

Although bearing technology is a well-established international discipline and several normative standards are available to assess bearings for common applications, actually only some large companies (SKF, Schaeffler...) have the know-how enough (undisclosed in most cases) to design properly a bearing for a given application. The rest of the manufacturers (medium and small) generally perform reverse engineering of products from these large companies and give to their customers “copies” of the information available from their catalogues and websites.

Due to this lack of these design issues, some of these medium or small companies have begun to collaborate with universities to get some insight in the design and selection basics of their products, in order to get the capability to redesign them properly when a new application is to be developed. In this sense, the ADM group of the University of the Basque Country (Mechanical Analysis and Design Group) has focused the Slewing Bearings for Wind Power Applications as one of his research interests.

Concepts as “general static load capacity”, “simplified analytical modeling” and “superstructure analysis” have been approached during the past three years and in this moment the concept of “friction moment modeling and assesment” is under development using analytical tools and correlation with detailed finite element calculations, as well as an initial experimental arrangement using axial loads.