EUR24_13 - Rewinding electrical machines to maintain efficiency and performance

Author(s): Richard Emery (Sulzer Services), Thomas Schmager (Birr Machines Ltd), Frederic Beghain (EASA Europe)

Abstract:

Whilst replacing a motor may make economic sense and it may in some cases also have a better efficiency, this needs to be considered against the carbon impact of the manufacture of a new motor.

The motor repair specifications IEC 60034-23 and IEC 60079-19 for ATEX machines are little known but was created to specify the best practice for the overhaul and repair of electric motors to ensure efficiency is maintained. This specification is backed up by industry studies on the effect of a rewind on the motor losses across a variety of frame sizes.

This paper will talk through the results of these studies, some of the technical techniques and controls needed to maintain efficiency. Electrical Apparatus service association (EASA) have developed an accreditation scheme to ensure energy efficiency and quality based on their specification AR100. Finally, this paper will discuss how to select and audit suitable potential repairers