

PREFACE

The knowledge of materials and finishes is the bridge that links conceptual design to real-world application. It is among the core content of virtually all interior architecture/design curricula, moreover, access to up-to-date information on emerging technologies and trends is a key exigency for the contemporary designer. Accordingly, this book is authored to form a comprehensive resource for the “hows” and “whys” surrounding the functional and aesthetic contributions of a wide selection of materials and finishes used in multiple spatial design contexts. The knowledge base presented here is not only useful in shaping spatial experience, ensuring occupant well-being, and employing sustainable thinking but also beneficial in managing budget and schedule while enabling the delivery of top-quality work.

The book investigates fundamental material properties, performance criteria, as well as sector-specific standards, regulations, and guidelines, with a special focus on concerns surrounding occupant health and safety as well

as environmental impact and sustainability concerns. Furthermore, fabrication, installation, and maintenance issues were explored in detail. Various information collection and organization conventions are also discussed with regard to detailing, specification, estimation, and documentation of materials and finishes.

The goals of the book can be listed as follows:

- Developing a vocabulary and knowledge base to comprehend and communicate concepts and paradigms associated with the history, classification, manufacturing, evaluation, fabrication, installation, and maintenance of materials and finishes.
- Identifying a broad range of materials and finishes, considering their aesthetic and performance properties, and understanding their utilization with regard to creative design intent, client expectations and requirements, user needs and experience, and incorporating life cycle implications.
- Providing a basis for achieving physical and psychological well-being for occupants, understanding the impact of changing social, cultural, economic, and ecological context, and eliminating negative environmental and social outcomes.

The book is structured around building a solid foundation first, and subsequently, exploring each material category separately. The first four chapters are dedicated to the comprehension of fundamental vocabulary, material perception, health and safety considerations, accessible design, and sustainable thinking. Each subsequent chapter is dedicated to a specific category of material: paint and wallcovering, concrete and masonry, wood, glass and porcelain, textile, metal, and plastic. The last chapter is dedicated to the specification of materials and the responsibilities of the designer in the process. The chapter also emphasizes the importance of cost estimation and provides a step-by-step guide. Finally, a large selection of material specification criteria is outlined in detail with examples, to help the designer identify the best possible materials for their project

Tab.00/01 Detailed content of and related CIDA 2020 accreditation criteria for each chapter.

Chapter	Content	Accreditation
01	INTRODUCTION Definition of material and materiality; relevance of material knowledge; a brief history of materiality; performance properties; surface attributes; foundational terminology; weathering and aging.	<i>CIDA 10b, 10e, 13a,</i>
02	PERCEPTION Perception of materiality; understanding design trends; historical, cultural, and design context; concept driven material specification; visual elements and principles; balance, dynamism, and composition; non-visual senses.	<i>CIDA 4a, 4b, 6c, 12a, 12i, 13a, 15d</i>
03	HEALTH & SAFETY Building codes and standards; fire safety; the Americans with Disabilities Act; ADA accessibility guidelines; universal design principles; indoor air quality (IAQ); harmful chemicals; room acoustics and reverberation; sound transmission and flanking.	<i>CIDA 4b, 13c, 14a, 14b, 14c, 14f, 14h, 14i, 16c</i>
04	SUSTAINABILITY Sustainable thinking and design; carbon footprint; embodied energy and recycling; life cycle assessment (LCA); green building certification; eco-labels; green cleaning practices.	<i>CIDA 4a, 4b, 13c, 16b</i>
05	PAINT & WALLCOVERING Typical paint components; paint history and types; gypsum and plaster; paint application and disposal; wallcovering history and types; wallcovering application.	<i>CIDA 13a, 13b, 13c, 14h, 14i, 15d, 16c</i>
06	CONCRETE & MASONRY Vocabulary for concrete; concrete types and application; terrazzo and installation; brick types and installation; vocabulary for natural stone; quarrying and environmental impact; stone types and finishes; stone installation and maintenance.	<i>CIDA 13a, 13b, 13c, 15d, 16c</i>
07	WOOD Vocabulary for wood products; forest management; performance properties and behavior; prominent wood species; processing and finishing; wood veneers; engineered woods.	<i>CIDA 13a, 13b, 13c, 14h, 14i, 15d, 16c</i>
08	GLASS & CERAMIC Glass - history and vocabulary, light transmission, environmental impact and recycling, specification and fabrication. Ceramics and porcelain - manufacturing process, environmental impact, ceramic types and properties, specification and installation.	<i>CIDA 13a, 13b, 13c, 15d, 16c</i>
09	TEXTILE Textile vocabulary; environmental impact of textiles; fiber types and yarn construction; natural and synthetic fibers; textile manufacturing and performance; leather; carpet construction and types; carpet installation; upholstery and soft goods.	<i>CIDA 13a, 13b, 13c, 14h, 14i, 15d, 16c</i>
10	METAL Core terminology for metals; metal alloys; corrosion, weathering, and patina; processing metals; finishing metals; ferrous metals; non-ferrous metals.	<i>CIDA 13a, 13b, 13c, 15d, 16c</i>
11	PLASTIC Polymers and plastics; synthesis and key additives; environmental impact of plastics; resin identification code and recycling; common thermoplastics and thermosets; plastic manufacturing methods; composites; polymer products specific to interiors.	<i>CIDA 13a, 13b, 13c, 14h, 14i, 15d, 16c</i>
12	SPECIFICATION The business and key professionals; common specification types; standardized specification content; project cost estimation; conducting field survey; criteria for successful specification.	<i>CIDA 5a, 6a, 6c, 6d, 13a, 13b, 13c, 16c</i>

*Criteria 13d and 13e are omitted above as they require a student application example.