

IEEE STD 841-1994

In June of 1994, a new voluntary standard specification document was written by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) in an effort to benchmark and improve the reliability, efficiency and performance of severe-duty TEFC induction motors.

Although, it primarily addressed the concerns and severe-duty requirements of the petroleum and chemical industries, and the motor manufacturers supplying them, it soon became the established guideline for other process industries, such as mining, pulp & paper and automotive manufacturing.

Prior to this latest development, nearly all of the North American motor manufacturers produced endless variations of high quality motors that were purchased for use in the process industries. NEMA standards established common dimensions and some basic design parameters, but the user and the manufacturers had no permanent guidelines with respect to minimum acceptable reliability, efficiency and performance.

The motor manufacturers' descriptive literature was usually creative, but generally redundant. Almost all of the manufacturers emphasized oversized bearings, cast iron construction, large conduit boxes, heavy duty epoxy coatings, stainless steel nameplates and the best efficiencies in the business. The user was left to analyze the data and decide which motor would best fulfill his or her needs.

This new IEEE standard levels the playing field for manufacturers and process industry users alike. Minimum bearing reliability is specifically called out and provisions are made for permanent and effective protection of those bearings. Insulation system designs and temperature rise limitations are specific and unambiguous. Even the mounting feet are milled and inspected for flatness. Full load efficiencies are tabulated and enforced by the standard. Other quality and performance details, such as vibration, sound level, and maximum permissible shaft run-out are not left to chance.

Here, then, is a motor that is uniquely designed for the process industries in severe-duty applications. It establishes a new level of tangible benchmarks for enhanced reliability, premium efficiency and performance on the job. Nearly all of the North American motor manufacturers now offer this new generation of motor quality, so that your decision on whether or not to upgrade to the first significant design modification package since the introduction of the T-frame (1964) will be simple, convenient and economical.