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Test of a FIBC "ALSAN TYPE D 04/2016" as Type D according to IEC 61340-4-4 Ed. 2

Summary

On behalf of ALSAN Plastik Tekstil Metal San. Tic. Ltd., a FIBC sample Type D has been tested. The tests have been performed according to the IEC International Standard IEC 61340-4-4/Ed.2/2012. The tests included gas ignition tests during filling and emptying of FIBC on the test rig of the SWISSI Process Safety GmbH and measurement of the breakdown voltage.

In 453 ignition tests **no ignition** occurred. The breakdown voltage **is less than 6 kV**. Thus, the tested FIBC's has met the requirements for breakdown voltage and ignition testing as specified in Clause 7.2 and Clause 7.3.2 of the IEC International Standard 61340-4-4/Ed.2/2012.

The Type D label is **not in compliance** with the requirements of FIBC Type D according IEC 61340-4-4, Ed.2.

Detailed information on the sample, test parameters and test results are shown in the following tables.

Date: May 20, 2016

Our reference: KU

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The test results refer exclusively to the units under test.

Head of Testing

May 20, 2016

Christian Kubainsky

The results in this test report are based on measurements of samples given to the test laboratory. The total test report may be copied but not parts of it.

This classification certificate for a FIBC design shall be valid for a period of three years from the date of issue.



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Test Object

No	Sample	Sample Description	Receiving Date
1	FIBC Type D	ALSAN TYPE D 04/2016	24th April 2016
		Color: white fabric, blue yarn, fabric coated Construction: U-Profil, 4 lifting loops Size: 90cm x 80cm x 115cm	
		Label: 1 pc 7cm x 11cm, white	
		liner: no	

Test conditions

100000000000000000000000000000000000000						
Test Rig						
Test method	Gas ignition tests according to IEC 61340-4-4/Ed.2/2012					
Date of testing	May 18 th /19 th , 2016					
Material circulated in the test rig	Indelpro Valtec HP423 homopolymer polypropylene resin					
Mass flow rate during filling of FIBC	1 kg/s					
Charging current during filling of FIBC	-3 μΑ					
Corona tip voltage required to maintain the charging current of –3 μA	-(15±2) kV					
Gas flow rate in the ignition probe	0.21 l/s					
Gas mixture for ignition tests	5.4 % C ₂ H ₄ (ethylene) in a mixture with air The ethylene concentration was continuously monitored with an infrared ethylene gas analyser					
Minimum ignition energy of gas mixture	0.14 mJ					
Number of ignition tests/ignitions in the preceding Type B FIBC tests	At 23°C and 20%rh: 20/10 At 23°C and 60%rh: 14/10					



Test Results

FIBC Samp	le Type D FII	Type D FIBC						
Date of test	ts May 18 th , 2	May 18 th , 2016						
FIBC earth	ed/isolated isolated	isolated						
Charging c	urrent -3.0 μA		Voltage at	Voltage at corona tips				
Temperatu	re 23 °C		Relative hu	midity	20 % rh			
Test gas	5.4 % C₂H with air	.4 % C ₂ H ₄ in a mixture Minimum ignition energy		0.14 mJ				
FIBC ignition tests (number of ignition tests / ignitions)								
	Fi	lling	Emptying					
Side	Side	Lab	el 1	Outlet	Total			
Α	50/0	10)/0	10/0	70/0			
В	50/0	0,	0/0		50/0			
С	50/0	0,	0 1/0		51/0			
D	50/0	0,	0	6/0	56/0			
Total	227/0							

FIBC Samp	le	Type D FIBC						
Date of test	ts	May 19th, 2016						
FIBC earth	ed/isolated	isolated						
Charging c	urrent	-3.0 μA Voltage at corona tips			-(15±2) kV			
Temperatu	re	23 °C Relative humidity			60 % rh			
Test gas		5.4 % C ₂ H ₄ with air	C ₂ H ₄ in a mixture Minimum ignition energy			0.14 mJ		
FIBC ignition tests (number of ignition tests / ignitions)								
	Filling			Emptying				
		FIII	ıng		Emptying			
Side	s	ide	Ing Lab	el 1	Emptying Outlet	Total		
Side			Lab	el 1		Total 70/0		
	5	ide	Lab		Outlet	1 0 001		
A	5	ide 0/0	10 0,)/0	Outlet 10/0	70/0		
A B	5i 5i	0/0 0/0	10 0,	0/0	Outlet 10/0 0/0	70/0 50/0		

The measurement of the break down voltage has been performed according to IEC 60243-1 with a high voltage supply using the P25/75 electrode arrangement.

Date of testing: 20 May, 2016.

Climate	Breakdown voltage in kV								
Cilliate	Inlet	Тор	Side A	Side B	Side C	Side D	Bottom	Outlet	
23°C / 20% rh	2.8 ± 0.3	3.3 ± 0.3	3.1 ± 0.4	3.1 ± 0.4	3.5 ± 0.1	3.3 ± 0.4	3.2 ± 0.2	3.0 ± 0.3	



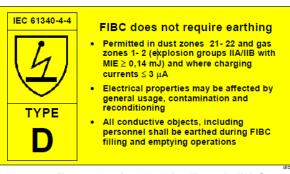
Pictures



Picture 1: tested FIBC



Picture 2: Label on tested FIBC



Picture 3: Example of a label for Type D FIBC