

PRODUCTS SPECIFICATION

TYPE: QUICK LOCK (SPRING LOCK CONNECTOR)

PART NO. QLX

ISSUED: OCTOBER 20, 2010

NICHIFU TERMINAL INDUSTRIES CO., LTD.



TECHNICAL GENERAL MANAGER	Q. A. DEPT.	TECHNICAL DEPT.	
APPROVED	CHECKED	CHECKED	PREPARED
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

1. SCOPE This products specification is prepared by NICHIFU TERMINAL INDUSTRIES CO., LTD. and specified Quick Lock connector (hereafter referred to as connector) which is intended for connection less than 300V of annealed copper solid wire principally used as inside wiring of building.

2. PART NO. & RATING Given in Table 1.

Table 1

TYPE	PART NO.	QTY OF POLE	WIRE SIZE	RATINGS
QUICK LOCK (Spring Lock Connector)	QLX 2	2	COPPER/SOLID φ 1.6 mm φ 2.0 mm	CURRENT 20A VOLTAGE 300V
	QLX 3	3		
	QLX 4	4		
	QLX 5	5		
	QLX 6	6		
	QLX 8	8		

3. MATERIAL Given in Table 2

Table 2

NAME OF PARTS	MATERIAL	STANDARDS
CONDUCTOR PLATE	OXYGEN FREE COPPER(TIN PLATED)	JIS C 3100
SPRING	STAINLESS STEEL	—
HOUSING	POLYCARBONATE (UL-94V2)	JIS C 0060 (PROVISION 4. ~11)

4. STANDARD INFORMATION(Limited part number)

- UL UL486C(SPLICING WIRE CONNECTORS)
- PSE LAW (JAPANESE PRODUCT SAFETY ELECTRICAL APPLIANCE & MATERIAL, <PS>E JET)

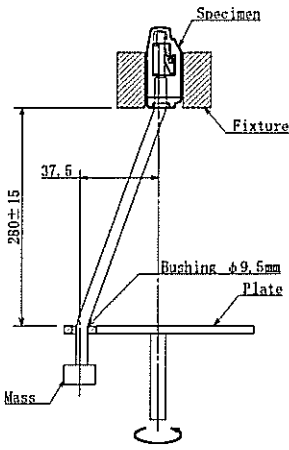
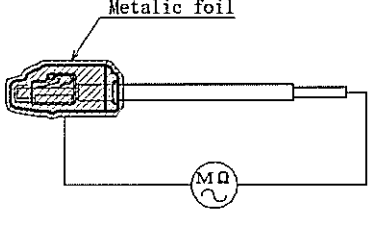
5. PERFORMANCE & TEST

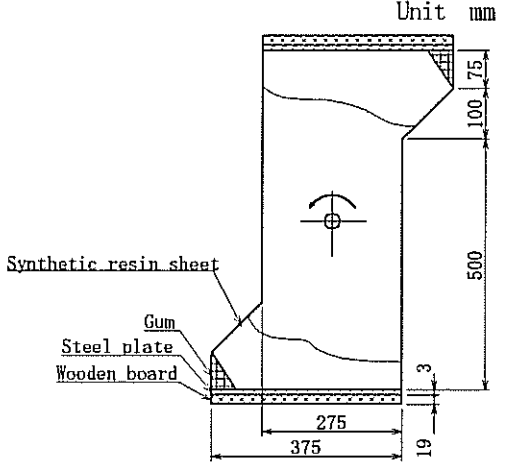
5.1 TEST CONDITION

- (1) Unless otherwise specified, the tests shall be carried out in a room at ordinary temperature($20\pm 15^{\circ}\text{C}$) and ordinary humidity($65\pm 20\%$) as specified in JIS Z8703. The test of 5.10 shall be carried out by maintaining the specimens in draft free air at $15\sim 35^{\circ}\text{C}$.
- (2) Diameter $\phi 1.6\text{ mm}$ & $\phi 2.0\text{ mm}$ of PVC insulated copper solid wire which is specified in JIS C3307 is used. Strip insulation of wire with correct strip length which is regulated by us. Connect correctly.
- (3) Performance and test manner is given in Table 3.

Table 3

TEST	PERFORMANCE	METHOD
5.2 PROTECTION AGAINST ELECTRICAL SHOCK	Test finger does not touch live part.	The test shall be carried out in such a manner that test finger is applied 10N touches round wire holes of the connector under normal use. (It shall be measured by the 500V insulation resistance tester with test finger.)

TEST	PERFORMANCE	METHOD
5.3 CONNECTION TEST	There shall be no trouble detrimental to service.	Connection and subsequent disconnection shall be made 5 times with wire type IV, $\phi 1.6$ mm (solid) and then wire type IV, $\phi 2.0$ mm (solid) 5 times. New conductors shall be used each time, except for the fifth time, when the conductor used for the fourth insertion is clamped. When disconnection, wire is rotated by 90° .
5.4 ROTATING TEST	There shall be no coming out of wire, cut of wire or other defect detrimental of service.	Examine connected wire visually after 150 Rotations in the horizontal plane which rotate at a rate of 10 ± 2 r. p. m. Unit mm  Fig. 1
5.5 PULL OUT TEST	There shall be no coming out of wire, cut of wire or other defect detrimental of service. PULL FORCE $\phi 1.6$ mm 50N $\phi 2.0$ mm 60N	The pull force shall be applied gradually until it is reached appropriate vale between the connector and the wire. Hold the value for 1 Min. and then measure braking value.
5.6 RESISTANCE TO HUMID	The specimen shall comply with the provision of 5.7 and 5.8. INSULATION RESISTANCE: $\geq 5M\Omega$ WITHSTAND VOLTAGE : 2500V/Min.	The specimen is placed in thermostatic chamber at humidity 91~95% and temperature $20 \sim 30^\circ\text{C}$ for 48 hours. Wipe off water on Specimen and then carried out test 5.7 and 5.8 within 5 minutes.
5.7 INSULATION RESISTANCE	The insulation resistance measured between the surface of insulation and the live part shall be more than $5M\Omega$.	As illustrated Fig. 2, it shall be measured with the 500V insulation resistance tester.  Fig. 2
5.8 WITHSTAND VOLTAGE	The specimen shall withstand the voltage for 1 minute.	As illustrated Fig. 2, an AC voltage of 2500V shall be applied for 1 minute.

TEST	PERFORMANCE	METHOD
5.9 RESISTANCE TO DROP	There shall be no trouble detrimental to service.	<p>The specimen is placed in test chamber as illustrated Fig. 3. 50 drops at a rate of 5 r. p. m.</p>  <p style="text-align: right;">Unit mm</p> <p style="text-align: center;">Fig. 3</p>
5.10 TEMPERATURE	<p>The temperature rise of copper conductor plate shall not exceed 45K.</p> <p>TEST CURRENT ϕ 1.6 mm 21A ϕ 2.0 mm 30A</p>	The test current is continuously passed until the temperatures are stabilized, and then the temperatures shall be measured.
5.11 ELECTRICAL PERFORMANCE	<p>The voltage drop measured at the end of the 192nd cycle is not exceed 1.5 times the value measured after 24th cycle and 22.5mV.</p> <p>TEST CURRENT ϕ 1.6 mm 21A ϕ 2.0 mm 30A</p>	The specimen connected with wire is placed in thermostatic chamber and the test current is passed and then temperature of chamber raised in 20 minutes to 40 ± 5 °C. It is maintained the temperature for 10 minutes. The specimen is then allowed to cool down in 20 minutes to a temperature of 30°C without any current. It is kept at this temperature for 10 minutes. Above cycle is repeated 192 cycles. At the end of the 24 th and 192 nd , the test current is passed under temperature 20 ± 2 °C and then voltage drop value is measured when temperature of specimen is stabilized. Point of voltage drop value is measured is within 10mm from the connection part.
5.12 RESISTANCE TO HEAT	There shall be no trouble detrimental to service.	The specimen is placed in thermostatic chamber at 70 ± 2 °C and allowed to stand for 168 hours (7days) and then it shall be allowed to stand ordinary temperature and humidity for 4 hours. The specimen is then put on scale of balance and put the weight of the specimen weight +500g on the other scale. Push the specimen by finger to take a balance. Examine visually.

6. MARKING The following items shall be marked.

6.1 Marking on product

- (1) Part number, (2) Wire size, (3) Rated voltage and current, (4) Strip length of the wire
(5) <PS>E, (6) UL(listed part number only), (7) Trade name

6.2 PACKAGE

(1) Quantity, (2) Lot No., (3) Instruction

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