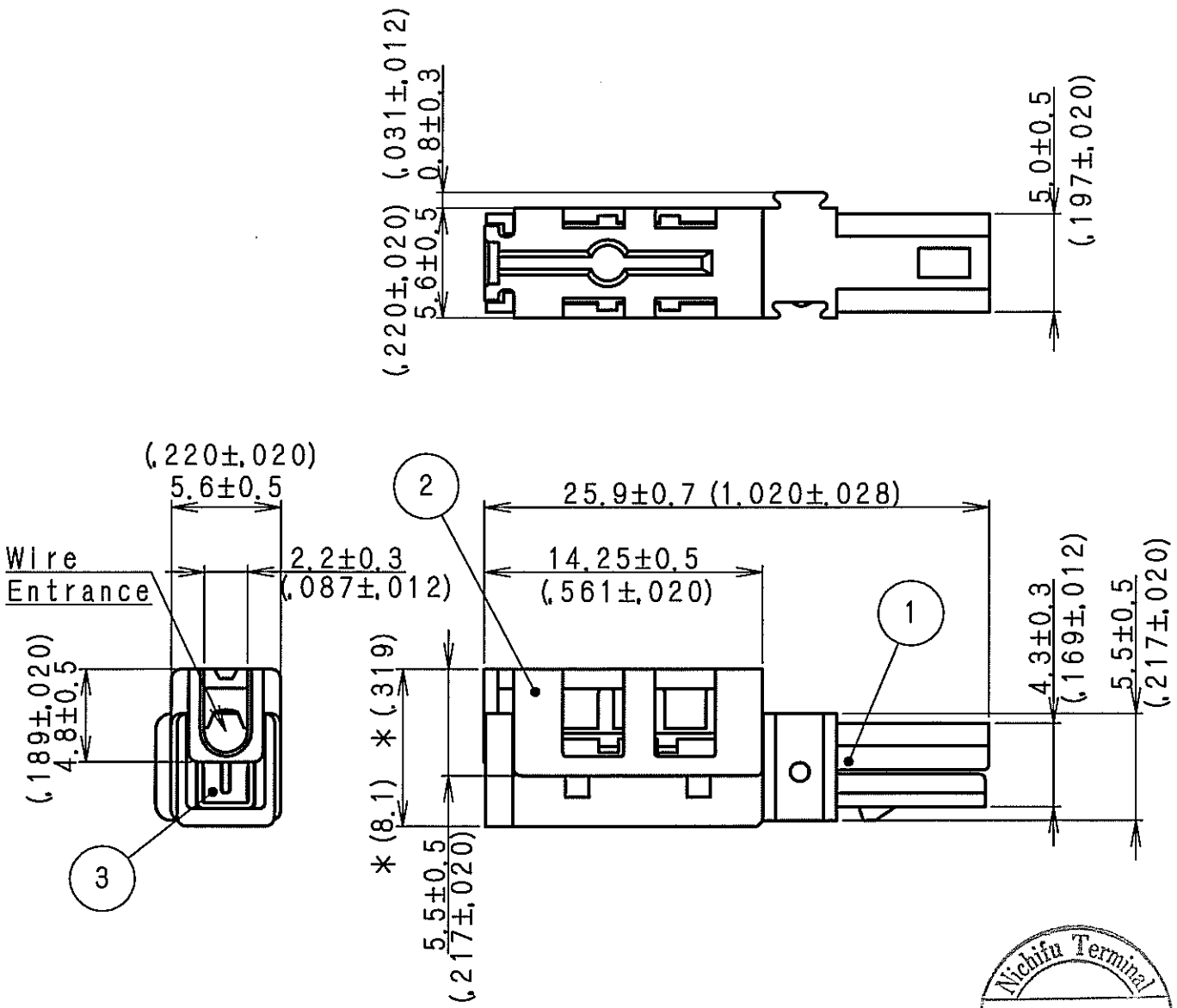
No.	Date	Revision Record	Drawn	Checked



Nichifu Terminal Industries Co.,Ltd. DEC. 13. 2012

Note: 1) Inch Dimension Shown in ( ).
2) ∗ Reference Dimension

Max. Wire outside diameter 2.1mm

No.	Parts Name	Material	Thick	Q'ty	Treatment	Wire Size	
3	Contact	Copper Alloy	t=0.3 (.033)	1	Tin Plated	24-22AWG 0.2~0.5mm²	
2	Cover	Polycarbonate	–	1	–	–	
1	Housing	Polycarbonate	–	1	–	–	

Messrs.

Scale	Approved	Checked		Design	Drawn
3/1		N.Kishida	H.Miyata	H.Hatta	K.Yamanaka
	Date	2012.12.11			

Part Number	Insulation Displacement Connector
Title	NDC 2420
Drawing No.	15-00272-00
Revision No.	

NTM NICHIFU

DOCUMENT NO. HQI100801R003
FILE NO. NS-62-0021eR4

PRODUCTS SPECIFICATION

TYPE: INSULATION DISPLACEMENT CONNECTOR

PART NO. NDC 2420

ISSUED: DECEMBER 01, 2011
REVISED: MAY 14, 2012

NICHIFU TERMINAL INDUSTRIES CO., LTD.

Q.A. DEPT.	TECHNICAL DEPT.	
CHECKED	CHECKED	PREPARED
Y. Yamaguchi	H. miyata	K. Yamanaka

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 wireing of electric equipment by the plier (JIS B4614 Size 150).

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

Table 1

TYPE	PART NO.	APPLICABLE WIRE SIZE a)			MAX WIRE OUTSIDE DIAMETER φmm	REMARKS COLUMN
		mm^2	mm	AWG		
INSULATION DISPLACEMENT CONNECTOR	NDC 2420	0.2~0.5	φ0.65	24-20	2.1	The contact is not reusable.
INSULATED DISPLACEMENT CONNECTOR CONNECTING PLATE (OPTION)	NDC 2420-J	—	—	—	—	The plate used to lock mating connection.
Additional Note a) Applicable wire standards are as belows. UL1007 AWG24—AWG20 KIV (per JIS) 0.3 mm^2 KV (per JIS) 0.2 mm^2 ~ 0.5 mm^2 VSF (per JIS) 0.3 mm^2 IEV (Cable for intercommunication) φ0.65mm						

3. MATERIAL Given in Table 2.

Table 2

NAME OF PARTS	MATERIAL
Housing	Polycarbonate
Cover	Polycarbonate
Contact	Pre-tin plated phosphor bronze
Connecting Plate(Option)	Polycarbonate

4. RATING Given in Table 3.

Table 3

ITEM		RATED VALUE
Rated Voltage (AC/DC)		100V
Rated Current	AWG24, AWG 22	2A
	AWG20	3A
Working Temperature		-20℃~75℃
Assemble Temperature		0℃~40℃

5. PERFORMANCE & TEST

5.1 TEST CONDITION

(1) Unless otherwise specified, the tests shall be carried out in a room at ordinary temperature (20±15℃) and ordinary humidity (65±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 15~35℃.

(2) The test wire is AWG 24 and AWG 20 of tin-plated stranded wire which is specified in UL 1007. The wire is placed on the correct position, and connect correctly.

(3) Test current and Pull out test force is given in Table 4, insertion and withdrawal force is given in Table 5. Performance and test manner is given in Table 6.

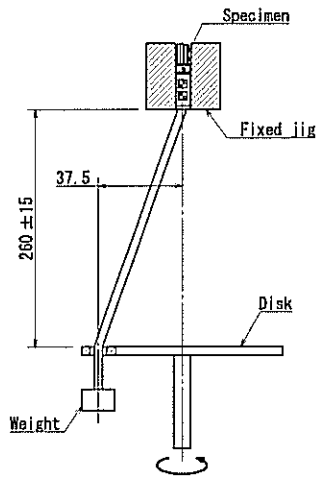
Table 4

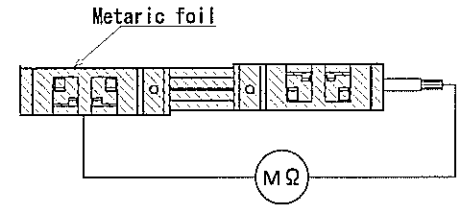
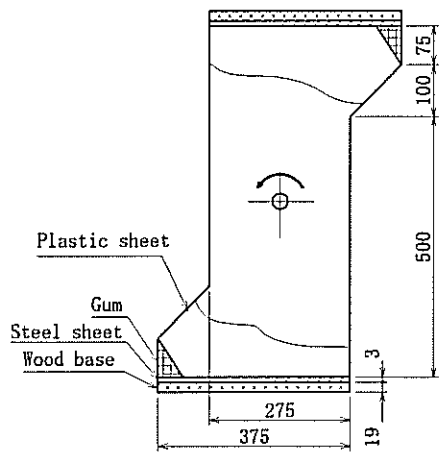
Wire size Stranded	Electrical resistance test current A	Temperature rise test current A	Cyclic heating		Tensile force N
			Test current A	Test duration Min	
AWG24	2	4	4	30	10
AWG20	3	6	6	30	20

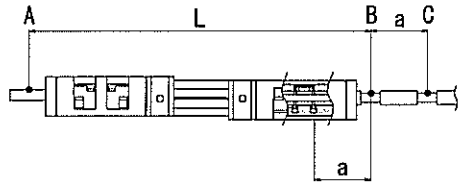
Table 5 Unit : N

Insertion and Withdrawal force		
First insertion	First withdrawal	6th withdrawal
Maximum 12.0 N	Minimum 11.0 N	Minimum 11.0 N

Table 6

TEST	PERFORMANCE	METHOD
5.2 Appearance	There shall be no defects detrimental to use such as rust, cuts, or cracks on a connector.	Visual examination.
5.3 Dimension	The dimension of each part of a connector shall comply with the dimension specified in the drawing.	Dimension shall be measured with a vernier caliper specified in JIS B 7507 or other measuring instruments at least equivalent in accuracy.
5.4 Rotating test	There shall be no coming out of wire, cut of wire or other defect detrimental of service, and the specimen shall comply with the provision of 5.5 as well. Weight for AWG24 : 0.2kg Weight for AWG20 : 0.3kg	Examine connected wire visually after 150 rotations in the horizontal plane which rotates 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.	At least the tensile force as specified in Table 4 shall be applied for 10 seconds.

TEST	PERFORMANCE	METHOD
5.6 Resistance to Humid	The specimen shall comply with the provision of 5.7 and 5.8.	The specimen is placed in thermostatic chamber at humidity 91~95% and temperature 20~30℃ for 48 hours. Wipe off water on the specimen and then carried out the test 5.7 and 5.8.
5.7 Insulation resistance	The insulation resistance shall be more than 5 MΩ.	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 1300V shall be applied for 1 minute.
5.9 Insertion and withdrawal force	The force given in Table 5 shall be satisfied.	The speed of insertion/withdrawal is 1 mm/s. The test is carried out 6 times.
5.10 Resistance to heat	The standard test finger does not touch the live part. The insulator shall be no split and deformation which is detrimental to service and legible marking.	The specimen is placed in thermostatic chamber at 120±5℃ for 1 hour. The standard test finger applies with maximum 5 N force to the live part which generally cannot make contact. Examine visually.
5.11 Mechanical strength	There shall be no breakage and the cover stays same position before the test. Specially there shall be no breakage, split and deformation to keep the live part in correct position and to keep protection for electrical shock.	The specimen which is not connected a wire placed in test chamber as illustrated Fig. 3. 50 drops at a rate of 10 r.p.m. Unit mm  Fig. 3

TEST	PERFORMANCE	METHOD
5.12 Electrical resistance	The electrical resistance of the specimen shall be more than 15 MΩ.	The test shall be carried out with the specimens prepared illustrated in Fig. 4, it shall be measured voltage drop between A and B (RAB). Electrical resistance value is RAB minus voltage drop between B and C.  Fig. 4
5.13 Temperature raise	The temperature raise of contact shall not exceed 45k.	The test current as specified table 4 is continuously passed until the temperatures are stabilized, and then the temperatures shall be measured.  Fig. 5
5.14 Cyclic heating	The voltage drop measured at the end of the 384th cycle is not exceed 1.5 times the value measured after 48th cycle.	The specimen connected with wire which is according as the resistance to heat, a current makes 40±5℃ at the measuring point on the specimen is passed and the condition is kept for 30 miniutes and then rest for 30 miniute. Above cycles is repeated 384th cycles. At the end of the 48th and 384th, the test current as specified table 4 is passed under temperature 20±2℃ and then voltage drop value is measured when temperature of the specimen is stabilized.  Fig. 6
5.15 Resistance to deterioration	There shall be no cracks. Visual examination.	The specimen is placed in thermostatic chamber at 105±2℃ and allowed to stand for 168 hours (7 days) and then it shall be allowed to stand ordinary temperature 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. PACKING Given in Table 7.

Table 7

Part number	Package details	
	Individual packaging	Inner packaging
NDC 2420	20 pcs／plastic box	200 pcs(20pcs×10box) Shrink film package
NDC 2420-J	10 pcs／Plastic box	100 ヶ(10pcs×10box) Cardboard package

*** END OF DOCUMENT ***