检　测　报　告
TEST REPORT

报告编号（No.）:UTS25110028M01　　报告日期（Report Date）: 2025/11/10

委托单位/Client	:	富钛金属科技（昆山）有限公司 Fulltech industry (Kunshan) Co., Ltd
地　　址/Address	:	江苏省昆山市玉山镇晨丰东路 159 号 No.159 Chenfeng East Road, Yushan Town, Kunshan City, Jiangsu Province

以下样品信息由申请人提供及确认:
The following sample(s) was/were submitted and identified on behalf of the client as:

样品名称/Sample Name	:	618372301D 扭矩管/618372301D Torque tube
批　　号/Lot No.	:	2025-10
材　　料/Material	:	锌合金（5#ZN ）/Zinc alloy (5#ZN)
接样日期/Receiving Date	:	2025/11/04
检测项目/Test Item	:	ELV 4 项/ELV 4 items
结　　论/Conclusion	:	申请人所提供的样品的测试结果符合 GB/T 30512-2014《汽车禁用物质要求》。/Based on the analysis of the submitted sample, the results meet the requirements of GB/T 30512-2014 Requirements for prohibited substances on automobiles.

签　发 Approved by: 樊建红　授权签字人　　审　核 Reviewed by: 马林　　编　制 Prepared by: 闵丹丹

江苏省优联检测技术服务有限公司
地址：苏州市吴中区越溪街道北官渡路50号3幢　215021
电话（Tel）：+0512-66358200

UNITED TESTING SERVICES (JIANGSU) CO., LTD.
Address: Building 3, No.50 Beiguandu Road, Wuzhong Zone, Suzhou, Jiangsu, China , 215021
传真（Fax）：+0512-66358088

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1、测试标准/Test Standard(s)

QC/T 941-2013; QC/T 942-2021; QC/T 943-2013

2、测试日期/Test Date(s)

2025/11/05-2025/11/06

3、测试设备/Test Equipment(s)

设备名称 Test Equipment	设备编号 Equipment Number	校准有效期 Calibration Period of Validity
等离子体发射光谱仪 ICP-OES	M-1-584	2025/12/14
紫外可见分光光度计 UV-vis	M-1-622	2025/12/12

4、测试结果/Test Result(s)

检测项目 Test Items	检测方法 Methods	方法检测限 MDL (mg/kg)	检测结果 Results (mg/kg)	限值* Limits (mg/kg)
铅/Pb	M1	2	N.D.	≤1000
镉/Cd		2	N.D.	≤100
汞/Hg	M2	2	N.D.	≤1000
六价铬/Cr (VI)	M3	---	阴性 Negative	---

注意/Remark : *报告中述及的限值参考 GB/T 30512-2014《汽车禁用物质要求》。/ The Limited value is refer to GB/T 30512-2014 Requirements for prohibited substances on automobiles.

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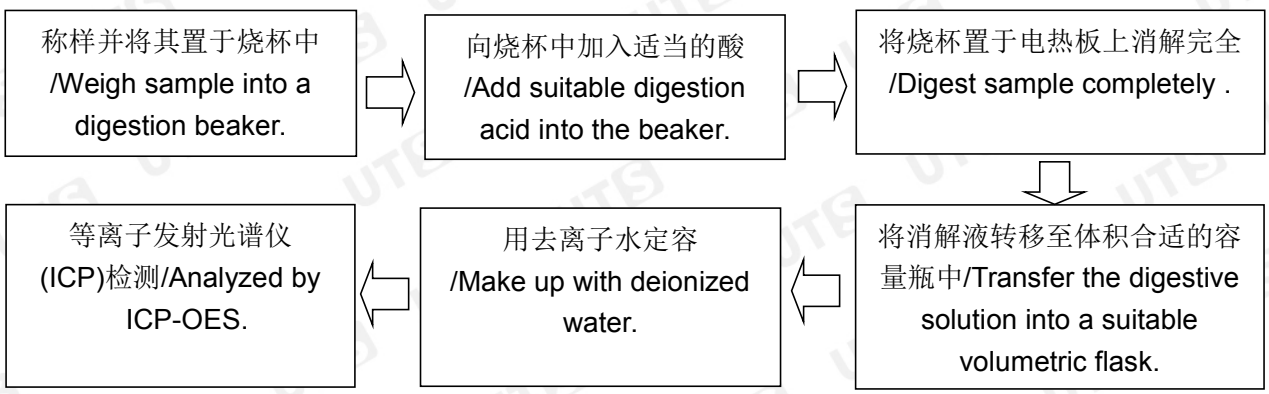
备注/Note:
1) N.D. = 未检出，小于方法检测限/Not detected, less than MDL.
2) "---" = 未明确规定/Not Regulated.
3) M1: 参考 QC/T 943-2013，采用电感耦合等离子体发射光谱仪进行测定。
With reference to QC/T 943-2013, analysis was performed by ICP-OES.
4) M2: 参考 QC/T 941-2013，采用电感耦合等离子体发射光谱仪进行测定。
With reference to QC/T 941-2013, analysis was performed by ICP-OES.
5) M3: 参考 QC/T 942-2021/With reference to QC/T 942-2021,
点测试法：阴性=样品中未检测到六价铬，阳性=样品中检测到六价铬；
(当点测试结果为无法确定时，将采用沸水萃取法来检验结果)
沸水萃取法：阴性=样品中未检测到六价铬；阳性=样品中检测到六价铬，
50cm² 表面积的被测试样品在沸水萃取溶液中六价铬的浓度等于或大于 0.1μg/cm²。Spot test: Negative=Not detected Cr(VI) in plating; Positive=Detected Cr(VI) in plating.
(If you are not sure about the result of the Spot test, use the boiling water extraction method to confirm the result)
Boiling water extraction method:
Negative= Not detected Cr(VI) in plating; Positive=The Cr(VI) concentration detected is equal to or greater than 0.1μg/cm² with a sample surface area of 50cm² used.

测试部位描述/TEST PART DESCRIPTION: 金属/Metal

检测流程图/FLOW CHART

1. Pb、Cd 检测/Test for Pb, Cd Content



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2. Hg 检测/Test for Hg Content

称样并将其置于消解罐中/Weigh sample and place in a digestion vessel. → 加入适当的混合酸/Add suitable digestion acid into the vessel. → 将消解罐置于微波消解仪中消解至完全/Digest sample completely in microwave. → 将消解液转移至体积合适的容量瓶中/Transfer the digestive solution into a suitable volumetric flask. → 用去离子水定容/Make up with deionized water. → 等离子发射光谱仪检测/Analyzed by ICP-OES.

3. 六价铬 Cr（Ⅵ）检测/Test for Chromium（Ⅵ）Content

a) 点滴试验法/Point test method:

试样前处理：表面清洁，若表面有油污，聚合物涂层，需除去/Pre-treatment of Sample: Clean the surface; if there is oil layer or polymer coating on the surface, remove it.

↓

向样品表面滴加 1-5 滴显色液。如含有六价铬，几分钟内会出现红色或紫红色，长时间后出现的颜色不予考虑/Dip one to five drops of test liquid to the surface. If there is hexavalent chromium, violet color will appear within several minutes. If the color appears after a long time, it will not be considered.

↓

如检测结果阳性，可认为有六价铬镀层存在 /If the test result is positive, it can be considered that there is hexavalent chromium.

如检测结果阴性/If the test result is negative.

↓

用精细砂纸轻轻擦掉表层，滴加显色液/Wipe the surface of the coating lightly with fine sandpaper and dip test liquid.

↓

如结果还是阴性/If the result is negative.

↓

将镀层擦的更深，继续检测，在到达基体前，结果仍然呈阴性，可认为该样品六价铬呈阴性。/Wipe the coating more deeply and continue the test until it reaches the surface. If the test result is still negative, it can be considered that sample is negative.

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b) 沸水萃取法/Boiling water extraction method:

取样品于装有适量沸水烧杯中继续煮沸 10 分钟/Make sample to glass beaker and continue to boil the water for 10 minutes.

取下烧杯，拿出样品并冷却至室温/Remove the beaker,take out sample and cool it to room temperature.

定容，如有乳状或沉淀，先过滤/Add water to mask; filtrate emulsion or sedimentation first.

取适当体积的混合液于另一烧杯中，向烧杯中加正磷酸和显色液，定容，用分光光度计进行比色测定。/Transfer an appropriate portion of mixture to another beaker, add phosphoric acid solution and indicator to the beaker and make up. Measure the absorbance at 540nm by UV-Vis.

5、样品照片/Sample photo(s)

……报告结束/End of Report……

本报告中结果仅作为科研、教学或内部质量控制之用。

Test results in this report are only used for scientific research, teaching and internal quality control.

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