

1. Record Nr.	UNINA9910790003303321
Autore	Ashby M. F
Titolo	Materials and the environment [[electronic resource]] : eco-informed material choice // Michael F. Ashby
Pubbl/distr/stampa	Waltham, MA, : Butterworth-Heinemann, 2012
ISBN	1-283-73507-5 0-12-385972-7
Edizione	[2nd ed.]
Descrizione fisica	1 online resource (628 p.)
Disciplina	620.1/10286
Soggetti	Materials - Environmental aspects Engineering design - Environmental aspects
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Front Cover; Materials and the Environment: Eco-Informed Material Choice; Copyright Page; Contents; Preface and Acknowledgments; 1. Introduction: material dependence; 2. Resource consumption and its drivers; 3. The material life cycle; 4. End of first life: a problem or a resource?; 5. The long reach of legislation; 6. Eco-data: values, sources, precision; 7. Eco-audits and eco-audit tools; 8. Case studies: eco-audits; 9. Material selection strategies; Beams with efficient shapes; Sandwich structures; 10. Eco-informed materials selection; 11. Sustainability: living within our means 12. Materials for low-carbon power 13. Material efficiency; New and improved materials; Longer life, more intense use; 14. The bigger picture: future options; 15. Material profiles; Appendix-Useful numbers and conversions; A.1 Introduction; A.2 Physical constants in SI units; A.3 Conversion of units, general; A.4 Stress and pressure; A.5 Energy and power; A.6 Fuels; A.7 Energy prices (2011 data); A.8 Further reading; Index; Granta: CES EduPack
Sommario/riassunto	Addressing the growing global concern for sustainable engineering, Materials and the Environment, 2e is the only book devoted exclusively to the environmental aspects of materials. It explains the ways in which we depend on and use materials and the consequences these have, and it introduces methods for thinking about and designing with materials within the context of minimizing environmental impact. Along with its

noted in-depth coverage of material consumption, the material life-cycle, selection strategies, and legislative aspects, the second edition includes new case studies
