H.V. TEST REPORT

Project No.: TH13-70004
Equipment Under Test: Indoor Post Insulator

Code	:	J/MV24
Rated Voltage	:	24 kV
Height	:	210 mm
Diameter	:	70 mm
Trade Mark	:	

JEBAL
ELECTRO JEBAL IRANIAN KAVIR
الکترو جبال ایرانیان کویر

Manufacturer: Electro Jebal Iranian Kavir
Applicant: Electro Jebal Iranian Kavir
Address: Shenzar industrial Zone , 35 km of imam Reza highway , Tehran – Iran
Tel.: +98(21)66349469
Tested According to: IEC 60660:1999 and Client request
Date of Sample Receiption: 14-Mar-2022
Date of Tests: 09- May -2022
Date of Issue: 16-May-2022
Total Number of Pages: 13

Tested by: Technical Expert
A. Massahi

Verified by: Technical Manager
A. Takzare

Approved by:

Deputy of Test and Inspection
Prof. B. Vahidi / Prof. S. H. Fathi

Chief Executive Officer
S. M. Mirsadri

The statement of conformity decision on the measured values is made based on guard band w=U, r=1 rule (ISO/IEC Guide 98-4). The specific false accept/reject risk is up to 2.5%.

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1. GENERAL INFORMATION

1.1. Product Information

Equipment under Test	: Indoor Post Insulator
Manufacturer	: Electro Jebal Iranian Kavir
Code	: J/MV24
Rated Voltage	: 24 kV
Height	: 210 mm
Diameter	: 70 mm
Normative Document	: IEC 60660:1999 and Client request

1.2. Client Information

Applicant	: Electro Jebal Iranian Kavir
Telefax	: +98(21)66349469

1.3. Performed Tests

Test	Test According to	Result
Dry Power-Frequency Withstand Voltage Test	IEC 60660:1999	Passed
Dry Lightning Impulse Withstand Voltage Test	IEC 60660:1999	Passed
Lightning Impulse Puncture Test	IEC 60660:1999	Passed
Mechanical failing load test – tensile test	IEC 60660:1999 and Client request	performed

1.4. Test Results and Descriptions:

See pages 4 to 11.

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2. PERFORMANCE and RESULTS of TESTS

2.1 Dry Power-Frequency Withstand Voltage Test

2.1.1 Test data

Equipment Under Test (EUT)	: 24 kV Post Insulator
Manufacturer	: Electro Jebal Iranian Kavir
Location	: E.P.I.L
Date	: 09-May-2022
Test Expert	: Mr. Massahi
Normative Document	: IEC 60660:1999

2.1.2 Ambient conditions

Ambient Temperature	: 20.7 °C
Relative Humidity	: 32.7 %

2.1.3 Performance of test

The test was done according to clause 3.4 of IEC 60660:1999. The post insulator was tested under the conditions prescribed in clause 3.2 of IEC 60660:1999. The specified test voltage was applied to the post insulator and maintained at this value for 1 min.

2.1.4 Acceptance criteria

No flashover or puncture shall occur during the test.

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2.1.5 Test results

Table 1 shows the results of the test.

Table 1. Result of dry power frequency withstand voltage test

Test Voltage (kV)	Applied Voltage (kV)	Result
50	50	Passed

The test was done according to clause 3.4 of IEC 60660:1999 and the EUT passed the test.

✓ **PASSED**

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2.2 Dry Lightning Impulse Withstand Voltage Test

2.2.1 Test data

Equipment Under Test (EUT)	: 24 kV Post Insulator
Manufacturer	: Electro Jebal Iranian Kavir
Location	: E.P.I.L
Date	: 09-May-2022
Test Expert	: Mr. Massahi
Normative Document	: IEC 60660:1999

2.2.2 Ambient conditions

Ambient Temperature	: 27.7 °C
Relative Humidity	: 32.7 %

2.2.3 Performance of test

The post insulator was tested under the conditions prescribed in clause 3.2 of IEC 60660:1999. The withstand voltage test, procedure B (according to IEC 60060-1) with 15 impulses used for the dry lightning impulse withstand voltage test. Impulses of both positive and negative polarity was used. According to clause 2.7 of IEC 60660, the specified test voltage was corrected with an atmosphere correction factor of 0.817.

2.2.4 Acceptance criteria

If the number of flashovers does not exceed two and the last impulse is not a flashover, the post insulator has passed the test. In the case where the last voltage application initiates a flashover, it is necessary to extend the test with three more impulses of the same polarity. No further flashover is allowed.

The post insulators shall not be damaged by these tests, but slight marks on the surface of the insulating parts or chipping of material used for assembly shall be permitted.

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2.2.5 Result of test

Table 2 shows the result of the test.

Table 2. Result of dry lightning impulse withstand voltage test

Test Voltage (kV)	Atmospheric Correction Factor	Applied Voltage (kV)	Result
125	0.817	102	Passed

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2.3 Lightning Impulse Puncture Test

2.3.1 Test data

Equipment Under Test (EUT)	: 24 kV Post Insulator
Manufacturer	: Electro Jebal Iranian Kavir
Location	: E.P.I.L
Date	: 09-May-2022
Test Expert	: Mr. Massahi
Normative Document	: IEC 60660:1999

2.3.2 Ambient conditions

Ambient Temperature	: 27.7 °C
Relative Humidity	: 32.7 %

2.3.3 Performance of test

The post insulator was tested under the conditions prescribed in clause 3.6 of IEC 60660:1999. The post insulator, after having been cleaned and dried, shall be completely immersed in a tank containing a suitable insulating medium to prevent surface discharges on it. The impulse generator shall be adjusted to produce a 1.2/50 lightning impulse. The test voltage value shall be equal to 1.3 times the lightning impulse withstand voltage specified in IEC 60273. Five consecutive impulses of positive polarity and five consecutive impulses of negative polarity shall be applied to the post insulators.

2.3.4 Acceptance criteria

The insulator passes the test if puncture does not occur below the specified lightning impulse puncture voltage.

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2.3.5 Result of test

Table 3 shows the result of the test.

Table 3. Result of lightning impulse puncture test

Specified Lightning Impulse Withstand Voltage (kV)	Applied Voltage (kV)	Result
125	162.5	Passed

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2.4 Mechanical Failing Load Test

2.4.1 Test data

Equipment Under Test (EUT)	: 24 kV Post Insulator
Manufacturer	: Electro Jebal Iranian Kavir
Location	: E.P.I.L
Date	: 09-May-2022
Test Expert	: Mr. Massahi
Normative Document	: IEC 60660:1999 and Client request

2.4.2 Ambient conditions

Ambient Temperature	: 25.2 °C
Relative Humidity	: 30.1 %

2.4.3 Performance of test

The test was done according to clause 3.7 of IEC 60660:1999. According to client request The post insulator was subjected to a Tensile load along its axis. The load was increased from zero rapidly but smoothly to failing load.

2.4.4 Result of Test

Table 4 shows the results of the test.

Table 4: Result of mechanical failing load test

Test	Mechanical Failing Load (kN)	Result
Tensile test	22.3	performed

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3. FIGURES

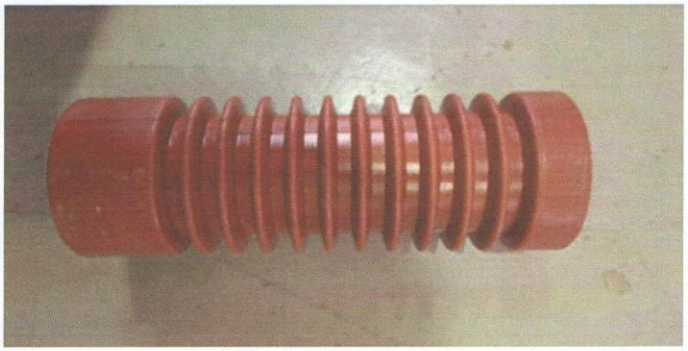


Figure 1: Equipment under test (EUT)

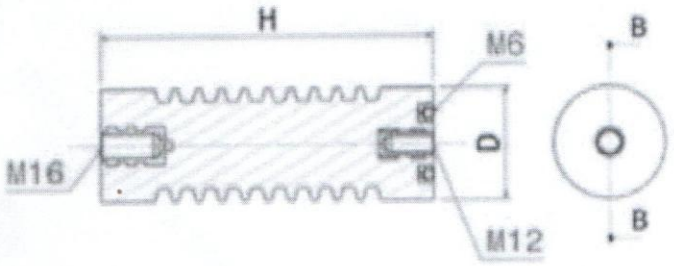


Figure 2: Equipment under dry power frequency withstand voltage test

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ANNEX A: Dimensions of EUT



Reference

Product Code	Type (Acc IEC)	Height H(mm)	Diameter D(mm)	Insert M	
				Side B	Side A
J/MV24	IO4-125	210	70	M12	2*M06+M12
J/MV24.A	IO4-125	210	70	M16	2*M06+M12

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