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Test Report - Products

测试报告编号 / Test Report No.: 304149179a20 001

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客户: 台湾塑膠工業股份有限公司 / *Formosa Plastics Corporation*
 Client: 台湾雲林縣麥寮鄉 638 台塑工業園區 1 號 / No. 1, *Formosa Industrial Complex, Mailiao, Yunlin County 638, Taiwan, R.O.C*

买家名称: 无 / not available
 Buyer's name:

制造商名称: 无 / not available
 Manufacturer's name:

测试项目: 台塑烯管級高密度聚乙烯(黑色) / Taisox HDPE Pipe Grade Resin (Black)
 Test item(s):

型号: 8001BL, 8001CR, 8001IM, 8001XL
 Identification / Model No(s):

样品获取方式: 由客户送样 / *Sending by customer*
 Sample obtaining method:

样品接收状态: *Test item complete and undamaged.*
 Condition at delivery:

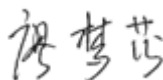
样品收到日期: 2025-11-17
 Sample Receiving date:

测试周期: 2025-11-18 to 2025-12-02
 Testing Period:

测试地点: 苏州化学实验室 / *Chemical laboratory Suzhou*
 Place of testing:

测试说明 / *Test specification:*测试结论 / *Test conclusion:*客户选测项目 / *Selected test(s) by client:*

- | | |
|---|------------------|
| - 感官测试 / <i>Sensorial examination</i> | 合格 / <i>PASS</i> |
| - 塑料的总迁移量 / <i>Global Migration from Plastic</i> | 合格 / <i>PASS</i> |
| - 塑料的高锰酸钾消耗量 / <i>Consumption of Potassium Permanganate from Plastic</i> | 合格 / <i>PASS</i> |
| - 塑料的重金属迁移 (以铅计) / <i>Specific Release of Heavy Metals (Expressed as Lead) from Plastic</i> | 合格 / <i>PASS</i> |
| - 芳香族伯胺的特定迁移 / <i>Specific Migration of Primary Aromatic Amines</i> | 合格 / <i>PASS</i> |
| - 脱色试验 / <i>Migration of Colorants from Plastic</i> | 合格 / <i>PASS</i> |

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Page 2 of 13**其他信息 / Other Information:**测试模拟物和条件由客人指定 / *Test simulants and conditions were selected by client.*代表莱茵技术（苏州）有限公司
For and on behalf of TÜV Rheinland (Suzhou) Co., Ltd.

2026-01-05

廖梦莎 / 技术主管
Carol Liao / Technical Supervisor

日期 / Date

姓名 / Name / 职位 / Position

Sample information is provided by customer. Test result is drawn according to the kind and extent of tests performed. This test report relates to the above mentioned 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. "Decision Rule" document announced in our website (<https://www.tuv.com/landingpage/en/qm-gcn/>) describes the statement of conformity and its rule of enforcement for test results are applicable throughout this test report.

样品信息由客户提供。测试结果根据所做测试的种类和范围而得出。

本测试报告仅对来样负责。未经本测试中心许可，测试报告不得部分复制。不能根据此报告在上述产品或类似产品上使用任何安全标志。本测试报告中，描述符合性声明所应用的判定规则发布在我司官网 <https://www.tuv.com/landingpage/en/qm-gcn/>。



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Page 3 of 13表明/ **食品接触 / Food contact****Indication:**

产品 / Product: 日用品, 与食品接触 / Commodity, contact with foodstuff

测试样品描述 / Description of test specimen:**项目 / Item**

1 台塑烯管级高密度聚乙烯(黑色)/ Taisox HDPE Pipe Grade Resin (Black)

1. 材料清单 / Material List:

样本编号 / Sample No.	材料 / Material	颜色 / Color	位置 / Location
20	塑料, 聚乙烯 / Plastic, HDPE (CAS no. 25087-34-7)	黑色 / Black	片材 / Sheet



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2. 结果汇总 / Overall Results:

测试号 / Test No.	测试项目 / Tested Item	结论 / Conclusion
1	感官测试 / <i>Sensorial examination</i>	合格 / <i>PASS</i>
2	塑料的总迁移量 / <i>Global Migration from Plastic</i>	合格 / <i>PASS</i>
3	塑料的高锰酸钾消耗量 / <i>Consumption of Potassium Permanganate from Plastic</i>	合格 / <i>PASS</i>
4	塑料的重金属迁移（以铅计） / <i>Specific Release of Heavy Metals (Expressed as Lead) from Plastic</i>	合格 / <i>PASS</i>
5	芳香族伯胺的特定迁移 / <i>Specific Migration of Primary Aromatic Amines</i>	合格 / <i>PASS</i>
6	脱色试验 / <i>Migration of Colorants from Plastic</i>	合格 / <i>PASS</i>

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 苏州
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3. 结果 / Results

3.1 感官测试 / Sensorial examination

测试方法 / **GB 5009.156-2016 食品安全国家标准 食品接触材料及制品迁移试验预处理方法通则**

Test method: **GB 31604.1-2023 食品安全国家标准 食品接触材料及制品迁移试验通则**

The test was performed with reference to GB 5009.156-2016, GB 31604.1-2023.

限值 / Limit: **GB 4806.7-2023 食品安全国家标准 食品接触用塑料材料及制品**

GB 4806.7-2023 Chinese National Food Safety Standard for Plastic Materials and Articles

应用以下食物模拟剂和条件 / *The following food simulant and condition was applied:*

食品模拟物 / Food simulant	测试时间 / 温度 Test duration / Temperature
4% 乙酸 / Acetic acid 4 %	10 day(s) / 40 °C
50% 乙醇 / Ethanol 50 %	10 day(s) / 40 °C

测试编号 / Test No.:	1	
测试样本编号 / Sample No.:	20	
参数 / Parameter:	要求 / Requirement	结果 / Result
感官 / Sensory	色泽正常, 无异臭、不洁物等 / <i>Normal luster, no foreign odor or impurity, etc.</i>	合格 / Pass
浸泡液 / Soaking liquid	迁移试验所得浸泡液无浑浊、沉淀、异臭等感官性的劣变 / <i>No turbidity, precipitate or foreign odor and other sensory deterioration in soaking liquids of migration testing.</i>	合格 / Pass

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3.2 塑料的总迁移量 / Global Migration from Plastic

测试方法 / **Test Method:** GB 5009.156-2016 食品安全国家标准 食品接触材料及制品迁移试验预处理方法通则
 GB 31604.1-2023 食品安全国家标准 食品接触材料及制品迁移试验通则
 GB 31604.8-2021 食品安全国家标准 食品接触材料及制品 总迁移量的测定
The test was performed with reference to GB 5009.156-2016, GB 31604.1-2023 & GB 31604.8-2021.

测试要求 / **Limit:** GB 4806.7-2023 食品安全国家标准 食品接触用塑料材料及制品
GB 4806.7-2023 Chinese National Food Safety Standard for Plastic Materials and Articles

应用以下食物模拟剂和条件 / *The following food simulant and condition was applied:*

食品模拟物 / <i>Food simulant</i>	测试时间 / 温度 <i>Test duration / Temperature</i>
4% 乙酸 / <i>Acetic acid 4 %</i>	10 day(s) / 40 °C
50% 乙醇 / <i>Ethanol 50 %</i>	10 day(s) / 40 °C

测试编号 / <i>Test No.:</i>	1		
测试样本编号 / <i>Material No.:</i>	20		
迁移比率 / <i>Migration ratio:</i>	1000 ml / 6 dm ²		
参数 / <i>Parameter</i>	单位 / <i>Unit</i>	结果 / <i>Result</i>	限值 / <i>Limit</i>
4% 乙酸 / <i>Acetic acid 4 %</i>	mg/dm ²	< 2.0	10
50% 乙醇 / <i>Ethanol 50 %</i>	mg/dm ²	2.5	10

缩写 / *Abbreviations:*

mg/dm² = 毫克每平方米 / *Milligram per square decimetre*

< = 小于 / *Less than*



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3.3 塑料的高锰酸钾消耗量 / Consumption of Potassium Permanganate from Plastic

测试方法 / **Test Method:** GB 31604.2-2016, 食品安全国家标准 食品接触材料及制品 高锰酸钾消耗量的测定
The test was performed with reference to GB 31604.2-2016.

测试要求 / **Limit:** GB 4806.7-2023 食品安全国家标准 食品接触用塑料材料及制品
GB 4806.7-2023 Chinese National Food Safety Standard for Plastic Materials and Articles

应用以下食物模拟剂和条件 / *The following food simulant and condition was applied:*

食品模拟物 / <i>Food simulant</i>	测试时间/ 温度 <i>Test duration / Temperature</i>
水 / <i>Distilled water</i>	2 h / 60 °C

测试编号 / <i>Test No.:</i>	1		
测试样本编号 / <i>Sample No.:</i>	20		
参数 / <i>Parameter</i>	单位 / <i>Unit</i>	结果 / <i>Result</i>	限值 / <i>Limit</i>
高锰酸钾消耗量 / <i>KMnO₄ Consumed</i>	mg/kg	3.9	10

缩写 / *Abbreviations:*

mg/kg = 毫克每千克 / *Milligram per kilogram*

< = 小于 / *Less than*



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3.4 塑料的重金属迁移（以铅计） / Specific Release of Heavy Metals (Expressed as Lead) from Plastic

测试方法 / **GB 31604.9-2016 食品安全国家标准 食品模拟物中重金属的测定**

Test method: **The test was performed with reference to GB 31604.9-2016.**

测试要求 / **GB 4806.7-2023 食品安全国家标准 食品接触用塑料材料及制品**

Limit: **GB 4806.7-2023 Chinese National Food Safety Standard for Plastic Materials and Articles**

应用以下食物模拟剂和条件 / *The following food simulant and condition was applied:*

食品模拟物 / <i>Food simulant</i>	测试时间 / 温度 <i>Test duration / Temperature</i>
4% 乙酸 / <i>Acetic acid 4 %</i>	2 hours / 60 °C

测试编号 / <i>Test No.:</i>	1		
测试样本编号 / <i>Material No.:</i>	20		
参数 / <i>Parameter</i>	单位 / <i>Unit</i>	结果 / <i>Result</i>	限值 / <i>Limit</i>
铅 / <i>Lead</i>	mg/kg	<1	1

缩写 / *Abbreviations:*

mg/kg = 毫克每千克 / *Milligram per kilogram*

< = 小于 / *Less than*

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3.5 芳香族伯胺的特定迁移 / Specific Migration of Primary Aromatic Amines

 测试方法 / GB 5009.156-2016 食品安全国家标准 食品接触材料及制品迁移试验预处理方法通则
 GB 31604.1-2023 食品安全国家标准 食品接触材料及制品 迁移试验通则

 Test method: GB 31604.52-2021 食品安全国家标准 食品接触材料及制品芳香族伯胺迁移量的测定
 The test was performed with reference to GB 5009.156-2016, GB 31604.1-2023 & GB 31604.52-2021

测试要求 / GB 4806.7-2023 食品安全国家标准 食品接触用塑料材料及制品

Limit: GB 4806.7-2023 Chinese National Food Safety Standard for Plastic Materials and Articles

应用以下食物模拟剂和条件 / The following food simulant and condition was applied:

食品模拟物 / Food simulant	测试时间 / 温度 Test duration / Temperature
4% 乙酸 / Acetic acid 4 %	10 day(s) / 40 °C

测试编号 / Test No.:	1				
测试样本编号 / Sample No.:	20				
迁移比率 / Migration ratio	1000 ml / 6 dm ²				
参数 / Parameter	CAS 号 / CAS No.	单位 / Unit	报告限 / RL	结果 / Result	限值 / Limit
对苯二胺 / p-phenylenediamine	106-50-3	mg/kg	0.01	< RL	-
间苯二胺 / m-phenylenediamine	108-45-2	mg/kg	0.01	< RL	-
2,4-二氨基甲苯 / 2,4-toluenediamine	95-80-7	mg/kg	0.01	< RL	-
4,4'-二氨基二苯醚 / 4,4'-oxydianiline	101-80-4	mg/kg	0.01	< RL	-
联苯胺 / Benzidine	92-87-5	mg/kg	0.01	< RL	-
4,4'-二氨基二苯甲烷 / 4,4'-methylenedianiline	101-77-9	mg/kg	0.01	< RL	-
苯胺 / Aniline	62-53-3	mg/kg	0.01	< RL	-
邻甲氧基苯胺 / o-anisidine	90-04-0	mg/kg	0.01	< RL	-
邻甲苯胺 / o-Toluidine	95-53-4	mg/kg	0.01	< RL	-
3,3'-二甲基-4,4'-二氨基二苯甲烷 / 4,4'-Methylene-di-o-toluidine	838-88-0	mg/kg	0.01	< RL	-

 莱茵技术(苏州)有限公司 江苏省太仓市沙溪镇岳王临港南路 525 号平谦(太仓)现代产业园 14# 厂房, 10# 北半栋厂房及 16# 厂房
 邮编: 215437 电话: +86 512 88826688 邮箱: service-gc@tuv.com 网址: www.tuv.com

TÜV Rheinland (Suzhou) Co., Ltd., 14#, North Half of 10# and 16#, Pingqian (Taicang) Modern Industrial Park, No.525, Yuewang Lingang South Road, Shaxi Town, Taicang City, Jiangsu Province 215437 P. R. CHINA

 Tel: +86 512 88826688 Mail: service-gc@tuv.com Web: www.tuv.com

 检验
 合格
 日期: 2023.10.10
 检验员: 李永平
 审核员: 李永平
 批准员: 李永平

3,3'-二甲氧基联苯胺 / 3,3'-Dimethoxybenzidine	119-90-4	mg/kg	0.01	< RL	-
3,3'-二甲基联苯胺 / 4,4'-bi-o-toluidine	119-93-7	mg/kg	0.01	< RL	-
2,6-二甲基苯胺 / 2,6-Dimethylaniline	87-62-7	mg/kg	0.01	< RL	-
2,4'-二氨基二苯甲烷 / 2,4'-diaminodiphenylmethane	1208-52-2	mg/kg	0.01	< RL	-
2,4-Diaminoanisole / 2,4-二氨基苯甲醚	615-05-4	mg/kg	0.01	< RL	-
p-cresidine / 3-氨基对甲苯甲醚	120-71-8	mg/kg	0.01	< RL	-
2,4,5-Trimethylaniline / 2,4,5-三甲基苯胺	137-17-7	mg/kg	0.01	< RL	-
4,4'-thiodianiline / 4,4'-二氨基二苯硫醚	139-65-1	mg/kg	0.01	< RL	-
4-chloroaniline / 对氯苯胺	106-47-8	mg/kg	0.01	< RL	-
2,4-Dimethylaniline / 2,4-二甲基苯胺	95-68-1	mg/kg	0.01	< RL	-
2-Naphthylamine / 2-萘胺	91-59-8	mg/kg	0.01	< RL	-
2,2'-二氨基二苯甲烷 / 2,2'-methylenedianiline	6582-52-1	mg/kg	0.01	< RL	-
4-氨基联苯 / 4-aminobiphenyl	92-67-1	mg/kg	0.01	< RL	-
4-氯邻甲苯胺 / 4-chloro-o-toluidine	95-69-2	mg/kg	0.01	< RL	-
2-氨基-4-硝基甲苯 / 2-Methyl-5-nitroaniline	99-55-8	mg/kg	0.01	< RL	-
3,3'-二氯联苯胺 / 3,3'-Dichlorobenzidine	91-94-1	mg/kg	0.01	< RL	-
对氨基偶氮苯 / 4-aminoazobenzol	60-09-3	mg/kg	0.01	< RL	-
4,4'-次甲基-双-(2-氯苯胺) / 4,4'-methylene-bis-(2-chloro-aniline)	101-14-4	mg/kg	0.01	< RL	-
邻氨基偶氮甲苯 / o-aminoazotoluene	97-56-3	mg/kg	0.01	< RL	-
芳香族伯胺迁移总量 / Sum of Primary Aromatic Amines*1	-	mg/kg	0.01	n.d.	不得检出 / n.d.

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Abbreviations / 缩写:

RL = Reporting Limit / 报告限

mg/kg = Milligram per kilogram / 毫克每千克

ml/dm² = Millilitre per square decimetre / 毫升每平方分米

< = Less than / 小于

备注 / Remark:

*1 检测结果低于报告限的单个成分不计入总和计算。在所有伯芳香胺都未检测到的情况下，结果表述为未检出。

Single components with an amount of less than reporting limit were not considered by the calculation of the sum. In the case of all of Primary Aromatic Amines were not detected, the result is stated n.d.



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3.6 脱色试验 / Migration of Colorants from Plastic

测试方法 / Test method: GB 5009.156-2016 食品安全国家标准 食品接触材料及制品迁移试验预处理方法通则
GB 31604.1-2023 食品安全国家标准 食品接触材料及制品迁移试验通则
GB 31604.7-2023 食品安全国家标准 食品接触材料及制品 脱色试验
The test was performed with reference to GB 5009.156-2016, GB 31604.1-2023 & GB 31604.7-2023.

测试要求 / Limit: GB 4806.7-2023 食品安全国家标准 食品接触用塑料材料及制品
GB 4806.7-2023 Chinese National Food Safety Standard for Plastic Materials and Articles

应用以下食物模拟剂和条件 / The following food simulants and conditions were applied:

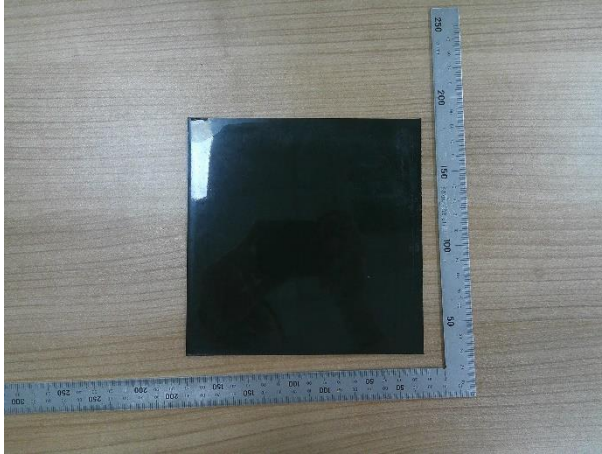
食品模拟物 / Food simulant	测试时间 / 温度 Test duration / Temperature
4% 乙酸 / Acetic acid 4 %	10 day(s) / 40 °C
50% 乙醇 / Ethanol 50 %	10 day(s) / 40 °C

测试编号 / Test No.:	1
测试样本编号 / Sample No.:	20
参数 / Parameter 脱色 / Colourfastness to	结果 / Result
擦拭脱色 / Rubbing with cotton	
- 4% 乙酸 / 4% Acetic acid	阴性 Negative
- 50% 乙醇 / 50% Ethanol	阴性 Negative
浸泡液着色 / Food simulants after migration	
- 4% 乙酸 / 4% Acetic acid	阴性 Negative
- 50% 乙醇 / Ethanol 50 %	阴性 Negative
脱色试验 / Migration of colorants	阴性 Negative

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4. 样品照片 / Sample picture(s):



样品 20 / Sample 20

- 结束 / END -



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

1. Scope

1.1 These General Terms and Conditions of Business of TÜV Rheinland in Greater China ("GTCCB") is made between the client and one or more members of TÜV Rheinland in Greater China as applicable as the case may be ("TÜV Rheinland"). The Greater China hereof refers to the regions within the territories of China. The client hereto includes:

(i) a natural person capable to form legally binding contracts under the applicable laws who concludes the contract for the purposes of its own use;

(ii) the incorporated or unincorporated entity duly organized, validly existing and capable to form legally binding contracts under the applicable law.

1.2 The following terms and conditions apply to agreed services including consultancy services, installation, 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.

1.4 In the context of an ongoing business relationship with the client, this GTCCB shall also apply to future contracts with the client without TÜV Rheinland having to refer them separately in each individual case.

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 work. If the client does not object to this, the contract term starts upon the coming into effect of the contract in accordance with clause 3.1 and shall continue for the term agreed in the contract.

3.2 If the contract term 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 three-month notice prior to the end of the contractual term.

4. Scope of services

4.1 The scope and type of the services to be provided by TÜV Rheinland shall be specified in the contractually agreed service scope of TÜV Rheinland by both parties. If no such separate service scope of TÜV Rheinland exists, the written contract or order by the client shall be decisive for the service to be provided. Unless otherwise agreed, services beyond the scope of the service description (e.g. checking the correctness and functionality of parts, products, processes, installations) or organizational knowledge of the system on which the intended use and application of such) are not covered. In particular, no responsibility is assumed for the design, selection of materials, construction or intended use of an examined part, product, process plant, unless this is expressly stated in the order.

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 The client 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 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, organizations, use and application in accordance with the work results, test results, test reports, etc. as part of the agreed services. This also applies if the client passes work results - in full or in part - to third parties in accordance with clause 11.4.

4.5 The client understands and agrees that in order to perform the contract with TÜV Rheinland, the client may need to sign one or more contracts/agreements with a third party(ies) and establish legal relationships with those third party(ies) according to such contracts/agreements. TÜV Rheinland will merely be the corresponding legal liability partner of TÜV Rheinland in the written contract and the client shall be responsible for the service process. If the relevant services are not directly provided by TÜV Rheinland (including but not limited to any testing and certification services to be provided by third testing and certification bodies), TÜV Rheinland will inform the client as agent for such particular services. In order to achieve the purpose of the contract, the client hereby agrees that TÜV Rheinland can also subcontract to a third party to provide agency services, but TÜV Rheinland shall not bear any responsibility and risk for any services to be provided by third parties (including but not limited to the testing and/or certification services to be entrusted and/or applied for by our company on behalf of the order third testing and/or certification bodies, agency services provided by any other third agency), etc.). Besides, the client shall be liable in accordance with the relevant laws and regulations and/or the terms under the contract. If the client is required to conduct any annual review/surveillance of the relevant testing and/or certification service results and pay additional fees in accordance with the relevant laws and regulations, the testing and certification rules, such fees are not within the scope of the contract price, the client shall timely perform the obligation of such annual review/surveillance and pay the corresponding fees. If the client fails to perform such obligations of the annual review/surveillance, it may lead to adverse consequences such as failure/suspension/cancellation/invalidity of testing and/or certification results, which shall not be borne by TÜV Rheinland.

4.6 In the contract, if the client requires TÜV Rheinland to deliver relevant test samples, data, etc. to any overseas laboratory or other places or sites to be designated by the client, TÜV Rheinland shall not take any responsibilities or risks for any problems during such delivery and the transportation process, including but not limited to any loss or damages of the samples and/or the materials, etc.). Besides, the relevant freight fees shall be borne by the client.

5. Performance periods/dates

5.1 The contractually agreed periods/dates of performance are based on estimates of the work results to be 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 made all required contractual payments 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.

5.4 TÜV Rheinland is not responsible for its delay in providing services if the client has not fulfilled his duties to cooperate in accordance with clause 6.1 or has not done so in time and, in particular, has not provided TÜV Rheinland with all documents and information required for the performance of the contract.

5.5 If the performance of TÜV Rheinland is delayed due to unforeseeable circumstances such as force majeure, strikes, business disruptions, governmental regulations, transport obstacles, etc., TÜV Rheinland shall not be liable for its delay in providing services. The client shall be responsible at least to the duration of the hindrance plus any time period which may be required to resume performance.

5.6 If the client is obliged to comply with legal, officially prescribed and/or by the accreditor prescribed deadlines, it is the client's responsibility to agree on performance dates with TÜV Rheinland, which enable the client to comply with the legal and/or officially prescribed deadlines. TÜV Rheinland assumes no responsibility for delays in the contract process, including but not limited to writing specifically stating that ensuring the deadlines is the contractual obligation of 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, standards, 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 issued by the client represents and warrants that:

a) it has required statutory qualifications;

b) the product, service or management system to be certified complies with applicable laws and regulations; and

c) it doesn't have any illegal and dishonest behaviors or is not included in the list of Enterprises with Serious Illegal and Dishonest Acts of People's Republic of China.

If the client breaches the aforesaid representations and warranties, TÜV Rheinland is entitled to i) immediately terminate the contract/order without prior notice; and ii) withdraw the issued testing reports/certificates if any.

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 expenses.

7. Prices

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 within 30 days of the invoice date without deduction on receipt of the invoice. No discounts and rebates 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 client 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. In the event of charges in excess of 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 or changes in fees. If the client does not object to this, the rise in 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. TÜV Rheinland reserves the right to refuse to set off any amount of the client, including but not limited to set-off against any fees paid by the client under any contracts, agreement and/or orders/quotations reached with TÜV Rheinland.

9. Acceptance of work

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

9.2 If acceptance is required contractually agreed in writing, the work result shall be deemed to have taken place two (2) weeks after completion and handover of the work, unless the client refuses acceptance within this period stating at least one fundamental breach of contract by TÜV Rheinland.

9.3 The client is not entitled to refuse acceptance due to insignificant breach of contract by TÜV Rheinland.

9.4 If acceptance is excluded according to the nature of the work performance of TÜV Rheinland, the completion of the work shall take its place.

9.5 During the Follow-Audit stage, if the client is unable to make use of the time windows provided for within the scope of the auditing procedure for auditing performance by TÜV Rheinland and a certificate is therefore to be withdrawn (e.g. performance of surveillance visits), or if the client cancels or postpones a confirmed audit date within two (2) weeks before the agreed date, TÜV Rheinland is entitled to immediately charge a lump-sum compensation of 10% of the order amount as compensation for expenses. The client reserves the right to prove that the TÜV Rheinland has incurred no damage whatsoever or only a considerably lower damage than the above lump sum.

9.6 Insofar as the client has undertaken in the contract to accept services, TÜV Rheinland shall also be entitled to charge lump-sum damages in the amount of 10% of the order amount as compensation for expenses if the client fails to use the services within the time windows that have been placed. The client reserves the right to prove that the TÜV Rheinland has incurred no damage whatsoever or only a considerably lower damage than the above mentioned lump sum.

10. Confidentiality

10.1 For the purpose of these terms and conditions, "confidential information" means all know-how, trade secrets, documents, images, drawings, expertise, information, data, test results, reports, samples, product documents, pricing and financial information, customer and supplier information, and marketing techniques, language or other information that is supplied, transferred or otherwise disclosed by one Party (the "disclosing party") to the other Party (the "receiving party"), in writing or orally, in printed or electronic form. Confidential information is expressly not limited to the confidential information that is otherwise protected by patent law, trademark law and copyright law and not proprietary to the client or the provider of services by TÜV Rheinland. TÜV Rheinland is entitled to store, use, further develop and pass on the data obtained in connection with the performance of the contract for the purpose of providing, improving services and analyzing the provision of services.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 confirm 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 confidential obligations hereunder towards such information. The client shall avoid using any third party platform and/or system (e.g. Wechat, etc.) established by TÜV Rheinland to send any confidential information to TÜV Rheinland. Instead, the client shall send any confidential information to company email of TÜV Rheinland employees through its company email. If the client suffers from any losses or damages due to any third party or system used by the client for the purpose of providing confidential information sharing methods mentioned above, TÜV Rheinland shall be waived for any compensation liabilities.

10.3 All confidential information which the disclosing party transmits or otherwise discloses to the receiving party and which is created 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 the confidential information, inspection reports or documentation to governmental authorities, judicial court, accreditation bodies or third parties (including but not limited to the relevant direct and/or indirect purchasers, vehicle manufacturers/whole equipment manufacturers, test standards or test requirements providers of the client's test products and/or certified products, etc.) 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 over 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 employees who need this information for the purpose of performing the contract. The receiving party undertakes to obligate these employees to observe the same level of secrecy as set forth in this confidentiality clause.

10.5 Information which the receiving party can furnish proof that:

a) 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) was disclosed by the receiving party to a third party who did not 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 to the disclosing party and (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 at the end of the contract. The receiving party shall be obliged to destroy all confidential information and certificates prepared for the client solely for the purpose of fulfilling the obligations under the contract, which shall remain the property of the disclosing party. The client shall not 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 and rights of use, publications

11.1 TÜV Rheinland shall retain all exclusive copyrights in the reports, expert reports/opinions, test reports/results, results, calculations, presentations etc. prepared by TÜV Rheinland, unless otherwise agreed by the parties in a separate agreement. As the owner of the copyrights, TÜV Rheinland is entitled to grant others the right to use the work results for individual or all types of uses ("right of use").

11.2 The client receives a simple, unlimited, non-transferable, non-sublicensable right of use to the contents of the work results produced by TÜV Rheinland for the purposes of the services agreed by the parties in a separate agreement. The client may only use such reports, expert reports/opinions, test reports/results, results, calculations, presentations etc. prepared within the scope of the contract for the purposes of the contract. The client is not permitted to use the transfer of right of use of the generated work results regulated in clause 11.2 of the GTCCB is subject to full payment of the remuneration agreed in favour of TÜV Rheinland.

11.4 The client uses work results only completely and exclusively for the purposes of the contract and the work results in full unless TÜV Rheinland has given its prior written consent to the partial passing on of work results.

11.5 Any publication or duplication of the work results for advertising purposes or any further use of the work results beyond the scope regulated in clause 11.2, and any quotation of the introduction of TÜV Rheinland need the prior written approval of TÜV Rheinland in each individual case. Besides, the client ensures that the aforesaid use shall comply with relevant applicable laws, regulations and relevant rules (including but not limited to security and data protection, copyright and licensing rules, etc.).

11.6 TÜV Rheinland may revoke a once given approval according to clause 11.5 at any time without notice. In this case, the client is obliged to stop the transfer of the work results immediately at his own expense and, as far as possible, to withdraw publications.

11.7 The client is not permitted to publish or duplicate of the work results does not entitle the client to use the corporate logo, corporate design or test/certification logo of TÜV Rheinland.

12. Liability of TÜV Rheinland

12.1 In respect of the legal basis, to the fullest extent permitted by applicable law, 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, the total and accumulated liability, 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 client shall be liable for damages caused by TÜV Rheinland in the event of damages and/or losses caused by the 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 of a fundamental breach of contract by TÜV Rheinland, if the damage caused by the minor negligence is involved. For this purpose, a "fundamental breach" is a 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 by TÜV Rheinland shall be limited to 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 agents of TÜV Rheinland. 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 Unless otherwise contractually agreed in writing, TÜV Rheinland shall only be liable under the contract to the client.

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

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

13. Export control

13.1 When passing on the services provided by TÜV Rheinland or parts thereof to third parties in Greater China or other regions, the client must comply with the respectively applicable regulations of national and international export control laws.

13.2 The performance of a contract with the client is subject to the proviso that there are no obstacles to performance due to national or international foreign trade restrictions or embargos and/or

sanctions. In the event of a violation, TÜV Rheinland shall be entitled to terminate the contract with immediate effect and the client shall compensate for the losses incurred thereby by TÜV Rheinland.

14. Data protection notice

The client understands and agrees that TÜV Rheinland processes personal data (including but not limited to personal information) of the client and its related parties (including but not limited to the supplier of the client) for the purpose of fulfilling this contract. The client confirms that it has obtained the prior consent of the data subject, who is the client or its subject, with respect to access, use, or processing of the personal data that the client collected or processed by itself and transferred to TÜV Rheinland. For certain services, we may also process sensitive personal data. TÜV Rheinland will use and process the data in accordance with the relevant applicable laws and regulations in China and the local country. TÜV Rheinland will take measures to avoid any leakage, abuse, manipulation, damage or unauthorized access of personal data. The personal data will be deleted immediately as soon as a corresponding reason for deletion arises. Data subjects may exercise the following rights: right of information, right of decision, right of rectification, right of deletion, right of processing limitation, right of objection, right of data transferability. In addition, persons concerned by the data processing have the right to revoke their consent at any time with effect for the future, as well as the right to file a complaint with the competent data protection supervisory authority. For further details on the processing of personal data by TÜV Rheinland as the person responsible or contract processor, please refer to the respective data protection information. You can contact the Group Data Protection Officer of TÜV Rheinland by e-mail at dataprotection@tuv.com or by post at the following address: TÜV Rheinland AG, c/o Group Data Protection Officer, Am Grauen Stein, 51105 Cologne, Germany.

15. Retention of test material and documentation

15.1 The test samples submitted by the client to TÜV Rheinland for testing will be accepted following the test results to be returned to the client at the client's expense. The only exceptions are test samples, which are placed in storage on the basis of statutory regulations or of another agreement with the client.

15.2 Charges apply if the test samples are stored at the premises of TÜV Rheinland. The cost of placing a test sample into storage will be disclosed to the client in the quotation.

15.3 If reference samples or documentations are given to the client to be placed in storage at their premises or other locations, the reference samples or documentations must be made available to TÜV Rheinland upon request promptly and free of charge. If the client, in response to such a request, is incapable of making available the reference samples and/or documentation, any liability claims or claims for damages resulting from the respective testing and certification that is brought forward by the client against TÜV Rheinland shall be voided.

15.4 The retention period for the documentation shall be 10 (ten) years after the expiry of the test mark or good cause. TÜV Rheinland may consider giving a written notice to the client to terminate the contract without bearing any liabilities and the client shall pay the relevant service fees for the services provided by TÜV Rheinland up to the termination date of the contract. The aforesaid good causes include but not limited to:

a) the client does not immediately notify TÜV Rheinland of changes in the conditions within the company which are relevant for certification or signs of such changes;

b) the client misuses the certification or certification mark or uses it in violation of the contract;

c) in the event of several consecutive delays in payment (at least three times);

d) a substantial deterioration of the financial situation of the client or the client or as a result the payment claims of TÜV Rheinland under the contract are considerably endangered and TÜV Rheinland cannot reasonably be expected to continue the contractual relationship.

15.5 In the event of any serious misbehavior resulting from the respective testing and certification that is brought forward by the managers, employees or agents of the client:

f) TÜV Rheinland, for reasons beyond its control, is temporarily or finally not able or entitled to continue or finalize the performance of the service, e.g. in case of EU CE certificates of conformity and GS mark certificates.

g) if the country/region involved in the whole contract or the specific service project in the contract does not belong to the territory of application of the relevant standards and TÜV Rheinland believes that there is a risk or some risks beyond its control to continue to perform the contract.

16.3 In the event of termination with written notice by TÜV Rheinland for good cause, TÜV Rheinland shall be entitled to make a claim for damages against the client if the conditions of a claim for damages exist. In this case, the client shall owe 15% of the remuneration to be paid until the end of the fixed contract term as lump-sum compensation. The client reserves the right to prove that there is a substantial impediment to the performance of the contract, which is caused by a considerably higher damage in individual cases.

16.4 TÜV Rheinland is also entitled to terminate the contract with written notice if the client has not sent back to make use of the time windows for the provision of services provided by TÜV Rheinland within the scope of a certification procedure and the certificate therefore has to be withdrawn (for example during the performance of monitoring audits). Clause 16.3 applies accordingly.

17. Force Majeure

17.1 Force Majeure means the occurrence of an event or circumstance that prevents or impedes a Party from performing one or more of its contractual obligations under the contract, if and to the extent that that Party proves: (a) that such impediment is beyond its reasonable control; and (b) that it could not reasonably have been prevented or overcome by the Party. The occurrence of (c) that the effects of the impediment could not reasonably have been avoided or overcome by the affected Party.

17.2 The absence of a proof to the contrary, the following events affecting a Party shall be presumed to fulfil conditions (a) and (b) under paragraph 17.1 of this Clause: (i) war (whether declared or not), go-slow, occupation of factories and premises;

17.3 The Party successfully invoking this Clause is relieved from its duty to perform its obligations under the contract and from any liability in damages or from any other contractual remedy for breach of contract, from the time at which the impediment causes inability to perform, provided that the notice thereof is given without delay. If notice thereof is not given without delay, the relief is effective from the time at which notice thereof reaches the other Party. Where the effect of the extension of the negotiation period can be proven, the relief shall be effective from the time the impediment invoked impedes performance by the affected Party. Where the duration of the impediment involved has the effect of substantially depriving the contracting Parties of what they could reasonably be expected to expect under the contract, either Party has the right to terminate the contract by notification within a reasonable period to the other Party. Unless otherwise agreed, the Parties expressly agree that the contract may be terminated by either Party if the duration of the impediment exceeds 120 days.

18. Hardship

18.1 The Parties are bound to perform their contractual duties even if events have rendered performance more onerous than could reasonably have been anticipated at the time of the conclusion of the contract.

18.2 Notwithstanding paragraph 1 of this Clause, where a Party proves that:

(a) the continued performance of its contractual duties has become excessively onerous due to an event beyond its reasonable control which it could not reasonably have been expected to have taken into account at the time of the conclusion of the contract; and that

(b) it could not reasonably have avoided or overcome the event or its consequences, the Parties are bound, within a reasonable time of the invocation of this Clause, to negotiate alternative contractual terms which reasonably allow to overcome the consequences of the event.

18.3 Where Clause 18.2 applies, but where the Parties have been unable to agree alternative contractual terms as provided in that paragraph, the Party invoking this Clause is entitled to terminate the contract, but cannot request adaptation by the judge or arbitrator without the agreement of the other Party.

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

19.1 All amendments and supplements must be in writing in order to be effective. This also applies to amendments and supplements to this clause 19.1.

19.2 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.

19.3 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) TÜV Rheinland is a 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) TÜV Rheinland is a 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) TÜV Rheinland is a 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.

19.4 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 the International Arbitration Center (CIETAC) in Beijing, which shall 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 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 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.