

# PRODUCT STANDARD DETAIL ENGINEERING

TG70278

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BASED ON CSE  
POWER CABLE  
DATASHEET

## PURCHASE SPECIFICATION FOR PVC INSULATED POWER CABLES(6mm<sup>2</sup>,16mm<sup>2</sup>,35mm<sup>2</sup>)

### 1. SCOPE

This specification specifies about the general requirement of single core PVC insulated power cables of 6mm<sup>2</sup>,16mm<sup>2</sup>,35mm<sup>2</sup> used in seal oil system and seal oil test bed .

### 2. GENERAL REQUIREMENTS

#### 2.1 APPLICATION

This specification is applied to the cable for motor wiring in seal oil system and test bed.

#### 2.2 DOCUMENTS TO BE SUBMITTED

Manufacturer shall submit the specified number of copies of the following documents provided in Table 1 for Purchaser's approval within 2 weeks after receiving Purchaser's order and drawing.

Table 1 Documents to be submitted

Document title	Test Report
No of copies	2

### 3. QUALITY ASSURANCE

The quality control shall conform to the requirements of ISO 9001.

FORMAT NO. F-03-17-00	MATERIAL SCIENCE			WORKED BY	NAME TMP	SIGN. & DATE <i>[Signature]</i> 04/08/2015
	QUALITY	TRB	TB	CHECKED BY	MNR	M. Naga Rao 04/08/15
	AGREED DEPTT.	NAME	DATE & SIGNATURE	SUPERVISED BY	KHN	<i>[Signature]</i> 23/9/15
				APPROVED BY	NRD	<i>[Signature]</i> 10.15
	REV. NO.	00		PREPARED	ISSUED	DATE
	DATE	27.07.2015				

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## 4.0 TECHNICAL REQUIREMENT

General technical details are given in Table 2 and Table 3.  
Table 2

Conductor material	Copper,BS6004
Conductor shape	Stranded circular
Outer sheath	PVC(polyvinyl-chloride)
Color	Black
Lead free	Yes
Rated voltage U0/U(Um)	415/750V,BS6004
Installation temperature	Minimum:0°C.Maximum: 60°C
Operating Temperature	Minimum:-15 °C Maximum: 70°C
Short circuit Maximum conductor Temperature	250 °C
Installation type	Conduit wiring
Flame retardant	Category-B of IEC 332 Part-3
Bending radius	1.5mm <sup>2</sup> up to 25mm <sup>2</sup> =3XØ 35mm <sup>2</sup> up to 630mm <sup>3</sup> =4XØ
Oxygen Index	29 minimum as per IS 10810 part-58
Acid gas emission	Max 20% as per IEC-754-1
Smoke density rating	Not more than 60% as per ASTMD-2834

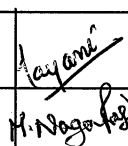
Table 3

Cross section mm <sup>2</sup>	Stranding mm	Approx weight kg/km	Approx overall diameter	Nylon A2 Gland size mm	Nom. Max. DC-resistance conductor at 20°C ohm/km	Current rating laid direct amp	
						Single-phase a.c. or d.c. amp	Three-phase a.c. amp
1 x6.0	7/1.04	70	4.68	16	3.08	41	36
1 x 16	7/1.70	176	6.95	16	1.15	76	68
1X35	7/2.52	378	10.08	20	0.524	125	110

## 5.0 TESTING

Vendor to perform all the testing as per IS 694.

Vendor shall submit following type test certificates whenever asked for:

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Sr no	S.No. Type test
<b>A</b>	<b>For Conductor</b>
1	Resistance test
2	Tensile test For circular
3	Wrapping test
<b>B</b>	<b>For Armour Wires/ Formed Wires</b>
1	Measurement of Dimensions
2	Tensile Test
3	Elongation test
4	Torsion test
5	Resistance test
<b>C</b>	<b>For PVC insulation</b>
1	Test for thickness
2	Tensile strength & elongation tests before ageing and after ageing
3	Ageing in air oven
4	Loss of mass test insulation and sheath
5	Hot deformation test
6	Heat shock test
7	Shrinkage test
8	Thermal stability test
11	Oxygen index test For outer sheath only
12	Smoke density test For outer sheath only
13	Acid gas generation test For outer sheath only
<b>D</b>	<b>For completed cables</b>
1	Insulation resistance test (Volume resistivity method)
2	High voltage test
3	Flammability test as per IEC-332 Part-3 (Category-B)

### 6.0 SPECIAL INSTRUCTION

Vendor shall ensure that there shall be no defect or cracks in the cables.

### 7.0 MATERIAL CODE TABLE

Sr no	Material code description	Material code
1	6MM <sup>2</sup> PVC INSULATED POWER CABLE	TG7027860001
2	16MM <sup>2</sup> PVC INSULATED POWER CABLE	TG7027860002
3	35MM <sup>2</sup> PVC INSULATED POWER CABLE	TG7027860003

### 8.0. PACKING AND INDICATION

Product shall be properly packed to prevent damage or moisture absorption during transportation and following points shall be clearly indicated.

- (1) Name or product No.
- (2) Dimension, Quantity
- (3) Order No. lot no and manufacturers code

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### Record Of revision

Rev	Date	Drawn	Checked	Approved	Substance of Revision
0	03.08.2015	TMP	MNR	NRD	First Issue

FORMAT NO.

F-03-17-00

REV. 00

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Rayani

11/08/2016

M. Nagaf

17/8/11