



## 3000 kW, 6600V, 12 pole, Synchronous motor for Gold Mine in Ghana

The starting cage of this Synchronous motor failed. Although many armature winding companies would merely replace the starting cage bars with copper bars, M&C has years of experience in these types repairs. We knew that we had to analyze the bars and not assume their composition. Chemical analysis showed that the bars were in fact not copper, but a special low conductivity alloy. We had these special alloy bars (with an electrical conductivity of only 9%) specially manufactured and imported from Europe. These special alloy bars are critical in order to achieve the required starting torque. With the failure of the starting cage, the synchronization circuit also failed and had to be replaced.

This motor is a mill motor for a leading Gold Mine in Ghana and critical to the production process. M&C knew that production could not be compromised due to a cheap "guess" repair. We thus took every precaution to ensure that the motor relinquishment was of the highest possible standard and quality.



The starting cage had failed. M&C removed some of the old rotor bars as well as a section from the short circuit cage at conducted chemical analysis on them in order to identify the exact material used since we know that matching these parameters will be critical for the correct starting of the motor, i.e. in order to achieve enough starting torque and a reduced starting current.



We correctly specified these special alloy starting cage bars and had them manufactured and imported from Europe.



The completed rotor is shown here inside the stator winding.



The synchronization circuit was also replaced.

