



EXPERIMENTAL STUDY OF SUSPENDED INSULATORS USING OF ALUMINOUS PORCELAIN

Dr. S. K. Mahobia¹, Prof. G.R.Kumrey²

¹ Assistant Professor, Department of Physics, Rewa Engineering College, Rewa (M.P.), India

² Assistant Professor, Department of Electrical Engg., Rewa Engineering College, Rewa (M.P.), India

Abstract:

In this paper, we are studying about insulators which are used in transmission line, distribution line, power station. the best performance of the insulator during various load are achieving , the various load such as 500 Watts, 1000Watts 1500Watts, 2000Watts, 2500 watts during time. The insulator are mounted on the upper surface of pin and attached with power supply.

Keywords: *Experimental Process; Various Loads; Suspended Insulators.*

Cite This Article: Dr. S. K. Mahobia, and Prof. G.R.Kumrey. (2017). "EXPERIMENTAL STUDY OF SUSPENDED INSULATORS USING OF ALUMINOUS PORCELAIN." *International Journal of Engineering Technologies and Management Research*, 4(10), 109-113. DOI: 10.5281/zenodo.1051007.

1. Introduction

The insulator are making from several stages, using insulator are coated with the aluminous porcelain and drying during making process. The insulators are mounted on the pin of pole and power supply is ON. we are used the various applied Load such as 500 Watts, 1000Watts 1500Watts, 2000Watts, 2500 watts.

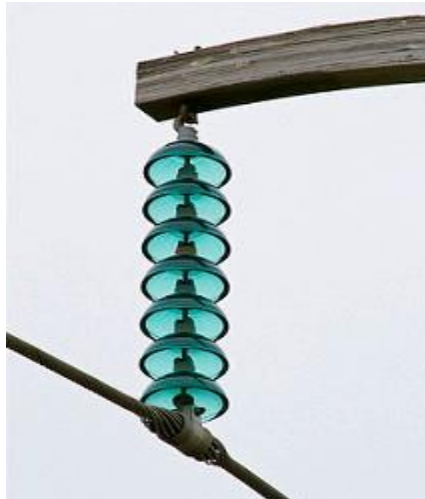


Figure 1: Suspended insulators

2. Performance Testing

Table 1: Testing applied load 500 Watts

Sr. No.	Time in minutes	Temperature (°C) on Final stage
1	10	42
2	20	50
3	30	55
4	40	62
5	50	67

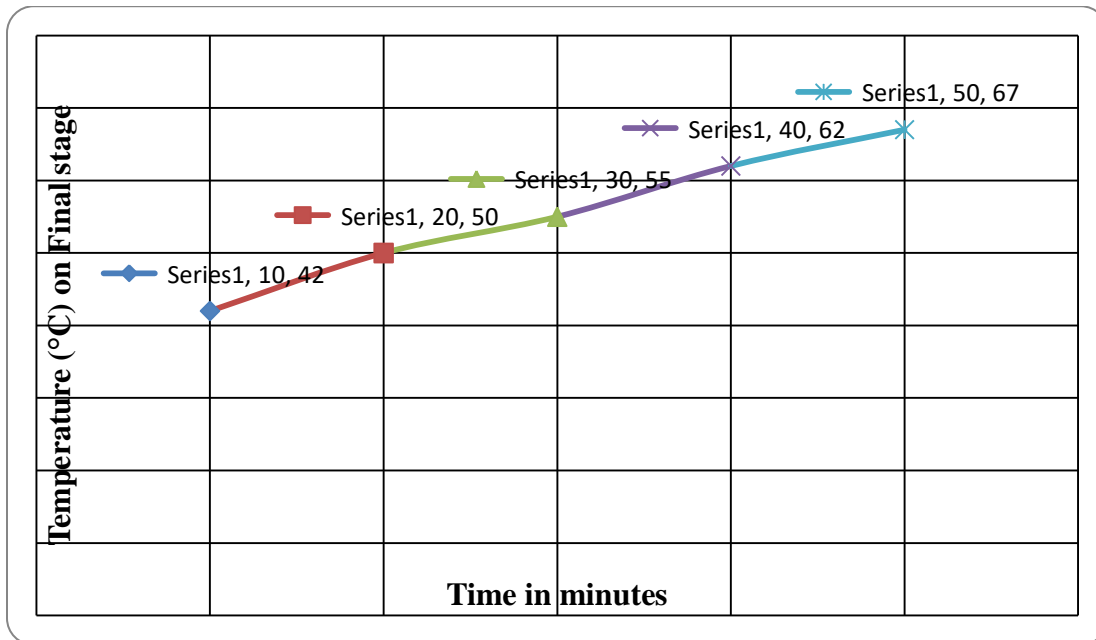


Figure 2: Testing applied load 500 Watts

Table 2: Testing applied load 1000 Watts

Sr. No.	Time in minutes	Temperature (°C) on Final stage
1	10	48
2	20	52
3	30	54
4	40	68
5	50	70

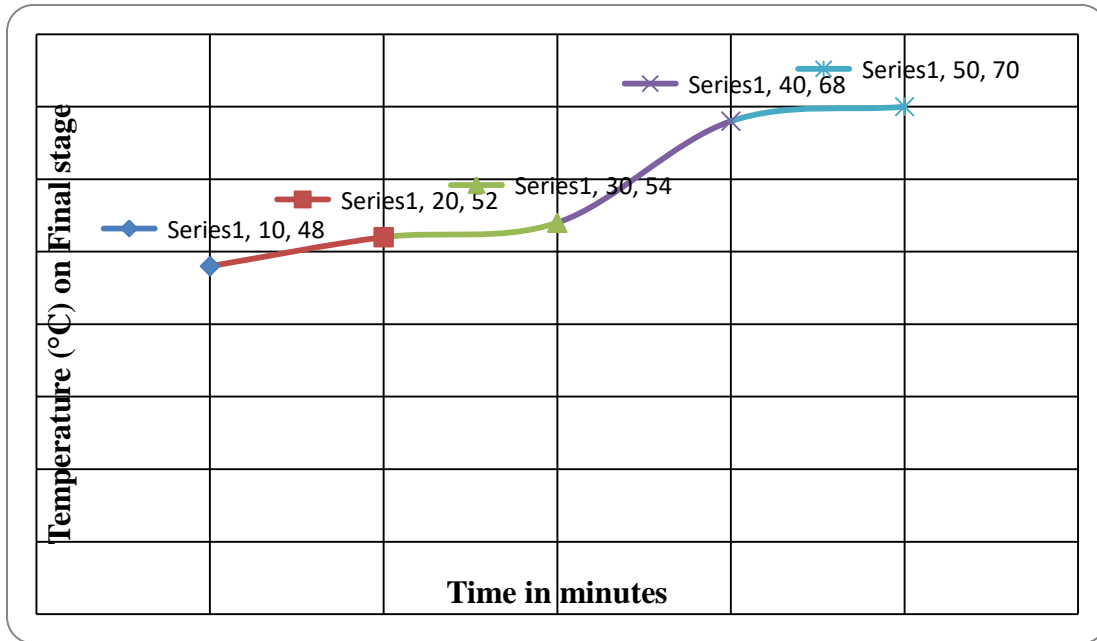


Figure 3: Testing applied load 1000 Watts

Table 3: Testing applied load 1500 Watts

Sr. No.	Time in minutes	Temperature (°C) on Final stage
1	10	52
2	20	58
3	30	62
4	40	68
5	50	75

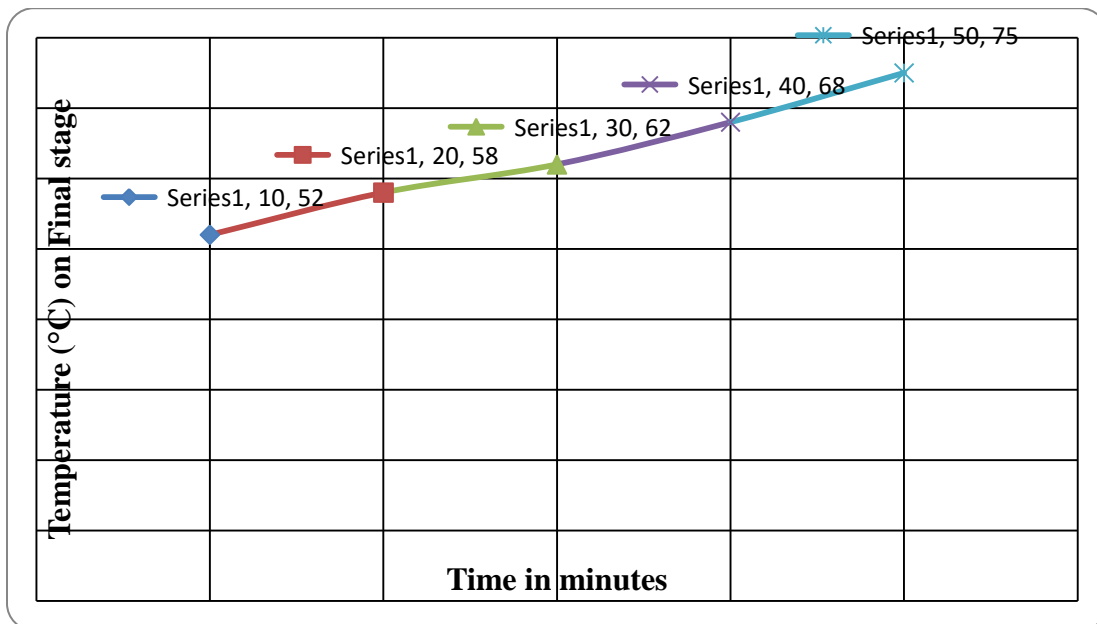


Figure 4: Testing applied load 1500 Watts

Table 4: Testing applied load 2000 Watts

Sr. No.	Time in minutes	Temperature (°C) on Final stage
1	10	60
2	20	72
3	30	88
4	40	77
5	50	75

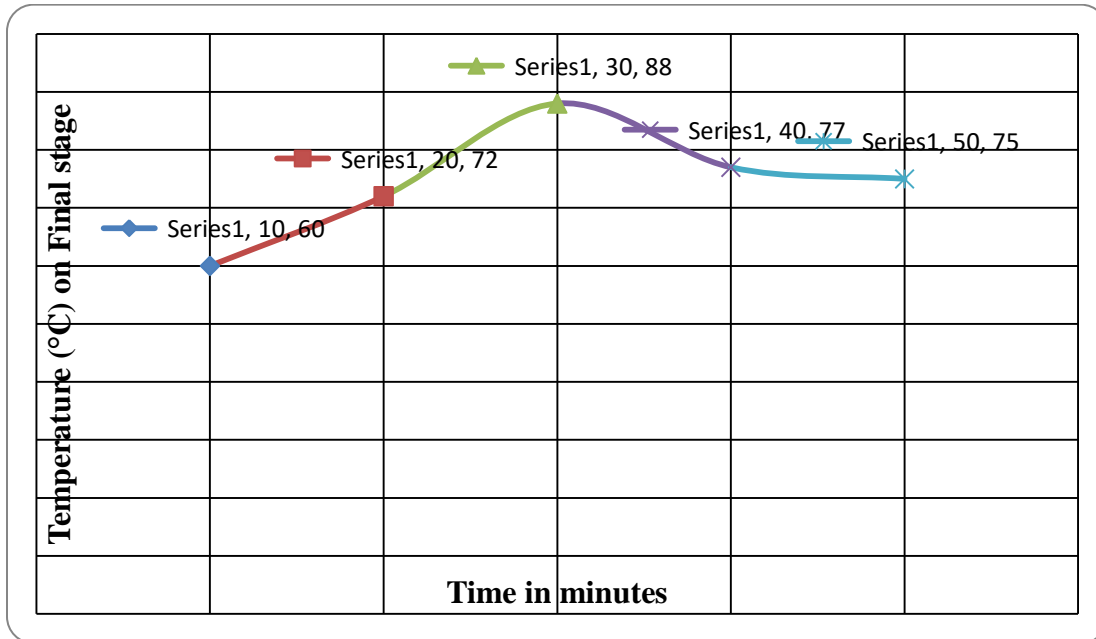


Figure 5: Testing applied load 2000 Watts

Table 5: Testing applied load 2500 Watts

Sr. No.	Time in minutes	Temperature (°C) on Final stage
1	10	62
2	20	73
3	30	78
4	40	80
5	50	82

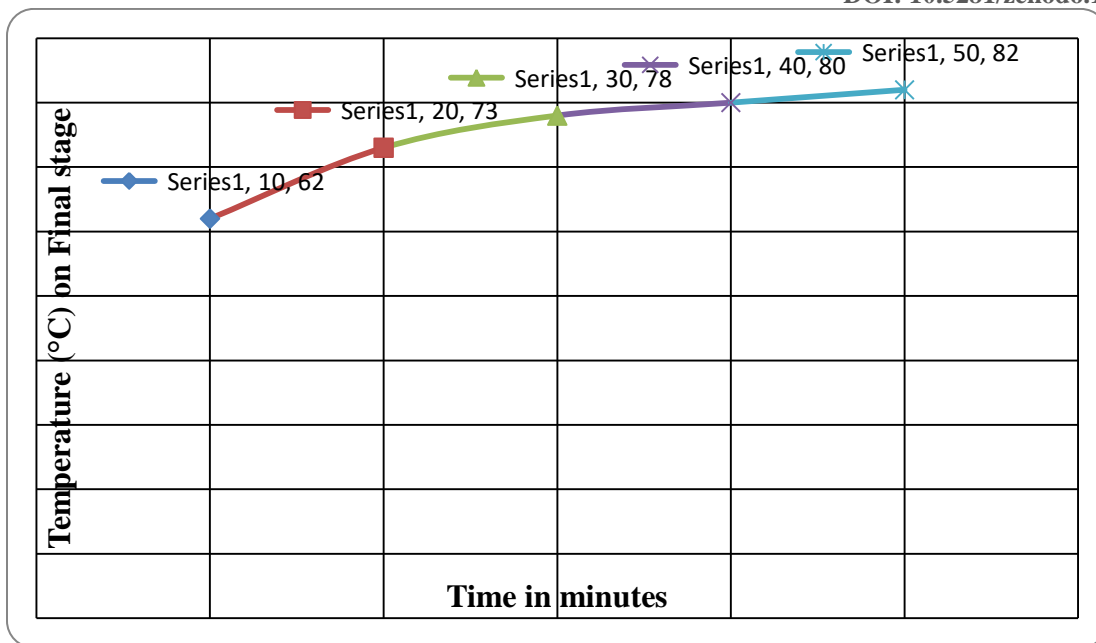


Figure 6: Testing applied load 2500 Watts

3. Conclusion

We are observed the various temperatures on the surface of insulators. We are measured with the help of digital temperature meters and applied the various load during time. We are achieving that maximum temperatures are 88 °C at 30 minutes and applied load 2000 Watts, which are shown in Table .4.

Reference

- [1] Chandrasekar S, Kalaivanan C, “Partial discharge detection as a tool to infer pollution severity of polymeric insulators”, IEEE Trans.
- [2] E.A. Cherney and J.T. Burnham, “Outdoor Insulators”, Ravi S.Gorur, Inc., Phoenix, Arizona
- [3] J.S.T. Looms, “Insulators for high voltages”, IEE series, 1990.
- [4] Licheng Li and Yuming Zhao, IEEE Trans. Dielectrics and Electr. Insul., vol. 19, no. 3, pp. 1053-1059.
- [5] Qin Hu, Fanghui Yin, “Effect of ultrasonic fog on AC flashover voltage of polluted porcelain and glass insulators”, IEEE Trans. Dielectrics and Electr.Insul., vol.20, no.2, pp. 429-434.