SPECIFICATION

FOR

0.6/1kV ETHYLENE PROPYLENE RUBBER INSULATED POLYCHLOROPRENE SHEATHED FLEXIBLE CABLE
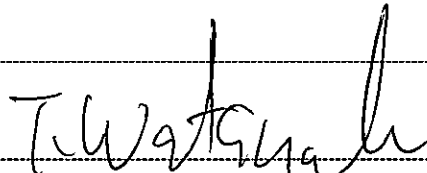
Code : 0.6/1KV F-RE-PNCTB-SX 4×50mm² ＋ 12×4mm²

Quantity

Your Ref. No.

Our Ref. No.

Signed by　　　　　　　TAKANOBU WATANABE

Manager

Engineering Dept. I
Electric Wire & Cable Business Unit

Proterial, Ltd.

Issue and revision record

Rev. No	Issue date	Item	Prepared by	Reviewed by	Approved by
-	August 31, 2023	First issue	*K. Yamane* K.Yamane	*N. Ono* N.Ono	*T.Watanabe* T.Watanabe

1. Scope

This specification covers 0.6/1kV Ethylene Propylene Rubber Insulated Polychloroprene Sheathed Flexible Cable, which is based on VDE 0250 Part 814, Japanese Electrical Facility Regulation and Manufacturer's Standard.

2. Construction and Materials

2.1 Conductor

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

2.2 Insulation

Insulation shall consist of ethylene propylene rubber compound.
Nominal thickness shall be shown in the attached table 1.
Ave. thick. :   not less than the nominal thickness
Min. thick. :   not less than 90%-0.1mm of the nominal thickness

2.3 Core identification

The core identification shall be made by the color of insulation or the color of insulation surface as shown in the attached figures.(Fig.2)

2.4 Cabling of cores(6×4mm² 2unit only)

Each insulated conductors shall be cabled.
Suitable fillers and binder may be applied at manufacturer's discretion, if necessary.

2.5 Shield braid (6×4mm² 1unit only)

Shield braid consisting of tinned annealed copper wires shall be applied over the binder tape.
A suitable tape shall be applied over the shield braid.

2.6 Cabling of cores and units

Each insulated conductors and units shall be cabled.
Suitable fillers and tension member may be applied at manufacturer's discretion, if necessary.

2.7 Sheath

Sheath shall consist of black polychloroprene rubber compound.
Nominal thickness shall be shown in the attached table 1.
Ave. thick. :   not less than 90% of the nominal thickness
Min. thick. :   not less than 85% of the nominal thickness

2.8 Tape

Glass tape shall be applied over the sheath.

2.9 Armour

Armour braid consisting of stainless steel wires shall be applied over the glass tape.

2.10 Dimension

The dimension of the cable shall be in accordance with the attached table 1.

3. Marking

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

4. Inspection

Inspection shall be made on the following items prior to shipment.

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 1	Every shipment
Withstand voltage test	JIS C 3005 4.6	To withstand AC 2500V for 5 min.	First shipment
Conductor resistance	JIS C 3005 4.4	Not more than the value in the attached Table 2	
Insulation resistance	JIS C 3005 4.7	Not less than the value in the attached Table 2	

5. Guide to use

This cable is designed for crane installation of reel system (traveling) as shown below.
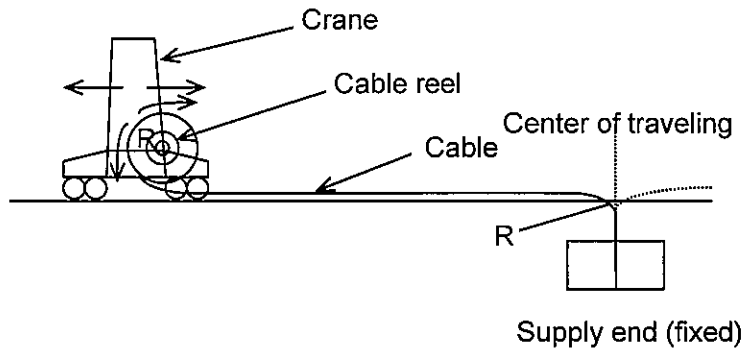
R : Permissible minimum bending radius

Table 1 : Dimensions

(Code : 0.6/1KV F-RE-PNCTB-SX 4×50mm² + 12×4mm²)

Item		Unit	Specified value	
Conductor	No. of conductor	-	4	12
	Size	mm²	50	4
	Construction	No./mm	19/21/0.4	55/0.3
	Approx. diameter	mm	10.6	2.6
Nominal thickness of insulation		mm	1.6	1.0
Approx. diameter of tension member		mm	7.0	
Nominal thickness of sheath		mm	5.3	
Approx. thickness of glass tape		mm	0.2	
Approx. thickness of armour		mm	0.8	
Approx. diameter of completed cable		mm	61	
Maximum diameter of completed cable		mm	63.6	
Approx. weight of completed cable		kg/km	5920	

Table 2 : Characteristic

Item	Unit	Specified value	
Size	mm²	50	4
Max. conductor resistance(20℃)	Ω/km	0.393	5.09
Min. insulation resistance(20℃)	MΩ・km	200	400
Permissible minimum bending radius	mm	610	
Permissible maximum pulling tension *	kN	11.3	
Permissible maximum compression force **	kN/m	4.9	

* In any case, pulling tension and compression force must not exceed these 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.
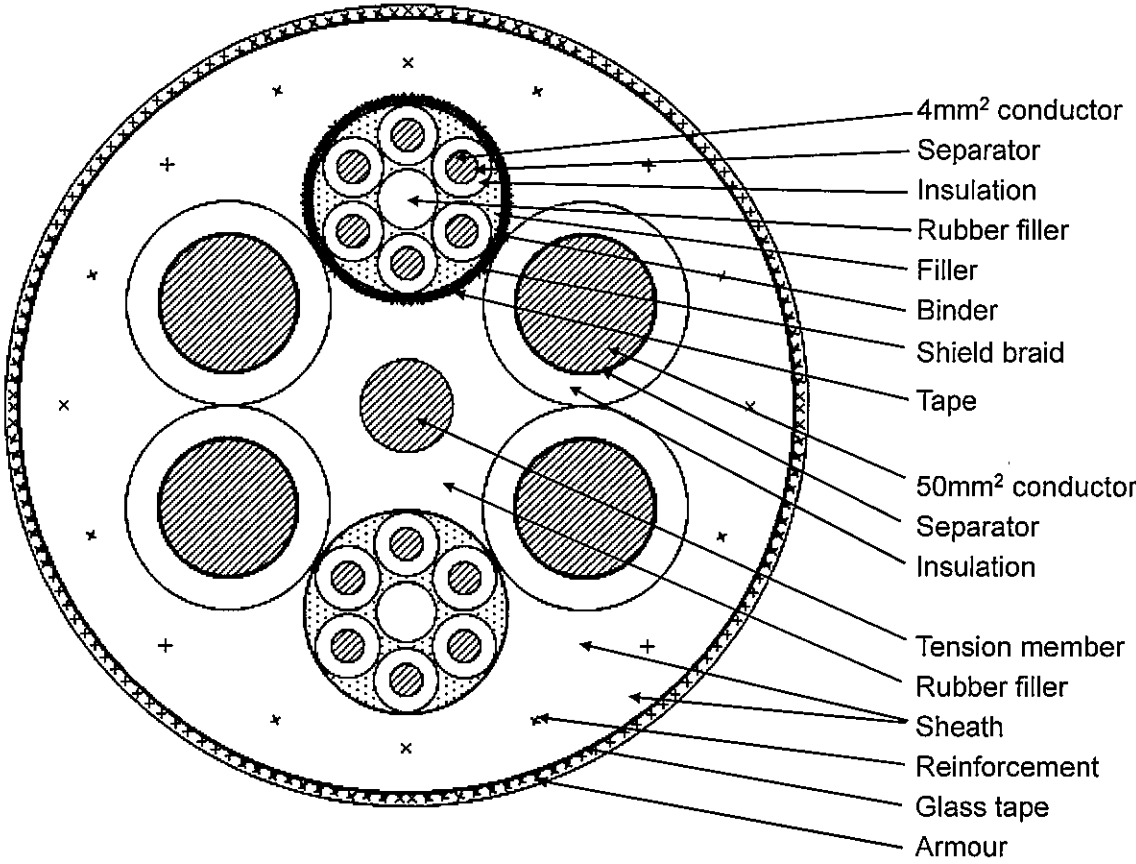** Compresstion force = Pulling tension ／ Bending radius

- 4mm² conductor
- Separator
- Insulation
- Rubber filler
- Filler
- Binder
- Shield braid
- Tape
- 50mm² conductor
- Separator
- Insulation
- Tension member
- Rubber filler
- Sheath
- Reinforcement
- Glass tape
- Armour

Figure 1. Cable cross section

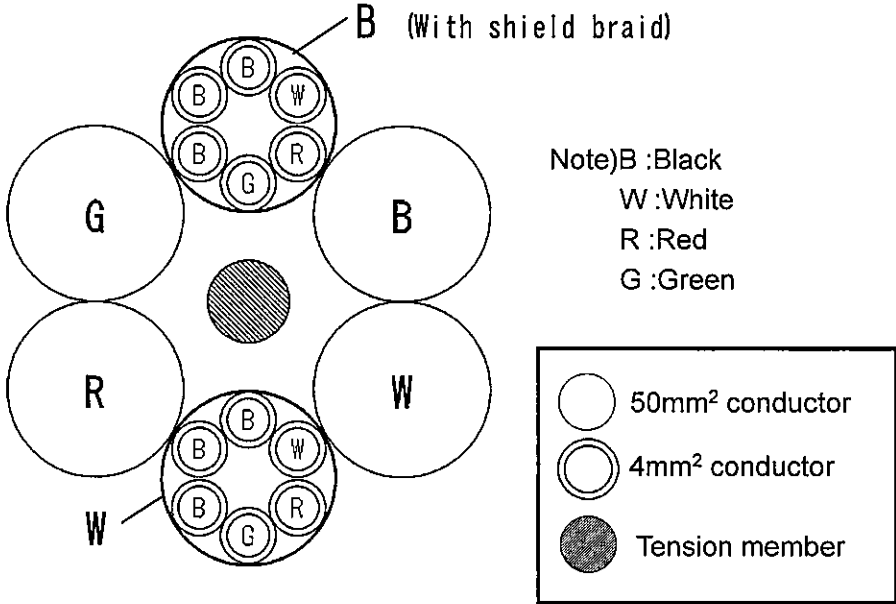B (With shield braid)

Note)B :Black
W :White
R :Red
G :Green

○ 50mm² conductor
◎ 4mm² conductor
● Tension member

Figure 2. Core identification