ANHUI FEICHUN SPECIAL CABLE CO., LTD.

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TECHNICAL SPECIFICATION

Document Reference: SP ZE-31-0965 P-3/4

1. Scope

This specification covers 6600V Flat Type Flexible Cable which is based on Japanese Electrical Facility Regulation and Manufacturer's Standard.

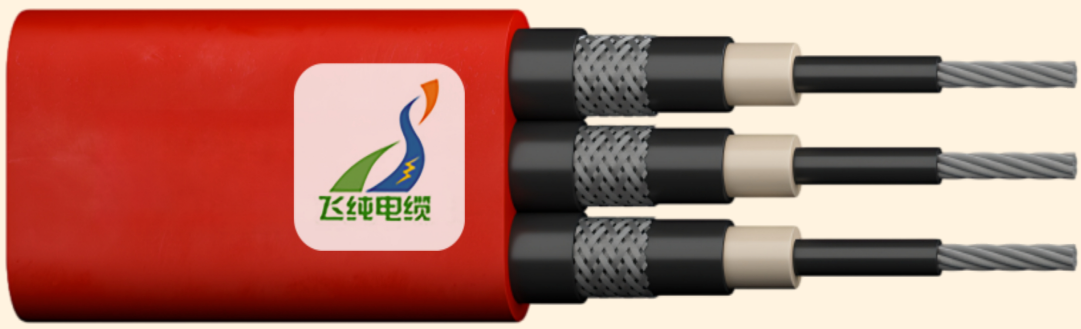
HIGHLIGHTED SPECIFICATION

Cable Code: 6600V H-3PNCT

Cable Configuration: 3 × 50 mm^2

Rated Voltage: 6600 V

Type: Flat Type Flexible Cable for Crane Installation



2. Construction and Materials

2.1 Power Units

Cable Layer Construction (From Inner to Outer)

1. **Conductor:** Stranded with tinned annealed copper wires
2. **Inner Semi-Conductive Layer:** Semi-conductive tape applied over the conductor
3. **Insulation:** Extruded layer of ethylene propylene rubber compound
4. **Outer Semi-Conductive Layer:** Suitable semi-conductive fabric tape
5. **Braided Shield:** Tinned annealed copper wires
6. **Core Identification:** Color tape under the braided shield
7. **Reinforcement:** Suitable fabric tape applied over the braided shield
8. **Sheath:** Black polychloroprene compound

2.1.1 Conductor

Conductor shall be stranded with tinned annealed copper wires.

2.1.2 Inner Semi-Conductive Layer

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 extruded layer of ethylene propylene rubber compound.

Nominal thickness shall be shown in the attached Table 1:

- Average thickness: not less than 90% of the nominal thickness

- Minimum thickness: not less than 80% of the nominal thickness

2.1.4 Outer Semi-Conductive Layer

Outer semi-conductive layer shall consist of suitable semi-conductive fabric tape.

2.1.5 Braided Shield

Braided shield shall consist of tinned annealed copper wires.

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 Figure 2.

Bl = Blue **W** = White **R** = Red

2.1.7 Reinforcement

Reinforcement consisting of suitable fabric tape shall be applied over the braided shield.

2.2 Assembly

Power units shall be assembled in parallel.

2.3 Sheath

Sheath shall consist of black polychloroprene compound.

Nominal thickness shall be shown in the attached Table 1:

- Average thickness: not less than 90% of the nominal thickness
- Minimum thickness: not less than 80% of the nominal thickness

2.4 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 methods.

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 table 1	Every shipment
Withstand voltage test	JIS C 3005 4.6	To withstand AC 17000V for 10 min.	
Conductor resistance	JIS C 3005 4.4	Not more than the value in the table 2	First shipment
Insulation resistance	JIS C 3005 4.7	Not less than the value in the table 2	

5. Guide to Use

This cable is designed for crane installation as shown below.

Application Description

The cable is specifically designed for mobile crane applications where the cable runs from a fixed point to a moving crane unit via a cable reel system. The flat type construction allows for efficient winding and unwinding during crane operation.

Key Application Features:

- Suitable for continuous flexing and reeling operations
- Designed for high voltage power transmission to mobile equipment
- Permissible minimum bending radius must be observed during installation and operation
- Regular pulling tension should be 1/3 of the permissible maximum value for safety

Important Installation Notes

Permissible Minimum Bending Radius (R): Must be observed during all operations

The cable must be installed and operated within the specified bending radius to ensure long service life and safe operation.

Table 1: Dimension (Code: 6600V H-3PNCT)

Item	Unit	Specified Value	
No. of conductor		3	3
Conductor	Nominal cross-section area	mm^2	**50**
	Construction	No./mm	**19/16/0.45**
	Approx. diameter	mm	**10.4**
Nominal thickness of insulation	mm	**5.0**	
Approx. thickness of copper braid	mm	**0.45**	
Nominal thickness of sheath	mm	**5.7**	
Approx. diameter of completed cable	mm	**34.5×79**	
Max. diameter of completed cable	mm	**36.3×83.0**	
Approx. weight of completed cable	kg/km	**4440**	

Table 2: Characteristic

Item	Unit	Specified Value	
Nominal cross-section area	mm^2	**50**	
Conductor resistance (20°C)	Ω/km	**0.416**	
Insulation resistance (20°C)	MΩ·km	**500**	
Permissible minimum bending radius	mm	**500**	
Permissible maximum pulling tension *	kN	**5.9**	
Permissible maximum compression force **	kN/m	**5.0**	

Table Notes:

*** Pulling Tension:** In any case, pulling tension force (conveyor force) must not exceed this value. For safety, regular pulling tension should be 1/3 of the permissible maximum value.

**** Compression Force:** It is necessary to determine the pulling tension considering the compression force.

Note: Compression force = Pulling tension ÷ Bending radius

Technical Features Summary

Rated Voltage	6600 V
Cable Type	Flat Type Flexible Cable (H-3PNCT)
Number of Conductors	3 cores
Conductor Cross-Section	50 mm^2 per conductor
Conductor Material	Tinned annealed copper wire, stranded (19/16/0.45 mm)
Insulation Material	Ethylene Propylene Rubber (EPR) compound
Insulation Thickness	5.0 mm (nominal)
Shield	Braided tinned annealed copper wires (0.45 mm thickness)
Sheath Material	Black polychloroprene compound
Sheath Thickness	5.7 mm (nominal)
Approximate Cable Dimensions	34.5 × 79 mm (Width × Thickness)
Maximum Cable Dimensions	36.3 × 83.0 mm
Approximate Weight	4,440 kg/km (4.44 kg/m)
Conductor Resistance (20°C)	0.411 Ω/km (maximum)
Insulation Resistance (20°C)	500 MΩ·km (minimum)
Minimum Bending Radius	500 mm
Maximum Pulling Tension	5.8 kN
Maximum Compression Force	4.9 kN/m
Withstand Voltage Test	AC 17,000 V for 10 minutes

Standards Compliance

Primary Standards	JIS C 3005 (Japanese Industrial Standard)
Additional Standards	Japanese Electrical Facility Regulation
Manufacturer Standard	Per manufacturer specifications and quality control procedures

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