TEST REPORT

Test Object:	Cap and pin type porcelain insulator
Designation:	Normal type suspension porcelain insulator with socket – ball coupling Catalogue No:U100B/E-N (REF: EM-10JR-2 100 kN)
Manufacturer:	**EMCO Industries Limited** **4th-Floor, National Tower. 28-Egerton Road,** **Lahore-54000** **Pakistan**
Tested for:	**EMCO Industries Limited**
Date of tests:	28th - 29th August, 2017
Project ID:	NFL-30/2017-2
Order/Contract:	NFL-30/2017-2, 26th June, 2017
Test Specification:	ANSI/NEMA C29.2B:2013 Sub-Clauses 8.2.7 and 8.2.8 IEC 60383-1:1997 Clause 17
Tests Performed:	The test object, constructed in accordance with the description, drawing and photographs incorporated in this report has been subjected to **verification of dimensions, residual-strength and impact tests**.
Test Results:	**The test object fulfilled the requirements of the standard.**

This Test Report has been issued by VEIKI-VNL Electric Large Laboratories Ltd. Testing Laboratory in accordance with above mentioned specification.

The Report applies only to the test object. The responsibility for conformity of any product having the same designations with that tested rests with the Manufacturer.

This Report comprises 10 sheets in total (9 numbered pages and 1 drawing).

Budapest, 02nd November, 2017	Tamás Forgó responsible for the test	Csaba Homok supervised by	Balázs Varga Head of Laboratory

Laboratory accredited by NAH under No. NAH-1-1251/2015.
VEIKI-VNL Ltd. is an independent company, member of Short-circuit Testing Liaison (STL).

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Ratings/characteristics assigned by the manufacturer:

Designation:	Nromal type suspension porcelain insulator with socket – ball coupling
Catalogue No.:	U100B/E-N (REF: EM-10JR-2)
Manufacturer:	**EMCO Industries Limited**
Minimum creapage distance:	290 mm
Spacing:	146 mm
Diameter of the insulating part:	255 mm
Coupling size:	16
Lightning impulse withstand voltage:	110 kV_{peak}
Power-frequency	
withstand voltage in dry condition:	70 kV_{rms}
withstand voltage in wet condition:	40 kV_{rms}
Low frequency puncture voltage:	110 kV
Short time electromechanical breaking load:	80 kN
Mechanical impact strength:	11.3 Nm

The tests were carried out in accordance with the following standards:

ANSI C29-1:1988(R2002)	American National Standard for electrical power insulators – test methods for Electrical Power Insulators
ANSI C29.2B:2013	American National Standard for insulators – Wet- Process Porcelain and Toughened Glass- Transmission Suspension Type
IEC 60383-1: 1993	Insulators for overhead lines with a nominal voltage above 1000 V – Part 1: Ceramic or glass insulator units for a.c. systems – Definitions, test methods and acceptance criteria
IEC 60120:1984	Dimensions of ball and socket couplings of string insulator units

Requirements of manufacturer or purchaser:

List of manufacturer's drawings attached to this document:

U100B/E-N*

* Drawing is attached to the test report.

Present at the test in charge of manufacturer or purchaser:

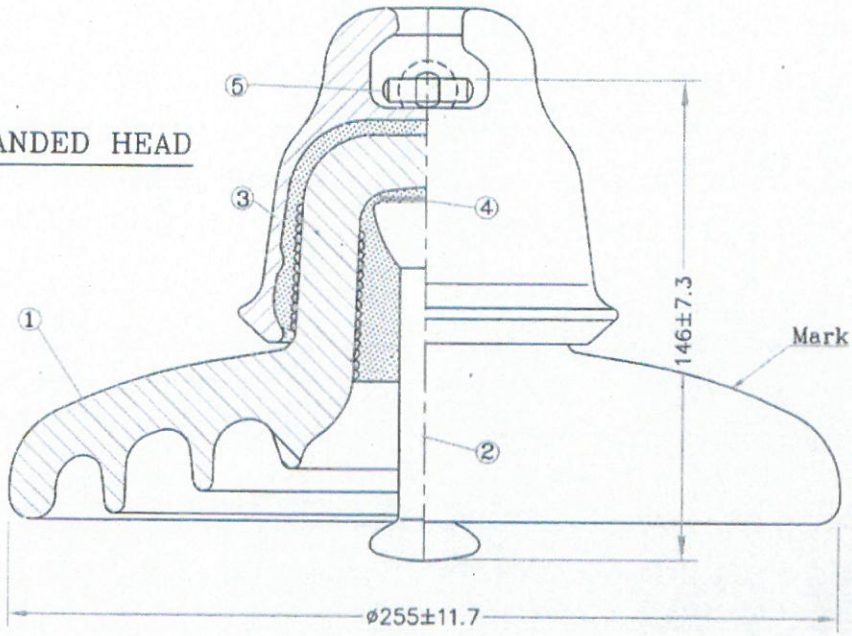
Mr. Salem Rehman	Director Operations, Emco Industries Ltd
Mr. Fahad Rasheed	Manager Testing, Emco Industries Ltd
Mr. Samar Rashid	Manager Production, Emco Industries Ltd

PHOTOS

Photo 1
The test object

Photo 2
The test arrangement of residual strength test

STRAIGHT SANDED HEAD



TECHNICAL DATA

Minimum Creepage Distance	290 mm
Standard Coupling Diameter	16 mmA
Short Time Electromechanical Breaking Load	100 kN
Mechanical Routine Test Load	40 kN
Mechanical Impact Strength	11.3 N–m
Power Frequency Withstand Voltage Dry	70 kV
Power Frequency Withstand Voltage Wet	40 kV
Impulse Withstand Voltage	110 kV
Low Frequency Puncture Voltage	110 kV
Maximum RIV at 1000 KHz	50 uV
Test voltage to ground.	10 kV

Mark

100kN
EMCO
PAKISTAN
YEAR

WEIGHT OF ZINC COATING ON CAP

Individual sample	Average of 3 samples
550 gm/sqm	610 gm/sqm

Emco Industries Ltd. LAHORE 54000 4th Floor, National Tower, 28-Egerton Road

NOTE:

1. On all dimensions for which special tolerance does not apply , will be according to IEC Pub. 60383, clause 17.
2. COLOR OF GLAZE : BROWN/GREY
3. FERROUS PARTS: HOT DIP GALVANIZED

Specifications Applied : WAPDA P–8:1996/IEC–60383:1993

SR.NO	DESCRIPTION	DRG.NO:	MATERIAL	QTY.	REMARKS
5	Socket Key		Stainless Steel	1	
4	Cork			1	
3	Socket Cap		Malleable/ductile Iron	1	
2	Ball Pin		Mild Steel(Hot Forged)	1	
1	Insulator		Porcelain	1	

REV.	DESCRIPTION	DATE	NAME

1986	DATE	NAME
DRWN.	28–1	M.Y.Qureshi
CHKD.	28–1	M.J.Abbasi
APPD.	28–1	I.A.Nadeem

EMCO
LAHORE PAKISTAN

NORMAL TYPE SUSPENSION INSULATOR 100kN
Ref: EM–10JR–2

SCALE
mm

CAT. NO: U100B/E–N

-10052 VNL 2017 NOV 02

VILLAMOS NAGYLABORATÓRIUMOK Kft. * VNL EIKI a DEKRA company * VILLAMOS NAGY LABORATÓRIUMOK Kft.