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Titolo	Discrete Optimization in Architecture [[electronic resource]] : Building Envelope / / by Machi Zawidzki
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Disciplina	620
Soggetti	Buildings—Design and construction Building Construction Engineering, Architectural Computer-aided engineering Mathematical optimization Mechanics Mechanics, Applied Regional planning Urban planning Structural materials Building Construction and Design Computer-Aided Engineering (CAD, CAE) and Design Discrete Optimization Solid Mechanics Landscape/Regional and Urban Planning Structural Materials
Lingua di pubblicazione	Inglese
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Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	The skin of a building -- Cellular Automaton-based Shading System (CASS) -- Polarized Film Shading System in regular grids -- Prototypes -- Static solar shading of a free-form building with Shade-Z.
Sommario/riassunto	This book explores the extremely modular systems that meet two criteria: they allow the creation of structurally sound free-form

structures, and they are comprised of as few types of modules as possible. Divided into two parts, it presents Pipe-Z (PZ) and Truss-Z (TZ) systems. PZ is more fundamental and forms spatial mathematical knots by assembling one type of unit (PZM). The shape of PZ is controlled by relative twists of a sequence of congruent PZMs. TZ is a skeletal system for creating free-form pedestrian ramps and ramp networks among any number of terminals in space. TZ structures are composed of four variations of a single basic unit subjected to affine transformations (mirror reflection, rotation and combination of both). .