

Report No. 48.400.17.8061.23-00/01

Dated 2018-01-08



China

Technical Report

Applicant: WUXI CORELINE VALVE CO., LTD.
No.210 Xinyuan Rd, Ehu Industrial Park, Xishan District, 214116 Wuxi, China

Attn. to: Nancy

Supplier: /

Test object: The tested object(s) was(were) submitted and described by client as:
Name: Seat, Disc
Model: /
Material: PTFE, CF8M
Country of Destination:Denmark
Country of Production: China



Tested sample description: Refer to next page(s).

Purpose of examination: As requested by the client, selected testing according to:
-German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30, 31 and BfR recommendation.
-General Requirement (Article 3) in EU Regulation No. 1935/2004.
-Commission Regulation (EU) No 10/2011 and its subsequent amendment Regulations
1. For material: PTFE – Overall migration test
2. For material: PTFE – Soluble Heavy Metals test
3. For material: PTFE – Specific migration of PAA content test
4. For material: PTFE – Specific migration of tetrafluoroethylene content test.
5. For material: metallic – Extractable heavy metals test.

Test results: Refer to next page(s).

Conclusion:	Test Items	Sample ID	Result
	1. Overall migration test	001	Pass
	2. Soluble Heavy Metals test	001	Pass
	3. Specific migration of PAA content test	001	Pass
	4. Specific migration of tetrafluoroethylene content.	001	Pass
	5. Extractable Heavy Metals	002	Pass

Remarks:
1. The tests are based on the client's requirement.
2. The samples were identified by client.
3. The result relates only to the items tested.
4. Samples were tested as received.
5. The test items and conditions were conducted under the requirements of client.

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10 Huaxia Road(M), Dongting, Wuxi
Jiangsu, 214100, P. R. China

Shanghai Chemical Lab
No.1999 Duhui Road
Shanghai City

Tel.: +86-510-88203737
Fax: +86-510-88203636
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1. Order

1.1 Date of Purchase Order
2018-01-02

1.2 Customer's Reference
Nil



1.3 Receipt Date of Test Sample
2018-01-02

1.4 Date of Testing
2018-01-02 ~ 2018-01-08

1.5 Document submitted
Nil

1.6 Location of Testing
TÜV SÜD SHA External Chemical Lab.

2. Tested sample description:

Sample No.	Description (material, color)	Photograph/Location
001	PTFE, white	
002	Silvery grey metal	

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3. Test Result

3.1 Overall migration test

-with reference to

EN1186-1:2002: Guide to the selection of condition and test method for overall migration;

EN1186-3:2002: Test method for overall migration into aqueous food simulants by total immersion;

EN 1186-14:2002: Test method for "simulant tests" for overall migration from plastic intended to come into contact with fatty foodstuff using test media iso-octane and 95% ethanol;

Simulant used	Test condition	Overall Migration (mg/dm ²)	Maximum permissible Limit (mg/dm ²)
		001	
3% Acetic Acid (W/V)	4 hours at 100°C	<3.0	10
10% Ethanol (V/V) Aqueous Solution	4 hours at 100°C	<3.0	10
50% Ethanol (V/V) Aqueous Solution	4 hours at 100°C	<3.0	10
95% Ethanol (V/V) Aqueous Solution	6 hours at 60°C	<3.0	10
Isooctane	4 hours at 60°C	<3.0	10

- Note:
1. "°C" denotes degree Celsius.
 2. "<" denotes less than.
 3. "%" denotes percentage.
 4. "mg/dm²" denotes milligram per square decimeter.
 5. Test result comes from the 3rd duration as repeat use condition
 6. The specification was quoted from Regulation (EU) No 10/2011.
 7. Surface area(dm²)/Volume(ml) = 1/100.

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3. Test Result**3.2 Specific migration of Heavy metal**

- Sample preparation in selection of simulants and condition, followed by analysis using Inductively Coupled Argon Plasma Spectrometer.

Simulant used	Test condition
3% Acetic Acid (W/V)	4 hours at 100°C

Test Item	Result (mg/kg)	Maximum Permissible Limit (mg/kg)
	001	
Soluble Barium	<0.01	1
Soluble Cobalt	<0.01	0.05
Soluble Copper	<0.10	5
Soluble Iron	<1.0	48
Soluble Lithium	<0.10	0.6
Soluble Manganese	<0.01	0.6
Soluble Zinc	<0.10	5
Soluble Aluminium	<0.01	1
Soluble Nickel	<0.01	0.02

- Note:
1. "°C" denotes degree Celsius.
 2. "<" denotes less than.
 3. "%" denotes percentage.
 4. "mg/kg" denotes milligram per kilogram.
 5. The specification was quoted from Regulation (EU) No 2017/752.
 6. Test result comes from the 3rd duration as repeat use condition.
 7. Surface area(dm²)/Volume(ml) = 1/167.

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3. Test Result

3.3 Specific migration of Primary Aromatic Amines

- - With reference to EN1186-1:2002, sample preparation in selection of simulants and condition, followed by BVL L00.00.6-1995 and its amendment.

Simulant used	Test Condition	Result (mg/kg)	Maximum Permissible Limit (mg/kg)
		001	
3% Acetic Acid (W/V)	4 hours at 100°C	<0.01	0.01

- Note:
1. "mg/kg" denotes milligram per kilogram.
 2. "<" denotes less than.
 3. "%" denotes percentage.
 4. "°C" denotes degree Celsius.
 5. The specification was quoted from Regulation (EU) No 10/2011.
 6. Surface area(dm²)/Volume(ml) = 1/167.

3.4 Specific migration of Tetrafluoroethylene (TFE)

- With reference to BS EN 13130-1:2004, sample preparation in selection of simulants and condition, followed by High Performance Liquid Chromatography/ Mass Spectrometer (HPLC/MS).

Simulant used	Test Condition	Result (mg/kg)	Maximum Permissible Limit (mg/kg)
		001	
3% Acetic Acid (W/V)	4 hours at 100°C	<0.01	0.05

- Note:
1. "mg/kg" denotes milligram per kilogram.
 2. "<" denotes less than.
 3. "%" denotes percentage.
 4. "°C" denotes degree Celsius.
 5. The test specification was quoted from Regulation (EU) No 10/2011.
 6. Test result comes from the 3rd duration as repeat use condition.
 7. Surface area(dm²)/Volume(ml) = 1/167.

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3. Test Result

3.5 Extractable Heavy Metals

- Sample preparation hours per recommended simulants and conditions, then analysis by ICP-OES.

Simulant used	Test condition
0.5% Citric acid	4 hours at 100°C

Test Item	Result [mg/kg]			Unit [mg/kg]
	002			SRLs (for metals and alloy components)
	1st migration	2nd migration	3rd migration	
Aluminium(Al)	<0.5	<0.5	<0.5	5
Antimony(Sb)	<0.01	<0.01	<0.01	0.04
Chromium(Cr)	<0.02	<0.02	<0.02	0.25
Cobalt(Co)	<0.01	<0.01	<0.01	0.02
Copper(Cu)	<0.2	<0.2	<0.2	4
Iron (Fe)	<1.0	<1.0	<1.0	40
Manganese(Mn)	<0.2	<0.2	<0.2	1.8
Molybdenum(Mo)	<0.01	<0.01	<0.01	0.12
Nickel(Ni)	<0.01	<0.01	<0.01	0.14
Silver(Ag)	<0.01	<0.01	<0.01	0.08
Tin(Sn)	<1.0	<1.0	<1.0	100
Vanadium(V)	<0.01	<0.01	<0.01	0.01
Zinc(Zn)	<0.5	<0.5	<0.5	5
Test Item	1st migration	2nd migration	3rd migration	SRLs (for metals as contaminants and impurities)
Arsenic(As)	<0.001	<0.001	<0.001	0.002
Barium(Ba)	<0.1	<0.1	<0.1	1.2
Beryllium(Be)	<0.001	<0.001	<0.001	0.01
Cadmium(Cd)	<0.001	<0.001	<0.001	0.005
Lead(Pb)	<0.01	<0.01	<0.01	0.01
Lithium(Li)	<0.01	<0.01	<0.01	0.048
Mercury(Hg)	<0.001	<0.001	<0.001	0.003
Thallium(Tl)	<0.0001	<0.0001	<0.0001	0.0001

Remarks: (Articles for repeated use)

1. Compliance is established on the 3rd migration results
2. RESULT1st + RESULT2nd test <7xSRL

- Note:
1. "°C" denotes degree Celsius.
 2. "<" denotes less than.
 3. "%" denotes percentage.
 4. "mg/kg" denotes milligram per kilogram.
 5. "SRLs" denoted Specific Release Limits.
 6. Limit according to Council of Europe "Technical guide on metals and alloys in food contacted materials" (1st Edition)

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Prepared by:

A blue ink signature of Mr. Yongfeng DU over a small, semi-transparent TÜV SÜD logo.

Mr. Yongfeng DU

Checked by:

A blue ink signature of Mr. Feng ZHANG over a small, semi-transparent TÜV SÜD logo.

Mr. Feng ZHANG

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