



Test Report

No. TPSH1607198503

Date: 2016/07/26

The following sample(s) was/were submitted and identified by the client as:

Applicant	: Shanghai SYSBEL Industry & Technology Co.,Ltd
Address	: Building 26 Floor 6, City of Elite No.1000Jinhai Rd, Pudong New District, Shanghai, China
Sample Description	: Emergency Shower and Eyewash Equipment
Style/Item No.	: WG6000A ;WG6000AC;WG6000B;WG6000BC;WG6000AD;WG6000BD;WG7020;WG7023;WG7023Y;WG7033F;WG7033FY;WG7043;WG7043Y;WG7043H;WG7043HY;WG7043V;WG7043VY;WG7050F;WG7050FY;WG7053F;WG7053FY;WG001;
Sample Receiving Date	: July 19, 2016
Testing Period	: July 19, 2016 to July 26, 2016
Testing Performed	: SELECTED TEST(S) AS REQUESTED BY APPLICANT
Test Requested	: EN 15154-1:2006 EN 15154-2:2006 EN 15154-4:2009
Test Result(s)	: FOR FUTHER DETAILS, PLEASE REFER TO THE FOLLOWING PAGE(S)
Conclusion	: THE SUBMITTED SAMPLE MET THE TEST REQUIREMENT

Authorized Signature



For and on behalf of

Shanghai Global Testing Services Co., Ltd.

Shi Lei/Kevin

General Manger -GTS/SHO

Page 1 of 15

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Test Report

No. TPSH1607198503

Date: 2016/07/26

Test Conducted:

EMERGENCY SAFETY SHOWERS - PART 1: PLUMBED-IN BODY SHOWERS FOR LABORATORIES (EN 15154-1:2006)

Test result:

Test Property	Test Method	Test Principle / Requirements	The Result
4. Performance			
Flow rate of water	EN 15154-1:2006 Clause 4.1	The body shower shall be designed to meet the following requirements: <ul style="list-style-type: none">- The water supplied by body shower shall be of constant flow rate in accordance with national regulations at a flow pressure to be specified by the manufacturer.- The flow pressure shall be specified and measured where the shower is connected to the water system.- The body shower shall be capable of delivering this supply for a minimum of 15 minutes.	Pass
Water distribution	EN 15154-1:2006 Clause 4.2	The water distribution of the emergency body shower shall be measured in accordance with appointed type test procedure, with one cylinder, D400, divided into 4 compartments, below the shower head, at a distance 700mm, and meet the following requirements: <ul style="list-style-type: none">- (50 ± 10) % of the volume of water delivered shall fall in a circle with a radius of 200 mm;- water level in the individual compartments in this circle shall not deviate by more than 30% from the mean value. Another cylinder, D800, below the head at same distance to measure the total	Pass



Test Report

No. TPSH1607198503

Date: 2016/07/26

		volume sprayed in the cycle: <ul style="list-style-type: none">- Minimum of 95 % of the water shall be limited to a circle with a radius of 400 mm.	
Water quality	EN 15154-1:2006 Clause 4.3	Water and material applied in eye wash unit should meet the requirements as below: <ul style="list-style-type: none">- Potable water or water of a similar quality complying with European or national standards is required for eye wash units.- Materials used in the construction of the eye wash unit shall not affect the water quality or contaminate the water supply.	N/A (Conducted by user)
Water temperature	EN 15154-1:2006 Clause 4.4	Temperature of water used for emergency eye washing should meet the requirements as below: <ul style="list-style-type: none">- Medical recommendations suggest water at tepid temperatures be delivered to affected chemically injured eyes.- Temperatures of water should not be in an excess of 37 °C.- Temperature of 15 °C is suitable for the lower parameter for tepid water. Temperature of water excess of 37 °C has proven to be harmful to the eyes and can enhance chemical interaction with the eyes and skin. When cold water temperatures provide immediate cooling after burns or chemical contact, prolonged exposure to cold water can result in the premature cessation of first aid treatment	N/A (Conducted by user)



Test Report

No. TPSH1607198503

Date: 2016/07/26

5. Design requirements for installation			
Installation height	EN 15154-1:2006 Clause 5.1	The shower head shall be designed to be installed to meet the height requirement: - Lower edge of the head is (2 200 ± 100) mm above the level on which the user stands.	Pass Height=2400mm
Free space	EN 15154-1:2006 Clause 5.2	The free space between the centre line of the shower head and the nearest obstruction (wall, vertical supply tube or similar) shall be: - a circle with a minimum radius of 400 mm. Only the valve control element and/or the eyewash station and/or the hand held shower on a combination shower shall project into this space by a maximum of 200 mm. Other parts or components shall not project into this space.	Pass
6. Valve			
Valve requirements	EN 15154-1:2006 Clause 6	For manual operation, the valve shall be meet the following requirements: - Opened in a single operation by turning or moving a valve actuator to maximum 90° or maximum 200 mm stroke. - The maximum force for the operation shall be 100 N or the maximum torque 7 Nm. - By using this force/torque, the valve shall be fully open within 1s.	Pass
		For automatic operation, the valve shall	N/A



Test Report

No. TPSH1607198503

Date: 2016/07/26

		be : - Fully open within 1s. - The valve shall not close automatically once it has been opened. - The direction of operating the valve actuator shall be clearly visible and unmistakable.	
		- The valve actuator shall be large enough to be easily located and operated by the user even when wearing protective gloves, with a maximum size in accordance with EN 420. - The valve actuator shall be positioned between floor level and a maximum of 1750mm above that level.	Pass
7. Shower head			
Shower head requirements	EN 15154-1:2006 Clause 7	The shower head shall meet the requirements as below: - It shall only be possible to make adjustments with a tool to the direction of spray or the water distribution of a shower head. - The shower head shall be self-draining between the valve and the outlet. - The shower head shall be removable for maintenance but only by use of a tool.	Pass
9. Marking			
Marking requirements	EN 15154-1:2006 Clause 9	The shower shall be clearly and permanently marked the following info: - Minimum and maximum flow	Pass



Test Report

No. TPSH1607198503

Date: 2016/07/26

		<p>pressure and the maximum static pressure requirements.</p> <ul style="list-style-type: none">- Name of the manufacturer and the model/article number.- Safety sign in accordance with ISO 3864-1 displayable near the body shower.	
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Test Report

No. TPSH1607198503

Date: 2016/07/26

Test Conducted:

EMERGENCY SAFETY SHOWERS - PART 2: PLUMBED-IN EYE WASH UNITS
(EN 15154-2:2006)

Test Property	Test Method	Test Principle / Requirements	The Result
4. Performance			
Flow rate of water	EN 15154-2:2006 Clause 4.1	Plumbed-in eye wash units shall be designed to meet the following requirements: <ul style="list-style-type: none"> - The wash units should deliver a constant flow rate of minimum 6 l/min at a flow pressure to be specified by the manufacturer and to be measured where the eye wash unit is connected to the water system. - The velocity of the water shall be low enough to be non-injurious to the user. - Eye wash units shall be capable of delivering this supply for a minimum of 15 min. 	Pass
		<ul style="list-style-type: none"> - Nozzle(s) shall be protected from airborne contaminants. - Removal of the protection covers shall not require a separate motion by the user when activating the eye wash unit. 	Pass (Plastic dust cover)
Jet height	EN 15154-2:2006 Clause 4.2	The jet of water supplied by the nozzle(s) shall spray at $100\text{mm} \leq h \leq 300\text{mm}$, the height of both measured from the nozzle centre, before tipping over or collapsing.	Pass
Water quality	EN 15154-2:2006 Clause 4.3	Water and material applied in eye wash unit should meet the requirements as below: <ul style="list-style-type: none"> - Potable water or water of a similar quality complying with European or national standards is required for eye wash units. - Materials used in the construction of the eye wash unit shall not affect the water 	N/A (Conducted by user)



Test Report

No. TPSH1607198503

Date: 2016/07/26

		quality or contaminate the water supply.	
Water temperature	EN 15154-2:2006 Clause 4.4	<p>Temperature of water used for emergency eye washing should meet the requirements as below:</p> <ul style="list-style-type: none"> - Medical recommendations suggest water at tepid temperatures be delivered to affected chemically injured eyes. - Temperatures of water should not be in an excess of 37 °C. - Temperature of 15 °C is suitable for the lower parameter for tepid water. <p>Temperature of water excess of 37 °C has proven to be harmful to the eyes and can enhance chemical interaction with the eyes and skin. When cold water temperatures provide immediate cooling after burns or chemical contact, prolonged exposure to cold water can result in the premature cessation of first aid treatment</p>	N/A (Conducted by user)
5. Design requirements for installation			
Installation requirements	EN 15154-2:2006 Clause 5	<p>The outlet nozzle(s) on plumbed-in eye wash units mounted in fixed positions, shall be designed to be installed at:</p> <ul style="list-style-type: none"> - a height of (1000 ± 200) mm above the level on which the user stands; - minimum 150 mm from the nearest wall or obstruction. 	Pass
6. Valve			
Valve requirements	EN 15154-2:2006 Clause 6	<p>For manual operation, the valve should meet the following requirements:</p> <ul style="list-style-type: none"> - The valve shall be opened in a single operation by turning or moving a valve actuator to maximum 90° or maximum 200 mm stroke. - The maximum force for the operation shall be 100 N or the maximum torque 7 Nm. 	Pass



Test Report

No. TPSH1607198503

Date: 2016/07/26

		<ul style="list-style-type: none"> - By using this force/torque, the valve shall be fully open within 1 s. 	
		<p>For automatic operation, the valve should meet the following requirements:</p> <ul style="list-style-type: none"> - The valve shall be fully open within 1 s and shall be fail-safe at the open position if operated electrically. - The valve shall not close automatically once it has been opened. 	N/A
		<ul style="list-style-type: none"> - The direction of operating the valve actuator shall be clearly visible and unmistakable. - The valve actuator shall be large enough to be easily located and operated by the user even when wearing protective gloves. 	Pass
7. Outlet Nozzle(s)			
Outlet Nozzle(s) requirements	EN 15154-2:2006 Clause 7	<p>The unit shall be designed to meet following requirements:</p> <ul style="list-style-type: none"> - Enough room provided to allow both eyelids to be held open while the eyes are in the water flushing stream. - It shall only be possible to make adjustments with a tool to the direction of spray of the outlet nozzle(s). - The outlet nozzle(s) shall be removable for maintenance but only by use of a tool. 	Pass
9. Marking			
	EN 15154-2:2006 Clause 9	<p>The eye wash unit shall be clearly and permanently marked the following info:</p> <ul style="list-style-type: none"> - Minimum and maximum flow pressure and the maximum static pressure requirements. - Name of the manufacturer and the 	Pass



Test Report

No. TPSH1607198503

Date: 2016/07/26

		model/article number. - Safety sign in accordance with ISO 3864-1 displayable near the eye wash unit.	
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Test Report

No. TPSH1607198503

Date: 2016/07/26

Test Conducted:

EMERGENCY SAFETY SHOWERS - PART 4: Non plumbed-in eyewash units
(EN 15154-4:2009)

Test Property	Test Method	Test Principle / Requirements	The Result
4. Performance requirements			
Efficacy	EN 15154-4:2009 Clause 4.1	The efficacy of the product shall be sufficient to reduce the effects of harmful substances.	Pass
Quality of rinsing fluid-General	EN 15154-4:2009 Clause 4.2.1	The rinsing fluid shall be non toxic and safe for the user during the entire shelf life of the product. The rinsing fluid shall be water or solutions.	Pass
Water	EN 15154-4:2009 Clause 4.2.2	If water is used in eyewash units, it shall be potable water or water of a similar quality, wherein germ multiplication is prevented.	Pass Potable water
Solutions	EN 15154-4:2009 Clause 4.2.3	If saline solutions, buffered solutions or other solutions are used in eyewash units, the solutions shall be sterile according to EN 556-1 or EN 556-2	N/A
Flow	EN 15154-4:2009 Clause 4.3	The flow pattern shall ensure rinsing of the entire area of the eye(s) including the eyelids.	Pass
Container for rinsing fluid-General	EN 15154-4:2009 Clause 4.4.1	Eyewash units shall be designed in such a way as to be non hazardous to the user. Materials used in the construction of eyewash units shall not affect the quality of the fluid nor shall the fluid affect the materials of the container during the shelf life of the product.	Material: PE
Transportable eyewash units	EN 15154-4:2009 Clause 4.4.2	Transportable eyewash units with a mass between 2 kg and 15 kg shall have handles or shall be able to be moved with a transprot tool intended for this.	Pass Weight:8.5kg
Portable eyewash units	EN 15154-4:2009 Clause 4.4.3	Portable eyewash units shall have a mass less than 2kg. They shall be designed to allow the user to firmly grip the unit with one	N/A



Test Report

No. TPSH1607198503

Date: 2016/07/26

		hand. The minimum effective volume shall be 400ml for water, Portable eyewash units containing other solutions shall have an effective volume to achieve at least equivalent efficacy.	
Personal eyewash units	EN 15154-4:2009 Clause 4.4.4	The effective volume of personal eyewash units shall be sufficient to provide immediate flushing while further fluid is obtained.	N/A
5. Functional Requirements			
General	EN 15154-4:2009 Clause 5.1	Eyewash units shall be able to be activated for immediate use by a single person within a maximum of 5s even with closed eyes. Once activated, it shall be possible to operate the device with one hand.	Pass
Single use eyewash units	EN 15154-4:2009 Clause 5.2	Single use eyewash units shall be fitted with a tamper-evident device.	Pass
Multiple use eyewash units	EN 15154-4:2009 Clause 5.3	The device shall be designed so that it can be checked that it is fit and ready for use.	N/A
Reconditionable eyewash units	EN 15154-4:2009 Clause 5.4	The device shall be designed to be reconditioned only by the manufacturer or authorized service agents.	Pass
6. Information for use			
Labelling and marking	EN 15154-4:2009 Clause 6.1	Eyewash units shall be labelled and marked in accordance with EN 1041 and EN 980.	Pass
Further information and instructions for use to be supplied	EN 15154-4:2009 Clause 6.2	Where information required to use the product safety can not be included on the product label, this information shall be provided separately.	Pass See User manual

Remark:

1. N/A denotes not applicable

Test Report

No. TPSH1607198503

Date: 2016/07/26

Sample Photo(s):



Test Report

No. TPSH1607198503

Date: 2016/07/26



Test Report

No. TPSH1607198503

Date: 2016/07/26



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