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	Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
	Nota di contenuto	Introduction -- Characteristic service stresses -- Description of the counting methods -- Load spectra and matrices -- Comparison of counting methods for exemplary stress-time functions -- Multiaxial loads and stresses -- Time-at-level counting -- Application of the counting methods -- Analytical fatigue-life prediction -- Design and dimensioning spectra -- Safety aspects -- Load assumption in various special fields -- Additional references on load assumptions in various engineering fields.

Sommario/riassunto   Understanding the fatigue behaviour of structural components under variable load amplitude is an essential prerequisite for safe and reliable light-weight design. For designing and dimensioning, the expected stress (load) is compared with the capacity to withstand loads (fatigue strength). In this process, the safety necessary for each particular application must be ensured. A prerequisite for ensuring the required fatigue strength is a reliable load assumption. The authors describe the transformation of the stress- and load-time functions which have been measured under operational conditions to spectra or matrices with the application of counting methods. The aspects which must be considered for ensuring a reliable load assumption for designing and dimensioning are discussed in detail. Furthermore, the theoretical background for estimating the fatigue life of structural components is explained, and the procedures are discussed for numerous applications in practice. One of the prime intentions of the authors is to provide recommendations which can be implemented in practical applications.