Test Report No.: 64.190.24.0414.01-00
Dated: 2024-07-08

Applicant:	SHANGHAI LANGFENG INDUSRIAL CO., LTD
Address:	ROOM 910, BUILDING 6, LUXIANG ROAD 111, SHANGHAI, CHINA
Sample Submission:	The sample was submitted by applicant and identified.
Product Name:	Industrial safety helmet
Identification/Style No.:	W-018
Product size:	51-63cm
Order No.:	/
Manufacturer:	/
Address:	/
Country of Origin:	China
Buyer:	/
Export to:	/
Receipt Date of Sample:	2024-06-13
Date of Testing:	From 2024-06-14 to 2024-07-04
Test Result:	Refer to the data listed in following pages

Test Specification(s) or Test Item(s):

1. ANSI/ISEA Z89.1-2014 (Exclude clause 6)

Conclusions:

Pass

Hardline Laboratory

TÜV SÜD Certification and Testing (China) Co., Ltd.
Guangzhou Branch

Tested By: Mac Xiao

Mac Xiao
Test Engineer

Reviewed By: Steven Pan

Steven Pan
Designated Reviewer

Description of the test subject:

1	**Product Description**	Product name: Industrial safety helmet Size: 51-63cm
Sample photo(s)		
		

Test Results:

1. ANSI/ISEA Z89.1-2014 American National Standard for Industrial Head Protection

Clause	Requirement	Results
6	**INSTRUCTIONS AND MARKING**	
6.1	Each helmet shall be accompanied by manufacturers' instructions explaining the application(s) of use, proper method of size adjustment and fitting (including, if applicable, reverse wearing) and, guidelines for care and useful service life. NOTE: Useful service life guidelines are intended to provide the user with information that certain conditions may affect a specific helmet's continued protection over time. A specific service life, defined in terms of number of years, is not required though individual manufacturers may choose to include such information for their respective helmets.	N/T
6.2	Each helmet shall bear permanent markings in at least 1.5 mm (0.06 in.) high letters stating the following information: a. Name or identification mark of the manufacturer. b. The date of manufacture. c. The American National Standard designation, ANSI/ISEA Z89.1-2014. d. The applicable Type and Class designations, followed by applicable optional criteria markings; e. The approximate headsize range (see Table 2).	N/T
6.3	If optional performance features are satisfied, the appropriate marking below shall be applied in the sequence as specified below: -Reverse donning; LT - Lower temperature HV - High visibility HT–Higher temperature The size of the reverse donning symbol shall be large enough to be legible.	N/T
7	**PERFORMANCE REQUIREMENTS**	
7.1	Requirements for Type I and Type II Helmets	
7.1.1	Flammability Helmets shall be tested in accordance with Section 10.1. No flame shall be visible 5 seconds after removal of the test flame.	P
7.1.2	Force Transmission Helmets shall be tested in accordance with Section 10.2 and shall not transmit a force to the test headform that exceeds 4,450 N (1,000 lbf). Additionally, for each preconditioning specified, the maximum transmitted force of individual test samples shall be averaged. The averaged values shall not exceed 3,780 N (850 lbf).	P
7.1.3	Apex Penetration Helmets shall be tested in accordance with Section 10.3. The penetrator shall not make contact with the top of the test headform.	P

Clause	Requirement	Results
7.1.4	Electrical Insulation Requirements 7.1.4.1 General Class G and Class E helmets shall meet their appropriate performance requirement as listed below. ClassC helmets are not tested for electrical insulation. 7.1.4.2 Class G Requirements Class G helmets shall be tested in accordance with Section 10.7 and shall withstand 2,200 volts (root mean square) AC. 60 hertz, for 1 minute. Leakage shall not exceed 3 mill amperes. 7.1.4.3 Class E Requirements After first passing the force transmission test specified in Section 7.1.2, Class E helmets shall be tested in accordance with Section 10.7 and shall withstand 20,000 volts (root mean square) AC, 60 hertz, for 3 minutes. Leakage shall not exceed 9 mill amperes.At 30,000 volts, the test sample shall not burn through.	N/A

Abbreviation: P=Pass; F=Fail; N/A = Not Applicable; N/T=Not Tested; N/R=Not Requested

Appendix:

Clause 7.1.1- FLAMMABILITY TEST

Testing Conditions: 23 °C, 50 %

Sample No.	Result	Assessment
12#	0 s	Pass
Temperature of the flame at the tip of the inner cone: 861 °C.		

Clause 7.1.2- FORCE TRANSMISSION TEST

Testing Conditions: 23 °C, 50 %

Preconditioning Environments	Result				Assessment
Hot: 49°C,2h	1#	3142 N	7#	3347N	Pass
	2#	3028 N	8#	3286N	
	3#	3097N	9#	3407N	
	4#	3242N	10#	3184N	
	5#	3501N	11#	3342N	
	6#	3421N	12#	3189N	
	Average values: 3266 N				
Cold: -18°C,2h	13#	3548 N	19#	3702 N	
	14#	3621 N	20#	3798 N	
	15#	3739 N	21#	3642 N	

	16#	3502N	22#	3381 N	
	17#	3586 N	23#	3407 N	
	18#	3687 N	24#	3501 N	
	Average values: 3593 N				
The impactor: 3.60 kg Impact velocity: 5.50 m/s					

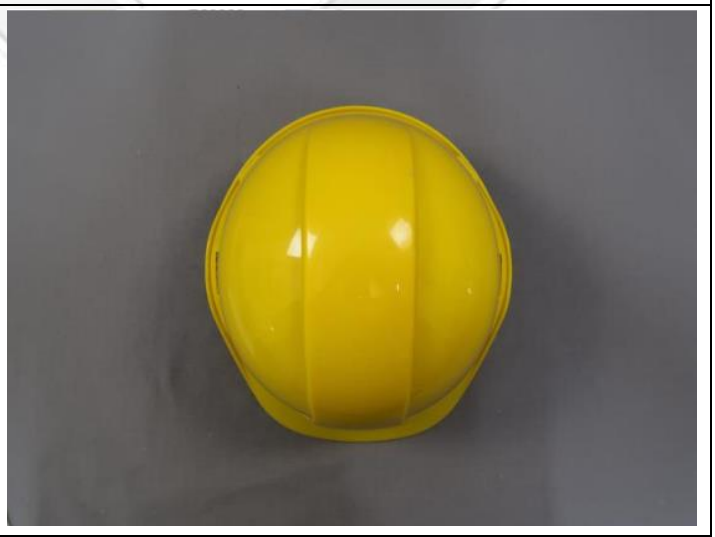
Clause 7.1.3- APEX PENETRATION TEST

Testing Conditions: 23 °C, 50 %

Preconditioning Environments	Result		Assessment
Hot: 49°C,2h	25#	The penetrator didn't make contact with the top of the test headform	Pass
	26#		
	27#		
Cold: -18°C,2h	28#		
	29#		
	30#		
The penetrator :1.0 kg Impact velocity: 7.0 m/s			

Photos for reference:

Front view	

Side view	
Back view	
Top view	

Bottom view	

Remark:

1. The test results exclusively based on the submitted sample.
2. The tests were subcontracted to Testing Center for Personal Protective Equipment, Institute of Urban Safety and Environmental Science, Beijing Academy of Science and Technology.

-End of Test Report-