Ribbed slab with hollow block Full PDF

Quality assurance of hollow core slab floors Hollow-core Slab Systems Information Manual Precast Concrete Products. Hollow Core Slabs PCI Manual for the Design of Hollow Core Slabs Design principle for hollow core slabs regarding shear and transverse load bearing capacity, splitting and QC Hollow Core Slab Units with Different Support Conditions Design Guide on Precast Concrete Hollow Core Slab Shear and Anchorage Behaviour of Fire Exposed Hollow Core Slabs Design of a Hollow Core Concrete Slab Unit as a Supporting Beam Test of a Hollow Tile and Concrete Floor Slab Reinforced in Two Directions Shear Capacity of Hollow Core Slabs on Flexible Supports CIGOS 2021, Emerging Technologies and Applications for Green Infrastructure Design of Prestressed Hollow Core Slabs Optimal Design of Prestressed Concrete Hollow Core Slabs Panels Production of Hollowcore Slab Numerical Analysis of Precast Prestressed Hollow Core Slab with Concrete Topping Under Shear Loadin Test of a Hollow Tile and Concrete Floor Slab Reinforced in Two Directions (Classic Reprint) Short-term and Long-term Deflection of Reinforced Hollow Core Concrete Slab Systems Numerical Analysis of Precast Prestressed Hollow Core Slab with Concrete Topping Under Shear Loading Precast prestressed hollow core floors Performance of composite prestressed hollow core slab using modified design methods Interfacial Strength Between Prestressed Hollow Core Slabs and Cast-in-place Concrete Toppings Design and Construction of Large Panel Concrete Structures Flexural Strengthening of Prestressed Hollow-core Slabs Using Near-surface Mounted (NSM) CFRP Reinforcement Review of Hollow Core Floor Slab in New Zealand Utilization of High Strength Concrete for Prestressed Concrete Hollow Core Slab Bridges Shear Resistance of Prestressed Hollow Core Slabs on Flexible Supports Catalogue of Buildings and Partial List of Cities Test of Hollow Tile and Concrete Floor Slab Reinforced in Two Directions, by W. A. Slater,... Arthur Hagener,... G. P. Anthes,... November 15, 1922 Precast Concrete in Mixed Construction Tests on the Strength of a Variax Hollow Core Slab Floor Under Seismic Loading Combination Hollow Tile and Concrete Floor and Roof Construction Special Design Considerations for Precast Prestressed Hollow Core Floors Hollow Building Tile Manual for Builders and Masons Precast Concrete Structures Designing Tables for Gabriel System ... Hollow-core Floor Slab Performance Following a Severe Earthquake Design of Three Story Reinforced Concrete Villa with Hollow Block Slab Using S-concret [sic] A Study on Benefits by Applied Precast Hollow Core Slab in Conventional Construction Method Design and Construction of Large-panel Concrete Structures

Quality assurance of hollow core slab floors 1992-01-01

precast concrete concretes slabs reinforced concrete prestressed concrete construction systems parts floors beam and slab floors roofs thickness dimensional tolerances performance structural design mathematical calculations joints fire spread prevention sound insulation thermal insulation quality control quality assurance

Hollow-core Slab Systems Information Manual 2008

this is a ph d dissertation hollow core hc slabs are made of precast concrete with pretensioned strands these slabs are popular as floor structures in offices and housing at ambient conditions the load bearing capacity can be dominated by four diff

Precast Concrete Products. Hollow Core Slabs 2005-08-09

the project that was undertaken was an investigation of a proposed change to an existing precast prestressed floor system the precast prestressed concrete units that were examined are already in production at hollow core concrete pty ltd as a slab system but were investigated to ascertain their viability to perform also as the supporting beam the precast prestressed concrete slabs and beams that were investigated have hollow cores longitudinally down the centre of the concrete units it is the intention of the company to try to use the slabs they produce as a supporting beam system for the slabs instead of using the technique they currently use this technique is the use of an upside down t shaped reinforced prestressed beam the slabs are produced on a continuous 120m bed and then cut to length the slabs that are intended to be used as beams are hoped to be produced in the same manner the project was to design the beam system using the hollow core concrete pty ltd prestressed slab system the beam was designed using a 300 mm deep by 1200 mm wide hollow core section the beam itself was checked against shear bending and deflection the proposed composite beam system was determined to be satisfactory in bending shear and deflection the proposed composite beam will require shear reinforcement and temporary supports will also be required during construction the dimensions of the proposed composite beam have been supplied in the drawing titled proposed composite beam in appendix a the details of the slab beam connection can be seen in the drawing titled proposed beam slab connection in appendix a a series of design charts have been supplied in appendix b to show the differences that occur with different beam spans slab lengths and slab thicknesses abstract synopsis

PCI Manual for the Design of Hollow Core Slabs 1985

this book highlights the key role of green infrastructure gi in providing natural and ecosystem solutions helping alleviate many of the environmental social and economic problems caused by rapid urbanization the book gathers the emerging technologies and applications in various disciplines involving geotechnics civil engineering and structures which are presented in numerous high quality papers by worldwide researchers practitioners policymakers and entrepreneurs at the 6th cigos event 2021 moreover by sharing knowledge and experiences around emerging gi technologies and policy issues the book aims at encouraging adoption of gi technologies as well as building capacity for implementing gi practices at all scales this book is useful for researchers and professionals in designing building and managing sustainable buildings and infrastructure

Design principle for hollow core slabs regarding shear and transverse load bearing capacity, splitting and QC *1982-10-01*

a design method is proposed for hollow core slabs with or without structural in situ concrete topping the failure mechanisms considered are flexural tensile failure flexural compression failure flexural cracking failure anchorage failure shear tension failure and failure at the interface of precast and in situ concrete prediction of the cracking moment and deflections are also considered a computer program including the design method was developed and used to simulate 348 full scale loading tests comparing predicted cracking cpacities with those observed showed the flexural tensile strength of concrete to be independent of the slab thickness at an assumed flexural tensile strength of 1 1 times the tensile strength 5 fractile roughly 80 of the predicted cracking capacities were smaller than those observed the prediction of shear capacity was very accurate for 265 mm slabs and fairly accurate for thinner slabs but the tensile strength of concrete had to be reduced by 30 in order to make the prediction for 400 m slabs conservative enough no problems arose with the bending capacity when the 0 2 yield strength was used for the strands in composite slabs the observed deflections and cracking capacities agreed well with those predicted when the effective differential shrinkage was taken to be 35 of the differential shrinkage calculated according to the ceb fip model code a design method is proposed for hollow core slabs with or without structural in situ concrete topping the failure mechanisms considered are flexural tensile failure flexural compression failure flexural cracking failure anchorage failure shear tension failure and failure at the interface of precast and in situ concrete prediction of the cracking moment and deflections are also considered a computer program including the design method was developed and used to simulate 348 full scale loading tests comparing predicted cracking cpacities with those observed showed the flexural tensile strength of concrete to be independent of the slab thickness at an assumed flexural tensile strength of 1 1 times the tensile strength 5 fractile roughly 80 of the predicted cracking capacities were smaller than those observed the prediction of shear capacity was very accurate for 265 mm slabs and fairly accurate for thinner slabs but the tensile strength of concrete had to be reduced by 30 in order to make the prediction for 400 m slabs conservative enough no problems arose with the bending capacity when the 0 2 yield strength was used for the strands in composite slabs the observed deflections and cracking capacities agreed well with those predicted when the effective differential shrinkage was taken to be 35 of the differential shrinkage calculated according to the ceb fip model code

Hollow Core Slab Units with Different Support Conditions *2002*

the research deals with the optimization that adopted by modified hooke jeevs method which is considered very appropriate method especially for problems that have too many constraints the formalizing of objective function was discussed according to required purpose the research discussed three purposes optimum weight optimum cost and optimum live load it found that the average void percent regarding the optimum weight is about 50 whereby the section tends to be in a shape where the voids become a little bit less than thickness and width taking into consideration that the section is subjected to all constraints from the other side it s obtained that the average of void percent concerning with the optimum cost is about 41 the research also adopted preparing designable tables which are informative and easy in use practically for different kind of hollow core slab sections

Design Guide on Precast Concrete Hollow Core Slab *2007*

excerpt from test of a hollow tile and concrete floor slab reinforced in two directions the purpose of the test herein reported was to obtain data which would afford a basis for the design of a concrete and hollow tile floor reinforced in two directions the test was planned to obtain information on 1 the effect of variation in the ratio of length to width of panels upon the bending moments in two di rections at right angles to each other 2 the relation of maximum negative moment to maximum positive moment in a given panel 3 distribution of tensile and compressive stresses at sections of maximum negative and maximum positive moment 4 the amount of deflection of the slab and girders under different load ings 5 the length of reinforcement required to give proper anchorage beyond points of support and 6 the extent to which the tiles share in resisting the compressive stresses and the shear ing stresses in the slab about the publisher forgotten books publishes hundreds of thousands of rare and classic books find more at forgottenbooks com this book is a reproduction of an important historical work forgotten books uses state of the art technology to digitally reconstruct the work preserving the original format whilst repairing imperfections present in the aged copy in rare cases an imperfection in the original such as a blemish or missing page may be replicated in our edition we do however repair the vast majority of imperfections successfully any imperfections that remain are intentionally left to preserve the state of such historical works

Shear and Anchorage Behaviour of Fire Exposed Hollow Core Slabs 2004-01-01

these recommendations together with a detailed commentary are the result of nine years intensive research they provide the engineer and precaster with a guide to sound design and put at their disposal calculation methods and examples of good practice for the many details of the design of hollow core floors

Design of a Hollow Core Concrete Slab Unit as a Supporting Beam *1994*

the horizontal shear strength of the interface between prestressed concrete hollow core slabs and cast in place concrete topping slabs was evaluated through a set of 24 push off experiments the push off test specimens featured segments of dry mix and wet mix hollow core slabs with a variety of surface treatments including machine finished sandblasted broom roughened rake roughened and grouted a cast in place slab was poured on top of the hollow core specimens to form a 15 inch by 15 inch interface between the two materials results indicate the average horizontal shear strength of the push off specimens was 227 psi higher shear strength and slip capacity was observed in specimens that were broom roughened in the direction transverse to the applied shear force and in grouted dry mix specimens specimens with machine finished surfaces had lower average horizontal shear strength than those with intentionally roughened surfaces but still exceeded the shear strength of 80 psi specified in the aci 318 08 code a method to comparatively quantify the surface roughness of the hollow core slabs with different surface treatments was adapted from an existing astm standard for pavements this standard specifies the procedure to determine mean texture depth that can be correlated to horizontal shear strength of the push off specimens analytical studies were also performed to estimate the maximum horizontal shear stresses that can be expected in composite hollow core slabs under normal construction conditions a finite element model was developed to observe the behavior of the horizontal shear failure mode for composite hollow core slabs

Test of a Hollow Tile and Concrete Floor Slab Reinforced in Two Directions *1922*

prestressed concrete near surface mounting reinforced concrete hollow core slab frp cfrp strengthening nsm nsm frp prestressing polymer rehabilitation flexural precast debonding

Shear Capacity of Hollow Core Slabs on Flexible Supports *1994*

this thesis is a review of research on hollow core floors in new zealand it looks at the research on hollow core floors from 1990s onwards and traces the understanding of the its performance each experiment from these researches were investigated for a pattern among the base variables however the research conducted so far has enough variability among them that an overarching conclusion on performance of hollow core floors is not reached with the building boom of the 1980s the push for multi story structures made use of precast concrete frame elements ubiquitous hollow core floor elements were designed to behave as a simply supported system thought to fail by losing its vertical support and have no significant seismic interaction however the northridge earthquake 1994 proved otherwise hollow core floors failed because of a different mechanism this failure mechanism was reproduced by matthews 2004 in a super assembly test the principal damage was from the relative rotation between the support beam and the hollow core unit as well as the elongation of connection to the support beam as assumed by previous research this evoked research of hollow core floor connections and from that research various connections details were proposed the research moved along two paths first to understand the behavior and ultimately retrofit hollow core connection details of the 1980s and 1990s a typical connection and second to propose new connection details for new construction lindsay 2004 and macpherson 2005 conducted a super assembly test on connection details proposed by nzs 3101 1995 amendment 3 these new connection details performed much better than the existing connection details bull and matthews 2004 proposed and conducted research on the connection of a hollow core floor slab to the support beam in a sub assembly test the sub assembly test successfully recreated the major failure modes of the super assembly test the sub assembly test was then used by researchers liew 2004 macpherson 2005 jensen 2006 and woods 2008 to investigate the performance of hollow core floor slabs with varying connection details this research added to the understanding of hollow core behavior however many failure mechanisms were not well understood the hollow core flooring system was not tested by the christchurch earthquake only minor damage was seen in hollow core flooring units however much damage was seen in hollow core flooring systems in the kaikoura earthquake most of the damage was either reproduced in the lab or predicted by 2d analytical studies however some of the damage seen had not been envisioned and this damage needs to be understood overall it was not possible to draw an overarching conclusion from the existing body of nz research because a each experiment used different values for the basic variable do direct comparison was impossible b no experiments were repeated and c no analytical framework was used in experimental design

CIGOS 2021, Emerging Technologies and Applications for Green Infrastructure *2021-10-28*

the purpose of this publication is to show how precast concrete may be mixed in combination with other structural materials to maximise overall building performance the other materials are cast insitu concrete reinforced and post tensioned structural steelwork timber and glue laminated timber masonry in brickwork and blockwork glass and glazing the aim is to provide a companion volume to composite floor structures fip 1998 and to show some of the many other ways that precast concrete can be used to advantage with other materials the term mixed precast construction is used to

DESCRIBE THESE OTHER COMBINATIONS THE INTENTION IS NOT TO DISCUSS DESIGN CALCULATIONS THAT IS FOR A FUTURE FIB GUIDE TO GOOD PRACTICE INSTEAD THE BULLETIN IS MEANT AS A STATE OF ART PUBLICATION SHOWING PHOTOGRAPHS SKETCHES AND DETAILS OF PRECAST CONCRETE WITH OTHER MATERIALS THERE ARE NO DESIGN EQUATIONS ALTHOUGH SOME TECHNICAL INFORMATION ON HOW TO COMBINE THE MATERIALS E G BEARINGS CONNECTIONS TOLERANCES THERMAL AND SHRINKAGE EFFECTS ETC IS INCLUDED IF APPROPRIATE THUS THE DOCUMENT FOCUSES ON THE USE OF MIXED CONSTRUCTION IN MULTISTOREY BUILDINGS OFFICES HOUSING GRANDSTANDS PARKING GARAGES AND INDUSTRIAL WAREHOUSES ETC I E ON PRECAST CONCRETE AS THE MAIN CONSTRUCTION MATERIAL AND LOOKS AT THE MANNER IN WHICH OTHER MATERIALS CAN BE INTEGRATED CHAPTER BY CHAPTER THE STRENGTHS AND WEAKNESS OF EACH MATERIAL STUDIED ARE ASSESSED AS PART OF THE TOTAL BUILDING DESIGN IN SOME CASES IT IS OBVIOUS THAT THE LOAD CARRYING PERFORMANCE OF ONE MATERIAL OUTWEIGHS ANOTHER IN OTHER CASES ASPECTS SUCH AS THERMAL FIRE VIBRATION FATIGUE CREEP ACOUSTIC SEISMIC AND VISUAL CHARACTERISTICS AND THE GEOGRAPHICAL LOCAL AVAILABILITY OF THAT MATERIAL MAY BE CRITICAL A WORLD WIDE SURVEY PRESENTED IN TABLE 1 1 FOUND THAT PRECAST CONCRETE IS A UNIVERSAL BUILDING MATERIAL BUT MIXED CONSTRUCTION IS LIMITED MOSTLY TO DEVELOPED COUNTRIES WHERE STRUCTURAL STEELWORK AND TYPES OF TIMBER SUCH AS GLUE LAMINATED TIMBER IS READILY AVAILABLE IN ADDITION THERE MAY BE DESIGN DETAILING PRODUCTION TRANSPORTATION ERECTION AND MAINTENANCE LIMITATIONS WHICH DO OR DO NOT FAVOUR MIXED CONSTRUCTION

Design of Prestressed Hollow Core Slabs 1989

THE FORMER FIP COMMISSION PREFABRICATION DRAFTED THE FIP RECOMMENDATIONS ON THE DESIGN OF PRECAST PRESTRESSED HOLLOW CORE FLOORS PUBLISHED BY FIP IN 1988 TELFORD LONDON ISBN 0 7277 1375 2 THAT DOCUMENT WAS HIGHLY APPRECIATED BY DESIGNERS AND PUBLIC AUTHORITIES BECAUSE OF THE LACK OF GUIDANCE AVAILABLE ELSEWHERE ESPECIALLY WITH RESPECT TO SOME SPECIFIC FEATURES OF THE PRODUCT FOR EXAMPLE THE ABSENCE OF TRANSVERSE REINFORCEMENT IT HAS ALSO SERVED AS A REFERENCE GUIDE FOR NATIONAL STANDARDS AND ESPECIALLY FOR THE CEN PRODUCT STANDARD ON PRESTRESSED HOLLOW CORE SLABS DURING THE PRODUCTION OF THAT REPORT IT WAS FELT THAT SOME DESIGN RULES WERE INCOMPLETE OR MISSING IN ADDITION RESEARCH CARRIED OUT SINCE HAS RESULTED IN COMPLEMENTARY KNOWLEDGE ON THE BEHAVIOUR OF HOLLOW CORE FLOORS FOR EXAMPLE IN COMBINATION WITH SLENDER FLOOR BEAMS THE PRESENT GUIDE TO GOOD PRACTICE IS INTENDED TO COMPLEMENT THE EXISTING RECOMMENDATIONS THE RESEARCH FOR THE DIFFERENT ITEMS WAS CARRIED OUT AT CHALMERS UNIVERSITY OF TECHNOLOGY SWEDEN POLITECNICO DI TORINO ITALY VTT FINLAND UNIVERSITY OF NOTTINGHAM UNITED KINGDOM BUILDING RESEARCH INSTITUTE POLAND AND THE UNIVERSITY OF ROME ITALY

Optimal Design of Prestressed Concrete Hollow Core Slabs Panels 2020-05-23

THIS SECOND EDITION OF PRECAST CONCRETE STRUCTURES INTRODUCES THE CONCEPTUAL DESIGN IDEAS FOR THE PREFABRICATION OF CONCRETE STRUCTURES AND PRESENTS A NUMBER OF WORKED EXAMPLES THAT TRANSLATE DESIGNS FROM BS 8110 TO EUROCODE EC2 BEFORE GOING INTO THE DETAIL OF THE DESIGN MANUFACTURE AND CONSTRUCTION OF PRECAST CONCRETE MULTI STOREY BUILDINGS DETAILED STRUCTURAL ANALYSIS OF PRECAST CONCRETE AND ITS USE IS PROVIDED AND SOME DETAILS ARE PRESENTED OF RECENT PRECAST SKELETAL FRAMES OF UP TO FORTY STOREYS THE THEORY IS SUPPORTED BY NUMEROUS WORKED EXAMPLES TO EUROCODES AND EUROPEAN PRODUCT STANDARDS FOR PRECAST REINFORCED AND PRESTRESSED CONCRETE ELEMENTS COMPOSITE CONSTRUCTION JOINTS AND CONNECTIONS AND FRAME STABILITY TOGETHER WITH EXTENSIVE SPECIFICATIONS FOR PRECAST CONCRETE STRUCTURES THE BOOK IS EXTENSIVELY ILLUSTRATED WITH OVER 500 PHOTOGRAPHS AND LINE DRAWINGS

Production of Hollowcore Slab *2012*

Numerical Analysis of Precast Prestressed Hollow Core Slab with Concrete Topping Under Shear Loadin *2012*

Test of a Hollow Tile and Concrete Floor Slab Reinforced in Two Directions (Classic Reprint) *2017-10-27*

Short-term and Long-term Deflection of Reinforced Hollow Core Concrete Slab Systems *2002*

Numerical Analysis of Precast Prestressed Hollow Core Slab with Concrete Topping Under Shear Loading *2012*

Precast prestressed hollow core floors *1988-01-01*

Performance of composite prestressed hollow core slab using modified design methods *2004*

Interfacial Strength Between Prestressed Hollow Core Slabs and Cast-in-place Concrete Toppings *2012*

Design and Construction of Large Panel Concrete Structures *1978*

Flexural Strengthening of Prestressed Hollow-core Slabs Using Near-surface Mounted (NSM) CFRP Reinforcement *2014*

Review of Hollow Core Floor Slab in New Zealand *2019*

Utilization of High Strength Concrete for Prestressed Concrete Hollow Core Slab Bridges *1987*

Shear Resistance of Prestressed Hollow Core Slabs on Flexible Supports *1995*

Catalogue of Buildings and Partial List of Cities *1904*

Test of Hollow Tile and Concrete Floor Slab Reinforced in Two Directions, by W. A. Slater,... Arthur Hagener,... G. P. Anthes,... November 15, 1922 *1922*

Precast Concrete in Mixed Construction *2002-01-01*

Tests on the Strength of a Variax Hollow Core Slab Floor Under Seismic Loading *1984*

Combination Hollow Tile and Concrete Floor and Roof Construction 1925

Special Design Considerations for Precast Prestressed Hollow Core Floors 2000-01-01

Hollow Building Tile Manual for Builders and Masons 1923

Precast Concrete Structures 2019-08-08

Designing Tables for Gabriel System ... 1908

Hollow-core Floor Slab Performance Following a Severe Earthquake 2004

Design of Three Story Reinforced Concrete Villa with Hollow Block Slab Using S-concret [sic] 2015

A Study on Benefits by Applied Precast Hollow Core Slab in Conventional Construction Method 2007

Design and Construction of Large-panel Concrete Structures 1975