

SPECIFICATION

FOR

3300V ETHYLENE PROPYLENE RUBBER INSULATED
POLYCHLOROPRENE SHEATHED FLEXIBLE CABLE

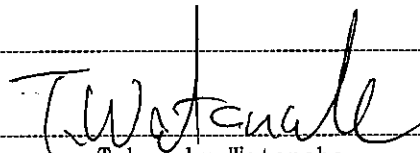
Code : 3300V F-RE-3PNCT $3 \times 120\text{mm}^2 + 2 \times 35\text{mm}^2$

Quantity

Your Ref. No.

Our Ref. No.

Signed by



Takanobu Watanabe
Manager

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Electric Wire & Cable Business Unit
Advanced Components & Materials Division

Proterial, Ltd.

Issue and revision record

Rev. No	Issue date	Item	Prepared by	Reviewed by	Approved by
-	Sep. 29, 2022	First issue	K. Yamane K. Yamane	Non N. Ono	T. Watanabe T. Watanabe

1. Scope

This specification covers 3300V Ethylene Propylene Rubber Insulated Polychloroprene Sheathed Flexible Round Type Cable which is based on Japanese Electrical Facility Regulation and Manufacturer's Standard.

2. Construction and Materials

2.1 Power conductor

2.1.1 Conductor

Conductor shall be stranded flexible conductor consisting of tinned annealed copper wires.

2.1.2 Inner semi-conductive layer

A suitable semi-conductive tape shall be applied over the conductor. The thickness of the semi-conductive tape shall be included in a part of the insulation thickness.

2.1.3 Insulation

Insulation shall consist of ethylene propylene rubber compound. Nominal thickness shall be shown in the attached table.
Ave. thick. : not less than 90% of the nominal thickness
Min. thick. : not less than 80% of the nominal thickness

2.1.4 Outer semi-conductive layer

A suitable semi-conductive tape shall be applied over the insulation.

2.1.5 Braided shield

Insulation shielding shall consist of tinned annealed copper wires. A suitable tape shall be applied over the braided shield.

2.1.6 Core identification

The core identification shall be made by the color of the tape which is applied under the braided shield as shown in the attached figures.

2.2 Earth conductor

2.2.1 Conductor

Conductor shall be stranded flexible conductor consisting of tinned annealed copper wires. A suitable separator tape shall be applied over the conductor.

2.2.2 Insulation

Insulation shall consist of ethylene propylene rubber compound. Nominal thickness shall be shown in the attached table.
Ave. thick. : not less than 90% of the attached table
Min. thick. : not less than 80% of the attached table

2.2.3 Core identification

The core identification shall be made by the color of insulation or insulation surface.

2.3 Cabling cores

Power conductors and earth conductor shall be cabled.
 Suitable rubber filler may be applied at manufacturer's discretion, if necessary.

2.4 Sheath

Sheath shall consist of black polychloroprene compound.
 Nominal thickness shall be shown in the attached table.
 Ave. thick. : not less than 90% of the nominal thickness
 Min. thick. : not less than 85% of the nominal thickness
 A straight line shall be marked on the surface of the sheath.

2.5 Reinforcement

Reinforcement consisting of suitable yarn braid shall be applied the middle of sheath.

2.6 Dimension

The dimension of the cable shall be in accordance with the attached table.

3. Marking

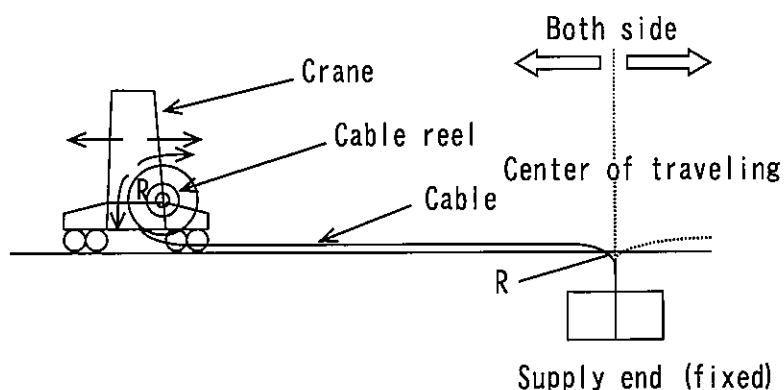
Manufacturer's name and year of manufacture shall be marked by suitable methods.

4. Inspection

Properties	Standard to comply with	Requirements	Test interval
Construction and dimensions	JIS C 3005 4.3	To comply with clause 2 and the attached table	Every shipment
Withstand voltage test	JIS C 3005 4.6	To withstand AC 9000V for 10 min.	
Conductor resistance	JIS C 3005 4.4	Not more than the value in the attached table	first shipment
Insulation resistance	JIS C 3005 4.7	Not less than the value in the attached table	

5. Guide to use

This cable is designed for crane installation of reel traveling system as shown below.



R : Permissible minimum bending radius

Table.1 Dimensions
(Code : 3300V F-RE-3PNCT $3 \times 120\text{mm}^2 + 2 \times 35\text{mm}^2$)

Item		Unit	Specified value	
Type of core		—	Power	Earth
No. of conductors		—	3	2
Conductor	Nominal cross-section area	mm ²	120	35
	Construction	No. /mm	19/32/0.5	7/39/0.4
	Approx. diameter	mm	16.3	8.7
Nominal thickness of insulation		mm	3.5 *	1.6
Approx. thickness of braided shield		mm	0.45	—
Nominal thickness of sheath		mm	6.3	
Approx. diameter of completed cable		mm	68	
Maximum diameter of completed cable		mm	71.4	
Approx. weight of completed cable		kg/km	7850	

* : This value includes thickness of inner semi-conductive tape.

Table.2 Characteristic

Item		Unit	Specified value	
Conductor	Nominal cross-section area	mm ²	120	35
Maximum conductor resistance at 20°C		Ω/km	0.164	0.565
Minimum insulation resistance at 20°C		MΩ·km	500	300
Permissible minimum bending radius		mm	1020	
Permissible maximum pulling tension **		kN	14.0	
Permissible maximum compression force ***		kN/m	4.9	

** : In any case, pulling tension and compression force must not exceed this value.

For safety, regular pulling tension should be 1/3 of the permissible maximum value.

It is necessary to determine the pulling tension considering the compression force.

*** : Compression force = Pulling tension / Bending radius

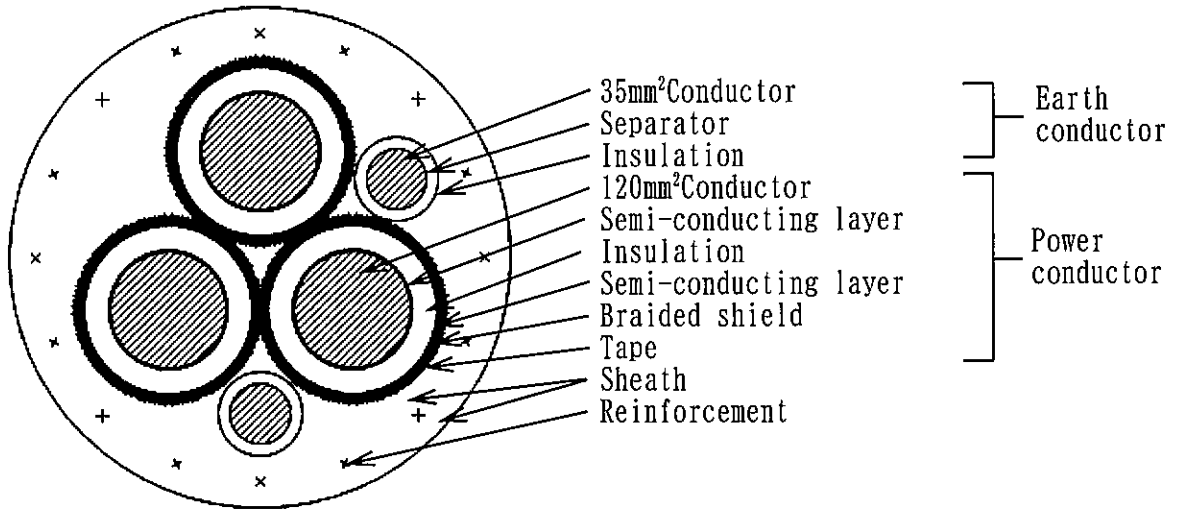


Fig.1 Cable cross Section

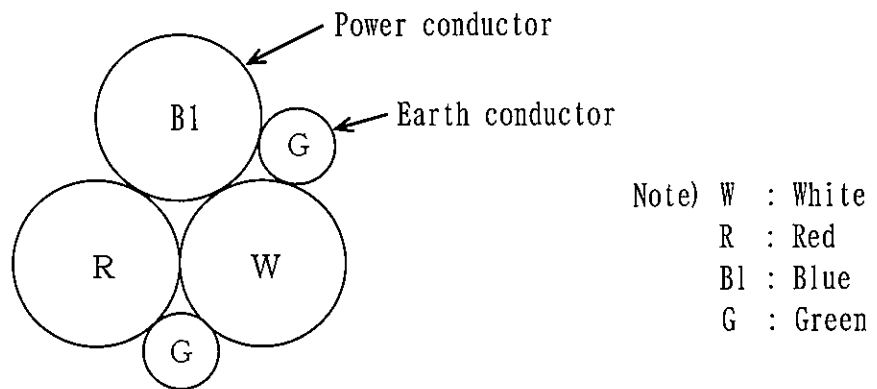


Fig.2 Core identification