Shear Wall Design Guide

This book comprises selected proceedings of the 2nd International Conference of Construction, Infrastructure, and Materials (ICCIM 2021) focusing on topics such as structural engineering, construction

materials, geotechnical engineering, transportation system and engineering, construction management, water resources engineering, and infrastructure development. Its content will be useful to researchers, educators, practitioners, and policymakers alike. This book is written by subject experts

based on the recent research results in steel plate shear walls considering the gravity load effect. It establishes a vertical stress distribution of the walls under compression and in-plane bending load and an inclination angle of the tensile field strip. The stress throughout the inclined tensile strip, as

we consider the effect of the vertical stress distribution, is determined using the von Mises yield criterion. The shear strength is calculated by integrating the shear stress along the width. The proposed theoretical model is verified by tests and numerical simulations. Researchers, scientists and engineers in

the field of structural engineering can benefit from the book. As such, this book provides valuable knowledge, useful methods, and practical algorithms that can be considered in practical design of building structures adopting a steel shear wall system. Guidelines for Design of Low-Rise

Buildings Subjected to Lateral Forces is a concise guide that identifies performance issues, concerns, and research needs associated with low-rise buildings. The book begins with an introduction that discusses special problems with low-rise buildings subjected to wind and earthquakes.

Chapter 2 examines probabilistic methods and their use in evaluating risks from natural hazards. It also addresses the characteristics of wind and seismic forces and levels of risk implied by building codes. Wind forces are covered in more detail in Chapter 3, with discussions of wind force concepts

and wind-structure interactions. Chapter 4 is devoted to earthquake forces and traces the development of building codes for earthquake resistant design. Chapter 5 describes the main framing systems used to resist lateral forces and discusses the code requirements for drift control. The

designs and requirements for connections between building elements are addressed in Chapter 6. It includes examples along with several illustrations of suitable connections. The performance of non-structural elements during wind and earthquake forces is also examined in detail. This

book serves as an important reference for civil engineers, construction engineers, architects, and anyone concerned with structural codes and standards. It is an excellent guide that can be used to supplement design recommendations and provide a design basis where there are no current

requirements.

The Analysis of Irregular Shaped Structures: Wood Diaphragms and Shear Walls, Second Edition

Proceedings of the 7th International Conference on Structural Engineering, Mechanics and Computation (SEMC 2019), September 2-4, 2019, Cape Town,

South Africa
Earthquake Engineering
Proceedings of the 16th International Brick and Block Masonry Conference, Padova, Italy, 26-30 June 2016
Stability of Buildings
Steel Plate Shear Walls with Gravity Load

Aeroform: Designing for Wind and Air Movement provides a comprehensive introduction to applying aerodynamic principles to architectural design. It presents a challenge

to architects and architectural engineers to give shape to the wind and express its influence on architectural form. The wind pushes and pulls on

our buildings, infiltrates and exfiltrates through cracks and openings, and lifts roofs during storm events. It can also offer opportunities for

resource conservation through natural ventilation or a biophilic connection between indoors and out. This book provides basic concepts in fluid

mechanics such as materials, forces, equilibrium, pressure, and hydrostatics; introduces the reader to the concept of airflow; and provides strategies

for designing for wind resistance, especially in preventing uplift. Natural ventilation and forced airflow are explored using examples such as Thomas Herzog's

Hall 26 in Hanover, RWE Ag building in Essen Germany, and the Kimbell Art Museum in Texas. Finally, issues of wind and airflow measurement are addressed. A

reference for students and practitioners of architecture and architectural engineering, this book is richly illustrated and presents complex

concepts of aerodynamic engineering in easy-to-understand language. It prepares the architect or architectural engineer to design buildings that are

visually expressive of a dialogue between wind and built form.

Solid, Accessible Coverage of the Basics of Wood Structure Design

This invaluable guide

provides a complete and practical introduction to the design of wood structures for buildings. Written to be easily understood by readers with limited

experience in engineering mechanics, structural analysis, or advanced mathematics, the book includes: A comprehensive review of structural properties,

including density, elasticity, defects, lumber gradings, and use classification A straightforward discussion of design methods and

criteria—stress, strength, design values, loading, bracing, and more Extensive material on wood sections, from beam functions, behavior, and design to

wood decks and wood columns Information based on current industry standards and construction practices Many building design examples, plus helpful

study aids and references Equally suited to classroom use or independent study, Simplified Design of Wood Structures, Fifth Edition is a superb

resource for aspiring and practicing architects and engineers.

Wood-framed shear walls are a crucial part of modern residential and

small commercial buildings. Shear walls resist wind and earthquake forces to protect buildings from collapse. This book explains the engineering

principles involved with shear wall design and proper construction. It is written in non-technical language intended for carpenters and builders. The basic,

unchanging physical principles are explained with illustrated examples. This guide goes into detail that no other book on the subject even approaches.

Over 180 pages and 150 color photos and illustrations show actual construction conditions and examples of proper and improper installations. It is

extensively indexed for quick reference to specific topics. A detailed two-page illustration shows many basic requirements in graphical format for

easy guidance. Specific sections of the International Building Code and International Residential Code are referenced where appropriate. This

edition includes a new chapter on earthquake strengthening methods for existing buildings. This chapter was itself expanded into a completely separate book

(over 250 pages) titled "Earthquake Strengthening for Vulnerable Homes." The book is intended mostly for carpenters and builders, but engineers

and building inspectors also find the information very useful. Engineers may learn methods to make their shear wall designs more efficient and effective.

An extensive inspection checklist (over 70 items) is included. This checklist is the basis for Special Inspection Guidelines for Wood-Frame Construction,

currently under development by the Structural Engineers Association of Northern California. Earthquake Engineer 10th World

Aeroform

An Illustrated Guide

Building Code Requirements for Structural Concrete (ACI 318-05) and Commentary (ACI 318R-05)

Design Guide for Improving Hospital Safety in Earthquakes, Floods, and High Winds Proceedings of an International Conference on Advances in

Engineering Structures, Mechanics & Construction, held in Waterloo, Ontario, Canada, May 14-17, 2006

Shear Wall Design GuideWood-framed Shear

Wall ConstructionAn Illustrated GuideThor Matteson

"In order to reduce the seismic risk facing many densely populated regions worldwide, including

Canada and the United States, modern earthquake engineering should be more widely applied. But current literature on earthquake engineering may be difficult to grasp for structural

engineers who are untrained in seismic design. In addition no single resource addressed seismic design practices in both Canada and the United States until now. Elements of

Earthquake Engineering and Structural Dynamics was written to fill the gap. It presents the key elements of earthquake engineering and structural dynamics at an introductory level and gives

readers the basic knowledge they need to apply the seismic provisions contained in Canadian and American building codes."--Résumé de l'éditeur.

Sets out basic theory for the

behavior of reinforced concrete structural elements and structures in considerable depth. Emphasizes behavior at the ultimate load, and, in particular, aspects of the

seismic design of reinforced concrete structures. Based on American practice, but also examines European practice.

Guide to Stability Design Criteria for Metal Structures

Ductile Design of Steel Structures, 2nd Edition
Advances in Engineering Structures, Mechanics & Construction
Directory of Northridge Earthquake Research

Cold-Formed Steel Design
Simplified Design of Wood Structures

Comprehensive coverage of the background and design requirements for plastic and seismic design of steel

structures Thoroughly revised throughout, Ductile Design of Steel Structures, Second Edition, reflects the latest plastic and seismic design provisions and standards from the American Institute of Steel Construction

(AISC) and the Canadian Standard Association (CSA). The book covers steel material, cross-section, component, and system response for applications in plastic and seismic design, and provides practical guidance on

how to incorporate these principles into structural design. Three new chapters address buckling-restrained braced frame design, steel plate shear wall design, and hysteretic energy dissipating systems and design

strategies. Eight other chapters have been extensively revised and expanded, including a chapter presenting the basic seismic design philosophy to determine seismic loads. Self-study problems at the end of

each chapter help reinforce the concepts presented. Written by experts in earthquake-resistant design who are active in the development of seismic guidelines, this is an invaluable resource for students and

professionals involved in earthquake engineering or other areas related to the analysis and design of steel structures. COVERAGE INCLUDES: Structural steel properties Plastic behavior at the cross-

section level Concepts, methods, and applications of plastic analysis Building code seismic design philosophy Design of moment-resisting frames Design of concentrically braced frames Design of eccentrically braced

frames Design of steel energy dissipating systems Stability and rotation capacity of steel beams A Complete Guide to Solving Lateral Load Path Problems The Analysis of Irregular Shaped Structures: Diaphragms and

Shear Walls explains how to calculate the forces to be transferred across multiple discontinuities and reflect the design requirements on construction documents. Step-by-step examples offer progressive

coverage, from basic to very advanced illustrations of load paths in complicated structures. The book is based on the 2009 International Building Code, ASCE/SEI 7-05, the 2005 Edition of the National Design

Specification for Wood Construction, and the 2008 Edition of the Special Design Provisions for Wind and Seismic (SDPWS-08). COVERAGE INCLUDES: Code sections and analysis Diaphragm basics

Diaphragms with end horizontal offsets Diaphragms with intermediate offsets Diaphragms with openings Open front and cantilever diaphragms Diaphragms with vertical offsets Complex diaphragms with

combined openings and offsets Standard shear walls Shear walls with openings Discontinous shear walls Horizontally offset shear walls The portal frame Rigid moment-resisting frame walls--the frame method of

analysis

The definitive guide to stability design criteria, fully updated and incorporating current research Representing nearly fifty years of cooperation between Wiley and the Structural Stability Research

Council, the Guide to Stability Design Criteria for Metal Structures is often described as an invaluable reference for practicing structural engineers and researchers. For generations of engineers and architects, the

Guide has served as the definitive work on designing steel and aluminum structures for stability. Under the editorship of Ronald Ziemian and written by SSRC task group members who are leading experts in structural

stability theory and research, this Sixth Edition brings this foundational work in line with current practice and research. The Sixth Edition incorporates a decade of progress in the field since the previous edition, with

new features including: Updated chapters on beams, beam-columns, bracing, plates, box girders, and curved girders. Significantly revised chapters on columns, plates, composite columns and structural systems,

frame stability, and arches Fully rewritten chapters on thin-walled (cold-formed) metal structural members, stability under seismic loading, and stability analysis by finite element methods State-of-the-art coverage of many topics

such as shear walls, concrete filled tubes, direct strength member design method, behavior of arches, direct analysis method, structural integrity and disproportionate collapse resistance, and inelastic

seismic performance and design recommendations for various moment-resistant and braced steel frames Complete with over 350 illustrations, plus references and technical memoranda, the Guide to Stability Design Criteria

for Metal Structures, Sixth Edition offers detailed guidance and background on design specifications, codes, and standards worldwide.
From Engineering Seismology to Performance-Based Engineering

The Home Builder's Guide for Earthquake Design
Risk Management Series; Design Guide for Improving Hospital Safety in Earthquakes, Floods, and High Winds
ICCIM 2021, 26 July, 2021,

Jakarta, Indonesia
Advances in Engineering Materials, Structures and Systems: Innovations, Mechanics and Applications
Minimum Design Loads for Buildings and Other Structures

Provides the latest AISI North American specifications for cold-formed steel design Hailed by professionals around the world as the definitive text on the design of cold-formed

steel, this book provides descriptions of the construction and structural behavior of cold-formed steel members and connections from both theoretical and experimental

points of view. Updated to reflect the 2016 AISI North American specification and 2015 North American framing standards, this all-new fifth edition offers readers a better

understanding of the analysis and design of the thin-walled, cold-formed steel structures that have been widely used in building construction and other areas in recent years. Cold-Formed

Steel Design, 5th Edition has been revised and reorganized to incorporate the Direct Strength Method. It discusses the reasons and justification for the various design provisions of the

North American specification and framing design standards. It provides chapter coverage of: the types of steels and their most important mechanical properties; the fundamentals

of buckling modes; commonly used terms; the design of flexural members, compression members and closed cylindrical tubes, and of beam–columns using ASD, LRFD, and LSD methods;

shear diaphragms and shell roof structures; standard corrugated sheets; and more. Updated to the 2016 North American (AISI S100) design specification and 2015 North American (AISI

S240) design standard Offers thorough coverage of ASD, LRFD, LSD, and DSM design methods Integrates DSM in the main body of design provisions Features a new section on Power-

Actuated Fastener (PAF) Connections Provides new examples and explanations of design provisions Cold-Formed Steel Design, 5th Edition is not only instructive for students, but

can serve as a major source of reference for structural engineers, researchers, architects, and construction managers.
This multi-contributor book provides comprehensive

coverage of earthquake engineering problems, an overview of traditional methods, and the scientific background on recent developments. It discusses computer methods on

structural analysis and provides access to the recent design methodologies and serves as a reference for both professionals and res This book is a collection of select papers presented at

the Tenth Structural Engineering Convention 2016 (SEC-2016). It comprises plenary, invited, and contributory papers covering numerous applications from a wide

spectrum of areas related to structural engineering. It presents contributions by academics, researchers, and practicing structural engineers addressing analysis and design of

concrete and steel structures, computational structural mechanics, new building materials for sustainable construction, mitigation of structures against natural hazards,

structural health monitoring, wind and earthquake engineering, vibration control and smart structures, condition assessment and performance evaluation, repair,

rehabilitation and retrofit of structures. Also covering advances in construction techniques/ practices, behavior of structures under blast/impact loading, fatigue and fracture, composite

materials and structures, and structures for non-conventional energy (wind and solar), it will serve as a valuable resource for researchers, students and practicing engineers alike.

Elements of Earthquake Engineering and Structural Dynamics
Brick and Block Masonry
Shear Wall Design Guide
Reinforced Concrete Structures

A Practice-Oriented Approach

Advances in Engineering Materials, Structures and Systems: Innovations, Mechanics and Applications comprises 411 papers

that were presented at SEMC 2019, the Seventh International Conference on Structural Engineering, Mechanics and Computation, held in Cape Town, South Africa, from 2 to 4 September 2019. The subject

matter reflects the broad scope of SEMC conferences, and covers a wide variety of engineering materials (both traditional and innovative) and many types of structures. The many topics featured in these Proceedings can

be classified into six broad categories that deal with: (i) the mechanics of materials and fluids (elasticity, plasticity, flow through porous media, fluid dynamics, fracture, fatigue, damage, delamination, corrosion, bond,

creep, shrinkage, etc); (ii) the mechanics of structures and systems (structural dynamics, vibration, seismic response, soil-structure interaction, fluid-structure interaction, response to blast and impact, response to fire,

structural stability, buckling, collapse behaviour); (iii) the numerical modelling and experimental testing of materials and structures (numerical methods, simulation techniques, multi-scale modelling,

computational modelling, laboratory testing, field testing, experimental measurements); (iv) innovations and special structures (nanostructures, adaptive structures, smart structures, composite structures, bio-inspired

structures, shell structures, membranes, space structures, lightweight structures, long-span structures, tall buildings, wind turbines, etc); (v) design in traditional engineering materials (steel, concrete, steel-concrete

composite, aluminium, masonry, timber, glass); (vi) the process of structural engineering (conceptualisation, planning, analysis, design, optimization, construction, assembly, manufacture, testing,

maintenance, monitoring, assessment, repair, strengthening, retrofitting, decommissioning). The SEMC 2019 Proceedings will be of interest to civil, structural, mechanical, marine and aerospace engineers. Researchers,

developers, practitioners and academics in these disciplines will find them useful. Two versions of the papers are available. Short versions, intended to be concise but self-contained summaries of the full papers, are in this printed

book. The full versions of the papers are in the e-book. "Seismic design provisions for wood sheathed / cold-formed steel (CFS) framed shear walls and CFS strap braced walls are available in the AISI S213-07 Standard.

However, the National Building Code of Canada (NBCC), as well as the CSA S136 and the AISI S213 Standards, at present, do not address the seismic design of steel sheathed / CFS framed shear walls for use in Canada. The existing

design guidelines for CFS framed shear walls are based on data obtained from static tests carried out under both monotonic and reversed cyclic loading protocols. The objective of this research was to develop seismic design

provisions for the CFS framed shear walls forming part of the seismic force resisting system of a building, with the intent to recommend that they be included in the NBCC and AISI S213. The approach involved shake table

testing of single- and double-storey CFS framed steel and wood sheathed shear walls, numerical modeling of the tested shear walls, and, lastly, non-linear time history dynamic analyses of building archetypes following the Federal

Emergency Management Agency (FEMA) P695 methodology. Overall, seven wood sheathed and ten steel sheathed CFS framed shear walls were tested on the Ecole Polytechnique de Montréal structural laboratory shake table.

The wall specimens were full-scale single- and double-storey walls and, most, were constructed with the blocking in the CFS frame. A wood sheathed shear wall was tested with a gypsum panel on one side of the specimen in order to

investigate the effects of non-structural components. The dynamic test program included impact tests, harmonic forced vibration tests, and ground motion tests representative of the seismic hazard in Quebec and Vancouver,

Canada. The seismic performance of the dynamically tested shear walls, i.e. force vs. displacement hysteretic behaviour and failure modes, was primarily similar to the static tests. Inclusion of the blocking increased the shear

strength of the tested shear walls by almost 50%. OpenSees software was used for the numerical modelling of the dynamically tested walls. The inelastic behaviour of the shear walls was replicated by using the

Pinching04 material; additional zerolength spring elements were included in the model to represent frame stiffness, anchor rod stiffness and the CFS framing. The wall models were calibrated based on the results of the dynamic

tests, as well as data obtained from the calibration of previously performed static tests. Moreover, to provide experimental data to complete the model calibration procedure a series of static tests was conducted on blocked CFS

bare frames and stud-to-track connections. The archetype buildings (twelve in total) were two, four and five storey office and residential buildings located in Halifax, Montreal and Vancouver, Canada. The buildings designed

with Rd = 2.0 and Ro = 1.3 satisfied the FEMA P695 collapse capacity requirements. Inclusion of gypsum panel in two of the archetype buildings increased the collapse margin ratio by 20% on average." --

A complete guide to solving lateral load path problems--fully updated for current practices and regulations This thoroughly revised guide explains how to calculate the lateral forces to be transferred across multiple

diaphragm and shear wall discontinuities. You will get step-by-step examples that offer progressive coverage--from very basic to very advanced illustrations of load paths in complicated structures. Written by

a team of seasoned structural engineers and certified building official, The Analysis of Irregular Shaped Structures: Wood Diaphragms and Shear Walls, Second Edition contains comprehensive explanations of

current topics, including cross laminated timber (CLT) which can be used in mass timber construction. You will get thorough coverage of up-to-date structural codes, requirements, and standards and includes newly

developed structure types and new design solutions. Covers new topics of diaphragm solutions including CLT diaphragms and shear walls, a new method for calculating FTAO shear walls, and an expanded discussion on

cantilever diaphragm design. Updated to reflect the most recent codes and standards, including, ASCE 7-16, 2021 IBC, and 2021 SDPWS with new CLT diaphragm and shear wall design requirements and guidelines.

Written by a team of experienced structural engineers and certified building official.
Providing Protection to People and Buildings
Resilient Structures and Infrastructure

Design Guide
Cyclic Performance of Cold-formed Steel Stud Shear Walls
Theory and Design
Higher Capacity Cold-formed Steel Sheathed and Framed Shear Walls for Mid-rise Buildings

Standard ASCE/SEI 41-17 describes deficiency-based and systematic procedures that use performance-based principles to evaluate and retrofit existing buildings to withstand the effects of earthquakes.

This book presents the proceedings of an International Conference on Advances in Engineering Structures, Mechanics & Construction, held in Waterloo, Ontario, Canada, May 14-17, 2006. The contents

include contains the texts of all three plenary presentations and all seventy-three technical papers by more than 153 authors, presenting the latest advances in engineering structures, mechanics and

construction research and practice.
This book discusses resilience in terms of structures' and infrastructures' responses to extreme loading conditions. These include static and

dynamic loads such as those generated by blasts, terrorist attacks, seismic events, impact loadings, progressive collapse, floods and wind. In the last decade, the concept of resilience and resilient-based structures

has increasingly gained in interest among engineers and scientists. Resilience describes a given structure’s ability to withstand sudden shocks. In other words, it can be measured by the magnitude of shock that a

system can tolerate. This book offers a valuable resource for the development of new engineering practices, codes and regulations, public policy, and investigation reports on resilience, and provides broad and integrated

coverage of the effects of dynamic loadings, and of the modeling techniques used to compute the structural response to these loadings.

Designing for Wind and Air Movement

Structural Wood Design
Seismic Design Guidelines for Upgrading Existing Buildings
Home Design Standards Home Building Standards 1Q09
Reinforced Concrete Design: Principles And Practice

Proceedings of the Second International Conference of Construction, Infrastructure, and Materials

The objective of the "Design Guide for Improving Hospital Safety in Earthquakes, Floods, and High Winds"

is to inform and assist design professionals, hospital administrators, and facility managers in implementing sound mitigation measures that will decrease the vulnerability of hospitals to disruptions caused by natural hazard events. The intent of the Design Guide is to provide its

audience with state-of-the-art knowledge on the variety of vulnerabilities faced by hospitals exposed to earthquakes, flooding, and high-winds risks, as well as the best ways to mitigate the risk of damage and disruption of hospital operations caused by these events.

This Book Systematically Explains The Basic Principles And Techniques Involved In The Design Of Reinforced Concrete Structures. It Exhaustively Covers The First Course On The Subject At B.E./ B.Tech Level.Important Features: * Exposition Is Based On The Latest Indian

Standard Code Is: 456-2000. * Limit State Method Emphasized Throughout The Book. * Working Stress Method Also Explained. * Detailing Aspects Of Reinforcement Highlighted. * Incorporates Earthquake Resistant Design. * Includes A Large Number Of Solved Examples, Practice Problems

And Illustrations.The Book Would Serve As A Comprehensive Text For Undergraduate Civil Engineering Students. Practising Engineers Would Also Find It A Valuable Reference Source.

Third Printing, incorporating errata, Supplement 1, and expanded

commentary, 2013.
Thin-Walled Structures - Advances and Developments
The Analysis of Irregular Shaped Structures Diaphragms and Shear Walls
Seismic Design of Lateral Resisting Cold-formed Steel Framed (CFS)

Structures
Select Proceedings of SEC 2016
ASCE Standard, ASCE/SEI, 41-17, Seismic Evaluation and Retrofit of Existing Buildings
Recent Advances in Structural Engineering, Volume 1

"This thesis contains a summary of

previous cold-formed steel stud shear wall test programs in North America, as well as an overview of the seismic requirements for a number of different design standards, i.e. the NBCC, the UBC and the NEHRP guidelines for seismic design. A theoretical method for the prediction of shear capacity based on the

first possible failure mode, which follows the adapted American wood design procedure, is presented and the results from this method are compared with peak loads obtained from existing tests. In addition, a preliminary force modification factor for use in seismic design is suggested for use with the

NBCC. Finally, future tests of cold-formed steel stud shear walls are proposed and a corresponding test frame is designed. (Abstract shortened by UMI.)" --

Brick and Block Masonry - Trends, Innovations and Challenges contains the lectures and regular papers presented at

the 16th International Brick and Block Masonry Conference (Padova, Italy, 26-30 June 2016). In an ever-changing world, in which innovations are rapidly implemented but soon surpassed, the challenge for masonry, the oldest and most traditional building material, is that it can address the increasingly pressing

requirements of quality of living, safety, and sustainability. This abstracts volume and full paper USB device, focusing on challenges, innovations, trends and ideas related to masonry, in both research and building practice, will proof to be a valuable source of information for researchers and practitioners, masonry

industries and building management authorities, construction professionals and educators.

"The use of cold-formed steel (CFS) for seismic force-resisting systems (SFRS), including shear walls, has increased throughout the years. However, the design provisions for CFS sheathed and framed

shear walls available in the North American CFS standards (AISI S400 and AISI S240) are limited by the shear walls' sheathing and framing thicknesses. Design guidelines for CFS sheathed and framed shear walls for the purpose of mid-rise construction (up to 5 storeys) are still absent from the standards. The main

objective of this research program was to develop a design procedure for CFS sheathed and framed shear walls to achieve higher capacity and ductility to resist the higher forces experienced in mid-rise construction. The developed design procedure is proposed to be included in the provisions of the AISI

S240 Standard and AISI S400 Standard.The design procedure was developed by determining the shear strength of full-scale shear wall specimens built and tested at McGill University under monotonic and cyclic loading protocols. A total of 31 specimens, with varying building

parameters, were constructed using thicker sheathing and framing members than what is currently available for design. The specimens were built using two new shear wall configurations (double-sheathed and centre-sheathed) to address out-of-plane forces experienced by shear walls tested in previous research

programs.The centre-sheathed shear wall configuration, with a confined and concentrically placed sheathing panel, reached a shear resistance four times higher than the design values tabulated in the current standards. The ductility of these CFS shear walls was also significantly improved. A preliminary

equation-based nominal shear strength prediction method has been developed for the centre-sheathed shear walls; the method reflects the shear wall's different configuration and superior behaviour. Following the test data analysis, preliminary design parameters for Limit States Design (LSD) used in Canada and

for Load and Resistance Factor Design (LRFD) used in the USA and Mexico were determined, including the load resistance factor, f, and the factor of safety. In addition, capacity based design parameters were determined for seismic design in Canada. These parameters included the "test-based" seismic

performance factors, Rd and Ro, which were found to be 2.8 and 1.5 respectively. The superior performance of the centre-sheathed configuration showed its promising potential as a new design option for higher capacity CFS shear walls. However, before a potential implementation into mid-rise

construction, further research is needed in order for a complete design procedure to be developed. " --

Guidelines for Design of Low-Rise Buildings Subjected to Lateral Forces

Wood-framed Shear Wall Construction

Cold-formed Steel Framed Wood Panel Or Steel Sheet Sheathed Shear Wall

Assemblies

This volume contains the papers presented at the Third International Conference on Thin-Walled Structures, Cracow, Poland on June 5-7, 2001. There has been a substantial growth in knowledge in the field of Thin-Walled

Structures over the past few decades. Lightweight structures are in widespread use in the Civil Engineering, Mechanical Engineering, Aeronautical, Automobile, Chemical and Offshore Engineering fields. The development of new processes,

new methods of connections, new materials has gone hand-in-hand with the evolution of advanced analytical methods suitable for dealing with the increasing complexity of the design work involved in ensuring safety and confidence in the finished

products. Of particular importance with regard to the analytical process is the growth in use of the finite element method. This method, about 40 years ago, was confined to rather specialist use, mainly in the aeronautical field, because of its requirements for

substantial calculation capacity. The development over recent years of extremely powerful microcomputers has ensured that the application of the finite element method is now possible for problems in all fields of engineering, and a variety of finite

element packages have been developed to enhance the ease of use and the availability of the method in the engineering design process.

This invitation conference, held Dec. 2 and 3, 1994, included earth scientists, engineers, social

scientists, agency program managers, and practitioners and others who implement earthquake research. Chapters include: NSF-funded Northridge Earthquake researchers; summary of USGS Northridge supplementary funding; NIST Northridge research; FEMA

Northridge research; organizational research programs: Calif. Div. of Mines and Geology, Calif. Seismic Safety Comm., EERI, NCEER, NHRAIC, Rand Critical Technologies Inst., and SAC Joint Venture; Info. Services: EERC-NISEE, NCEER Info. Services, and

OES DFO; and individuals' research projects.