WÜRTH ELEKTRONIK GMBH & CO. KG

SALZSTRAßE 21 74676 NIEDERNHALL GERMANY

Sample Description	:	PCB
Base Material Type	:	NAN YA-NPG-170
Solder Mask Type	:	PETERS - ELPEMER 2467

The above sample(s) data and information was / were submitted and identified on behalf of the client. SGS is not responsible for the authenticity, integrity and results of the data and information and / or the validity of the conclusion arising therefrom. Results apply to the sample as received.

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SGS Ref. No.	:	SZIN2601000264PL03
Sample Receiving Date	:	Jan 28,2026
Testing Period	:	Jan 28,2026 to Feb 05,2026
Test Required	:	EN 45545-2:2020+A1:2023 Railway applications—Fire protection on railway vehicles Part 2: Requirements for fire behaviour of materials and components, and testing according to Table 5 — Material requirement sets (R24&R25)
Test result(s)	:	See attached sheet

Signed for and on behalf of
SGS-CSTC Standards Technical Services Co., Ltd. Shunde Branch

Ada

Ada Liu
Approved signatory

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1-2/F., Building 1, European Industrial Park, No.1, Shunhe South Road, Wusha, Daliang, Shunde District, Foshan, Guangdong, China 528300 t (86–757) 22805888 www.sgsgroup.com.cn
中国·广东·佛山市顺德区大良街道办事处五沙社区居民委员会顺和南路1号欧洲工业园一号厂房首层、二层 邮编: 528300 t (86–757) 22805888 sgs.china@sgs.com

I. Description of Test specimens

Sample Description	PCB
Size of specimens	T01 EN ISO 4589-2: 125 mm × 10.0 mm × 1.5 mm T16 EN60695-2-11: 60 mm × 60 mm × 1.5 mm

II. Summary of test results

Requirement set (used for)	Test method reference	Parameter Unit	Test results *
R24	T01 EN ISO 4589-2: OI	Oxygen content %	＞60.0
R25	T16 EN 60695-2-11	Glow Wire Temperature ℃	850

***** For the test details, please see the appendix of this test report.

III. Conclusion

According to the test results, the submitted sample **met** the requirements of **R24& R25** (detailed in Table 5 of EN 45545-2:2020+A1:2023) for a **HL1, HL2, HL3** Hazard Level Classification.

Test Criteria for EN 45545-2:2020+A1:2023 Table 5 Material requirement sets (R24&R25)

Requirement set (used for)	Test method reference	Parameter Unit	Requirement Definition	HL1	HL2	HL3
R24 (EL9)	T01 EN ISO 4589-2: OI	Oxygen content %	Minimum	28	28	32
R25 (EL9)	T16 EN 60695-2-11	Glow Wire Temperature °C	Minimum	850	850	850

Statements:

The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

The test results relate only to the specimens of the product in the form in which were tested.

The specimen was supplied by the sponsor and SGS-CSTC was not involved in any selection or sampling procedure.

Test 1:

T01 EN ISO 4589-2:2017 Determination of burning behaviour by oxygen Index Part 2: Ambient temperature test

1. Conditioning

T: (23±2) ºC, R.H: (50±5)%, until the test sample was conditioned to constant mass.

2. Test results

a) Select initial oxygen concentration(in accordance with 8.2.3): 25%

b) Determining the Preliminary Oxygen Concentration(Till pair of oxygen concentrations which gives opposite response differs by ≤1%, in accordance with 8.6)

Oxygen concentration, % (*V/V*)	40.0	50.0	60.0	60.0	60.0			
Burning period (s)	<180	<180	<180	<180	<180			
Length burnt (mm)	<50	<50	<50	<50	<50			
Response, (“X” or “O”)	O	O	O	O	O			

OI >60.0%

Burning behavior: Charring

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Test 2

T16 EN 60695-2-11：2014 Fire hazard testing—Part 2-11:Glowing/hot-wire based test methods Glow-wire flammability test method for end-products

1. Conditioning

Prior to testing, the sample was conditioned 24 hours at temperatures of 15~35°C and at a relative humidity of 45~75%.

At time to testing, Temperature between 15°C ~ 35°C and Relative humidity less than or equal to 75 %.

2. Test results

Temperature of the glow-wire (℃)	850
Duration (t_i) from the beginning of tip application up to the time at which the test specimen or the specified layer placed below it ignites (s)	NI
Duration (t_e) from the beginning of tip application up to the time when flames extinguish during or after the period of application (s)	NI
Whether the test specimen extinguishes by virtue of most of the flaming material being withdrawn with the glow-wire	NA
Whether ignite the specified layer placed underneath the test specimen or not	No
Whether the test specimen is totally burned	No
Observations: NI	

Remark: NI--- Not ignition; NA---Not applicable

In accordance with test results, the submitted sample: **GWEPT: 850**

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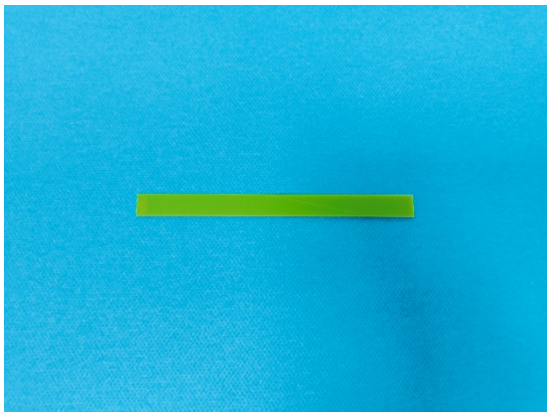
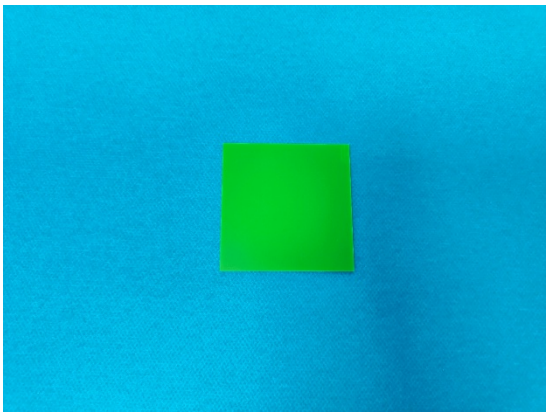
Photo Appendix:



T01 Tested specimen



T16 Tested specimen

SGS authenticate the photo on original report only

End of Report

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