1. Record Nr. UNINA9910874665703321 Autore Marioni Agostino Titolo Anti-Seismic Devices: A Reference Manual for Structural Engineers / / by Agostino Marioni Pubbl/distr/stampa Cham:,: Springer International Publishing:,: Imprint: Springer,, 2024 **ISBN** 9783031627033 Edizione [1st ed. 2024.] 1 online resource (0 pages) Descrizione fisica Disciplina 620.37 Soggetti Engineering geology Buildings - Design and construction Measurement Measuring instruments Buildings - Repair and reconstruction **Buildings - Maintenance** Natural disasters Geoengineering **Building Construction and Design** Measurement Science and Instrumentation **Building Repair and Maintenance** Natural Hazards Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Chapter 1. Early applications of anti-seismic measures -- Chapter 2. The principles of base isolation and seismic protection of structures --Chapter 3. Base Isolators -- Chapter 4. Hysteretic Dampers -- Chapter 5. Hydraulic Devices -- Chapter 6. Magnetic Dampers -- Chapter 7. The European Standard EN 15129 -- Chapter 8. Main Standards Worldwide and comparison with the European Standard -- Chapter 9. Testing requirements of anti-seismic devices and available testing

This book stands as a manual and ready reference for structural engineers on the seismic protection of civil engineering structures.

facilities.

Sommario/riassunto

Beginning with a short historical overview, the book explains the concepts of seismic protection, describes the most common types of anti-seismic devices, and summarizes the main existing standards for anti-seismic devices, with particular reference to the European Standard. It imparts expertise on the devices that is normally restricted by proprietary interests of a few specialists. Then it goes on to illustrate the main differences between European and American Standards, examine the output of the principle laboratories globally engaged in testing anti-seismic devices, and to describe state-of-art technologies to retrofit seismically existing buildings. The volume concludes with a number of accounts of projects involving the author where structures were equipped with anti-seismic devices and provides some insight on the future development of relevant technologies. Imparts expertise on design, manufacture and testing of anti-seismic devices Maximizes engineers' and designers' understanding of appropriate solutions for the seismic protection of a structure Analyzes the behavior of structures subjected to real earthquakes.