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Precisely Right.

Test Report No.: 0164034283c 002

Client:	**ALBA INUSTRIES LIMITED.** Jiang Nan West Road, South Industrial Area, Xia Gang Community, Chang An Town, Dongguan City, P. R. China
Test item(s):	COFFEE MAKER
Identification / Model No(s):	S06HS/P06HS/S11HS/P11PS
Sample Receiving date:	2015-04-16, 2015-04-21, 2015-05-25, 2015-06-18
Testing Period:	2015-04-21 to 2015-06-29

Test specification:

Performed parameter(s) for the compliance with the following regulations concerning materials in contact with foodstuff:

- German §31 LFGB (Lebensmittel-, Bedarfsgegenstände- und Futtermittelgesetzbuch)

Test conclusion:

PASS

Other Information:

Country of Origin: China
Our reference no. 0164026434
The report 0164034283c 002 supersedes report 0164034283c 001

For and on behalf of TÜV Rheinland (Shenzhen) Co., Ltd.

Sample Photo

(For detailed sample picture please refer to last page)

2015-07-09	Delia Jiang / Senior Specialist
Date	*Name / Position*

Test result is drawn according to the kind and extent of tests performed.
This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.

1. **Material List:**

Material No.	Material	Color	Location
M001	Whole product	-	Coffee maker (S06HS/coffee outlet)
M002	Whole product	-	Coffee maker (S06HS/steam outlet)
M003	Whole product	-	Coffee maker (S11HS/coffee outlet)
M004	Whole product	-	Coffee maker (S11HS/steam outlet)
M005	PMMA	Transparent	Water tank
M006	POM	Dark grey	Water tank valve rod (34000011100)
M007	silicone rubber	Traslucent blue	Inlet tube (34000026300)
M008	silicone rubber	Transparent	O-Ring_Water tank valve (000900088SI)
M009	PA66	Beige	34000030400 Safety valve body (34000030400)
M010	NBR	Black	All safety valve o-rings(0009000800SI)
M011	PPA	Black	Heater valve (34000014300)
M012	EPDM	Black	O-ring connection (000900082EP)
M013	silicone rubber	Black	Main gasket
M014	silicone rubber	Black	O-rings in contact with coffee (000900095NB)
M015	POM	Black	Brewing group
M016	POM	White	Outlet
M017	silicone rubber	Black	Outlet
M018	POM	Black	Brewing gourp
M019	silicone rubber	Translucent	Distributor
M020	PBT	Black	Brewing group
M021	PBT	Beige	Distributor
M022	ABS	Light grey	Valve cage (34000104300)
M023	PA66	Light green	Inlet heater elbow (34000067700)
M024	PPS	Beige	Inlet heater elbow (34000067700)
M025	Ceramic	Beige	Pin
M026	POM	Black	Outlet elbow

Remark:

According to client's information Mat 15 & Mat 26 are produced of same material. Tests were performed on randomly selected items.

2. Overall Results:

Test No.	Tested Item	Conclusion
1	Sensorial examination	Pass
2	Global Migration	Pass
3	Global Migration from Plastic	Pass
4	Specific Migration of metals, Metal-release from Plastic	Pass
5	Specific Migration of Methyl Methacrylate	Pass
6	Specific Migration of Acrylonitrile	Pass
7	Specific Migration of Butadiene	Pass
8	Specific Migration of Polycyclic Aromatic Hydrocarbons (PAHs) from plastic	Pass
9	Specific Release of Metals	Pass
10	Migration of Formaldehyde	Pass
11	Specific Migration of Primary Aromatic Amines	Pass
12	Specific Migration of Hexamethylenediamine	Pass
13	Specific Migration of 1, 4-Dichlorobenzene	Pass
14	Specific Migration of Nitrosamines	Pass
15	Release of Heavy Metals from Ceramic Ware	Pass
16	Volatile Organic Substances (Polystyrene and Styrene Co-polymer)	Pass
17	Volatile Organic Substances	Pass
18	Volatile Organic Substances (Silicone)	Pass
19	Remaining Peroxides (Silicone)	Pass
20	Residual Catalyst	Pass
21	Colourfastness	Pass
22	Zinc and Lead in the Natural and Synthetic Rubber	Pass
23	Specific Migration of Terephthalic Acid	Pass
24	Specific Migration of 1,4-Butanediol	Pass
25	Specific Migration of Tetrahydrofuran (THF)	Pass

3. Results

3.1 Sensorial examination

Test method: It is examined to the extent of food simulant being used, which comes into contact with the product, undergoes detectable changes in taste and smell.

For this purpose, the food simulant was stored in the product under the below mentioned time and temperature. Afterwards, the food simulant was examined by an appropriate number of tasters with regard to any divergence in smell and taste. Another test sample, which was used as a reference, was treated by the same way except that it had no contact with the product to be tested.

Before testing, the product had been cleaned according to the product's instruction manual or in the absence of such manual, by normal household cleaning.

The test is carried out on the basis of DIN 10955:2004 by paired comparison test:

Evaluation scheme:

0 = No discernible deviation

1 = Barely discernible deviation

2 = Weak deviation

3 = Clear deviation

4 = Strong deviation

Limit: 3 (failed)

The following food simulants and conditions were applied:

Food simulant	**Test duration / Temperature**
Water	Fill water tank with water for 24 hour operate and collect solution from outlet

Test No.:	1	2
Sample No.:	1	2
Parameter:	**Result**	**Result**
Transfer of Smell:	1.0	1.0
Transfer of Taste:	1.0	1.0

Test No.:	3	4
Sample No.:	3	4
Parameter:	**Result**	**Result**
Transfer of Smell:	1.0	1.0
Transfer of Taste:	1.0	1.0

3.2 Global Migration

Test method: The migratory behaviour is examined with reference to Chapter V, Article 18 of Commission Regulation 10/2011 and its amendments. Deviating to the regulations the following tests were performed as orientating single tests.

Limit: With reference to Commission Regulation (EU) No 10/2011 and amendments

The following food simulants and conditions were applied:

Food simulant	**Test duration / Temperature**
Distilled water	Fill water tank with distilled water for 24 hour operate and collect solution from outlet

Test No.:	1		
Sample No.:	1		
Migration ratio:	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Distilled water	mg/dm^2	3.7	10

Test No.:	2		
Sample No.:	2		
Migration ratio:	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Distilled water	mg/dm^2	2.8	10

Test No.:	3		
Sample No.:	3		
Migration ratio:	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Distilled water	mg/dm^2	<2.0	10

Test No.:	4		
Sample No.:	4		
Migration ratio:	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Distilled water	mg/dm^2	3.2	10

Abbreviations:

mg/dm^2 = Milligram per square decimetre

< = Less than

3.3 Global Migration from Plastic

Test method: The migratory behaviour is examined with reference to Chapter V, Article 18 of Commission Regulation 10/2011 and its amendments. Deviating to the regulations the following tests were performed as orientating single tests.

Limit: Commission Regulation (EU) No 10/2011 and its amendments

The following food simulants and conditions were applied:

Food simulant	**Test duration / Temperature**
Distilled water	10 day(s) / 40°C

Test No.:	1		
Sample No.:	5		
Migration ratio:	1000 ml / 6 dm^2		
Parameter	**Unit**	**Result**	**Limit**
Distilled Water	mg/dm^2	2.0	10

Test No.:	2		
Sample No.:	6		
Migration ratio:	1000 ml / 6 dm^2		
Parameter	**Unit**	**Result**	**Limit**
Distilled Water	mg/dm^2	4.2	10

Result 3rd migration:

Test No.:	3		
Sample No.:	9		
Migration ratio:	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Distilled Water (3rd migration)	mg/dm^2	5.5	10

Test No.:	4		
Sample No.:	22		
Migration ratio:	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Distilled Water	mg/dm^2	<2	10

Test No.:	5		
Sample No.:	23		
Migration ratio:	1000 ml / 6 dm^2		
Parameter	**Unit**	**Result**	**Limit**
Distilled Water	mg/dm^2	7.3	10

Food simulant	**Test duration / Temperature**
Distilled water	2 hour(s) / 70°C

Test No.:	6		
Sample No.:	11		
Migration ratio:	1000 ml / 6 dm^2		
Parameter	**Unit**	**Result**	**Limit**
Distilled Water	mg/dm^2	<2	10

Test No.:	7		
Sample No.:	15		
Migration ratio:	1000 ml / 6 dm^2		
Parameter	**Unit**	**Result**	**Limit**
Distilled Water	mg/dm^2	3.7	10

Test No.:	8		
Sample No.:	16		
Migration ratio:	1000 ml / 6 dm^2		
Parameter	**Unit**	**Result**	**Limit**
Distilled Water	mg/dm^2	<2	10

Test No.:	9		
Sample No.:	18		
Migration ratio:	1000 ml / 6 dm^2		
Parameter	**Unit**	**Result**	**Limit**
Distilled Water	mg/dm^2	3.3	10

Test No.:	10
Sample No.:	20
Migration ratio:	1000 ml / 6 dm^2

Parameter	**Unit**	**Result**	**Limit**
Distilled Water	mg/dm^2	4.9	10

Test No.:	11		
Sample No.:	21		
Migration ratio:	1000 ml / 6 dm^2		
Parameter	**Unit**	**Result**	**Limit**
Distilled Water	mg/dm^2	2.3	10

Test No.:	12		
Sample No.:	24		
Migration ratio:	1000 ml / 6 dm^2		
Parameter	**Unit**	**Result**	**Limit**
Distilled Water	mg/dm^2	2.3	10

Abbreviations:

mg/dm^2 = Milligram per square decimetre

< = Less than

3.4 Specific Migration of metals, Metal-release from Plastic

Test method: The migratory behaviour is examined with reference to Chapter V, Article 18 of Commission Regulation 10/2011 and its amendments. The determination of amounts of metals that were released is done via ICP-OES with reference to ISO 11885:2007.

Limit: Commission Regulation (EU) No 10/2011 and its amendments

The following food simulant and condition was applied:

Food simulant	**Test duration / Temperature**
Distilled water	Fill water tank with distilled water for 24 hour operate and collect solution from outlet

Test No.:	1		
Sample No.:	1		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Barium	mg/kg	< 0.1	1
Cobalt	mg/kg	< 0.01	0.05
Copper	mg/kg	< 0.1	5
Iron	mg/kg	< 1.0	48
Lithium	mg/kg	< 0.1	0.6
Manganese	mg/kg	< 0.1	0.6
Zinc	mg/kg	< 1.0	25

Test No.:	2		
Sample No.:	2		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Barium	mg/kg	< 0.1	1
Cobalt	mg/kg	< 0.01	0.05
Copper	mg/kg	< 0.1	5
Iron	mg/kg	< 1.0	48
Lithium	mg/kg	0.04	0.6
Manganese	mg/kg	< 0.1	0.6
Zinc	mg/kg	< 1.0	25

Test No.:	3		
Sample No.:	3		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Barium	mg/kg	< 0.1	1
Cobalt	mg/kg	< 0.01	0.05
Copper	mg/kg	< 0.1	5
Iron	mg/kg	< 1.0	48
Lithium	mg/kg	< 0.1	0.6
Manganese	mg/kg	< 0.1	0.6
Zinc	mg/kg	< 1.0	25

Test No.:	4		
Sample No.:	4		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Barium	mg/kg	< 0.1	1
Cobalt	mg/kg	< 0.01	0.05
Copper	mg/kg	< 0.1	5
Iron	mg/kg	< 1.0	48
Lithium	mg/kg	0.01	0.6
Manganese	mg/kg	< 0.1	0.6
Zinc	mg/kg	< 1.0	25

Abbreviations:

mg/kg = Milligram per kilogram

< = Less than

3.5 Specific Migration of Methyl Methacrylate (#)

Test method: The migratory behaviour is examined with reference to Chapter V, Article 18 of Commission Regulation 10/2011 and its amendments. Presence of Methyl Methacrylate is detected by means of GC-MS.

Limit: Commission Regulation (EU) No 10/2011 and its amendments

The following food simulant and condition was applied:

Food simulant	Test duration / Temperature
Distilled water	Fill water tank with distilled water for 24 hour operate and collect solution from outlet

Test No.:	1				
Sample No.:	1				
Migration ratio	1350 ml / article				
Parameter	**CAS No.**	**Unit**	**RL**	**Result**	**Limit**
Methyl Methacrylate	80-62-6	mg/kg	6	n.d.	6

Test No.:	2				
Sample No.:	2				
Migration ratio	1350 ml / article				
Parameter	**CAS No.**	**Unit**	**RL**	**Result**	**Limit**
Methyl Methacrylate	80-62-6	mg/kg	6	n.d.	6

Test No.:	3				
Sample No.:	3				
Migration ratio	1350 ml / article				
Parameter	**CAS No.**	**Unit**	**RL**	**Result**	**Limit**
Methyl Methacrylate	80-62-6	mg/kg	6	n.d.	6

Test No.:	4				
Sample No.:	4				
Migration ratio	1350 ml / article				
Parameter	**CAS No.**	**Unit**	**RL**	**Result**	**Limit**
Methyl Methacrylate	80-62-6	mg/kg	6	n.d.	6

Abbreviations:

mg/kg = Milligram per kilogram

< = Less than

n.d. = Not detected (<Reporting Limit)

"#" indicates that the test is sub-contracted to a laboratory which complies with the requirement of ISO/IEC 17025:2005.

3.6 Specific Migration of Acrylonitrile(#)

Test method: The migratory behaviour is examined with reference to Chapter V, Article 18 of Commission Regulation 10/2011 and its amendments. Presence of Acrylonitrile is detected according to EN 13130-3.

Limit: Commission Regulation (EU) No 10/2011 and its amendments

The following food simulant and condition was applied:

Food simulant	**Test duration / Temperature**
Distilled water	Fill water tank with distilled water for 24 hour operate and collect solution from outlet

Test No.:	1		
Sample No.:	1		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Acrylonitrile	mg/kg	n.d.	n.d. (<0.01)

Test No.:	2		
Sample No.:	2		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Acrylonitrile	mg/kg	n.d.	n.d. (<0.01)

Test No.:	3		
Sample No.:	3		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Acrylonitrile	mg/kg	n.d.	n.d. (<0.01)

Test No.:	4		
Sample No.:	4		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Acrylonitrile	mg/kg	n.d.	n.d. (<0.01)

Abbreviations:

n.d. = Not detected

mg/kg = Milligram per kilogram

< = Less than

"#" indicates that the test is sub-contracted to a laboratory which complies with the requirement of ISO/IEC 17025:2005.

3.7 Specific Migration of Butadiene(#)

Test method: The migratory behaviour is examined with reference to Chapter V, Article 18 of Commission Regulation 10/2011 and its amendments. Presence of Butadiene is detected according to EN 13130-15.

Limit: Commission Regulation (EU) No 10/2011 and its amendments

The following food simulant and condition was applied:

Food simulant	**Test duration / Temperature**
Distilled water	Fill water tank with distilled water for 24 hour operate and collect solution from outlet

Test No.:	1		
Sample No.:	1		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Butadiene	mg/kg	n.d.	n.d. (<0.01)

Test No.:	2		
Sample No.:	2		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Butadiene	mg/kg	n.d.	n.d. (<0.01)

Test No.:	3		
Sample No.:	3		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Butadiene	mg/kg	n.d.	n.d. (<0.01)

Test No.:	4		
Sample No.:	4		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Butadiene	mg/kg	n.d.	n.d. (<0.01)

Abbreviations:

n.d. = Not detected

mg/kg = Milligram per kilogram

< = Less than

"#" indicates that the test is sub-contracted to a laboratory which complies with the requirement of ISO/IEC 17025:2005.

3.8 Specific Migration of Polycyclic Aromatic Hydrocarbons (PAHs) from plastic

Test method: The migratory behaviour is examined with reference to Chapter V, Article 18 of Commission Regulation 10/2011 and its amendments. Presence of PAHs is detected by means of GC-MS.

Limit: Please refer to remark 1

The following food simulant and condition was applied:

Food simulant	**Test duration / Temperature**
Distilled water	Fill water tank with distilled water for 24 hour operate and collect solution from outlet

Test No.:	1		
Sample No.:	1		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Sum of 18 PAHs	mg/kg	n.d	n.d.

Test No.:	2		
Sample No.:	2		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Sum of 18 PAHs	mg/kg	n.d	n.d.

Test No.:	3		
Sample No.:	3		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Sum of 18 PAHs	mg/kg	n.d	n.d.

Test No.:	4		
Sample No.:	4		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Sum of 18 PAHs	mg/kg	n.d	n.d.

Abbreviations:

n.d. = Not detected (<0.01 mg/kg)

mg/kg = Milligram per kilogram

< = Less than

Remark:

*1 Acc. to the World Health Organization (WHO) numerous representatives of the Polycyclic Aromatic Hydrocarbons (PAH) substance group are classified as carcinogenic, mutagenic or teratogenic (CMR). Under the principles of Article 3 of the Regulation (EC) no 1935/2004 it must be ensured that these substances do not transfer into foodstuffs. Therefore no migration into foodstuffs shall be detectable.

*2 The selection of analysed PAHs has been based on AfPS GS 2014:01 PAK.

3.9 Specific Release of Metals

Test method: The sample preparation is performed with reference to "*Technical Guide on Metals and alloys used in food contact materials*". Test conditions were chosen with reference to Directive 82/711/EEC, Council Directive 85/572/EEC and its corresponding regulations. The determination of amounts of metals that were released is done via ICP-OES and ICP-MS with reference to ISO 11885:2007 / DIN EN ISO 17294, respectively.

Limit: Technical Guide on Metals and alloys used in food contact materials

The following food simulant and condition was applied:

Food simulant	**Test duration / Temperature**
Distilled water	Fill water tank with distilled water for 24 hour operate and collect solution from outlet

Test No.:		1			
Sample No.:		1			
Volume to surface area ratio		900 ml / article			
		Sum 1st + 2nd test		**3rd test**	
Parameter	**Unit**	**Result**	**Limits (*2)**	**Result**	**Limits (*1)**
Silver (Ag)	mg/kg	<0.10	0.56	<0.05	0.08
Aluminum (Al)	mg/kg	< 1	35	< 0.1	5
Cobalt (Co)	mg/kg	< 0.05	0.14	<0.01	0.02
Chromium (Cr)	mg/kg	< 0.1	1.75	< 0.1	0.25
Copper (Cu)	mg/kg	< 1	28	< 0.1	4
Iron (Fe)	mg/kg	< 1	280	< 1	40
Manganese (Mn)	mg/kg	< 0.5	12.6	< 0.1	1.8
Molybdenum (Mo)	mg/kg	< 0.05	0.84	< 0.02	0.12
Nickel (Ni)	mg/kg	< 0.05	0.98	< 0.05	0.14
Tin (Sn)	mg/kg	< 1	700	< 1	100
Vanadium (V)	mg/kg	< 0.05	0.07	<0.01	0.01
Zinc (Zn)	mg/kg	< 1	35	< 1	5
Arsenic (As)	mg/kg	< 0.005	0.014	< 0.002	0.002
Barium (Ba)	mg/kg	< 0.5	8.4	< 0.1	1.2
Beryllium (Be)	mg/kg	< 0.01	0.07	< 0.01	0.01
Cadmium (Cd)	mg/kg	< 0.01	0.035	< 0.005	0.005
Mercury (Hg)	mg/kg	< 0.01	0.021	< 0.003	0.003
Lithium (Li)	mg/kg	< 0.05	0.336	<0.02	0.048
Lead (Pb)	mg/kg	< 0.01	0.07	< 0.01	0.01
Antimony (Sb)	mg/kg	< 0.05	0.28	<0.02	0.04

Thallium (Tl)	mg/kg	< 0.0005	0.0007	<0.0001	0.0001

Test No.:	2				
Sample No.:	2				
Volume to surface area ratio	900 ml / article				
		Sum 1st + 2nd test		**3rd test**	
Parameter	**Unit**	**Result**	**Limits (*2)**	**Result**	**Limits (*1)**
Silver (Ag)	mg/kg	<0.10	0.56	<0.05	0.08
Aluminum (Al)	mg/kg	< 1	35	< 0.1	5
Cobalt (Co)	mg/kg	< 0.05	0.14	<0.01	0.02
Chromium (Cr)	mg/kg	< 0.1	1.75	< 0.1	0.25
Copper (Cu)	mg/kg	< 1	28	< 0.1	4
Iron (Fe)	mg/kg	< 1	280	< 1	40
Manganese (Mn)	mg/kg	< 0.5	12.6	< 0.1	1.8
Molybdenum (Mo)	mg/kg	< 0.05	0.84	< 0.02	0.12
Nickel (Ni)	mg/kg	< 0.05	0.98	< 0.05	0.14
Tin (Sn)	mg/kg	< 1	700	< 1	100
Vanadium (V)	mg/kg	< 0.05	0.07	<0.01	0.01
Zinc (Zn)	mg/kg	< 1	35	< 1	5
Arsenic (As)	mg/kg	< 0.005	0.014	< 0.002	0.002
Barium (Ba)	mg/kg	< 0.5	8.4	< 0.1	1.2
Beryllium (Be)	mg/kg	< 0.01	0.07	< 0.01	0.01
Cadmium (Cd)	mg/kg	< 0.01	0.035	< 0.005	0.005
Mercury (Hg)	mg/kg	< 0.01	0.021	< 0.003	0.003
Lithium (Li)	mg/kg	< 0.05	0.336	<0.02	0.048
Lead (Pb)	mg/kg	< 0.01	0.07	< 0.01	0.01
Antimony (Sb)	mg/kg	< 0.05	0.28	<0.02	0.04
Thallium (Tl)	mg/kg	< 0.0005	0.0007	<0.0001	0.0001

Test No.:	3				
Sample No.:	3				
Volume to surface area ratio	900 ml / article				
		Sum 1st + 2nd test		**3rd test**	
Parameter	**Unit**	**Result**	**Limits (*2)**	**Result**	**Limits (*1)**
Silver (Ag)	mg/kg	<0.10	0.56	<0.05	0.08
Aluminum (Al)	mg/kg	< 1	35	< 0.1	5
Cobalt (Co)	mg/kg	< 0.05	0.14	<0.01	0.02
Chromium (Cr)	mg/kg	< 0.1	1.75	< 0.1	0.25
Copper (Cu)	mg/kg	< 1	28	< 0.1	4
Iron (Fe)	mg/kg	< 1	280	< 1	40
Manganese (Mn)	mg/kg	< 0.5	12.6	< 0.1	1.8
Molybdenum (Mo)	mg/kg	< 0.05	0.84	< 0.02	0.12
Nickel (Ni)	mg/kg	< 0.05	0.98	< 0.05	0.14
Tin (Sn)	mg/kg	< 1	700	< 1	100
Vanadium (V)	mg/kg	< 0.05	0.07	<0.01	0.01
Zinc (Zn)	mg/kg	< 1	35	< 1	5
Arsenic (As)	mg/kg	< 0.005	0.014	< 0.002	0.002
Barium (Ba)	mg/kg	< 0.5	8.4	< 0.1	1.2
Beryllium (Be)	mg/kg	< 0.01	0.07	< 0.01	0.01
Cadmium (Cd)	mg/kg	< 0.01	0.035	< 0.005	0.005
Mercury (Hg)	mg/kg	< 0.01	0.021	< 0.003	0.003
Lithium (Li)	mg/kg	< 0.05	0.336	<0.02	0.048
Lead (Pb)	mg/kg	< 0.01	0.07	< 0.01	0.01
Antimony (Sb)	mg/kg	< 0.05	0.28	<0.02	0.04
Thallium (Tl)	mg/kg	< 0.0005	0.0007	<0.0001	0.0001

Test No.:	4				
Sample No.:	4				
Volume to surface area ratio	900 ml / article				
		Sum 1st + 2nd test		**3rd test**	
Parameter	**Unit**	**Result**	**Limits (*2)**	**Result**	**Limits (*1)**
Silver (Ag)	mg/kg	<0.10	0.56	<0.05	0.08
Aluminum (Al)	mg/kg	< 1	35	< 0.1	5
Cobalt (Co)	mg/kg	< 0.05	0.14	<0.01	0.02
Chromium (Cr)	mg/kg	< 0.1	1.75	< 0.1	0.25
Copper (Cu)	mg/kg	< 1	28	< 0.1	4
Iron (Fe)	mg/kg	< 1	280	< 1	40
Manganese (Mn)	mg/kg	< 0.5	12.6	< 0.1	1.8
Molybdenum (Mo)	mg/kg	< 0.05	0.84	< 0.02	0.12
Nickel (Ni)	mg/kg	< 0.05	0.98	< 0.05	0.14
Tin (Sn)	mg/kg	< 1	700	< 1	100
Vanadium (V)	mg/kg	< 0.05	0.07	<0.01	0.01
Zinc (Zn)	mg/kg	< 1	35	< 1	5
Arsenic (As)	mg/kg	< 0.005	0.014	< 0.002	0.002
Barium (Ba)	mg/kg	< 0.5	8.4	< 0.1	1.2
Beryllium (Be)	mg/kg	< 0.01	0.07	< 0.01	0.01
Cadmium (Cd)	mg/kg	< 0.01	0.035	< 0.005	0.005
Mercury (Hg)	mg/kg	< 0.01	0.021	< 0.003	0.003
Lithium (Li)	mg/kg	< 0.05	0.336	<0.02	0.048
Lead (Pb)	mg/kg	< 0.01	0.07	< 0.01	0.01
Antimony (Sb)	mg/kg	< 0.05	0.28	<0.02	0.04
Thallium (Tl)	mg/kg	< 0.0005	0.0007	<0.0001	0.0001

Abbreviations:

mg/kg = Milligram per kilogram

< = Less than

Remark:

*1 Compliance is established on the findings on the third test for products intended for repeated use.

*2 In addition, the sum of each metal in the first and second test should not exceed the sevenfold limit.

3.10 Migration of Formaldehyde

Test method: The migratory behaviour is examined with reference to Directive 82/711/EEC and Council Directive 85/572/EEC and its corresponding regulations.
Presence of Formaldehyde is detected by means of UV-VIS spectroscopy.

Limit: BfR Recommendations on Food Contact Materials (formerly "Plastics Recommendations") Part XXI "Synthetic and Natural Rubber"

The following food simulant and condition was applied:

Food simulant	**Test duration / Temperature**
Distilled water	Fill water tank with distilled water for 24 hour operate and collect solution from outlet

Test No.:	1		
Sample No.:	1		
Parameter	**Unit**	**Result**	**Limit**
Formaldehyde	mg/kg	<3.0	3

Test No.:	2		
Sample No.:	2		
Parameter	**Unit**	**Result**	**Limit**
Formaldehyde	mg/kg	<3.0	3

Test No.:	3		
Sample No.:	3		
Parameter	**Unit**	**Result**	**Limit**
Formaldehyde	mg/kg	<3.0	3

Test No.:	4		
Sample No.:	4		
Parameter	**Unit**	**Result**	**Limit**
Formaldehyde	mg/kg	<3.0	3

Abbreviations:

mg/kg = Milligram per kilogram

< = Less than

3.11 Specific Migration of Primary Aromatic Amines from plastic

Test method: The migratory behaviour is examined with reference to Chapter V, Article 18 of Commission Regulation 10/2011 and its amendments. Presence of primary aromatic amines is carried out with reference to Kunststoffe im Lebensmittelverkehr, Book 2, Teil B II, XXI.

Limit: With reference to Commission Regulation (EU) No 10/2011 and amendments

The following food simulant and condition was applied:

Food simulant	Test duration / Temperature
Distilled water	Fill water tank with distilled water for 24 hour operate and collect solution from outlet

Test No.:	1		
Sample No.:	1		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Primary aromatic amines	mg/kg	< 0.01	n.d. (<0.01)

Test No.:	2		
Sample No.:	2		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Primary aromatic amines	mg/kg	< 0.01	n.d. (<0.01)

Test No.:	3		
Sample No.:	3		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Primary aromatic amines	mg/kg	< 0.01	n.d. (<0.01)

Test No.:	4		
Sample No.:	4		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Primary aromatic amines	mg/kg	< 0.01	n.d. (<0.01)

Abbreviations:

mg/kg = milligram per kilogramm

< = Less than

3.12 Specific Migration of Hexamethylenediamine

Test method: The migratory behaviour is examined with reference to Chapter V, Article 18 of Commission Regulation 10/2011 and its amendments. Presence of Hexamethylenediamine is detected according to EN 13130-21.

Limit: Commission Regulation (EU) No 10/2011 and its amendments

The following food simulant and condition was applied:

Food simulant	**Test duration / Temperature**
Distilled water	Fill water tank with distilled water for 24 hour operate and collect solution from outlet

Test No.:	1		
Sample No.:	1		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Hexamethylenediamine	mg/kg	< 2	2.4

Test No.:	2		
Sample No.:	2		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Hexamethylenediamine	mg/kg	< 2	2.4

Test No.:	3		
Sample No.:	3		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Hexamethylenediamine	mg/kg	< 2	2.4

Test No.:	4		
Sample No.:	4		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Hexamethylenediamine	mg/kg	< 2	2.4

Abbreviations:

mg/kg = Milligram per kilogram

< = Less than

3.13 Specific Migration of 1, 4-Dichlorobenzene(#)

Test method: The migratory behaviour is examined with reference to Chapter V, Article 18 of Commission Regulation 10/2011 and its amendments. Presence of 1,4-dichlorobenzene is detected by means of GC-MS.

Limit: Commission Regulation (EU) No 10/2011 and its amendments

The following food simulant and condition was applied:

Food simulant	Test duration / Temperature
Distilled water	Fill water tank with distilled water for 24 hour operate and collect solution from outlet

Test No.:	1		
Sample No.:	1		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
1,4-Dichlorobenzene	mg/kg	<2	12

Test No.:	2		
Sample No.:	2		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
1,4-Dichlorobenzene	mg/kg	<2	12

Test No.:	3		
Sample No.:	3		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
1,4-Dichlorobenzene	mg/kg	<2	12

Test No.:	4		
Sample No.:	4		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
1,4-Dichlorobenzene	mg/kg	<2	12

Abbreviations:

mg/kg = Milligram per kilogram

< = Less than

"#" indicates that the test is sub-contracted to a laboratory which complies with the requirement of ISO/IEC 17025:2005.

3.14 Specific Migration of Nitrosamines(#)

Test method: The migratory behaviour is examined with reference to Directive 82/711/EEC and Council Directive 85/572/EEC and its corresponding regulations.
Presence of Nitrosamines is detected with reference to DIN EN 12868:1999.

Limit: BfR Recommendations on Food Contact Materials (formerly "Plastics Recommendations"), Part XXI "Commodities based on Natural and Synthetic Rubber"

The following food simulant and condition was applied:

Food simulant	Test duration / Temperature
Distilled water	Fill water tank with distilled water for 24 hour operate and collect solution from outlet

Test No.:	1				
Sample No.:	1				
Category:	1				
Parameter	**Abbreviation**	**Unit**	**RL**	**Result**	**Limit**
N-nitrosodimethylamine	NDMA	µg/dm²	0.5	n.d.	-
N-nitrosomethylethylamine	NMEA	µg/dm²	0.5	n.d.	-
N-nitrosodiethylamine	MDEA	µg/dm²	0.5	n.d.	-
N-nitrosodipropylamine	NDPA	µg/dm²	0.5	n.d.	-
N-nitrosodibutylamine	NDBA	µg/dm²	0.5	n.d.	-
N-nitrosopiperidine	NPIP	µg/dm²	0.5	n.d.	-
N-nitrosopyrrolidine	NPYR	µg/dm²	0.5	n.d.	-
N-nitrosomorpholine	NMOR	µg/dm²	0.5	n.d.	-
N-nitrosomethylphenylamine	NMPhA	µg/dm²	0.5	n.d.	-
N-nitrosoethylphenylamine	NEPhA	µg/dm²	0.5	n.d.	-
N-nitrosodicyclohexylamine	NDCHA	µg/dm²	0.5	n.d.	-
N-nitrosodibenzylamine	NDBzA	µg/dm²	0.5	n.d.	-
Total		**µg/dm²**	**N.A.**	**n.d.**	**1**

Test No.:	2				
Sample No.:	2				
Category:	1				
Parameter	**Abbreviation**	**Unit**	**RL**	**Result**	**Limit**
N-nitrosodimethylamine	NDMA	µg/dm²	0.5	n.d.	-
N-nitrosomethylethylamine	NMEA	µg/dm²	0.5	n.d.	-
N-nitrosodiethylamine	MDEA	µg/dm²	0.5	n.d.	-
N-nitrosodipropylamine	NDPA	µg/dm²	0.5	n.d.	-
N-nitrosodibutylamine	NDBA	µg/dm²	0.5	n.d.	-
N-nitrosopiperidine	NPIP	µg/dm²	0.5	n.d.	-
N-nitrosopyrrolidine	NPYR	µg/dm²	0.5	n.d.	-
N-nitrosomorpholine	NMOR	µg/dm²	0.5	n.d.	-
N-nitrosomethylphenylamine	NMPhA	µg/dm²	0.5	n.d.	-
N-nitrosoethylphenylamine	NEPhA	µg/dm²	0.5	n.d.	-
N-nitrosodicyclohexylamine	NDCHA	µg/dm²	0.5	n.d.	-
N-nitrosodibenzylamine	NDBzA	µg/dm²	0.5	n.d.	-
Total		**µg/dm²**	**N.A.**	**n.d.**	**1**

Test No.:	3				
Sample No.:	3				
Category:	1				
Parameter	**Abbreviation**	**Unit**	**RL**	**Result**	**Limit**
N-nitrosodimethylamine	NDMA	µg/dm²	0.5	n.d.	-
N-nitrosomethylethylamine	NMEA	µg/dm²	0.5	n.d.	-
N-nitrosodiethylamine	MDEA	µg/dm²	0.5	n.d.	-
N-nitrosodipropylamine	NDPA	µg/dm²	0.5	n.d.	-
N-nitrosodibutylamine	NDBA	µg/dm²	0.5	n.d.	-
N-nitrosopiperidine	NPIP	µg/dm²	0.5	n.d.	-
N-nitrosopyrrolidine	NPYR	µg/dm²	0.5	n.d.	-
N-nitrosomorpholine	NMOR	µg/dm²	0.5	n.d.	-
N-nitrosomethylphenylamine	NMPhA	µg/dm²	0.5	n.d.	-
N-nitrosoethylphenylamine	NEPhA	µg/dm²	0.5	n.d.	-
N-nitrosodicyclohexylamine	NDCHA	µg/dm²	0.5	n.d.	-
N-nitrosodibenzylamine	NDBzA	µg/dm²	0.5	n.d.	-
Total		**µg/dm²**	**N.A.**	**n.d.**	**1**

Test No.:	4				
Sample No.:	4				
Category:	1				
Parameter	**Abbreviation**	**Unit**	**RL**	**Result**	**Limit**
N-nitrosodimethylamine	NDMA	µg/dm²	0.5	n.d.	-
N-nitrosomethylethylamine	NMEA	µg/dm²	0.5	n.d.	-
N-nitrosodiethylamine	MDEA	µg/dm²	0.5	n.d.	-
N-nitrosodipropylamine	NDPA	µg/dm²	0.5	n.d.	-
N-nitrosodibutylamine	NDBA	µg/dm²	0.5	n.d.	-
N-nitrosopiperidine	NPIP	µg/dm²	0.5	n.d.	-
N-nitrosopyrrolidine	NPYR	µg/dm²	0.5	n.d.	-
N-nitrosomorpholine	NMOR	µg/dm²	0.5	n.d.	-
N-nitrosomethylphenylamine	NMPhA	µg/dm²	0.5	n.d.	-
N-nitrosoethylphenylamine	NEPhA	µg/dm²	0.5	n.d.	-
N-nitrosodicyclohexylamine	NDCHA	µg/dm²	0.5	n.d.	-
N-nitrosodibenzylamine	NDBzA	µg/dm²	0.5	n.d.	-
Total		**µg/dm²**	**N.A.**	**n.d.**	**1**

Abbreviations:

n.d. = Not detected (<Reporting Limit)

RL = Reporting Limit

µg/dm² = Microgram per square decimeter

N.A. = Not Applicable

Remark:

*1 Single components with an amount of < detection limit were not considered by the calculation of the sum. In the case of all N-nitrosamines were not detected, the result is stated n.d.

"#" indicates that the test is sub-contracted to a laboratory which complies with the requirement of ISO/IEC 17025:2005.

3.15 Release of Heavy Metals from Ceramic Ware

Test method: The concentration of the elements in ceramic ware, glassware and drinking rim are examined by means of atomic absorption spectroscopy or ICP-OES. The test is performed reference to EN 1388-1:1995, EN 1388-2:1995 and DIN 51031:1986 respectively

Limit: Acc. to TÜV Rheinland Test Protocol under the scope of Regulation EC 2023/2006 with reference to Directive 84/500/EEC and Austrian Ceramic Ordinance

The following food simulant and condition was applied:

Food simulant	**Test duration / Temperature**
Acetic acid 4 %	24 hour(s) / 22 °C

Test No.:	1			
Category:	1			
Internal volume	Less than one litre			
Sample No.:	25			
Parameter	**Unit**	**Result**	**Limit (*1, 2)**	**Technically preventable limit**
Lead (Pb)	mg/dm^2	< 0.02	0.8	---
Cadmium (Cd)	mg/dm^2	< 0.002	0.07	---
Cobalt (Co)	mg/dm^2	< 0.01	---	0.02
Zinc (Zn)	mg/article	< 0.5	3.0	---
Barium (Ba)	mg/article	< 0.5	1.0	---
Antimony (Sb)	mg/article	< 0.5	1.0	---

Abbreviations:

mg/dm^2 = Milligram per square decimetre

mg/article = Milligram per article

< = Less than

Remarks:

*1 According to EU Directive 84/500/EEC, articles in contact with food should not exceed the following limits

Category	Description	Lead	Cadmium
1	Articles which can't and articles which can be filled, the internal depth of which, measured from the lowest point to the horizontal plane passing through the upper rim, does not exceed 25 mm	0.8 mg/dm^2	0.07 mg/dm^2
2	Other articles which can be filled	4.0 mg/l	0.3 mg/l
3	Cooking ware; packaging and storage vessels having a capacity of more than three litres	1.5 mg/l	0.1 mg/l

*2 According to Austrian Ceramic Ordinance (BGBl. Nr. 893/1993), articles in contact with food should not exceed the following limits:

Category	Description	Zinc	Antimony	Barium
Internal volume	Less than one litre	3.0 mg/article(#)	1.0 mg/article(#)	1.0 mg/article(#)
	Greater than one litre	3.0 mg/l	1.0 mg/l	1.0 mg/l

(#) Calculation is based on the internal volume of the article

3.16 Volatile Organic Substances

Test method: The test was performed according to the 19th Communication on the testing of plastics, (Bundesgesundheitsbl., 14, (1971), page 265)

Limit: BfR Recommendations on Food Contact Materials (formerly "Plastics Recommendations") Part XXII, 2010 "Polymers Based on Esters of Acrylic and Methacrylic Acids, their Copolymers, and Mixtures of these with other Polymers"

Test No.:	1		
Material No.:	5		
Parameter	**Unit**	**Result**	**Limit**
Volatile organic substances	%	0.24	0.5

Abbreviations:

% = Percentage

< = Less than

3.17 Volatile Organic Substances (Polystyrene and Styrene Co-polymer)

Test method: The test was performed according to the 19th Communication on the testing of plastics, (Bundesgesundheitsbl., 14, (1971), page 265)

Limit: BfR Recommendations on Food Contact Materials (formerly "Plastics Recommendations") Part V & VI, 2010 & 2010 "Polystyrene and Styrene Co-polymer"

Test No.:	1		
Material No.:	22		
Parameter	**Unit**	**Result**	**Limit**
Volatile organic substances	mg/dm^2	0.6	15

Abbreviations:

mg/dm^2 = Milligram per square decimeter

< = Less than

3.18 Volatile Organic Substances (Silicone)

Test method: The test was performed according to the 61th Communication on testing of plastics, Bundesgesundheitsbl. 46 (2003) 362

Limit: BfR Recommendations on Food Contact Materials (formerly "Plastics Recommendations") Part XV, 2014, Silicone

The following conditions were applied:atile

Test duration / Temperature
30 min(s) / 100 °C

Test No.:	1		
Material No.:	13		
Parameter	**Unit**	**Result**	**Limit**
Volatile organic substances (VOC)	%	0.13	0.5

Test No.:	2		
Material No.:	14		
Parameter	**Unit**	**Result**	**Limit**
Volatile organic substances (VOC)	%	< 0.1	0.5

Test No.:	3		
Material No.:	19		
Parameter	**Unit**	**Result**	**Limit**
Volatile organic substances (VOC)	%	0.21	0.5

Test duration / Temperature
4 hour(s) / 200 °C

Test No.:	4		
Material No.:	17		
Parameter	**Unit**	**Result**	**Limit**
Volatile organic substances (VOC)	%	0.48	0.5

Test No.:	5		
Material No.:	7		
Parameter	**Unit**	**Result**	**Limit**
Volatile organic substances (VOC)	%	0.43	0.5

Abbreviations:

% = Percentage

< = Less than

3.19 Remaining Peroxides (Silicone)

Test method: The test was performed with reference to the 58th Communication on testing of plastics, Bundesgesundheitsbl. 40 (1997) 412

Limit: BfR Recommendations on Food Contact Materials (formerly "Plastics Recommendations") Part XV "Silicone"

Test No.:	1			
Sample No.:	7			
Parameter	**Unit**	**RL**	**Result**	**Limit**
Peroxides	%	0.01	n.d.	n.d.

Test No.:	2			
Sample No.:	8			
Parameter	**Unit**	**RL**	**Result**	**Limit**
Peroxides	%	0.01	n.d.	n.d.

Test No.:	3			
Sample No.:	13			
Parameter	**Unit**	**RL**	**Result**	**Limit**
Peroxides	%	0.01	n.d.	n.d.

Test No.:	4			
Sample No.:	14			
Parameter	**Unit**	**RL**	**Result**	**Limit**
Peroxides	%	0.01	n.d.	n.d.

Test No.:	5			
Sample No.:	17			
Parameter	**Unit**	**RL**	**Result**	**Limit**
Peroxides	%	0.01	n.d.	n.d.

Test No.:	6			
Sample No.:	19			
Parameter	**Unit**	**RL**	**Result**	**Limit**
Peroxides	%	0.01	n.d.	n.d.

Abbreviations:

% = Percentage

RL = Reporting Limit

n.d. = Not detected (<Reporting Limit)

< = Less than

3.20 Residual Catalyst

Test method: The synthetic material is dissolved by acid digestion. The concentration of platinum was determined by means of ICP-OES.

Limit: BfR Recommendations on Food Contact Materials (formerly “Plastics Recommendations”) Part XV, 2011 “Silicone”

Test No.:	1			
Sample No.:	7			
Parameter	**Unit**	**RL**	**Result**	**Limit**
Platinum	mg/kg	5	n.d.	50

Test No.:	2			
Sample No.:	8			
Parameter	**Unit**	**RL**	**Result**	**Limit**
Platinum	mg/kg	5	n.d.	50

Test No.:	3			
Sample No.:	13			
Parameter	**Unit**	**RL**	**Result**	**Limit**
Platinum	mg/kg	5	n.d.	50

Test No.:	4			
Sample No.:	14			
Parameter	**Unit**	**RL**	**Result**	**Limit**
Platinum	mg/kg	5	6	50

Test No.:	5			
Sample No.:	17			
Parameter	**Unit**	**RL**	**Result**	**Limit**
Platinum	mg/kg	5	n.d.	50

Test No.:	6			
Sample No.:	19			
Parameter	**Unit**	**RL**	**Result**	**Limit**
Platinum	mg/kg	5	n.d.	50

Abbreviations:

n.d. = Not detected (<Reporting Limit)

RL = Reporting Limit

mg/kg = Milligram per kilogram

3.21 Colourfastness

Test method: 24th Communication on the testing of plastics in Bundesgesundheitsbl. 15 (1972) 285

Requirement: BfR Recommendations on Food Contact Materials (formerly "Plastics Recommendations") Part IX "Colorants for Plastics and other Polymers used in Commodities" - *No transfer of colorants to foodstuffs is permitted*

Test No.:	1	2
Sample No.:	6	7
Parameter – Colourfastness to	**Difference between blank and filter paper contacted with sample**	**Difference between blank and filter paper contacted with sample**
Water	No	No
Acetic acid 3 %	No	No
Ethanol 50 %	No	No
Oil	No	No

Test No.:	3	4
Sample No.:	9	10
Parameter – Colourfastness to	**Difference between blank and filter paper contacted with sample**	**Difference between blank and filter paper contacted with sample**
Water	No	No
Acetic acid 3 %	No	No
Ethanol 50 %	No	No
Oil	No	No

Test No.:	5	6
Sample No.:	11	12
Parameter – Colourfastness to	**Difference between blank and filter paper contacted with sample**	**Difference between blank and filter paper contacted with sample**
Water	No	No
Acetic acid 3 %	No	No
Ethanol 50 %	No	No
Oil	No	No

Test No.:	7	8
Sample No.:	13	14
Parameter – Colourfastness to	**Difference between blank and filter paper contacted with sample**	**Difference between blank and filter paper contacted with sample**
Water	No	No
Acetic acid 3 %	No	No
Ethanol 50 %	No	No
Oil	No	No

Test No.:	9	10
Sample No.:	15	17
Parameter – Colourfastness to	**Difference between blank and filter paper contacted with sample**	**Difference between blank and filter paper contacted with sample**
Water	No	No
Acetic acid 3 %	No	No
Ethanol 50 %	No	No
Oil	No	No

Test No.:	11	12
Sample No.:	18	20
Parameter – Colourfastness to	**Difference between blank and filter paper contacted with sample**	**Difference between blank and filter paper contacted with sample**
Water	No	No
Acetic acid 3 %	No	No
Ethanol 50 %	No	No
Oil	No	No

Test No.:	13	14
Sample No.:	21	22
Parameter – Colourfastness to	**Difference between blank and filter paper contacted with sample**	**Difference between blank and filter paper contacted with sample**
Water	No	No
Acetic acid 3 %	No	No
Ethanol 50 %	No	No
Oil	No	No

Test No.:	15	16
Sample No.:	23	24
Parameter – Colourfastness to	**Difference between blank and filter paper contacted with sample**	**Difference between blank and filter paper contacted with sample**
Water	No	No
Acetic acid 3 %	No	No
Ethanol 50 %	No	No
Oil	No	No

3.22 Zinc and Lead in the Natural and Synthetic Rubber

Test method: The synthetic material is dissolved by means of acid digestion. The concentration of elements is determined by means of ICP-OES.

Limit: BfR Recommendations on Food Contact Materials (formerly "Plastics Recommendations"), Part XXI "Synthetic and Natural Rubber"

Test No.:	1			
Sample No.:	10			
Parameter	**Unit**	**RL**	**Result**	**Limit**
Zinc (Zn)	%	0.001	n.d.	3.0
Lead (Pb)	%	0.001	n.d.	0.003

Test No.:	2			
Sample No.:	12			
Parameter	**Unit**	**RL**	**Result**	**Limit**
Zinc (Zn)	%	0.001	0.831	3.0
Lead (Pb)	%	0.001	0.002	0.003

Abbreviations:

n.d. = Not detected(<Reporting Limit)

RL = Reporting Limit

% = Percentage

3.23 Specific Migration of Terephthalic Acid

Test method: The migratory behaviour is examined with reference to Chapter V, Article 18 of Commission Regulation 10/2011 and its amendments. Presence of Terephthalic Acid is detected according to EN 13130-2.

Limit: Commission Regulation (EU) No 10/2011 and its amendments

The following food simulant and condition was applied:

Food simulant	**Test duration / Temperature**
Distilled water	Fill water tank with water for 24 hour operate and collect solution from outlet

Test No.:	1		
Sample No.:	1		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Terephthalic Acid	mg/kg	< 7.5	7.5

Test No.:	2		
Sample No.:	2		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Terephthalic Acid	mg/kg	< 7.5	7.5

Test No.:	3		
Sample No.:	3		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Terephthalic Acid	mg/kg	< 7.5	7.5

Test No.:	4		
Sample No.:	4		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Terephthalic Acid	mg/kg	< 7.5	7.5

Abbreviations:

mg/kg = Milligram per kilogram

< = Less than

3.24 Specific Migration of 1,4-Butanediol(#)

Test method: The migratory behaviour is examined with reference to Chapter V, Article 18 of Commission Regulation 10/2011 and its amendments. Presence of 1,4-Butanediol is detected by means of GC-MS.

Limit: Commission Regulation (EU) No 10/2011 and its amendments

The following food simulant and condition was applied:

Food simulant	Test duration / Temperature
Distilled water	Fill water tank with water for 24 hour operate and collect solution from outlet

Test No.:	1		
Sample No.:	1		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
1,4-Butanediol	mg/kg	n.d.	5

Test No.:	2		
Sample No.:	2		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
1,4-Butanediol	mg/kg	n.d.	5

Test No.:	3		
Sample No.:	3		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
1,4-Butanediol	mg/kg	n.d.	5

Test No.:	4		
Sample No.:	4		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
1,4-Butanediol	mg/kg	n.d.	5

Abbreviations:

n.d. = Not detected

mg/kg = Milligram per kilogram

< = Less than

"#" indicates that the test is sub-contracted to a laboratory which complies with the requirement of ISO/IEC 17025:2005.

Remark:

*1 The examined item does not meet the requirement

*2 Due to the sample's dimension and in order to allow a practical migration handling the sample was cut prior to migration. Rules acc. to EN 1186-1 for cutting of materials prior to migration apply.

3.25 Specific Migration of Tetrahydrofuran (THF)

Test method: The migratory behaviour is examined with reference to Chapter V, Article 18 of Commission Regulation 10/2011 and its amendments. Presence of Tetrahydrofuran is detected by means of Headspace GC-MS.

Limit: Commission Regulation (EU) No 10/2011 and its amendments

The following food simulant and condition was applied:

Food simulant	**Test duration / Temperature**
Distilled water	Fill water tank with water for 24 hour operate and collect solution from outlet

Test No.:	1		
Sample No.:	1		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Tetrahydrofuran	mg/kg	n.d.	0.6

Test No.:	2		
Sample No.:	2		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Tetrahydrofuran	mg/kg	n.d.	0.6

Test No.:	3		
Sample No.:	3		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Tetrahydrofuran	mg/kg	n.d.	0.6

Test No.:	4		
Sample No.:	4		
Migration ratio	1350 ml / article		
Parameter	**Unit**	**Result**	**Limit**
Tetrahydrofuran	mg/kg	n.d.	0.6

Abbreviations:

n.d. = Not detected

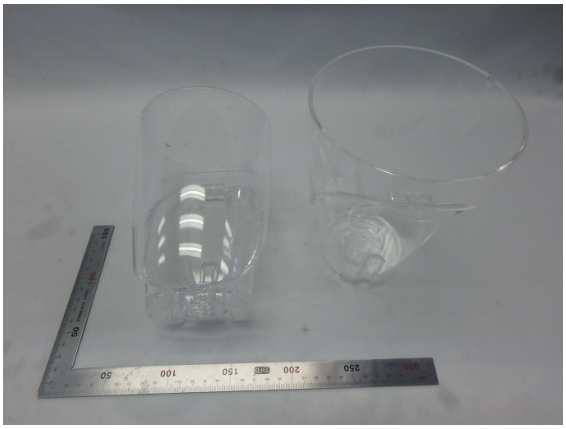
mg/kg = Milligram per kilogram

< = Less than

4. **Sample picture(s):**

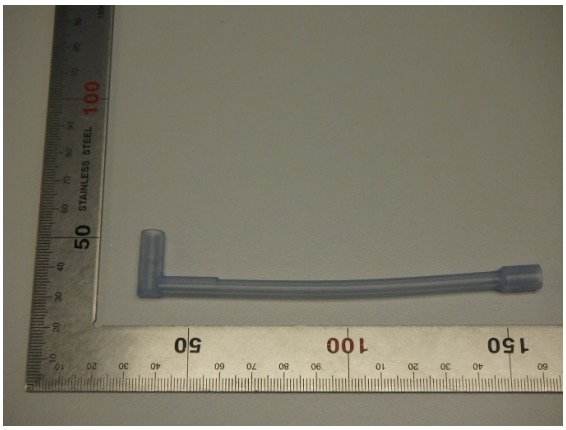
Sample No. 1,2

Sample No. 3,4



Sample No. 5

Sample No. 6



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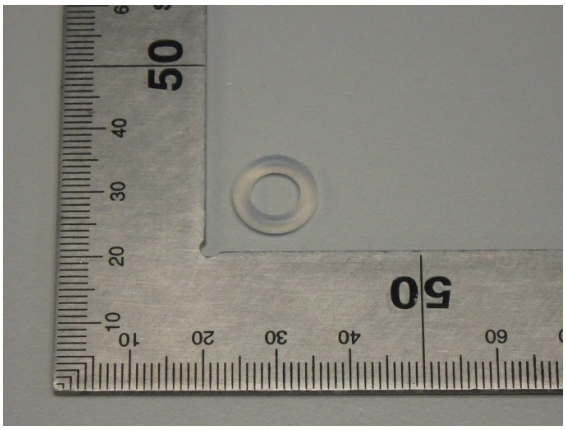

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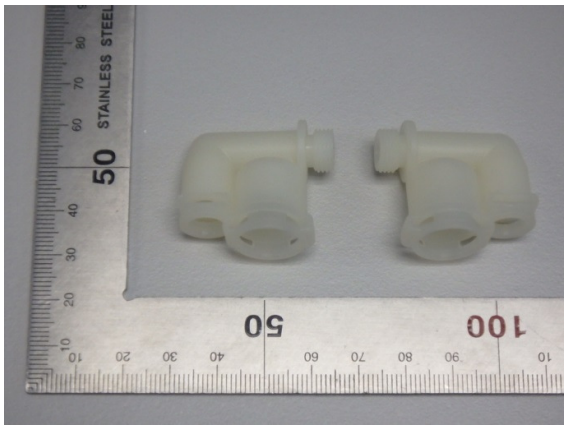

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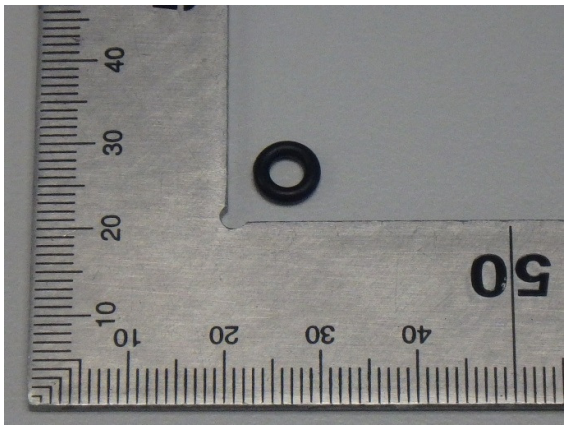

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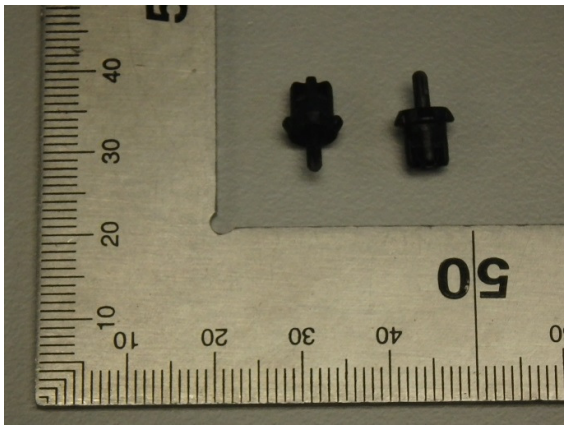

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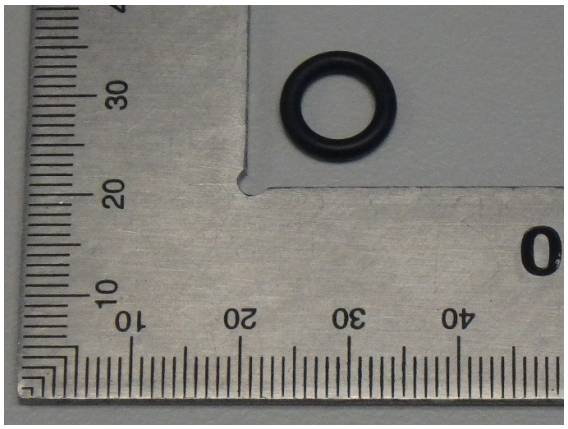

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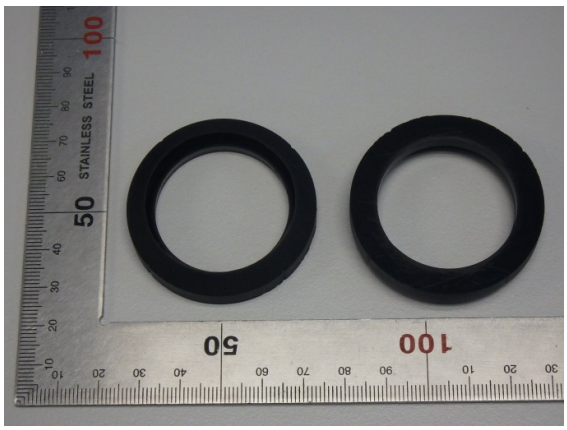

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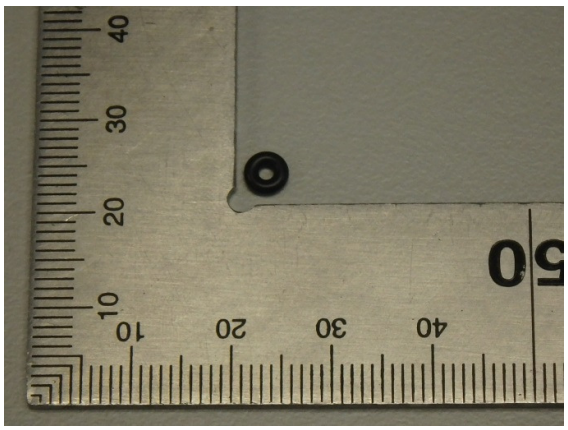

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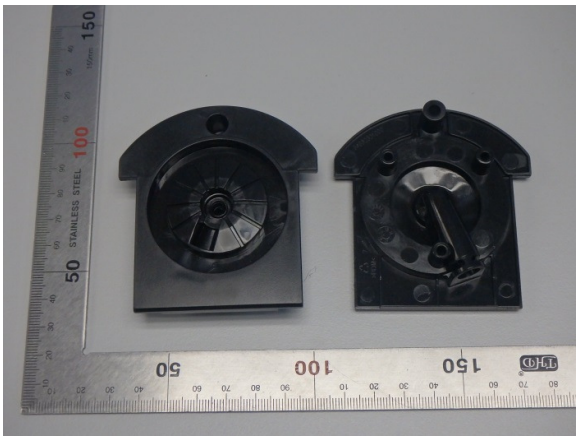

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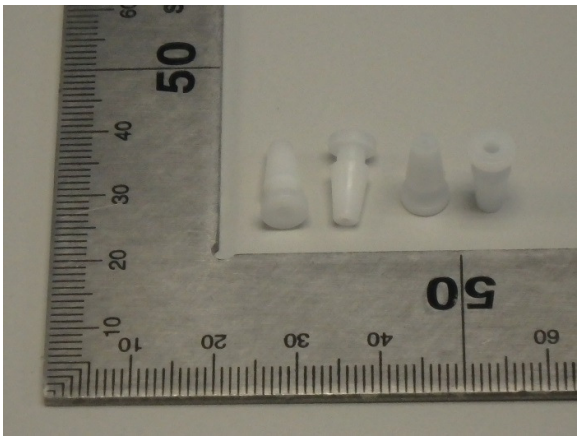
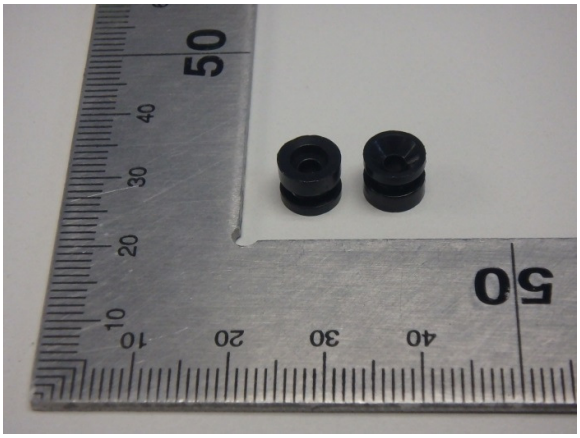


Sample No. 16

Sample No. 17



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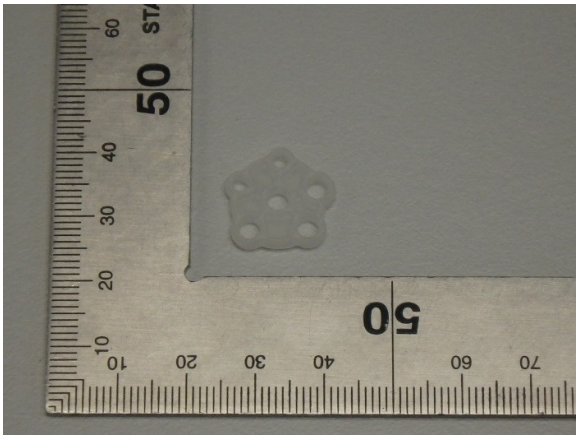

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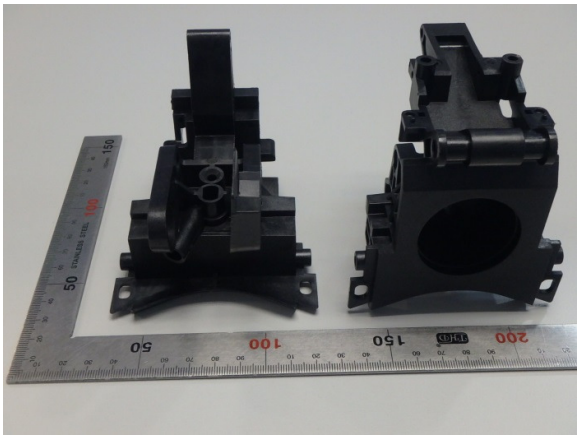

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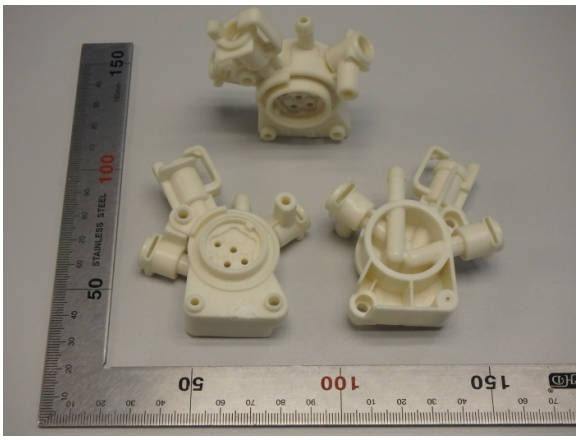

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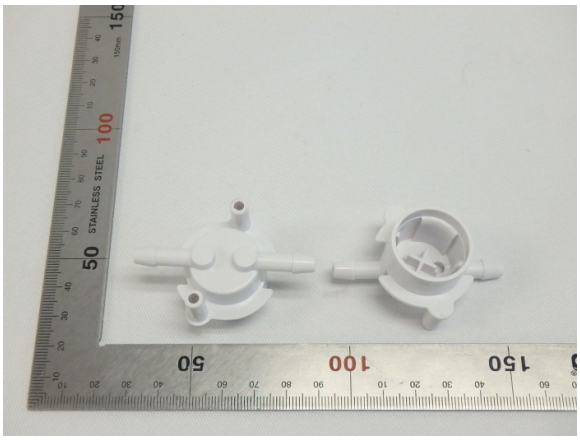

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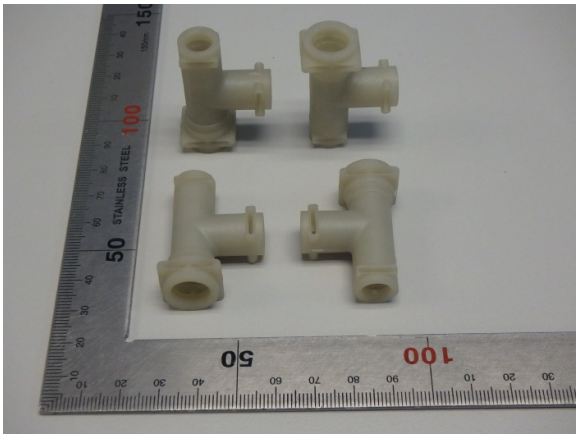

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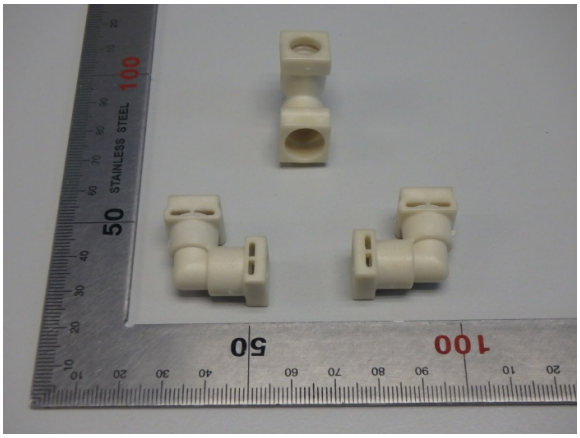

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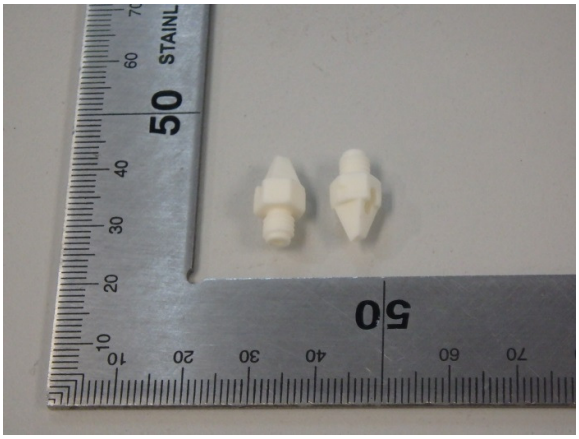

Sample No.25

Sample No.26

- END -

General Terms and Conditions of Business of TÜV Rheinland in Greater China

Scope

1.1 These General Terms and Conditions of Business of TUV Rheinland in Greater China is made between the client and one or more member entities of TUV Rheinland in Greater China as applicable as the case may be ("TÜV Rheinland").

1.2 The following terms and conditions apply to agreed services including consultancy services, information, deliveries and similar services as well as ancillary services and other secondary obligations provided within the scope of contract performance.

1.3 Any standard terms and conditions of the client of any nature shall not apply and shall hereby be expressly excluded. No standard contractual terms and conditions of the client shall form part of the contract even if TÜV Rheinland does not explicitly object to them.

2. Quotations

Unless otherwise agreed, all quotations submitted by TÜV Rheinland can be changed by TÜV Rheinland without notice prior to its acceptance and confirmation by the other party.

3. Coming into effect and duration of contracts

3.1 The contract shall come into effect for the agreed terms upon the quotation letter of TÜV Rheinland or a separate contractual document being signed by both contracting parties, or upon the works requested by the client being carried out by TÜV Rheinland. If the client instructs TÜV Rheinland without receiving a quotation from TÜV Rheinland (quotation), TÜV Rheinland is, in its sole discretion, entitled to accept the order by giving written notice of such acceptance (including notice sent via electronic means) or by performing the requested services.

3.2 The contract term starts upon the coming into effect of the contract in accordance with article 3.1 and shall continue for the term agreed in the contract.

3.3 If the contract provides for an extension of the contract term, the contract term will be extended by the term provided for in the contract unless terminated in writing by either party with a six-week notice prior to the end of the contractual term.

4. Scope of services

4.1 The scope of the services shall be decided solely by a unanimous declaration issued by both parties. If no such declaration exists, then the written confirmation of order by TÜV Rheinland shall be decisive.

4.2 The agreed services shall be performed in compliance with the regulations in force at the time the contract is entered into.

4.3 TÜV Rheinland is entitled to determine, in its sole discretion, the method and nature of the assessment unless otherwise agreed in writing or if mandatory provisions require a specific procedure to be followed.

4.4 On execution of the work there shall be no simultaneous assumption of any guarantee of the correctness (proper quality) and working order of either tested or examined parts nor of the installation as a whole and its upstream and/or downstream processes, organisations, use and application in accordance with regulations, nor of the systems on which the installation is based. In particular, TÜV Rheinland shall assume no responsibility for the construction, selection of materials and assembly of installations examined, nor for their use and application in accordance with regulations unless these questions are expressly covered by the contract.

4.5 In the case of inspection work, TÜV Rheinland shall not be responsible for the accuracy or checking of the safety programmes or safety regulations on which the inspections are based, unless otherwise expressly agreed in writing.

5. Performance periods/dates

5.1 The contractually agreed periods/dates of performance are based on estimates of the work involved which are prepared in line with the details provided by the client. They shall only be binding if being confirmed as binding by TÜV Rheinland in writing.

5.2 If binding periods of performance have been agreed, these periods shall not commence until the client has submitted all required documents to TÜV Rheinland.

5.3 Articles 5.1 and 5.2 also apply, even without express approval by the client, to all extensions of agreed periods/dates of performance not caused by TÜV Rheinland.

6. The client's obligation to cooperate

6.1 The client shall guarantee that all cooperation required on its part, its agents or third parties will be provided in good time and at no cost to TÜV Rheinland.

6.2 Design documents, supplies, auxiliary staff, etc. necessary for performance of the services shall be made available free of charge by the client. Moreover, collaborative action of the client must be undertaken in accordance with legal provisions, standards, safety regulations and accident prevention instructions.

6.3 The client shall bear any additional cost incurred on account of work having to be redone or being delayed as a result of late, incorrect or incomplete information provided by or lack of proper cooperation from the client. Even where a fixed or maximum price is agreed, TÜV Rheinland shall be entitled to charge extra fees for such additional expense.

7. Invoicing of work

7.1 If the scope of performance is not laid down in writing when the order is placed, invoicing shall be based on costs actually incurred. If no price is agreed in writing, invoicing shall be made in accordance with the price list of TÜV Rheinland valid at the time of performance.

7.2 Unless otherwise agreed, work shall be invoiced according to the progress of the work.

7.3 If the execution of an order extends over more than one month and the value of the contract or the agreed fixed price exceeds €2,500.00 or equivalent value in local currency, TÜV Rheinland may demand payments on account or in instalments.

8. Payment terms

8.1 All invoice amounts shall be due for payment without deduction on receipt of the invoice. No discounts shall be granted.

8.2 Payments shall be made to the bank account of TÜV Rheinland as indicated on the invoice, stating the invoice and customer numbers.

8.3 In cases of default of payment, TÜV Rheinland shall be entitled to claim default interest at the applicable short term loan interest rate publicly announced by a reputable commercial bank in the country where TÜV Rheinland is located. At the same time, TÜV Rheinland reserves the right to claim further damages.

8.4 Should the client default in payment of the invoice despite being granted a reasonable grace period, TÜV Rheinland shall be entitled to cancel the contract, withdraw the certificate, claim damages for non-performance and refuse to continue performance of the contract.

8.5 The provisions set forth in article 8.4 shall also apply in cases involving returned cheques, cessation of payment, commencement of insolvency proceedings against the client's assets or cases in which the commencement of insolvency proceedings has been dismissed due to lack of assets.

8.6 Objections to the invoices of TÜV Rheinland shall be submitted in writing within two weeks of receipt of the invoice.

8.7 TÜV Rheinland shall be entitled to demand appropriate advance payments.

8.8 TÜV Rheinland shall be entitled to raise its fees at the beginning of a month if overheads and/or purchase costs have increased. In this case, TÜV Rheinland shall notify the client in writing of the rise in fees. This notification shall be issued one month prior to the date on which the rise in fees shall come into effect (period of notice of changes in fees). If the rise in fees remains under 5% per contractual year, the client shall not have the right to terminate the contract. If the rise in fees exceeds 5% per contractual year, the client shall be entitled to terminate the contract by the end of the period of notice of changes in fees. If the contract is not terminated, the changed fees shall be deemed to have been agreed upon by the time of the expiry of the notice period.

8.9 Only legally established and undisputed claims may be offset against claims by TÜV Rheinland.

9. Acceptance

9.1 Any part of the work ordered which is complete in itself may be presented by TÜV Rheinland for acceptance as an instalment. The client shall be obliged to accept it immediately.

9.2 If the client fails to fulfil its acceptance obligation immediately, acceptance shall be deemed to have taken place 4 calendar weeks after completion of the work provided that TÜV Rheinland has specifically made the client aware of the aforementioned deadline upon completion of the work.

10. Confidentiality

10.1 For the purpose of these terms and conditions, "confidential information" means all information, documents, images, drawings, know-how, data, samples and project documentation which one party (the "disclosing party") hands over, transfers or otherwise discloses to the other party (the "receiving party"). Confidential information also includes paper copies and electronic copies of such information.

10.2 The disclosing party shall mark all confidential information disclosed in written form as confidential before passing it onto the receiving party. The same applies to confidential information transmitted by e-mail. If confidential information is disclosed orally, the receiving party shall be appropriately informed in advance and the disclosing party shall cconfirm in writing the confidentiality nature of the information within five working days of oral disclosure. Where the disclosing party fails to do so within the stipulated period, the receiving party shall not take any confidentiality obligations hereunder towards such information.

10.3 All confidential information which the disclosing party transmits or otherwise discloses to the receiving party during performance of work by TÜV Rheinland:

a) may only be used by the receiving party for the purposes of performing the contract, unless expressly otherwise agreed in writing by the disclosing party;

b) may not be copied, distributed, published or otherwise disclosed by the receiving party, unless this is necessary for fulfilling the purpose of the contract or TÜV Rheinland is required to pass on confidential information, inspection reports or documentation to the government authorities, judicial court, accreditation bodies or third parties that are involved in the performance of the contract;

c) must be treated by the receiving party with the same level of confidentiality as the receiving party uses to protect its own confidential information, but never with a lesser level of confidentiality than that which is reasonably required.

10.4 The receiving party may disclose any confidential information received from the disclosing party only to those of its employees who need this information to perform the services required for the contract. The receiving party undertakes to oblige these employees to observe the same level of secrecy as set forth in this confidentiality clause.

10.5 Information for which the receiving party can furnish proof that:

a) it was generally known at the time of disclosure or has become general knowledge without violation of this confidentiality clause by the receiving party; or

b) it was disclosed to the receiving party by a third party entitled to disclose this information; or

c) the receiving party already possessed this information prior to disclosure by the disclosing party; or

d) the receiving party developed it itself, irrespective of disclosure by the disclosing party, shall not be deemed to constitute "confidential information" as defined in this confidentiality clause.

10.6 All confidential information shall remain the property of the disclosing party. The receiving party hereby agrees to immediately (i) return all confidential information, including all copies, to the disclosing party, and/or (ii) on request by the disclosing party, to destroy all confidential information, including all copies, and confirm the destruction of this confidential information to the disclosing party in writing, at any time if so requested by the disclosing party but at the latest and without special request after termination or expiry of the contract. This does not extend to include reports and certificates prepared for the client solely for the purpose of fulfilling the obligations under the contract, which shall remain with the client. However, TÜV Rheinland is entitled to make file copies of such reports, certificates and confidential information that forms the basis for preparing these reports and certificates in order to evidence the correctness of its results and for general documentation purposes required by laws, regulations and the requirements of working procedures of TÜV Rheinland.

10.7 From the start of the contract and for a period of three years after termination or expiry of the contract, the receiving party shall maintain strict secrecy of all confidential information and shall not disclose this information to any third parties or use it for itself.

11. Copyrights

11.1 TÜV Rheinland shall retain all exclusive copyrights in the expert reports, test results, calculations, presentations etc. prepared by TÜV Rheinland.

11.2 The client may only use such expert reports, test results, calculations, presentations etc. prepared within the scope of the contract for the contractually agreed purpose.

11.3 The client may use test reports, test results, expert reports, etc. only complete and unshortened. Any publication or duplication for advertising purposes needs the prior written approval of TÜV Rheinland.

12. Liability of TÜV Rheinland

12.1. Irrespective of the legal basis, in the event of a breach of contractual obligations or tort, the liability of TÜV Rheinland for all damages, losses and reimbursement of expenses caused by TÜV Rheinland, its legal representatives and/or employees shall be limited to: (i) in the case of a contract with a fixed overall fee, three times the overall fee for the entire contract; (ii) in the case of a contract for annually recurring services, the agreed annual fee; (iii) in the case of a contract expressly charged on a time and material basis, a maximum of 20,000 Euro or equivalent amount in local currency; and (iv) in the case of a framework agreement that provides for the possibility of placing individual orders, three times of the fee for the individual order under which the damages or losses have occurred. Notwithstanding the above, in the event that the total and accumulated liability calculated according to the foregoing provisions exceeds 2.5 Million Euro or equivalent amount in local currency, the total and accumulated liability of TÜV Rheinland shall be only limited to and shall not exceed the said 2.5 Million Euro or equivalent amount in local currency.

12.2 The limitation of liability according to article 12.1 above shall not apply to damages and/or losses caused by malice, intent or gross negligence on the part of TÜV Rheinland or its vicarious agents. Such limitation shall not apply to damages for a person's death, physical injury or illness.

12.3 In cases involving a fundamental breach of contract, TÜV Rheinland will be liable even where minor negligence is involved. For this purpose, a "fundamental breach" is breach of a material contractual obligation, the performance of which permits the due performance of the contract. Any claim for damages for a fundamental breach of contract shall be limited to the amount of damages reasonably foreseen as a possible consequence of such breach of contract at the time of the breach (reasonably foreseeable damages), unless any of the circumstances described in article 12.2 applies.

12.4 TÜV Rheinland shall not be liable for the acts of the personnel made available by the client to support TÜV Rheinland in the performance of its services under the contract, unless such personnel made available is regarded as vicarious agent of TÜV Rheinland. If TÜV Rheinland is not liable for the acts of the personnel made available by the client under the foregoing provision, the client shall indemnify TÜV Rheinland against any claims made by third parties arising from or in connection with such personnel's acts.

12.5 The limitation periods for claims for damages shall be based on statutory provisions.

12.6 None of the provisions of this article 12 changes the burden of proof to the disadvantage of the client.

13. Partial invalidity, written form, place of jurisdiction and dispute resolution

13.1 All amendments and supplements must be in writing in order to be effective. This also applies to amendments and supplements to this clause 13.1.

13.2 Should one or several of the provisions under the contract and/or these terms and conditions be or become ineffective, the contracting parties shall replace the invalid provision with a legally valid provision that comes closest to the content of the invalid provision in legal and commercial terms.

13.3 Unless otherwise stipulated in the contract, the governing law of the contract and these terms and conditions shall be chosen following the rules as below:

a) if TÜV Rheinland in question is legally registered and existing in the People's Republic of China, the contracting parties hereby agree that the contract and these terms and conditions shall be governed by the laws of the People's Republic of China.

b) if TÜV Rheinland in question is legally registered and existing in Taiwan, the contracting parties hereby agree that the contract and these terms and conditions shall be governed by the laws of Taiwan.

c) if TÜV Rheinland in question is legally registered and existing in Hong Kong, the contracting parties hereby agree that the contract and these terms and conditions shall be governed by the laws of Hong Kong.

13.4 Any dispute in connection with the contract and these terms and conditions or the execution thereof shall be settled friendly through negotiations.
Unless otherwise stipulated in the contract, if no settlement or no agreement in respect of the extension of the negotiation period can be reached within two months of the arising of the dispute, the dispute shall be submitted:

a) in the case of TÜV Rheinland in question being legally registered and existing in the People's Republic of China, to China International Economic and Trade Arbitration Commission (CIETAC) to be settled by arbitration under the Arbitration Rules of CIETAC in force when the arbitration is submitted. The arbitration shall take place in Beijing, Shanghai, Shenzhen or Chongqing as appropriately chosen by the claiming party.

b) in the case of TÜV Rheinland in question being legally registered and existing in Taiwan, to Chinese Arbitration Association Taipei Branch to be arbitrated in accordance with its then current Rules of Arbitration. The arbitration shall take place in Taipei.

c) in the case of TÜV Rheinland being legally registered and existing in Hong Kong, to Hong Kong International Arbitration Centre (HKIAC) to be settled by arbitration under the HKIAC Administered Arbitration Rules in force when the Notice of Arbitration is submitted in accordance with these rules. The arbitration shall take place in Hong Kong.
The decision of the relevant arbitration tribunal shall be final and binding on both parties. The arbitration fee shall be borne by the losing party.