TEST REPORT

No. : XMIN1504001930PS
Date : Dec 02, 2015

CUSTOMER NAME: XIAMEN HUILIYUAN IMP.&EXP.CO.,LTD
ADDRESS: 204, NO.23-2, WANGHAI ROAD, SIMING DISTRICT, XIAMEN, FUJIAN

The following sample(s) was/ were submitted and identified on behalf of the client as:

Sample Name	:	OIL DRUM
SGS Ref. No.	:	GZIN1504014246MR
Product Specification	:	10L
Date of Receipt	:	Apr 14, 2015
Date of second Receipt	:	Jun 17, 2015
Testing Start Date	:	Apr 14, 2015
Testing End Date	:	Jul 01, 2015
Test result(s)	:	For further details, please refer to the following page(s)

Signed for
SGS-CSTC Standards Technical Services Co. , Ltd Xiamen Branch Testing Center

Joy Zhang
Authorized signatory

Note: Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

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TEST REPORT

Summary of Results:

No.	Test Item	Test Method	Result	Conclusion
1	Design	AS/NZS 2906:2001 Section 6	See results	See results
2	Elastomeric Components	AS/NZS 2906:2001 Section 7.2 & Appendix B & ASTM D471-12a	See results	Pass
3	Mass Loss Test	AS/NZS 2906:2001 Section 7.3.1 & Appendix C	Mass Loss :0.2 % No tackiness, loss of lining adhesion and other obvious defects	Pass
4	Hydrostatic Pressure Test & Stability Test	AS/NZS 2906:2001 Section 7.3.2 , Section 7.3.3 & Appendix L	See results	Pass
5	Drop Strength Test	AS/NZS 2906:2001 Section 7.3.4 & Appendix E	See results	Pass
6	Integrity Under Exposure to Flame Test	AS/NZS 2906:2001 Section 7.3.5 & Appendix F	See result	Pass
7	Handle Strength Test	AS/NZS 2906:2001 Section 7.3.6 & Appendix G	No separation of the handle, no leakage	Pass
8	Resistance to Petroleum Test	AS/NZS 2906:2001 Section 7.4.2 & Appendix I & ASTM D638-14	See results	Pass
9	Stress Cracking Test	AS/NZS 2906:2001 Section 7.4.3 & Appendix J	See results	Pass
10	Marking*	AS/NZS 2906:2001 Section 8	See results	Pass

Note: * means the test samples used are received in the second time.

Note: Pass : Meet the requirements;
Fail : Does not meet the requirements;
/ : Not Apply to the judgment.

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Original Sample Photo:

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TEST REPORT

1. Test Item: Design

Sample Description: See photo

Test Method: AS/NZS 2906:2001 Section 6

Test Condition:

Condition: 23 ± 2 ℃, 50 ± 5 % RH, 24 h

Lab Environmental Condition: 23 ± 2 ℃, 50 ± 5 % RH

Test Result:

Test Item	Requirement in AS/NZS 2906:2001 Section 6	Conclusion
Closures and Gaskets	(a) All closures shall be designed to allow effective sealing without the use of tools so that the container, other than a tank, will be hermetically sealed in normal use. Threaded closures shall be designed to seal at a torque not greater than 5 N·m. (b) Gaskets, where used, shall be installed with a retaining ring or other means of preventing accidental loss.	Pass The seal at a torque is 3.5 N·m.
Filling Opening	The filling opening shall be designed to allow free entry of common, fuel-dispensing nozzles. The opening shall be not less than 25 mm in diameter nor more than 70 mm in diameter.	Pass The diameter of filling opening is 35 mm.

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Test Item	Requirement in AS/NZS 2906:2001 Section 6	Conclusion
Pouring Opening	Each container, except tanks for boats, shall be provided with a pouring opening. The pouring opening shall have an integral pouring nozzle, or shall be designed to accept a pouring nozzle. The supply of a detachable pouring nozzle with the container is optional. Means shall be provided for venting during pouring. The junction of the container and a detachable pouring nozzle, if supplied, shall not leak when liquid is poured from the container. To reduce hazards due to electrostatic charging of liquids, the diameter of the pouring nozzle, if supplied with the container, shall comply with the following equation(see AS/NZS 1020): $d \leqslant 640/v^2$ where d = diameter of pouring nozzle, in millimetres v =flow velocity of liquid, in meters per second (0.04 m/s Provided by client)	Pass The diameter of pouring opening is 15 mm
Pouring Vent	A pouring vent shall be incorporated in portable fuel containers (other than tanks) to provide a smooth pouring action without undue pulsation. The pouring vent shall be a second opening or the pouring nozzle shall be vented.	Pass
Breathing Vent	A breathing vent shall be incorporated in demountable fuel tanks for boats to provide a smooth fuel withdrawal without undue pulsation.	Pass

TEST REPORT

Test Item	Requirement in AS/NZS 2906:2001 Section 6	Conclusion
Handle	A handle shall be provided. It shall either be an integral part of the container or be secured permanently to the container. The handle shall be located so that it may be used for both carrying and pouring.	Pass
Nominal Capacity Fill Level*	A fuel container shall have an embossed or moulded graduation or other suitable means to accurately indicate its fill level when filled to the nominal capacity. The nominal fill level is the recommended fill level.	Pass
Capacity of Container	The container shall have an overflow capacity, to the lowest opening, not less than 105% of the nominal capacity.	Pass Overflow capacity:122 %
Fuel Indicator	It is recommended that fuel tanks for boats be equipped with a suitable fuel level indicating device.	NA
Pouring Nozzle	Where a separate pouring nozzle is supplied, provision shall be made for securing the nozzle to the container or incorporating it in the container.	Pass
Colour	The external surface of the finished container may be of any colour.	The colour is red.

Note: * means the test sample was submitted by client for the second time. Date received: Nov 16, 2015.

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Test Photo:

Sample

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2. Test Item: Elastomeric Components

Sample Description: See photo

Test Method: AS/NZS 2906:2001 Section 7.2 & Appendix B & ASTM D471-12a

Lab Environmental Condition: 23 ± 2 ℃, 50 ± 5 % RH

Test Result:

Test Item	Test Condition	Test Result		Requirement in AS/NZS 2906:2001 Section 7.2	Conclusion
Appearance	Immersion condition: ASTM Reference Fuel C, 23±2 ℃, 168 h	Sample #1	No evidence of cracking or visible deterioration	No evidence of cracking or visible deterioration	Pass
		Sample #2	No evidence of cracking or visible deterioration	No evidence of cracking or visible deterioration	Pass
Change in Volume	Immersion condition: Immersion in ASTM Reference Fuel C, 23±2 ℃, 168 h→ Fresh Fuel C, 23±2℃, 30 min. Test condition: Deionized water, 23±2℃	Sample #1	13.9 %	A change in volume not greater than 40% swelling or 1% shrinkage	Pass
		Sample #2	9.5 %		
Mass Loss (Extraction)	Immersion condition: Immersion in ASTM Reference Fuel C, 23±2 ℃, 168 h→40 ℃, 20 kPa vacuum pressure to constant mass	Sample #1	3.5 %	A mass loss (extraction) of not greater than 10%	Pass
		Sample #2	2.4 %		

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Note:

1. Change in Volume, %=(Volume after immersion - Volume before immersion)/ Volume before immersion × 100.
2. Mass Loss, %=(Value before immersion - Value after immersion)/ Value before immersion×100.
3. ASTM Reference Fuel C: 50 % ISO-Octane and 50 %Toluene by volume.

Test Photo:

	
During test-Sample #1	Before test-Sample #1
	
During test-Sample #2	Before test-Sample #2

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3. Test Item: Mass Loss Test

Sample Description: See photo

Test Method: AS/NZS 2906:2001 Section 7.3.1 & Appendix C

Test Condition:

Condition: Fill with ASTM Reference Fuel B, 23±2 ℃, 30 days

Lab Environmental Condition: 23 ± 2 ℃, 50 ± 5 % RH

Test Result:

Test Item	Test Result	Requirement in AS/NZS 2906:2001 Section 7.3.1	Conclusion
Mass Loss Test	Mass Loss :0.2 % No tackiness, loss of lining adhesion and other obvious defects	The mass Loss shall not exceed 1 % and all surfaces, when examined, shall show no evidence of tackiness, loss of lining adhesion or other obvious defects	Pass

Note:

1. Mass loss, % = (Mass before filling - Mass after filling)/ Mass before filling×100.
2. ASTM Reference Fuel B: 70 % Iso-octane and 30 %Toluene by volume.

Test Photo:

During test

After test

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4. Test Item: Hydrostatic Pressure Test & Stability Test

Sample Description: See photo

Test Method: AS/NZS 2906:2001 Section 7.3.2 & Section 7.3.3 & Appendix L

Test Condition:

Condition: ①After test item 3, empty the sample and stabilize at 23±2 ℃ for 24 h

② Fill with 60 ℃ water,120 kPa hydraulic pressure, 5 min →180 kPa hydraulic pressure, 30 min

③Empty the sample and stabilize at 23±2 ℃ for 24 h

Lab Environmental Condition: 23 ± 2 ℃, 50 ± 5 % RH

Test Result:

Test Item	Test Result	Requirement in AS/NZS 2906:2001 Section 7.3.2	Conclusion
Hydrostatic Pressure Test	No evidence of leakage	No evidence of leakage	Pass
Stability Test	The specimens remain on its base unsupported	The specimen shall remain on its base unsupported	Pass

Test Photo:

	
During test	After test

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5. Test Item: Drop Strength Test

Sample Description: See photo

Test Method: AS/NZS 2906:2001 Section 7.3.4 & Appendix E

Test Condition:

Condition: ①After test item 3, empty the specimen and stabilize at 23±2 ℃ for 24 h

②Fill with water, -18 ℃, 2 h →Take out and do the test immediately

Drop height: 1200 mm

Lab Environmental Condition: 23 ± 2 ℃, 50 ± 5 % RH

Test Result:

Test Item	Test Result		Requirement in AS/NZS 2906:2001 Section 7.3.4	Conclusion
Drop Strength Test	Direction 1	No rupture, no leakage	Specimen shall show no sign of rupture or leakage after the specimen has been vented and left to stand for a period of not less than 5 min.	Pass
	Direction 2	No rupture, no leakage		
	Direction 3	No rupture, no leakage		
	Direction 4	No rupture, no leakage		
	Direction 5	No rupture, no leakage		
	Direction 6	No rupture, no leakage		

Test Photo:

During test

After test

6. Test Item: Integrity Under Exposure to Flame Ttest
Test Description: See photo
Test Method: AS/NZS 2906:2001 Section 7.3.5 & Appendix F
Test Condition: Round test tray: 600mm in diameter, 13mm high
5L motor spirit in the fuel container
0.75L motor spirit in the round test tray
Test Result:

Test Item	Test Result		Requirement in AS/NZS 2906:2001 Section 7.3.5	Conclusion
Determination of integrity of fuel containers when exposed to flame	Sample 1	The sample doesn't lose its integrity in 30s and doesn't explode in 90s	Sample shall have a time to 'loss of integrity' of not less than 30 s and shall not explode in less than 90 s.	Pass
	Sample 2	The sample doesn't lose its integrity in 30s and doesn't explode in 90s		
	Sample 3	The sample doesn't lose its integrity in 30s and doesn't explode in 90s		
	Sample 4	The sample doesn't lose its integrity in 30s and doesn't explode in 90s		

Remark: 1. According to AS/NZS 2906: 2001 7.3.5, when a sample is tested in accordance with Appendix F, it shall have a time to 'loss of integrity' of not less than 30 s and shall not explode in less than 90 s.According to AS/NZS 2906: 2001 4.6, integrity is defined as follow:
The state of being whole or entire. A fuel container is considered to have lost its integrity when it ceases to contain the fuel or its vapour.
Note: Samples are fused in the burning process.

Test Photo:

During test

7. Test Item: Handle Strength Test

Sample Description: See photo

Test Method: AS/NZS 2906:2001 Section 7.3.6 & Appendix G

Test Condition:

Condition: ①After test item 5, fill with 5 L water, 23±2 ℃, 6 h

Drop height: 305 mm

Lab Environmental Condition: 23 ± 2 ℃, 50 ± 5 % RH

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Test Result:

Test Item	Test Result	Requirement in AS/NZS 2906:2001 Section 7.3.6	Conclusion
Handle Strength Test	No separation of the handle, no leakage	There shall be no complete separation of the handle at any point of attachment to the specimen, nor there shall be any leakage from the specimen. When evidence of partial separation of the handle of the specimen is present, the test shall be repeated once more, as specified, on the same handle of that specimen. There shall be no further separation after the repeated test.	Pass

Test Photo:

	
During test	After test

8. Test Item: Resistance to Petroleum Test

Sample Description: See photo

Test Method: AS/NZS 2906:2001 Section 7.4.2 & Appendix I & ASTM D638-14

Test Condition:

As received condition: 23 ± 2 ℃, 50 ± 5 % RH, 24 h

Condition 1: Fill with ASTM Reference Fuel C, 38 ℃, 30 d→ Fresh ASTM Reference Fuel C, 30 min

Condition 2: Fill with the mixture of fuel (see note 2), 38 ℃, 30 days→ Fresh mixture of fuel, 30 min

Specimen: Type Ⅳ

Testing speed: 50 mm/min

Gauge length: 25 mm

Lab Environmental Condition: 23 ± 2 ℃, 50 ± 5 % RH

Test Result:

Test Item	Test Result		Requirement in AS/NZS 2906:2001 Section 7.3.2	Conclusion
Tensile Strength	As received	23.8 MPa	/	/
	After filling with ASTM Reference Fuel C	24.2 MPa	/	/
	Retention rate	101.7 %	⩾85 %	Pass
	After filling with mixture of fuel	21.5 MPa	/	/
	Retention rate	90.3 %	⩾85 %	Pass
Elongation at Break	As received	800 %	/	/
	After filling with ASTM Reference Fuel C	840 %	/	/
	Retention rate	105.0 %	⩾85 %	Pass
	After filling with mixture of fuel	730 %	/	/
	Retention rate	91.2 %	⩾85 %	Pass

Note:

1. ASTM Reference Fuel C: 50 % ISO-Octane and 50 %Toluene by volume.
2. Mixture of fuel: ASTM Reference Fuel A /IRM 903 oil=16: 1(V/V).
3. Retention rate, %=Value after filling with Petroleum/Value as received×100.
4. The specimens were cut from the sample.

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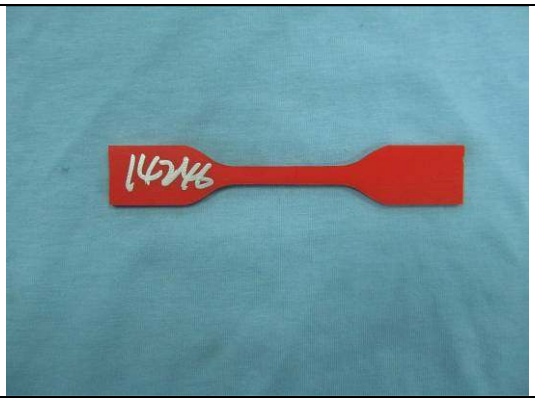
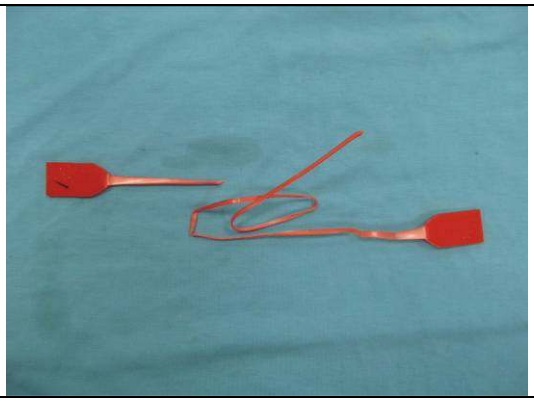
Test Photo:

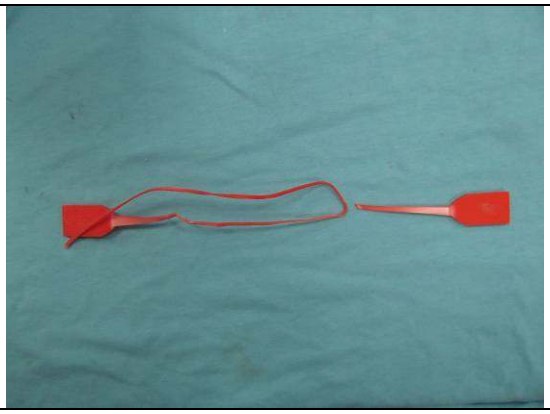
During test



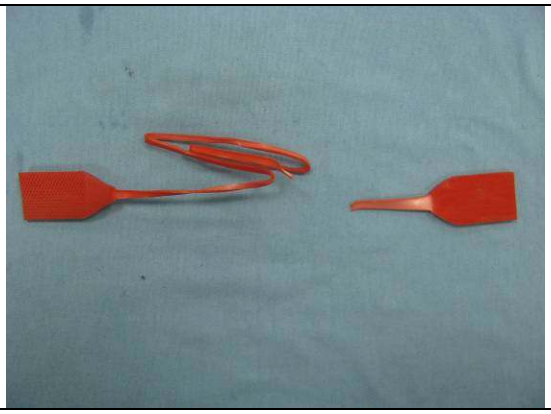
Before test



After test - As received



After test –After filling with Fuel C



After test –After filling with mixture of fuel

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9. Test Item: Stress Cracking Test

Sample Description: See photo

Test Method: AS/NZS 2906:2001 Section 7.4.3 & Appendix J

Test Condition:

Condition: Fill with 60 ℃ 10% OP-10 solution, with two specimens downward and two specimens upward in storage, 60 ℃, 120 h→Empty the sample and fill with air and keep the pressure at 20 kPa

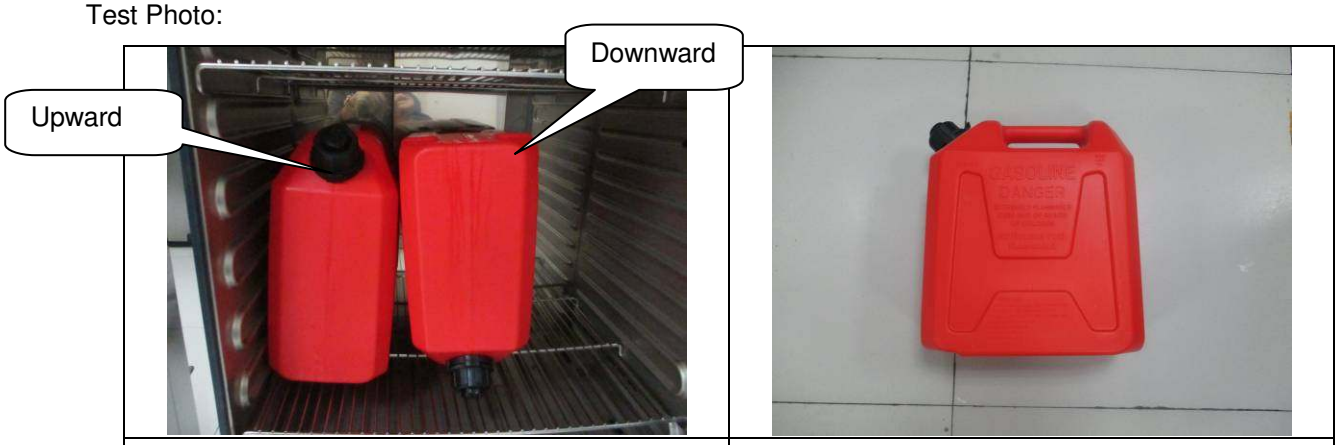
Lab Environmental Condition: 23±2℃, 50±5%RH

Test Result:

Test Item	Test Result		Requirement in AS/NZS 2906:2001 Section 7.4.3	Conclusion
Stress Cracking Test	Downward	No leakage, no crack	Shall not crack.	Pass
	Upward	No leakage, no crack		

Note: OP-10: $C_9H_{19}(C_6H_4)(OCH_2CH_2)_nOH$.

Test Photo:



During test | After test

TEST REPORT

10. Test Item: Marking

Sample Description: See photo*

Test Method: AS/NZS 2906:2001 Section 8

Test Condition: 23 ± 2 ℃, 50 ± 5 % RH, 24 h

Lab Environmental Condition: 23 ± 2 ℃, 50 ± 5 % RH

Test Result:

Requirement in AS/NZS 2906:2001 Section 8	Conclusion
Each container shall be dumbly and indelibly marked (e.g. embossed or moulded) with the following, in characters not less than 3 mm in height for capital letters and for lower case letters with an ascender or descender, or not less than 2 mm in height for lower case letters without an ascender or descender: (a) Manufacturer's name or registered trademark. (b) Nominal capacity, in litres, in conjunction with a mark indicating that level (c) An indication of the year of manufacture of the container and, for plastics containers, also the month of manufacture.	PASS The letters are embossed, the minimum capital letter height is 2.90 mm; No lower case letter. (a) “SEAFLO” (b) “NOM.CAP.10L”, no mark indicating the level. (c) “Apr, 2015”
Each container shall display the following: (i) A word indicating the hazardous nature of the contents of the container, i.e. “Warning”, “Danger”, or “Caution”. (ii) The warnings, “Vapour may cause flash fire” or similar, “Fuel only” or similar, and “Flammable”. (iii) Any phrase indicating appropriate cautionary statements, e.g. “Keep out of the reach of children”, “Not suitable for racing fuel”. (iv) First aid information, which shall include advice on actions to be taken if fuel is swallowed, inhaled, or comes in contact with the skin or eyes, e.g. as required by the National Health and Medical Research Council.	PASS (i) “DANGER” (ii) “FLAMMABLE” (iii) “KEEP OUT OF THE REACH OF CHILDREN ” (iv) “IF SWALLOWED, DO NOT VOMITING.GIVE A GLASS OF WATER, REMOVE VICTIM FROM CONTAMINATED AREA”

Note: * means the test samples used are received in the second time.

TEST REPORT

Test Photo:

	
Sample (part)	Sample (part)

Note: Note: The test item1~5, 6~10 were carried out by SGS(GUANGZHOU) internal laboratory.

******** End of report********

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