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# PRODUCTS SPECIFICATION

TYPE: INSULATION DISPLACEMENT CONNECTOR

PART NO. NDC 3026

ISSUED: APRIL 2, 2015

NICHIFU TERMINAL INDUSTRIES CO., LTD.



PRODUCT QUALITY DEPT			
APPROVED	CHECKED	CHECKED	PREPARED
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1. SCOPE This products specification is prepared by NICHIFU TERMINAL INDUSTRIES CO., LTD. and specified Insulated Displacement Connector (hereafter to as connector) which is intended for connection less than 100V of inside wiring of electric equipment.

2. TYPE AND PART NO. Given in Table 1.

Table 1

TYPE	PART NO.	APPLICABLE WIRE SIZE			MAX WIRE OUTSIDE DIAMETER mm	REMARKS COLUMN
		STRANDED mm <sup>2</sup>	AWG	SOLID mm		
INSULATION DISPLACEMENT CONNECTOR	NDC 3026	0.05 ~ 0.13	30 ~ 26	φ 0.26 ~ 0.4	φ 1.3	THE CONTACT IS NOT REUSABLE AFTER CONNECTION.

3. RATING Given in Table 2.

Table 2

ITEM		RATING
Rated Voltage ( AC / DC )		100 V
Rated Current	AWG 30, AWG 28	2 A
	AWG 26	3 A
Working Temperature		0 °C ~ 60 °C
Assemble Temperature		0 °C ~ 40 °C

#### 4. MATERIAL

4.1 CONTACT : Pre-tin Plated Phosphor Bronze

4.2 INSULATOR : Nylon

#### 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 5.11 and 5.12 shall be carried out by maintaining the specimens in draft free air at 15 to  $35^{\circ}\text{C}$ .
- (2) The test wire is AWG 30, 26 of tin-plated stranded wire which is specified in UL 1007. The wire is placed on the correct position, and connected correctly.
- (3) Test current and pull out test force is given in Table 3, insertion and withdrawal force is given in Table 4, Performance and test manner is given in table 5.

Table 3

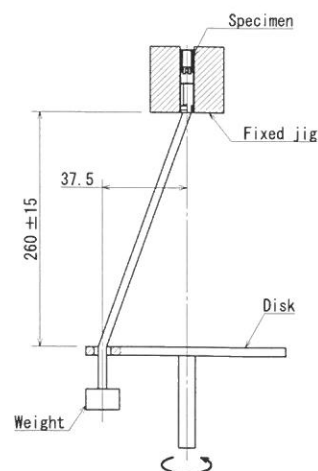
PART NO.	Wire size Stranded	Electrical resistance test current A	Temperature rise test current A	Cyclic Heating		Tensile force N
				Test Current A	Test Duration min	
NDC 3026	AWG 30	1	3	3	30	10
	AWG 26	1	4	4	30	10
	$\phi$ 0.26 mm	1	2.5	2.5	30	5
	$\phi$ 0.4 mm	1	4	4	30	10

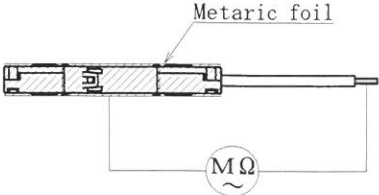
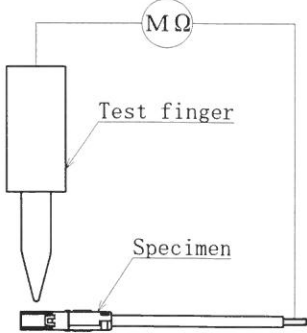
Table 4

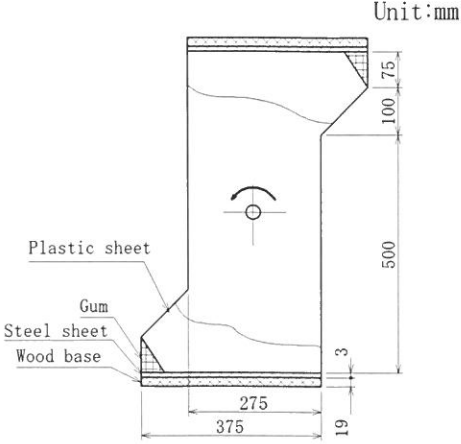
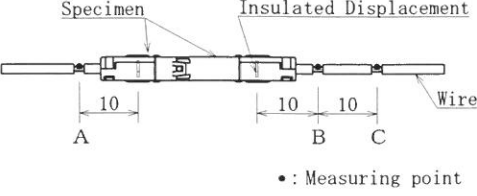
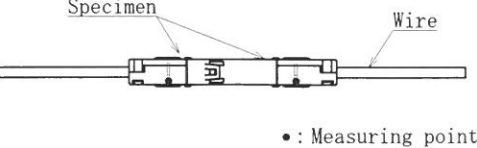
Unit : N

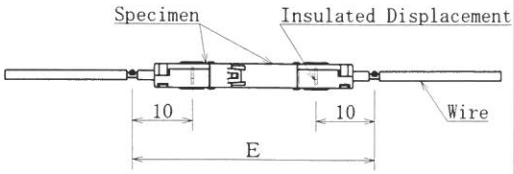
Insertion and Withdrawal force		
First insertion	First withdrawal	6 <sup>th</sup> withdrawal
Maximum 15.0	Minimum 5.0	Minimum 5.0

Table 5

TEST	PERFORMANCE	METHOD
5.2 Appearance	There shall be no defects detrimental to use such as rust, cuts or cracks on the connector.	Visual examination.
5.3 Dimensions	Dimensions of each part of a connector shall comply with the dimensions specified in the drawing.	Dimension shall be measured with a Vernier caliper specified in JIS B 7507 or other measuring instrument at least equivalent in accuracy.
5.4 Rotating Test	There shall be no wire pull out, wire breakage or other defects detrimental to service, and the specimen shall comply with the provisions of 5.5 as well.  Weight for AWG30 : 0.1kg Weight for AWG26 : 0.2kg  Weight for $\phi$ 0.26 mm : 0.1kg Weight for $\phi$ 0.4 mm : 0.2kg	Visually examine the wire connection after 150 horizontal rotations at the rate of $10 \pm 2$ r. p. m.  Unit:mm  
5.5 Tensile strength	There shall be no wire pull out, wire breakage or other defects detrimental to service.	At least the tensile force as specified in Table 3 shall be applied for 10 seconds.

TEST	PERFORMANCE	METHOD
5.6 Resistance to humidity	The specimen shall comply with the provisions of 5.7 and 5.8.	The specimen is placed in thermostatic chamber for 48 hours at humidity 91 to 95% and temperature 20 to 30 °C. Moisture on the on the specimen is wiped and then carried out to the test 5.7 and 5.8.
5.7 Insulation resistance	The insulation resistance shall be more than 5MΩ.	As illustrated in 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 in Fig. 2, an AC voltage of 1000V shall be applied for 1 minute.
5.9 Insertion and withdrawal force	The force given in Table 4 shall be satisfied.	The speed of insertion/withdrawal is 1mm/s. The test is carried out 6 times.
5.10 Heat Resistance	The standard test finger shall not contact the charged part. The insulator shall have no splits and deformations which are detrimental to service and legible marking.	The specimen is placed in thermostatic chamber at $60 \pm 5$ °C for 1 hour. The standard test finger applies with maximum 5N force to the charged part which normally cannot make contact. Examine visually.  Fig. 3

TEST	PERFORMANCE	METHOD
<p>5.11 Mechanical strength</p>	<p>There shall be no breakage and the cover shall remain in place as prior to the test. There shall especially be no breakage, splits and deformation that prevent the charged part from maintaining correct position and from maintaining electrical shock protection.</p>	<p>Unconnected specimen is placed in the test chamber as illustrated in Fig. 3, making 50 drops at the rate of 10 r. p. m.</p>  <p>Unit:mm</p> <p>Fig. 4</p>
<p>5.12 Electrical resistance</p>	<p>The electrical resistance of the specimen shall be less than 25mΩ.</p>	<p>As illustrated in Fig. 5, voltage drop is measured between A and B (RAB), when applied with the current, specified in Table 3. Electrical resistance value is RAB minus voltage drop (between B and C x 2).</p>  <p>Fig. 5</p>
<p>5.13 Temperature rise</p>	<p>The temperature rise of contact shall not exceed 45k.</p>	<p>The test current as specified in table 3 is continuously passed until the temperatures are stabilized, and then the temperatures shall be measured.</p>  <p>Fig. 6</p>

TEST	PERFORMANCE	METHOD
5.14 Cyclic heating	The voltage drop measured at the end of the 384 <sup>th</sup> cycle shall not exceed 1.5 times the value measured at 48 <sup>th</sup> cycle.	<p>The specimen connected with wire and passed the current in Table 3. The condition is kept for 30 minutes and the rest for 30 minutes. This cycle is repeated 384<sup>th</sup> cycles. At the end of the 48<sup>th</sup> and 384<sup>th</sup>, the test current in Table 3 is passed under temperature <math>20 \pm 2</math> °C and then voltage drop values is measured when temperature of the specimen is stabilized.</p>  <p style="text-align: center;">Fig. 7</p>
5.15 Resistance to deterioration	There shall be no cracks. Visual examination.	The specimen is placed in thermostatic chamber at $105 \pm 2$ °C and allowed to stand for 168 hours (7 days) and then it shall be allowed to stand ordinary temperature for more than 4 hours.

6. MARKING The following items shall be marked.

6.1 Marking on product

(1) Part number, (2) Wire size(AWG), (3) Trade name

6.2 Package In addition to 6.1,

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

7. PACKAGE Given in Table 6.

Table 6

Part number	Package details	
	Individual package	Inner package
NDC 3026	20 pcs / plastic box	200 pcs (20 pcs x 10 boxes) / Paper box

\*\*\*END OF DOCUMENT\*\*\*