TÜVRheinland®
Precisely Right.

Report No. 報告號碼:	48309544a20 001
Client 客戶:	ISOLA GROUP
Test item(s) 測試樣品:	Laminate
Identification/Model No(s): 樣品描述/規格:	Astra MT77
Sample obtaining method: 樣品獲取方式:	Sending by customer
Condition at delivery: 樣品接收狀態:	Test item complete and undamaged.
Sample receiving date: 收樣日期:	2026-09-22
Testing period: 測試週期:	2026-09-22 – 2026-10-12
Place of testing: 測試地點:	Chemical laboratory Hong Kong

Test specification 測試要求:	***Test result 測試結果:***
Testing according to customer's specification for the following parameters:	
RoHS (recast): Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment, 2011/65/EU Annex II and its amendment Directive (EU) 2015/863: Total Content of Lead, Cadmium, Mercury, Chromium VI, Polybrominated Biphenyls, Polybrominated Diphenyl Ethers; and Benzylbutyl phthalate (BBP), Dibutyl phthalate (DBP), Bis(2-ethylhexyl) phthalate (DEHP), Diisobutyl phthalate (DIBP) / 依據電機電子設備限用有害物質指令(RoHS 2011/65/EU) 附錄II及其修正指令(EU) 2015/863: 鉛、鎘、汞、六價鉻、多溴聯苯、多溴二苯醚、鄰苯二甲酸苯基丁酯、鄰苯二甲酸二丁酯、鄰苯二甲酸二(2-乙基己基)酯、鄰苯二甲酸二異丁酯 之總含量	Pass/合格
Phthalates/鄰苯二甲酸酯(DIDP,DINP,DNOP), Hexabromocyclododecane (HBCDD)/六溴環十二烷, Tetrabromobisphenol A (TBBPA)/四溴雙酚A, Medium Chain Chlorinated Paraffins (MCCP)/中鏈氯化石蠟	Refer to result page *參照測試報告*

For and on behalf of
TÜV Rheinland Hong Kong Ltd.

2026-10-15
Date *日期*

Amenda Yung / Senior CS Manager
Name/Position *姓名/職位*

Report Authenticity Verification, please email: softlines@twn.tuv.com.
報告真實性確認，如需驗證，請電郵至 softlines@twn.tuv.com。

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.
樣品信息由客戶提供。測試結果根據所做測試的種類和範圍而得出。本測試報告僅對來樣負責。未經本測試中心許可，測試報告不得部分複製。
不能根據此報告在上述產品或類似產品上使用任何安全標誌。本測試報告中，描述符合性聲明所應用的判定規則發佈在我司官網 https://www.tuv.com/landingpage/en/qm-gcn/。

Tested Material list/測試材料清單

Item: Astra MT77

Material No./ 材料編號	Material/材質	Color/顏色	Location/位置
1	Composite material/複合材料	Bronze/青銅色	TCL260922-20

Test Sample/測試樣品



Test Result 測試結果

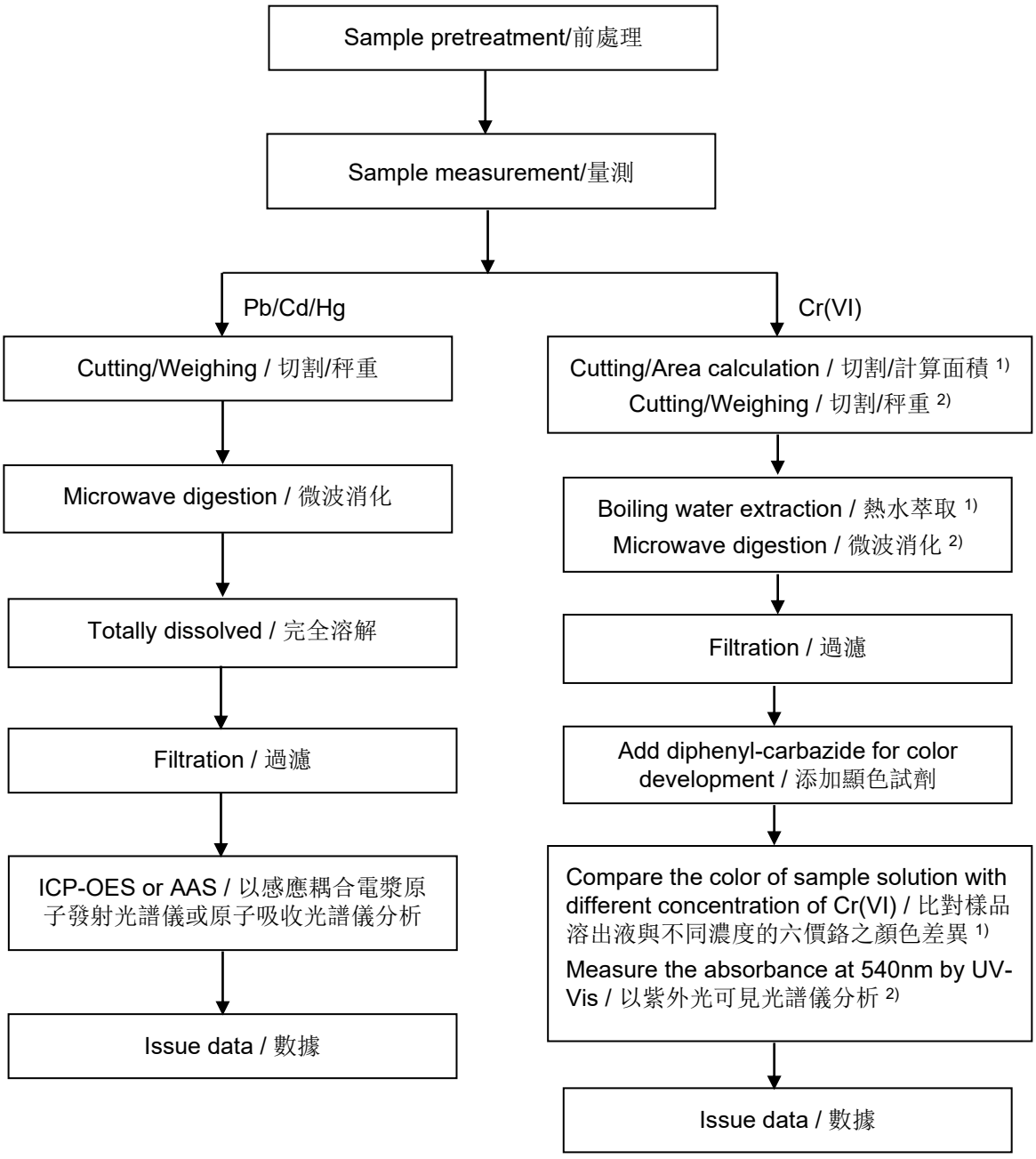
Test Item/測試項目	Test Method/ 測試方法	Unit / 單位	MDL	Mat.1 Result/ 結果	Limit/限值
Cadmium (Cd) / 鎘	With ref. to IEC 62321-5:2013, ICP-OES/參考 IEC 62321-5: 2013,感應耦合電漿發射光譜儀	mg/kg	2	n.d.	100
Lead (Pb) / 鉛	With ref. to IEC 62321-5:2013, ICP-OES/參考 IEC 62321-5: 2013,感應耦合電漿發射光譜儀	mg/kg	2	n.d.	1000
Mercury (Hg) / 汞	With ref. to IEC 62321-4: 2013+ AMD1:2017, AAS/ 參考 IEC 62321-4: 2013+ AMD1: 2017, 原子吸收光譜儀	mg/kg	2	n.d.	1000
Chromium VI (Cr VI) / 六價鉻	With ref. to IEC 62321-7-2:2017, UV-VIS/參考 IEC 62321-7-2: 2017,紫外光-可見光分光光度計	mg/kg	8	n.d.	1000
Sum of Polybrominated biphenyls (PBBs) / 多溴聯苯總和	With ref. to IEC 62321-6:2015, GC-MS/參考 IEC 62321-6: 2015,氣相層析儀-質譜儀	mg/kg	-	n.d.	1000
Monobromobiphenyl/一溴聯苯		mg/kg	5	n.d.	-
Dibromobiphenyl/二溴聯苯		mg/kg	5	n.d.	-
Tribromobiphenyl/三溴聯苯		mg/kg	5	n.d.	-
Tetrabromobiphenyl/四溴聯苯		mg/kg	5	n.d.	-
Pentabromobiphenyl/五溴聯苯		mg/kg	5	n.d.	-
Hexabromobiphenyl/六溴聯苯		mg/kg	5	n.d.	-
Heptabromobiphenly/七溴聯苯		mg/kg	5	n.d.	-
Octabromobiphenyl/八溴聯苯		mg/kg	5	n.d.	-
Nonabromobiphenyl/九溴聯苯		mg/kg	5	n.d.	-
Decabromobiphenyl/十溴聯苯		mg/kg	5	n.d.	-
Sum of Polybrominated diphenyl ethers (PBDEs) / 多溴二苯醚總和		mg/kg	-	n.d.	1000
Monobromodiphenyl ether/一溴二苯醚		mg/kg	5	n.d.	-
Dibromodiphenyl ether/二溴二苯醚		mg/kg	5	n.d.	-
Tribromodiphenyl ether/三溴二苯醚		mg/kg	5	n.d.	-
Tetrabromodiphenyl ether/四溴二苯醚		mg/kg	5	n.d.	-
Pentabromodiphenyl ether/五溴二苯醚		mg/kg	5	n.d.	-
Hexabromodiphenyl ether/六溴二苯醚		mg/kg	5	n.d.	-
Heptabromodiphenyl ether/七溴二苯醚		mg/kg	5	n.d.	-
Octabromodiphenyl ether/八溴二苯醚		mg/kg	5	n.d.	-
Nonabromodiphenyl ether/九溴二苯醚		mg/kg	5	n.d.	-
Decabromodiphenyl ether/十溴二苯醚		mg/kg	5	n.d.	-

Test Item/測試項目	Test Method/ 測試方法	Unit / 單位	MDL	Mat.1 Result/ 結果	Limit/限值
Benzyl butyl phthalate (BBP)/ 鄰苯二甲酸苯基丁酯	With ref. to IEC 62321-8:2017, GC-MS/ 參考 IEC 62321-8: 2017, 氣相層析儀-質譜儀	mg/kg	50	n.d.	1000
Dibutyl phthalate (DBP)/ 鄰苯二甲酸二丁酯		mg/kg	50	n.d.	1000
Diethylhexyl phthalate (DEHP)/ 鄰苯二甲酸二(2-乙基己基)酯		mg/kg	50	n.d.	1000
Diisobutyl phthalate (DIBP)/ 鄰苯二甲酸二異丁酯		mg/kg	50	n.d.	1000
Diisodecyl phthalate (DIDP)/ 鄰苯二甲酸二異癸酯		mg/kg	50	n.d.	-
Diisononyl phthalate (DINP)/ 鄰苯二甲酸二異壬酯		mg/kg	50	n.d.	-
Di-n-octyl phthalate (DNOP)/ 鄰苯二甲酸二辛酯		mg/kg	50	n.d.	-
Hexabromocyclododecane (HBCDD)/六溴環十二烷	With ref. to IEC 62321-9:2021, GC-MS/ 參考 IEC 62321-9: 2021, 氣相層析儀-質譜儀	mg/kg	20	n.d.	-
Tetrabromobisphenol A (TBBPA)/ 四溴雙酚 A	Organic solvent extraction, LC-MS/ 有機溶劑萃取, 液相層析儀-質譜儀	mg/kg	5	n.d.	-
Medium Chain Chlorinated Paraffins (C14-C17) (MCCP)/ 中鏈氯化石蠟	With ref. to ISO 18219-2:2021, GC-MS/ 參考 18219-2:2021, 氣相層析儀-質譜儀	mg/kg	50	n.d.	-

Notes/ 註釋:
MDL = Method Detection Limit/方法偵測極限值
n.d. = Not Detected/未檢出 ; Less than MDL/小於 MDL
mg/kg = milligram per kilogram/ 毫克每公斤

Testing procedure / 測試流程圖 :

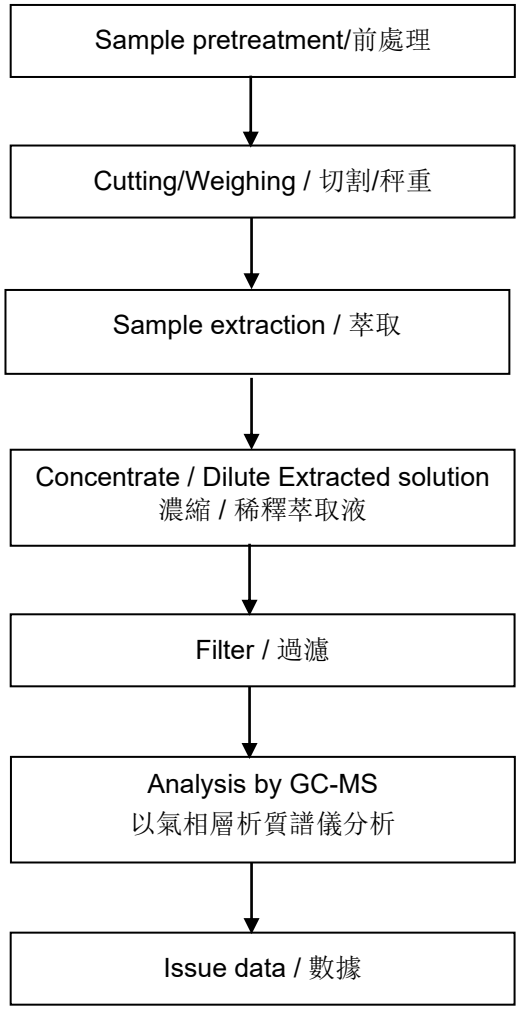
RoHS (Pb/鉛, Cd/鎘, Hg/汞, Cr(VI)/六價鉻)



Notes/註釋: 1) For metallic material / 用於金屬物質
2) For non-metallic material / 用於非金屬物質

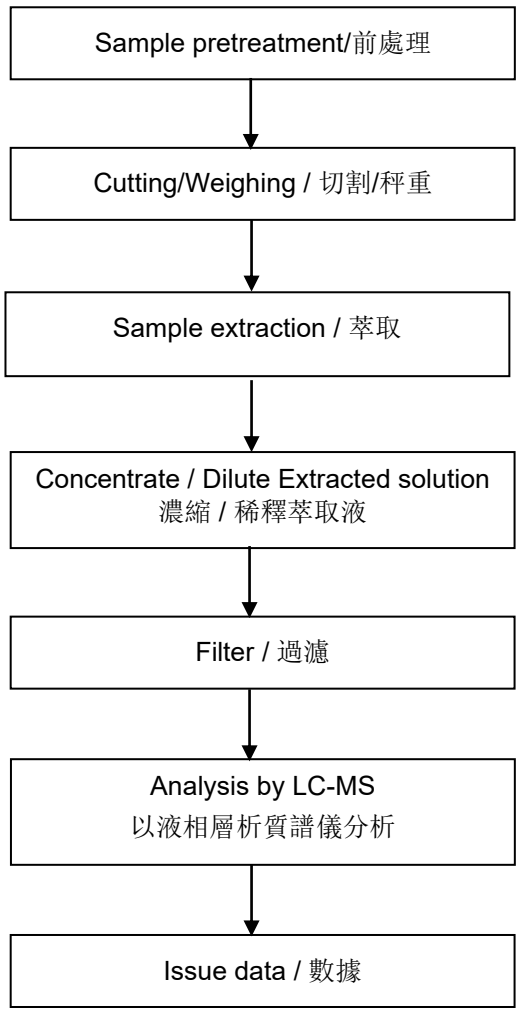
Testing procedure / 測試流程圖 :

RoHS (PBBs/多溴聯苯, PBDEs/多溴二苯醚, BBP/鄰苯二甲酸苯基丁酯, DBP/鄰苯二甲酸二丁酯, DEHP/鄰苯二甲酸二(2-乙基已基)酯, DIBP/鄰苯二甲酸二異丁酯); Phthalates/鄰苯二甲酸酯, HBCDD/六溴環十二烷; MCCP/中鏈氯化石蠟



Testing procedure / 測試流程圖 :

TBBP-A/四溴雙酚-A



--- End of Test-Report / 此報告結束---