

Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



China

Technical Report

Applicant: Jiangsu Acrel Electric MFG. Co., Ltd.
No. 5, Dongmeng Road, Nanzha Street, Jiangyin, Jiangsu, P. R. China

Attn: Liu Shoubao

Test subject: The tested object(s) was(were) submitted and described by client as:
Product Name: Three-phase multi-function energy meter / 三相多功能电能表
Model: DTSD1352
Product picture refer to the APPENDIX I

Tested components: Refer to the follow pages

Test specification: 2011/65/EU (RoHS) Directive and 2015/863/EU (ROHS amendment) Directive
Test with reference to EN 62321-1:2013, EN 62321-2:2014, EN 62321-3-1:2014, EN 62321-4:2014, EN 62321-5:2014, EN 62321-6:2015, EN 62321:2009, EN62321-7-1:2015, EN 62321-7-2:2017 and EN 62321-8:2017.

Test result: Refer to the data listed in following pages

Conclusion: With regard to the data of tested components, the requirements of Directive 2011/65/EU (RoHS) and 2015/863/EU are **complied**.

Remarks:

1. The result relates only to the items tested
2. Samples were tested as received

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent from TÜV SÜD Certification and Testing (China) Co., Ltd. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
10 Huaxia Road(M), Dongting, Wuxi
Jiangsu, 214100,
P. R. China
info@tuv-sud.cn
Tel.: +86-510-88203737
Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
No.1999 Duhui Road
Shanghai City
Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08
Dated 2017-12-13



- 1. Order**
- 1.1 Date of Purchase Order,**
2017-10-31
- 1.2 Customer's Reference**
Nil
- 1.3 Receipt Date of Test Sample**
2017-10-31
- 1.4 Date of Testing**
2017-10-31~2017-11-27
- 1.5 Location of Testing**
TÜV SÜD Certification and Testing (China) Co., Ltd.

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd..
The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
10 Huaxia Road(M), Dongting, Wuxi
Jiangsu, 214100,
P. R. China
info@tuv-sud.cn
Tel.: +86-510-88203737
Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
No.1999 Duhui Road
Shanghai City
Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



China

2. Description of the tested specimen

Sample No.	Result	Description (Material, colour)	Photograph/Location
01	Pass	Pin, silvery, metal	
02	Pass	Resistor, green, plastic	
03	Pass	Capacitor, black, plastic	
04	Pass	Capacitor, black, plastic	

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
10 Huaxia Road(M), Dongting, Wuxi
Jiangsu, 214100,
P. R. China
info@tuv-sud.cn
Tel.: +86-510-88203737
Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
No.1999 Duhui Road
Shanghai City
Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



China

Sample No.	Result	Description (Material, colour)	Photograph/Location
05	Pass	Capacitor, black, plastic	
06	Pass	Shell, black, plastic	
07	Pass	Pin, silvery, metal	
08	Pass	Cushion, black, plastic	

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
10 Huaxia Road(M), Dongting, Wuxi
Jiangsu, 214100,
P. R. China
info@tuv-sud.cn
Tel.: +86-510-88203737
Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
No.1999 Duhui Road
Shanghai City
Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



China

Sample No.	Result	Description (Material, colour)	Photograph/Location
09	Pass	Shell, silvery, metal	
10	Pass	Paper, beige	
11	Pass	Switch cap, orange, plastic	
12	Pass	Capacitor, grey, plastic	

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
10 Huaxia Road(M), Dongting, Wuxi
Jiangsu, 214100,
P. R. China
info@tuv-sud.cn
Tel.: +86-510-88203737
Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
No.1999 Duhui Road
Shanghai City
Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



China

Sample No.	Result	Description (Material, colour)	Photograph/Location
13	Pass	Base, black, plastic	
14	Pass	Pin, silvery, metal	
15	Pass	Shell, silvery, metal	
16	Pass	Innner cushion, black, plastic	

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
10 Huaxia Road(M), Dongting, Wuxi
Jiangsu, 214100,
P. R. China
info@tuv-sud.cn
Tel.: +86-510-88203737
Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
No.1999 Duhui Road
Shanghai City
Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08
 Dated 2017-12-13



China

Sample No.	Result	Description (Material, colour)	Photograph/Location
17	Pass	Inner paper, beign	
18	Pass	Capacitor, grey, plastic	
19	Pass	IC, black, plastic	
20	Pass	IC, black, plastic	

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
 10 Huaxia Road(M), Dongting, Wuxi
 Jiangsu, 214100,
 P. R. China
 info@tuv-sud.cn
 Tel.: +86-510-88203737
 Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
 No.1999 Duhui Road
 Shanghai City
 Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08
 Dated 2017-12-13



China

Sample No.	Result	Description (Material, colour)	Photograph/Location
21	Pass	Transistor, black, plastic	
22	Pass	IC, black, plastic	
23	Pass	IC, black, plastic	
24	Pass	Diode, black, plastic	

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
 10 Huaxia Road(M), Dongting, Wuxi
 Jiangsu, 214100,
 P. R. China
 info@tuv-sud.cn
 Tel.: +86-510-88203737
 Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
 No.1999 Duhui Road
 Shanghai City
 Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



China

Sample No.	Result	Description (Material, colour)	Photograph/Location
25	Pass	Diode, black, plastic	
26	Pass	Diode, white, plastic	
27	Pass	Diode, black, plastic	
28	Pass	Triode, black, plastic	

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
10 Huaxia Road(M), Dongting, Wuxi
Jiangsu, 214100,
P. R. China
info@tuv-sud.cn
Tel.: +86-510-88203737
Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
No.1999 Duhui Road
Shanghai City
Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



China

Sample No.	Result	Description (Material, colour)	Photograph/Location
29	Pass	Triode, black, plastic	
30	Pass	Shell, black, plastic	
31	Pass	Pin, silvery, metal	
32	Pass	Frame, black, metal	

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
10 Huaxia Road(M), Dongting, Wuxi
Jiangsu, 214100,
P. R. China
info@tuv-sud.cn
Tel.: +86-510-88203737
Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
No.1999 Duhui Road
Shanghai City
Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



China

Sample No.	Result	Description (Material, colour)	Photograph/Location
33	Pass	Wire, golden, copper alloy	
34	Pass	Shell, yellow, plastic	
35	Pass	Resin, black, plastic	
36	Pass	Pin, silvery, metal	

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
 10 Huaxia Road(M), Dongting, Wuxi
 Jiangsu, 214100,
 P. R. China
 info@tuv-sud.cn
 Tel.: +86-510-88203737
 Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
 No.1999 Duhui Road
 Shanghai City
 Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08
 Dated 2017-12-13



Sample No.	Result	Description (Material, colour)	Photograph/Location
37	Pass	Plug, white, plastic	
38	Pass	Wire jacket, black, plastic	
39	Pass	Wire jacket, red, plastic	
40	Pass	Shell, blue, plastic	

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
 10 Huaxia Road(M), Dongting, Wuxi
 Jiangsu, 214100,
 P. R. China
 info@tuv-sud.cn
 Tel.: +86-510-88203737
 Fax: +86-510-88203636
www.tuv-sud.cn





Shanghai Chemical Lab
 No.1999 Duhui Road
 Shanghai City
 Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



China

Sample No.	Result	Description (Material, colour)	Photograph/Location
41	Pass	Resin, black, plastic	
42	Pass	Innner wire, silvery, metal	
43	Pass	LCD, plastic	
44	Pass	Crystal oscillator, black, plastic	

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
10 Huaxia Road(M), Dongting, Wuxi
Jiangsu, 214100,
P. R. China
info@tuv-sud.cn
Tel.: +86-510-88203737
Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
No.1999 Duhui Road
Shanghai City
Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08
 Dated 2017-12-13



China

Sample No.	Result	Description (Material, colour)	Photograph/Location
45	Pass	Magnet, grey, metal	
46	Pass	Key, black, plastic	
47	Pass	Piece, silvery, metal	
48	Pass	Shell, black, plastic	

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
 10 Huaxia Road(M), Dongting, Wuxi
 Jiangsu, 214100,
 P. R. China
 info@tuv-sud.cn
 Tel.: +86-510-88203737
 Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
 No.1999 Duhui Road
 Shanghai City
 Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08
 Dated 2017-12-13



Sample No.	Result	Description (Material, colour)	Photograph/Location
49	Pass	Pin, silvery, metal	
50	Pass	Diode, black, plastic	
51	Pass	Pin, silvery, metal	
52	Pass	Socket, black, plastic	



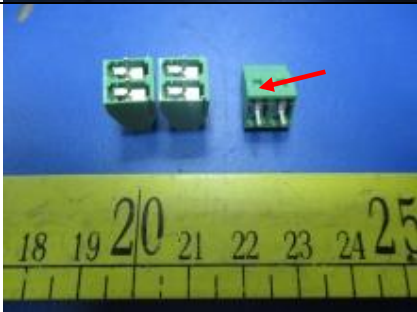
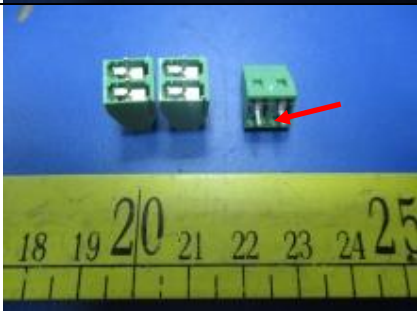
No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
 10 Huaxia Road(M), Dongting, Wuxi
 Jiangsu, 214100,
 P. R. China
 info@tuv-sud.cn
 Tel.: +86-510-88203737
 Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
 No.1999 Duhui Road
 Shanghai City
 Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08
 Dated 2017-12-13



Sample No.	Result	Description (Material, colour)	Photograph/Location
53	Pass	Pin, silvery, metal	
54	Pass	Socket, white, plastic	
55	Pass	Shell, green, plastic	
56	Pass	Wafer, silvery, metal	

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
 10 Huaxia Road(M), Dongting, Wuxi
 Jiangsu, 214100,
 P. R. China
 info@tuv-sud.cn
 Tel.: +86-510-88203737
 Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
 No.1999 Duhui Road
 Shanghai City
 Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08
 Dated 2017-12-13



China

Sample No.	Result	Description (Material, colour)	Photograph/Location
57	Pass	Panel, grey, plastic	
58	Pass	Shell, grey, plastic	
59	Pass	Cap, transparent, plastic	
60	Pass	PCB, green, plastic	

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
 10 Huaxia Road(M), Dongting, Wuxi
 Jiangsu, 214100,
 P. R. China
 info@tuv-sud.cn
 Tel.: +86-510-88203737
 Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
 No.1999 Duhui Road
 Shanghai City
 Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



China

Sample No.	Result	Description (Material, colour)	Photograph/Location
61	Pass	Panel, grey, plastic	
62	Pass	Screw, silvery, metal	
63	Pass	Screw, silvery, metal	
64	Pass	Screw, silvery, metal	

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
 10 Huaxia Road(M), Dongting, Wuxi
 Jiangsu, 214100,
 P. R. China
 info@tuv-sud.cn
 Tel.: +86-510-88203737
 Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
 No.1999 Duhui Road
 Shanghai City
 Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08
 Dated 2017-12-13



China

Sample No.	Result	Description (Material, colour)	Photograph/Location
65	Pass	Shell, silvery, metal	
66	Pass	Key, orange, plastic	
67	Pass	Button, white, plastic	
68	Pass	Piecec, silvery, metal	

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
 10 Huaxia Road(M), Dongting, Wuxi
 Jiangsu, 214100,
 P. R. China
 info@tuv-sud.cn
 Tel.: +86-510-88203737
 Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
 No.1999 Duhui Road
 Shanghai City
 Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



China

Sample No.	Result	Description (Material, colour)	Photograph/Location
69	Pass	Wire jacket, red, plastic	
70	Pass	Cover, black, plastic	
71	Pass	Wire, silvery, metal	

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
10 Huaxia Road(M), Dongting, Wuxi
Jiangsu, 214100,
P. R. China
info@tuv-sud.cn
Tel.: +86-510-88203737
Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
No.1999 Duhui Road
Shanghai City
Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



3. Test Results

3.1 ED-XRF Spectrometer test for total Cadmium, Chromium, Mercury, Lead and Bromine according to EN 62321-3-1:2014

Criteria of XRF test results

Pass:

Because of the nature of the testing procedure (caused by the uncertainty of the used, XRF method), a definite pass is given only if the XRF test score is less than 60% of the respective RoHS limit.

Inconclusive:

If the XRF test score is between 60% and 150% of the respective RoHS limit, further chemical test on the sample is required.

Fail:

A definite FAIL is given if the XRF test score is above 150% of the respective RoHS limit

***Explanation for RoHS limit**

Regarding Chromium and Bromine, the XRF test score shows the total Chromium and the total Bromine, but the RoHS limit of 1000 mg/kg, according to the directive 2011/65/EU, is only for Hexavalent Chromium and Brominated Flame Retardants. Therefore, if the XRF test result for the total Chromium and the total Bromine is more than 600 mg/kg and 300 mg/kg respectively, further analytical tests are necessary to find out the exact amount of Hexavalent Chromium and Brominated Flame Retardants

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
10 Huaxia Road(M), Dongting, Wuxi
Jiangsu, 214100,
P. R. China
info@tuv-sud.cn
Tel.: +86-510-88203737
Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
No.1999 Duhui Road
Shanghai City
Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



China

	TOTAL CADMIUM [mg/kg]	TOTAL LEAD [mg/kg]	TOTAL MERCURY [mg/kg]	TOTAL CHROMIUM [mg/kg]	TOTAL BROMINE [mg/kg]	OVERALL RESULT
ROHS LIMIT	100	1000	1000	1000	1000	
Pass result	< 60	< 600	< 600	< 600	< 300	
Inconclusive result	60 – 150	600 – 1500	600 – 1500	> 600	> 300	
Fail result	> 150	> 1500	> 1500	-	-	
01	<30	<30	<30	19085	--	Inconclusive
02	<30	<30	<30	<30	<30	Pass
03	<30	1058***	<30	2109	<30	Inconclusive
04	<30	1634***	<30	3919	<30	Inconclusive
05	<30	1026***	<30	1505	<30	Inconclusive
06	<30	<30	<30	<30	<30	Pass
07	<30	<30	<30	<30	--	Pass
08	<30	<30	<30	<30	<30	Pass
09	<30	<30	<30	<30	--	Pass
10	<30	<30	<30	<30	<30	Pass
11	<30	<30	<30	<30	<30	Pass
12	<30	<30	<30	<30	<30	Pass
13	<30	<30	<30	<30	<30	Pass
14	<30	<30	<30	54	--	Pass
15	<30	<30	<30	367	--	Pass

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
 10 Huaxia Road(M), Dongting, Wuxi
 Jiangsu, 214100,
 P. R. China
 info@tuv-sud.cn
 Tel.: +86-510-88203737
 Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
 No.1999 Duhui Road
 Shanghai City
 Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



China

	TOTAL CADMIUM [mg/kg]	TOTAL LEAD [mg/kg]	TOTAL MERCURY [mg/kg]	TOTAL CHROMIUM [mg/kg]	TOTAL BROMINE [mg/kg]	OVERALL RESULT
ROHS LIMIT	100	1000	1000	1000	1000	
Pass result	< 60	< 600	< 600	< 600	< 300	
Inconclusive result	60 – 150	600 – 1500	600 – 1500	> 600	> 300	
Fail result	> 150	> 1500	> 1500	-	-	
16	<30	<30	<30	<30	<30	Pass
17	<30	<30	<30	<30	<30	Pass
18	<30	<30	<30	<30	<30	Pass
19	<30	<30	<30	<30	<30	Pass
20	<30	<30	<30	<30	<30	Pass
21	<30	<30	<30	<30	<30	Pass
22	<30	<30	<30	<30	<30	Pass
23	<30	<30	<30	<30	<30	Pass
24	<30	<30	<30	<30	<30	Pass
25	53	184	<30	<30	6354	Inconclusive
26	<30	76	<30	<30	<30	Pass
27	<30	<30	<30	<30	<30	Pass
28	<30	<30	<30	<30	<30	Pass
29	<30	<30	<30	<30	<30	Pass
30	<30	<30	<30	<30	<30	Pass

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
 10 Huaxia Road(M), Dongting, Wuxi
 Jiangsu, 214100,
 P. R. China
 info@tuv-sud.cn
 Tel.: +86-510-88203737
 Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
 No.1999 Duhui Road
 Shanghai City
 Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



China

	TOTAL CADMIUM [mg/kg]	TOTAL LEAD [mg/kg]	TOTAL MERCURY [mg/kg]	TOTAL CHROMIUM [mg/kg]	TOTAL BROMINE [mg/kg]	OVERALL RESULT
ROHS LIMIT	100	1000	1000	1000	1000	
Pass result	< 60	< 600	< 600	< 600	< 300	
Inconclusive result	60 – 150	600 – 1500	600 – 1500	> 600	> 300	
Fail result	> 150	> 1500	> 1500	-	-	
31	<30	<30	<30	93	--	Pass
32	<30	<30	<30	<30	--	Pass
33	<30	<30	<30	<30	--	Pass
34	<30	<30	<30	<30	40352	Inconclusive
35	<30	<30	<30	<30	200	Pass
36	<30	<30	<30	<30	--	Pass
37	<30	<30	<30	<30	<30	Pass
38	<30	<30	<30	<30	<30	Pass
39	<30	<30	<30	<30	<30	Pass
40	<30	<30	<30	<30	42321	Inconclusive
41	<30	<30	<30	<30	<30	Pass
42	<30	<30	<30	60	--	Pass
43	<30	<30	<30	<30	<30	Pass
44	<30	1353***	<30	<30	<30	Pass
45	50	<30	<30	48	--	Pass

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
 10 Huaxia Road(M), Dongting, Wuxi
 Jiangsu, 214100,
 P. R. China
 info@tuv-sud.cn
 Tel.: +86-510-88203737
 Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
 No.1999 Duhui Road
 Shanghai City
 Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



China

	TOTAL CADMIUM [mg/kg]	TOTAL LEAD [mg/kg]	TOTAL MERCURY [mg/kg]	TOTAL CHROMIUM [mg/kg]	TOTAL BROMINE [mg/kg]	OVERALL RESULT
ROHS LIMIT	100	1000	1000	1000	1000	
Pass result	< 60	< 600	< 600	< 600	< 300	
Inconclusive result	60 – 150	600 – 1500	600 – 1500	> 600	> 300	
Fail result	> 150	> 1500	> 1500	-	-	
46	<30	<30	<30	<30	<30	Pass
47	55	87	<30	49	--	Pass
48	<30	<30	<30	<30	<30	Pass
49	<30	98	<30	98	--	Pass
50	<30	<30	<30	<30	10356	Inconclusive
51	<30	<30	<30	<30	--	Pass
52	<30	<30	<30	<30	34219	Inconclusive
53	<30	80	<30	123	--	Pass
54	<30	<30	<30	<30	<30	Pass
55	<30	<30	<30	<30	<30	Pass
56	40	95	<30	97	--	Pass
57	<30	<30	<30	<30	<30	Pass
58	<30	<30	<30	<30	<30	Pass
59	<30	<30	<30	<30	<30	Pass
60	<30	<30	<30	<30	16960	Inconclusive

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
 10 Huaxia Road(M), Dongting, Wuxi
 Jiangsu, 214100,
 P. R. China
 info@tuv-sud.cn
 Tel.: +86-510-88203737
 Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
 No.1999 Duhui Road
 Shanghai City
 Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



China

	TOTAL CADMIUM [mg/kg]	TOTAL LEAD [mg/kg]	TOTAL MERCURY [mg/kg]	TOTAL CHROMIUM [mg/kg]	TOTAL BROMINE [mg/kg]	OVERALL RESULT
ROHS LIMIT	100	1000	1000	1000	1000	
Pass result	< 60	< 600	< 600	< 600	< 300	
Inconclusive result	60 – 150	600 – 1500	600 – 1500	> 600	> 300	
Fail result	> 150	> 1500	> 1500	-	-	
61	<30	<30	<30	<30	<30	Pass
62	<30	61	<30	35	--	Pass
63	<30	46	<30	40	--	Pass
64	<30	75	<30	135	--	Pass
65	<30	9910**	<30	<30	--	Inconclusive
66	<30	<30	<30	<30	<30	Pass
67	<30	<30	<30	<30	<30	Pass
68	<30	53	<30	<30	--	Pass
69	<30	<30	<30	<30	<30	Pass
70	<30	<30	<30	<30	<30	Pass
71	<30	<30	<30	46	--	Pass

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
 10 Huaxia Road(M), Dongting, Wuxi
 Jiangsu, 214100,
 P. R. China
 info@tuv-sud.cn
 Tel.: +86-510-88203737
 Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
 No.1999 Duhui Road
 Shanghai City
 Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



China

Remark:

1. "<" means "less than".
2. "mg/kg" denotes "milligram per kilogram".
3. With regard to the stoichiometry of Br in PBBs and PBDEs, the lower limit for Br is set at 300 mg/kg.
4. "--" means the substance for this sample are not tested.
5. "**" means the result is exempted according to 2011/65/EU ANNEX item 6: Lead as an alloying element in steel containing up to 0.35 % lead by weight, aluminum containing up to 0.4 % lead by weight and as a copper alloy containing up to 4 % lead by weight.
6. "***" means the result is exempted according to 2011/65/EU ANNEX item 7(c)-I: Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors.

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
10 Huaxia Road(M), Dongting, Wuxi
Jiangsu, 214100,
P. R. China
info@tuv-sud.cn
Tel.: +86-510-88203737
Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
No.1999 Duhui Road
Shanghai City
Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



3.2 Wet chemical test

Main instruments used for wet chemical test

Testing Target	Instrument	Method
Lead & Cadmium	ICP-OES	EN 62321-5:2014
Mercury	ICP-OES	EN 62321-4:2014
Hexavalent Chromium	UV-Vis	EN 62321:2009 EN62321-7-1:2015 EN 62321-7-2:2017
PBBs & PBDEs	GC/MS	EN62321-6:2015
DEHP, BBP, DBP & DIBP	GC/MS	EN 62321-8:2017

Criteria of chemical test results

Pass:

A definite Pass is given If the chemical test result meets the requirements of RoHS.

Fail:

A definite Fail is given If the chemical test result exceeds the full respective RoHS limit.

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
10 Huaxia Road(M), Dongting, Wuxi
Jiangsu, 214100,
P. R. China
info@tuv-sud.cn
Tel.: +86-510-88203737
Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
No.1999 Duhui Road
Shanghai City
Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



China

Test Sample	Cadmium [mg/kg]	Lead [mg/kg]	Mercury [mg/kg]	Chromium (VI) [mg/kg]	PBBs (Sum) [mg/kg]	PBDEs (Sum) [mg/kg]	OVERALL RESULT
Limit	100	1000	1000	1000	1000	1000	
03	--	--	--	<5	--	--	Pass
04	--	--	--	<5	--	--	Pass
05	--	--	--	<5	--	--	Pass
25	--	--	--	--	<50	<50	Pass
34	--	--	--	--	<50	<50	Pass
40	--	--	--	--	<50	<50	Pass
50	--	--	--	--	<50	<50	Pass
52	--	--	--	--	<50	<50	Pass
60	--	--	--	--	<50	<50	Pass
65	--	24650 ⁴	--	--	--	--	Pass

Remark:

1. ND = Not detected (Detected limit of Cd :2mg/kg;Pb, Hg, and Cr(VI):5mg/kg; PBBs and PBDEs: 5mg/kg)
2. " mg/kg " denotes " milligram per kilogram ".
3. "--" means the substance for this sample are not tested.
4. According to 2011/65/EU ANNEX item 6(a,b,c): Lead as an alloying element in steel containing up to 0,35 % lead by weight, aluminum containing up to 0,4 % lead by weight and as a copper alloy containing up to 4 % lead by weight.

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
10 Huaxia Road(M), Dongting, Wuxi
Jiangsu, 214100,
P. R. China
info@tuv-sud.cn
Tel.: +86-510-88203737
Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
No.1999 Duhui Road
Shanghai City
Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



China

Test Sample	Cadmium [mg/kg]	Lead [mg/kg]	Mercury [mg/kg]	Chromium# (VI) [mg/kg]	PBBs (Sum) [mg/kg]	PBDEs (Sum) [mg/kg]	OVERALL RESULT
Limit	100	1000	1000	§	1000	1000	
01	--	--	--	Negative	--	--	Pass

Remark:

1. “ --” means the substance for this sample are not tested.
2. “mg/kg” denotes “milligram per kilogram”
3. “#” Spot-test:
Negative = Absence of CrVI coating, Positive = Presence of CrVI coating;
(The tested sample should be further verified by boiling-water-extraction method if the spot test result can not be confirmed.)
Boiling-water-extraction:
Negative = Absence of CrVI coating
Positive = Presence of CrVI coating; the detected concentration in boiling-water- extraction solution is equal or greater than 0.02mg/kg with 50cm² sample surface area.
4. “ § ” Positive indicates the presence of Hexavalent Chromium on the tested areas and result be regarded as conflict with RoHS requirement.
Negative indicates the absence of Hexavalent Chromium on the tested areas and result be regarded as no conflict with RoHS requirement.

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
10 Huaxia Road(M), Dongting, Wuxi
Jiangsu, 214100,
P. R. China
info@tuv-sud.cn
Tel.: +86-510-88203737
Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
No.1999 Duhui Road
Shanghai City
Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



China

Test Sample	DEHP [mg/kg]	DBP [mg/kg]	BBP [mg/kg]	DIBP [mg/kg]	RESULT
Limit	1000	1000	1000	1000	
02	<50	<50	<50	<50	Pass
03	<50	<50	<50	<50	Pass
04	<50	<50	<50	<50	Pass
05	<50	<50	<50	<50	Pass
06	<50	<50	<50	<50	Pass
07	<50	<50	<50	<50	Pass
08	<50	<50	<50	<50	Pass
10	<50	<50	<50	<50	Pass
11	<50	<50	<50	<50	Pass
12	<50	<50	<50	<50	Pass
13	<50	<50	<50	<50	Pass
16	<50	<50	<50	<50	Pass
17	<50	<50	<50	<50	Pass
18	<50	<50	<50	<50	Pass
19	<50	<50	<50	<50	Pass
20	<50	<50	<50	<50	Pass
21	<50	<50	<50	<50	Pass
22	<50	<50	<50	<50	Pass
23	<50	<50	<50	<50	Pass
24	<50	<50	<50	<50	Pass
25	<50	<50	<50	<50	Pass
26	<50	<50	<50	<50	Pass
27	<50	<50	<50	<50	Pass
28	<50	<50	<50	<50	Pass

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
10 Huaxia Road(M), Dongting, Wuxi
Jiangsu, 214100,
P. R. China
info@tuv-sud.cn
Tel.: +86-510-88203737
Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
No.1999 Duhui Road
Shanghai City
Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



China

Test Sample	DEHP [mg/kg]	DBP [mg/kg]	BBP [mg/kg]	DIBP [mg/kg]	RESULT
Limit	1000	1000	1000	1000	
29	<50	<50	<50	<50	Pass
30	<50	<50	<50	<50	Pass
34	<50	<50	<50	<50	Pass
35	<50	<50	<50	<50	Pass
37	<50	<50	<50	<50	Pass
38	<50	<50	<50	<50	Pass
39	<50	<50	<50	<50	Pass
40	<50	<50	<50	<50	Pass
41	<50	<50	<50	<50	Pass
43	<50	<50	<50	<50	Pass
44	<50	<50	<50	<50	Pass
46	<50	<50	<50	<50	Pass
48	<50	<50	<50	<50	Pass
50	<50	<50	<50	<50	Pass
52	<50	<50	<50	<50	Pass
54	<50	<50	<50	<50	Pass
55	<50	<50	<50	<50	Pass
57	<50	<50	<50	<50	Pass
58	<50	<50	<50	<50	Pass
59	<50	<50	<50	<50	Pass
60	<50	<50	<50	<50	Pass
61	<50	<50	<50	<50	Pass
66	<50	<50	<50	<50	Pass
67	<50	<50	<50	<50	Pass
69	<50	<50	<50	<50	Pass

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
10 Huaxia Road(M), Dongting, Wuxi
Jiangsu, 214100,
P. R. China
info@tuv-sud.cn
Tel.: +86-510-88203737
Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
No.1999 Duhui Road
Shanghai City
Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



China

Test Sample	DEHP [mg/kg]	DBP [mg/kg]	BBP [mg/kg]	DIBP [mg/kg]	RESULT
Limit	1000	1000	1000	1000	
70	<50	<50	<50	<50	Pass

Remark:

1. < = less than (Detected limit : 50mg/kg)
2. "mg/kg" denotes "milligram per kilogram".
3. DEHP = Di-(2-ethyl-hexyl)phthalate, DBP = Di-butyl phthalate
BBP = Butyl-benzyl phthalate, DIBP = Di-iso-butyl phthalate

TÜV SÜD Certification and Testing (China) Co., Ltd.

Prepared by:

Mr. Feng ZHANG

Checked by:

Mr. Yongfeng DU

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
10 Huaxia Road(M), Dongting, Wuxi
Jiangsu, 214100,
P. R. China
info@tuv-sud.cn
Tel.: +86-510-88203737
Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
No.1999 Duhui Road
Shanghai City
Tel.: +86-21-60376368


Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



China

APPENDIX I: Product Model

Product: Three-phase four-wire multi-function energy meter / 三相四线多功能电能表	Test model: DTSD1352
	
Additional model: DTSF1352	

Remark:

1. The report covers material testing on specified samples
2. The tested materials covered by the report were declared by the manufacturer to be used on the models listed in the APPENDIX of the report.

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
10 Huaxia Road(M), Dongting, Wuxi
Jiangsu, 214100,
P. R. China
info@tuv-sud.cn
Tel.: +86-510-88203737
Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
No.1999 Duhui Road
Shanghai City
Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



APPENDIX II: Official Exemption Items

Below items are quoted based on 2011/65/EU and its valid Amending Directives.

Exemption		Scope and dates of applicability
1	Mercury in single capped (compact) fluorescent lamps not exceeding (per burner)	
1(a)	For general lighting purpose < 30 W:5mg	Expires on 31 December 2011; 3,5mg maybe used per burner after 31 December 2011 until 31 December 2012; 2.5mg shall be used per burner after 31 December 2012
1(b)	For general lighting purposes ≥ 30 W and < 50 W:5mg	Expires on 31 December 2011; 3,5mg maybe used per burner after 31 December 2011 until 31 December 2012; 2.5mg shall be used per burner after 31 December 2012
1(c)	For general lighting purposes ≥ 50 W and < 150 W:5mg	
1(d)	For general lighting purpose ≥ 30 W and ≥ 150 W:15mg	
1(e)	For general lighting purpose with circular or square structural shape and tube diameter < 17mm	No limitation of use until 31 December 2011; 7 mg may be used per burner after 31 December 2011
1(f)	For special purposes:5mg	
2(a)	Mercury in double capped linear fluorescent lamps for general lighting purposes not exceeding (per lamp)	
2(a)(1)	Tri-band phosphor with normal lifetime and a tube diameter < 9 mm (e.g. T2): 5mg	Expires on 31 December 2011; 4mg may be used per lamp after 31 December 2011
2(a)(2)	Tri-band phosphor with normal lifetime and a tube diameter ≥ 9 mm and ≤ 17 mm (e.g. T5): 5mg	Expires on 31 December 2011; 3mg may be used per lamp after 31 December 2011
2(a)(3)	Tri-band phosphor with normal lifetime and a tube diameter > 17 mm and ≤ 28 mm (e.g. T8): 5mg	Expires on 31 December 2011; 3,5 mg may be used per lamp after 31 December 2011
2(a)(4)	Tri-band phosphor with normal lifetime and a tube diameter > 28mm (e.g. T12): 5mg	Expires on 31 December 2011; 3,5 mg may be used per lamp after 31 December 2011
2(a)(5)	Tri-band phosphor with long lifetime (≥ 25 000h):8mg	Expires on 13 December 2011; 5mg may be used per lamp after 31 December 2011
2(b)	Mercury in other fluorescent lamps not exceeding (per lamp):	

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
10 Huaxia Road(M), Dongting, Wuxi
Jiangsu, 214100,
P. R. China
info@tuv-sud.cn
Tel.: +86-510-88203737
Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
No.1999 Duhui Road
Shanghai City
Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



Exemption		Scope and dates of applicability
2(b)(1)	Linear halophosphate lamps with tube >28 mm(e.g. T10 and T12): 10mg	Expires on 13 April 2012
2(b)(2)	Non-linear halophosphate lamps (all diameters):15mg	Expires on 13 April 2016
2(b)(3)	Non-linear tri-band phosphor lamps with tube diameter >17mm (e.g. T9)	No limitation of use until 31 December 2011; 15 mg may be used per lamp after 31 December 2011
2(b)(4)	Lamps for other general lighting and special purposes (e.g. induction lamps)	No limitation of use until 31 December 2011; 15 mg may be used per lamp after 31 December 2011
3	Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes not exceeding (per lamp)	
3(a)	Short length(≤500mm)	No limitation of use until 31 December 2011; 3,5 mg may be used per lamp after 31 December 2011
3(b)	Medium length (> 500mm and ≤ 1 500mm)	No limitation of use until 31 December 2011; 5 mg may be used per lamp after 31 December 2011
3(c)	Long length (> 1 500mm)	No limitation of use until 31 December 2011; 13 mg may be used per lamp after 31 December 2011
4(a)	Mercury in other low pressure discharge lamps (per lamp)	No limitation of use until 31 December 2011; 15 mg may be used per lamp after 31 December 2011
4(b)	Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner) in lamps with improved colour rendering index Ra >60;	
4(b)-I	P≤155 W	No limitation of use until 31 December 2011; 30mg may be used per burner after 31 December 2011
4(b)-II	155 W < P ≤ 405 W	No limitation of use until 31 December 2011; 40mg may be used per burner after 31 December 2011
4(b)-III	P > 405 W	No limitation of use until 31 December 2011; 40mg may be used per burner after 31 December 2011
4(c)	Mercury in other High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner)	
4(c)-I	P≤155 W	No limitation of use until 31 December 2011; 30mg may be used per burner after 31 December 2011
4(c)-II	155 W < P ≤ 405 W	No limitation of use until 31 December 2011; 40mg may be used per burner after 31 December 2011

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
 10 Huaxia Road(M), Dongting, Wuxi
 Jiangsu, 214100,
 P. R. China
 info@tuv-sud.cn
 Tel.: +86-510-88203737
 Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
 No.1999 Duhui Road
 Shanghai City
 Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



China

Exemption		Scope and dates of applicability
4(c)-III	P > 405 W	No limitation of use until 31 December 2011; 40mg may be used per burner after 31 December 2011
4(d)	Mercury in High Pressure Mercury (vapour) lamps (HPMV)	Expires on 13 April 2015
4(e)	Mercury in metal halide lamps (MH)	
4(f)	Mercury in other discharge lamps for special purposes not specifically mentioned in this Annex	
4(g)	Mercury in hand crafted luminous discharge tubes used for signs, decorative or architectural and specialist lighting and light-artwork, where the mercury content shall be limited as follows: (a) 20 mg per electrode pair + 0,3 mg per tube length in cm, but not more than 80 mg, for outdoor applications and indoor applications exposed to temperatures below 20 °C; (b) 15 mg per electrode pair + 0,24 mg per tube length in cm, but not more than 80 mg, for all other indoor applications.	Expires on 1 December 2018
5(a)	Lead in glass of cathode ray tubes	
5(b)	Lead in glass of fluorescent tubes not exceeding 0,2 % by weight	
6(a)	Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0,35 % lead by weight	
6(b)	Lead as an alloying element in aluminium containing up to 0,4 % lead by weight	
6(c)	Copper alloy containing up to 4 % lead by weight	
7(a)	Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)	
7(b)	Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signalling, transmission, and network management for telecommunications	
7(c)-I	Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound	

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
10 Huaxia Road(M), Dongting, Wuxi
Jiangsu, 214100,
P. R. China
info@tuv-sud.cn
Tel.: +86-510-88203737
Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
No.1999 Duhui Road
Shanghai City
Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



China

Exemption		Scope and dates of applicability
7(c)-II	Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher	
7(c)-III	Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC	Expires on 1 January 2013 and after that date may be used in spare parts for EEE placed on the market before 1 January 2013
7(c)-IV	Lead in PZT based dielectric ceramic materials for capacitors being part of integrated circuits or discrete semiconductors'	
8(a)	Cadmium and its compounds in one shot pellet type thermal cut-offs	Expires on 1 January 2012 and after that date may be used in spare parts for EEE placed on the market before 1 January 2012
8(b)	Cadmium and its compounds in electrical contacts	
9	Hexavalent chromium as an anticorrosion agent of the carbon steel cooling system in absorption refrigerators up to 0,75 % by weight in the cooling solution	
9(b)	Lead in bearing shells and bushes for refrigerant-containing compressors for heating, ventilation, air conditioning and refrigeration (HVACR) applications	
11(a)	Lead used in C-press compliant pin connector systems	May be used in spare parts for EEE placed on the market before 24 September 2010
11(b)	Lead used in other than C-press compliant pin connector systems	Expires on 1 January 2013 and after that date may be used in spare parts for EEE placed on the market before 1 January 2013
12	Lead as a coating material for the thermal conduction module C-ring	May be used in spare parts for EEE placed on the market before 24 September 2010
13(a)	Lead in white glasses used for optical applications	
13(b)	Cadmium and lead in filter glasses and glasses used for reflectance standards	
14	Lead in solders consisting of more than two elements for the connection between the pins and the package of microprocessors with a lead content of more than 80 % and less than 85 % by weight	Expires on 1 January 2011 and after that date may be used in spare parts for EEE placed on the market before 1 January 2011
15	Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages	
16	Lead in linear incandescent lamps with silicate coated tubes	Expires on 1 September 2013

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
10 Huaxia Road(M), Dongting, Wuxi
Jiangsu, 214100,
P. R. China
info@tuv-sud.cn
Tel.: +86-510-88203737
Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
No.1999 Duhui Road
Shanghai City
Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



China

	Exemption	Scope and dates of applicability
17	Lead halide as radiant agent in high intensity discharge (HID) lamps used for professional reprography applications	
18(a)	Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps when used as speciality lamps for diazoprinting reprography, lithography, insect traps, photochemical and curing processes containing phosphors such as SMS ((Sr,Ba) ₂ MgSi ₂ O ₇ :Pb)	Expires on 1 January 2011
18(b)	Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps when used as sun tanning lamps containing phosphors such as BSP(BaSi ₂ O ₅ :Pb)	
19	Lead with PbBiSn-Hg and PbInSn-Hg in specific compositions as main amalgam and with PbSn-Hg as auxiliary amalgam in very compact energy saving lamps (ESL)	Expires on 1 June 2011
20	Lead oxide in glass used for bonding front and rear substrates of flat fluorescent lamps used for Liquid Crystal Displays (LCDs)	Expires on 1 June 2011
21	Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses	
23	Lead in finishes of fine pitch components other than connectors with a pitch of 0,65 mm and less	May be used in spare parts for EEE placed on the market before 24 September 2010
24	Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors	
25	Lead oxide in surface conduction electron emitter displays (SED) used in structural elements, notably in the seal frit and frit ring	
26	Lead oxide in the glass envelope of black light blue lamps	Expires on 1 June 2011
27	Lead alloys as solder for transducers used in high-powered (designated to operate for several hours at acoustic power levels of 125 dB SPL and above) loudspeakers	Expired on 24 September 2010
29	Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC (1)	
30	Cadmium alloys as electrical/mechanical solder joints to electrical conductors located directly on the voice coil in transducers used in high-powered loudspeakers with sound pressure levels of 100 dB (A) and more	
31	Lead in soldering materials in mercury free flat fluorescent lamps (which e.g. are used for liquid crystal displays, design or industrial lighting)	

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
 10 Huaxia Road(M), Dongting, Wuxi
 Jiangsu, 214100,
 P. R. China
 info@tuv-sud.cn
 Tel.: +86-510-88203737
 Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
 No.1999 Duhui Road
 Shanghai City
 Tel.: +86-21-60376368

Report No. 48.400.17.7976.00-00/08

Dated 2017-12-13



China

Exemption		Scope and dates of applicability
32	Lead oxide in seal frit used for making window assemblies for Argon and Krypton laser tubes	
33	Lead in solders for the soldering of thin copper wires of 100 um diameter and less in power transformers	
34	Lead in cermet-based trimmer potentiometer elements	
36	Mercury used as a cathode sputtering inhibitor in DC plasma displays with a content up to 30 mg per display	Expired on 1 July 2010
37	Lead in the plating layer of high voltage diodes on the basis of a zinc borate glass body	
38	Cadmium and cadmium oxide in thick film pastes used on aluminium bonded beryllium oxide	
39	Cadmium in colour converting II-VI LEDs (< 10 ug Cd per mm ² of light-emitting area) for use in solid state illumination or display systems	Expires on 1 July 2014
40	Cadmium in photoresistors for analogue optocouplers applied in professional audio equipment	Expires on 31 December 2013
41	Lead in solders and termination finishes of electrical and electronic components and finishes of printed circuit boards used in ignition modules and other electrical and electronic engine control systems, which for technical reasons must be mounted directly on or in the crankcase or cylinder of hand-held combustion engines (classes SH:1, SH:2, SH:3 of Directive 97/68/EC of the European Parliament and of the Council.	Expires on 1 December 2018

--END OF REPORT--

No extract, abridgment or abstraction from the report can be published or used to advertise a product without the written consent TÜV SÜD Certification and Testing (China) Co., Ltd.. The results contained herein apply only to the tested specimens based on the listed test specifications and not to other samples/conditions in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd.
10 Huaxia Road(M), Dongting, Wuxi
Jiangsu, 214100,
P. R. China
info@tuv-sud.cn
Tel.: +86-510-88203737
Fax: +86-510-88203636
www.tuv-sud.cn

Shanghai Chemical Lab
No.1999 Duhui Road
Shanghai City
Tel.: +86-21-60376368