

# **Determination of the Wire Size of a Three Phase Squirrel Cage Induction Motor with a Missing Nameplate**

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## **ABSTRACT**

An empty stator of a squirrel cage induction motor rated at 220/380V, 50Hz with a missing nameplate and without winding has been lying down in a factory for so long and now the factory wants to use it for production purposes. This is a motor whose class protection degree is IP44, IP54 or IP55. This paper presents a method of determining the wire size (diameter) required to rewind the motor to its full rating power capacity. With motor nameplate and using National Electrical Code (NEC) and National Manufacturers Association (NEMA) specifications, the diameter of the wire can be determined. In the absence of the nameplate and the windings, the motor is difficult to rewind in order to obtain its desired characteristics. This can be achieved by the measurement of main dimensions of motor stator, using standard rating specifications, standard performance curves and analytical method.

Keywords: Squirrel cage induction motor stator, nameplate, winding, number of poles, slots.