

Haworth's Ergonomic Design Process

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Haworth prefers a systems perspective to address specific issues such as workstation design and analysis. We monitor scientific journals, standards, etc. from a variety of fields as well as complete original research in order to ensure that the latest information is applied in our product design process. In general, Haworth's Corporate Ergonomist and Cognitive Psychologist provide input at four different stages of product development.

knowledge+research

Haworth's Philosophy:

Ergonomics and human factors refer to the:

design implications for systems, organizations, jobs, machines, tools, and consumer products based on the knowledge of human abilities and limitations with the goal of safe, efficient, and comfortable human use.

We prefer a systems perspective (macroergonomics) to address specific issues such as workstation design and analysis (microergonomics). By monitoring scientific journals, trade publications, books; ergonomic standards, regulations & legislation; and other relevant sources, we apply the latest information from human anthropology, physiology, psychology, sociology, government & industry standards, and the organizational & corporate literature to the design and evaluation of office environments, work technologies, and social systems.

In addition to this focus on keeping abreast of the latest developments in ergonomics and related disciplines, we conduct original research to evaluate human performance, and existing & future products and work tools. We also frequently survey current and potential customer groups to ascertain their present and anticipated concerns and needs in the areas of human factors and ergonomics.

This knowledge is summarized in various bibliographies, research reports, white papers, publications, and other materials, and informs product design & development, product assessment & evaluation, and product marketing. Much of this information has been made available to our dealers, customers & internal constituencies on our Web.

Product Design:

In general, Haworth's Corporate Ergonomist and Cognitive Psychologist provide input at four stages of product development: (1) needs assessment and concept development, (2) prototype design and evaluation [e.g., usability testing of mock-ups], (3) alpha and beta testing of final product designs, and (4) long-term follow-up research [e.g. post-occupancy evaluations]. However, it must be understood that products are only part of a good ergonomics program and that ergonomics addresses the entire work environment system including the behavior of people relative to their environment and work tools. Knowledge of ergonomics strengths and weaknesses from each of these stages is applied to new product invention and design in a recursive process with the goal of improving the quality, safety, usability, and comfort of our products.

We also constantly compare our current and future products to the latest applicable national and international standards to ensure that they meet or exceed the highest criteria for worker health and safety. Haworth, Inc. is presently using the anthropometric data provided in Natick/TR-89/044 – this is the 1987-88 anthropometric survey of Army personnel that was prepared for the United States Army Natick Research, Development and Engineering Center in Natick, Massachusetts. BIFMA's new ergonomics guideline (BIFMA G1-2002) which was released in March 2002 was developed using this database and at this time, is the most current guideline that is not in draft format available to provide recommendations for Visual Display Terminal (VDT) furniture used in office work spaces. The workspace dimensions in the BIFMA ergonomics guideline are based on meeting the requirements of the relevant 5th percentile female through the 95th percentile male/female (the largest of the two is used) body dimensions. Haworth also considers the dimensions and adjustments

ranges in other ergonomic standards and guidelines, such as: CAN/CGSB 44-232-2002, CAN/CGSB-44.227-2000 and CSA Z412-2000. Additionally, Haworth takes into consideration the recommendations put forth in BSR/HFES100-2002 which is the draft standard that was published for trial use to replace ANSI/HFS 100-1988 (which technically was removed as an ANSI standard in 1998 because it had not been revised and updated as required by ANSI). BSR/HFES 100-2002 is expected to be published as an ANSI standard in 2005. Prior to the release of more current and updated standards, Haworth referred to ANSI/HFS 100-1988 in its product design process.