

Product Liability for Engineers

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Fundamentals of Product Liability Law for Engineers

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This textbook, written for college level engineering students, gives a basic grounding in the complexities of product liability law. It also provides useful information to those of us involved in the manufacturing of gears and gear systems in that the fundamental concepts apply to all types of manufacturers.

The book begins with some basic background information on the development of product liability law and then moves quickly into the two main subject areas: theories of liability and strategies for protection against lawsuits. In general, the book is clearly written and understandable in spite of the need to use a lot of legal phrases and words. There is a glossary that covers most of the legal terms used, an appendix listing numerous statistical facts regarding product liability lawsuits (dollar amounts and cases by state for instance) and a bibliography for those who might be inclined to pursue the subject further.

From the viewpoint of a gear manufacturer or, in my own case, from that of a consulting engineer, the primary focus is on cases that deal with manufactured products and how their failure brought on lawsuits rather than on the failure of a specific manufactured item such as a single gear, a series of gears or a gearbox. Nonetheless, the basic legal principles apply to the typical gear manufacturer, particularly a company manufacturing gears that go into someone else's products.

Much of the text in the first section is verbatim quotations from various lawsuits, which are used to illustrate the various types of liability and the differences between them. For instance, negligence vs. strict liability; express warranty vs. implied warranty; the difference in procedures between trial courts and appeals courts. One very interesting case is that of a table saw manufacturer sued by someone who cut his hand because the blade guard had been removed. The court ruled that since the particular operation could not be performed with the blade guard in place and since the user knew that a table saw was inherently a dangerous tool, particularly with the blade guard removed, the manufacturer was not liable for the injury.

The section dealing with how to avoid lawsuits is useful because it outlines various checklists that

can be adopted by a company so that all the proper questions are asked and answered. This establishes a paper trail showing that the company adhered to reasonable and appropriate procedures in manufacturing and marketing a product or component of a product. There is also a list pertaining to a product liability loss assurance committee, which purports to set up procedures to prevent a lawsuit from occurring. Some of the items on the checklist suffer, however, from having been created by a lawyer. For instance, "What is the user population?" and "What are all possible hazards?" are two of the questions. Who among us would dare claim to be able to answer those questions in the absolute? I know of a case in which a manufacturer was sued when the owner of an oven opened the lower door of the oven and stood on it in order to reach something on a shelf above the oven. When the hinges broke, the owner sued. Her lawyer claimed that standing on an oven door was "a foreseeable use."

This book would be a good addition to the library of any conscientious gear manufacturing engineer. It provides an excellent grounding in the very complex vagaries of product liability law and suggests several methodologies to help establish some company procedures to protect both individuals and the company from lawsuits.

The author ends the book on a philosophical note with a discussion regarding ethics. The author goes on at some length about ethics in government and in the engineering profession. The author points out that since most engineers do not have a direct one-on-one relationship to their customers as do doctors, accountants and lawyers, the failure of a manufacturing engineer to "properly" make a gear does not always result in a direct one-on-one confrontation. If the gear is part of a lawnmower drive train and it keeps failing, users will be unhappy but not necessarily injured. If the gear is used to move a control rod drive mechanism into a nuclear reactor and it fails during an emergency scrambling operation, a large number of people could be injured or killed. What we all do, in the final analysis, does matter. The last sentence of the book is good advice for all of us: "Do the right thing for the best of all possible reasons—to feel good about yourself." ☉