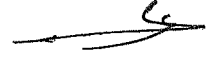


وزارة الكهرباء والطاقة
الشركة القابضة لكهرباء مصر
لجنة مراجعة وتحديث
المواصفات الفنية
لهيئات شبكات التوزيع

المواصفات الفنية
لعازلات الجهد المنخفض
Technical specifications of
Low Voltage pin Insulators

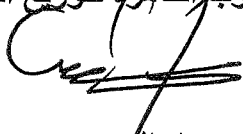
مقرر اللجنة



مهندس / مولد حسن مولد

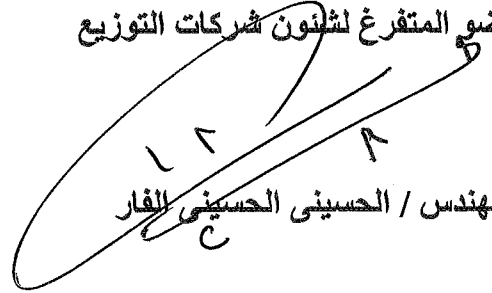
رئيس اللجنة

رئيس مجلس الإدارة والعضو المنتدب
شركة جنوب القاهرة لتوزيع الكهرباء



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يعتمد

رئيس مجلس إدارة

الشركة القابضة لكهرباء مصر



مهندس / جابر دسوقي مصطفى

وزارة الكهرباء والطاقة
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المواصفات الفنية

لعازلات الجهد المنخفض

**Technical specifications of
Low Voltage pin Insulators**

**TECHNICAL SPECIFICATIONS
FOR
LOW VOLTAGE PIN INSULATORS**

1- SCOPE

This specification covers the supply of low voltage pin insulators to be used on low voltage overhead distribution lines

2- GENERAL SPECIFICATIONS

The insulators shall be suitable for a highest system voltage of 1 KV and a nominal continuous voltage of 380/220 V , 50 HZ , grounded star voltage distribution system
The insulators shall be made of glazed porcelain. The glaze color shall be white or light grey otherwise (EDC requirements) and shall be continuous and uniform throughout the insulator surface .

3- SERVICE CONDITIONS

The insulators should be manufactured for the local service conditions as follows:

Altitude	less than 1000 meters
Max. ambient temperature	45 °C
Min .ambient temperature	-5 °C
Relative humidity	Up to 100 %
Highest wind velocity	120 km/hr
Fog mixed with dust	Yes
Occasional sandstorm occur	Yes

4- CONSTRUCTION

The pin insulators shall have conductor grooves in the sides and in the upper suitable for tying in aluminum stranded conductors up to 10 mm in diameter

The pin hole shall have a corrugated or threaded surface suitable for attaching the insulator to a non-threaded pin using sulfur cement .

- * The insulators shall be of the best quality double shed, hard glazed porcelain insulators, free from flows, cracks, conducting impurities, bubbles and chipped edges.
- * The glazed shall be continuous throughout the insulator ,uniform and acid proof. The thread shall be uniform and clear.
- * Pin type insulators shall be grooved on top and on side .

Handwritten signatures and notes in Arabic script, including a date '14/12/2015' and a signature 'عبدالله'.

5-STANDARDS

Unless, otherwise specified , The insulators shall comply with the latest edition of the relevant Egyptian Standard NO.1163-1995.

6- TECHNICAL DATA

The insulator dimensions and technical data shall be as shown in the following table :-

Item	Unit	10 cm insulator	14 cm insulator
• Height	mm	100	140
• Min leakage path	mm	175	280
• dry flashover	KV	25	45
• Wet flashover	KV	15	35
• Impulse voltage withstand	KV	55	75
• Puncture voltage in oil	KV	50	70
• Minimum mechanical failing load	KN	8	10
• Shape and dimensions		fig (1)	fig (2)

Table data according to : Egyptian Company Manufacturing Electrical Insulators

جميع القيم المذكورة بالجدول طبقاً للشركة المصرية للعازلات لأنها الشركة الوحيدة المنتجة للعازلات بجمهورية مصر العربية

7-MARKING

Each insulator will be clearly and indelibly marked with the following

- 1- Manufacturer's name or trade mark
- 2- Name of manufacturing country
- 3- Name of the Electricity Distribution Company .
- 4- Mechanical load.

Handwritten signatures and stamps in Arabic, including the name "شركة العازلات" (Insulator Company) and the date "٢٠١٦".

8- TESTING

The necessary Type tests will be carried out at the expense of the manufacturer- and a test certificate should be accompanied with the tender.

-Type test should be as follows:

- 1- Temperature cycle test.
- 2- Dry power frequency flashover test.
- 3- Wet power frequency flashover test.
- 4- Dry power frequency withstand test.
- 5- Wet power frequency withstand test.
- 6- Puncture test.
- 7- Mechanical failing load test.

Sample test: -

(.....EDC) will , before taking over the insulators carry out the required tests on random samples taken from each shipment (8 samples of each lot , 4 insulators for electrical test and 4 insulators for mechanical) (in the case of there is no approved laboratory for the supplier in Egypt) in the Extra High Voltage Test Laboratory of the Egyptian Electricity Authority, If the random samples fail to pass these tests, (.....EDC) will have the right to reject the insulators.

The required test shall be , but not limited to , the following :-

- a- Visual inspection .
- b- Verification of dimensions.
- c- Temperature cycle test .
- d- Porosity test .
- e- Puncture test in oil .
- f- Mechanical failing load test.

9- PACKING

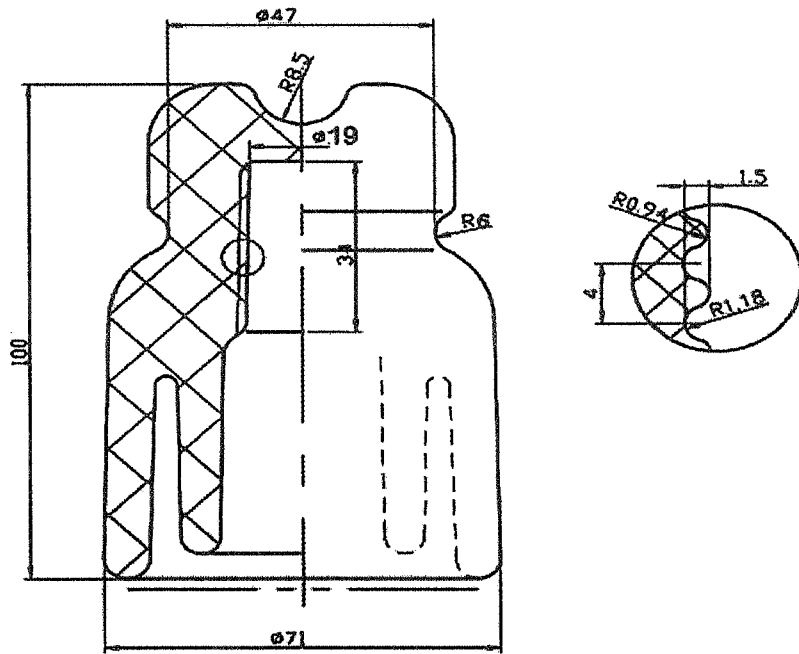
The insulators will be packed in suitable wooden crates or boxes and in such a manner so as to prevent damage to them during transporting , handling and storing

10- GUARANTEE DATA, CATALOGUES ,SAMPLES AND TEST CERTIFICATES

The necessary technical catalogues containing the drawings and full technical data shall be submitted with the offer, Also type and routine test certificates should be submitted with the offer .

The tendered shall submit 6 (six) insulators of each type free of charge for the purpose of offer analysis , The quality control procedure should be submitted with the offer. The tendered shall fill in thoroughly the attached guarantee table . The tender which will not be accompanied with drawings or catalogues or samples or test certificates or guarantee table will not taken into consideration.

Handwritten signatures and stamps are present at the bottom of the page, including a stamp that reads "التفويض" (Delegation) and "C.M.I.I.W".



Fig(1)

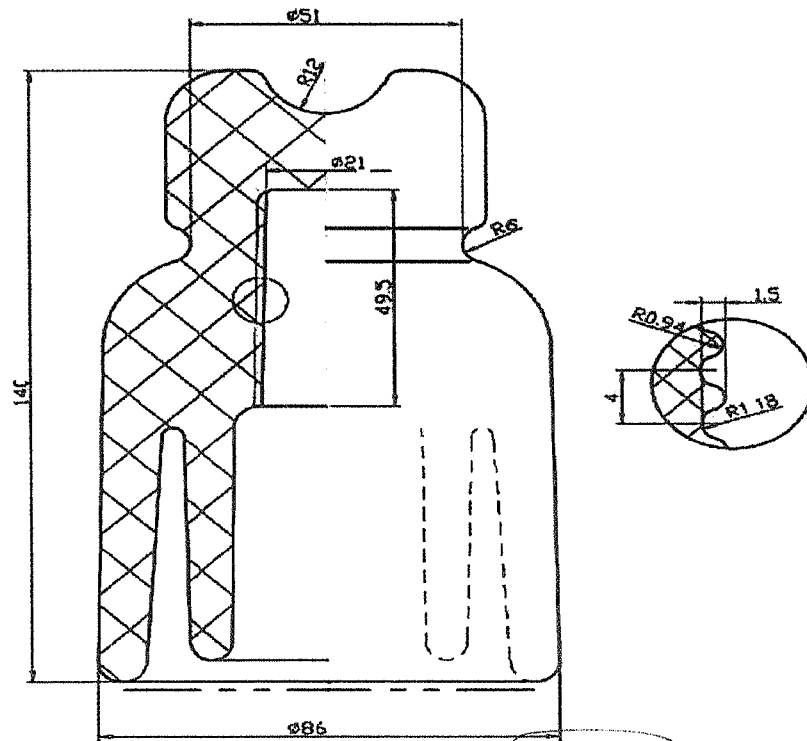


Fig (2)

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GANTEE TABLE FOR LV PIN (10cm)and (14cm) INSULATOR

NO.	DESCRIPTION	UNIT	PARTICULARS
1	<u>GENERAL DATA</u>		
1.1	COUNTRY OF ORIGIN		
1.2	TYPE		
1.3	MANUFACTURE		
2	<u>Constructional Data</u>		
2.1	Insulator Material		
2.2	Min.breaking load	KN	
2.3	Biggest Diameter	MM	
2.4	Insulator length	MM	
2.5	Color of insulator		
2.6	Creepage distance	MM	
2.7	No. of indulators per box		
2.8	Weight /Approx	KG	
2.9	Principle drawing		
3	<u>Technical data:</u>		
3.1	Dry power frequency flashover voltage	KV	
3.2	Wet power frequency flashover voltage	KV	
3.3	Wet power frequency withstand Voltage	KV	
3.4	Dry power frequency withstand voltage	KV	
3.5	Impulse withstand voltage	KV	
3.6	Puncture voltage in oil	KV	
4	Quality Certificate of Manufacture		

I/We certify that the above-mentioned data is guaranteed for the offered insulators.

Signature :-