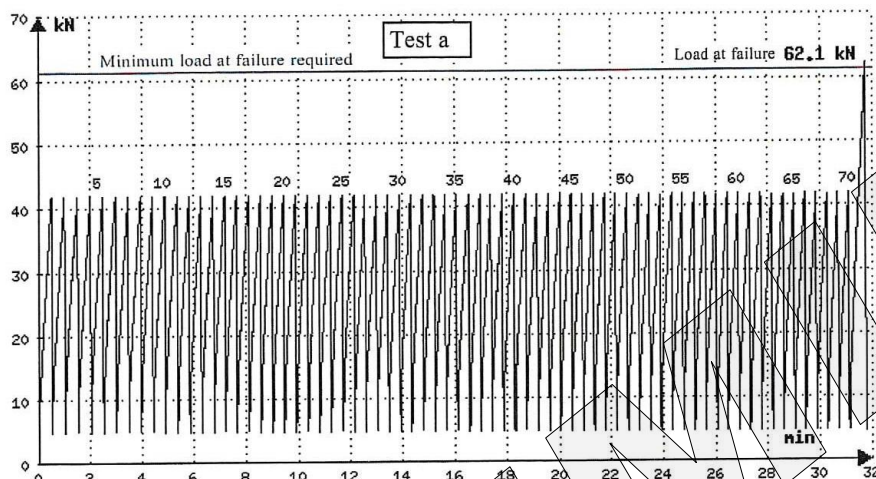


LABORDATA®
International Materials Testing Institute

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Authorized Laboratory for Packagings and IBCs of Dangerous Goods, Authorized Third Party Inspectors

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FIBC - Cyclic top lift tests
Test diagrams 9823.2 a + b / 15 - 10



Project data

Applicant :
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 = 1250 kg
Safety factor : SF = 5 : 1

Test data

Test date : 22.10.2015
Test Standard : ISO 21898
Load at failure, test a : Pb = 62,1 kN = 6330 kg
Load at failure, test b : Pb = 74,6 kN = 7600 kg

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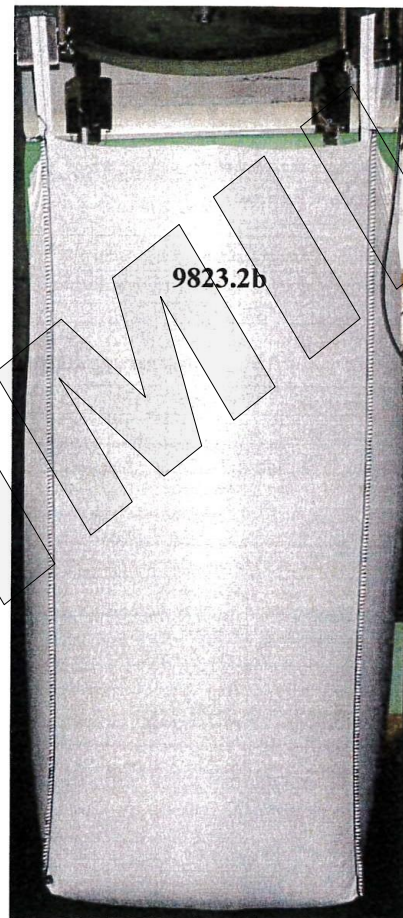
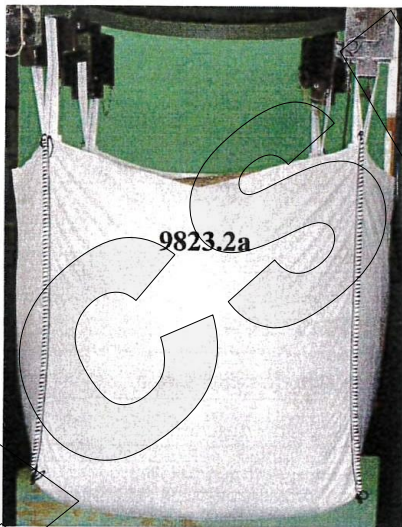
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**FIBC - Cyclic top lift tests
Photos of the test samples**



Project data

Applicant :
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 = 1250 kg
Safety factor : SF = 5 : 1

Test data

Test date : 22.10.2015
Test Standard : ISO 21898
Load at failure, test a : Pb = 62,1 kN = 6330 kg
Load at failure, test b : Pb = 74,6 kN = 7600 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.

Allowed (covered by this certificate)	Not allowed (not covered by this certificate)
Diameters of discharge spout smaller than 35 cm	Diameters of discharge spout larger than 35 cm
Base without discharge spout	
Base dimensions of between 90 cm x 90 cm and 99 cm x 99 cm provided the same geometry is maintained	Base dimensions smaller than 90 cm x 90 cm Base dimensions larger than 99 cm x 99 cm
Bag heights of between 90 cm and 200 cm	Bag heights smaller than 90 cm Bag heights larger than 200 cm
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: 22.10.2018

Anchorage lengths of the webbings

Bag height (cm)	90	100	110	120	130	140	150	160	170	180	190	200
Short leg (cm)	40	40	40	40	40	40	40	40	40	40	40	40
Long leg (cm)	75	80	86	91	97	102	108	113	119	124	130	135

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 Manufacturer's Reference (unique to the hereby certified FIBC type)	
SWL 1250 kg Your logos etc.	Safety Factor 5 : 1
Test Certificate No 9823.2/15-10	
Test Certificate Date 22.10.2015	
Approved Laboratory LABORDATA	
Test Standard ISO 21898	
FIBC Class Single trip	
Date FIBC manufactured	
Handling Recommendations / Pictograms (proposals see www.labordata.com)	
Supplier's Name & Address (if required)	