2025 IPHA TECHNICAL SEMINAR

23 - 24 October 2025, Kraków, Poland

INVITATION

HOLCOLODIS

Load distribution in hollowcore floors

IPHA
INTERNATIONAL PRESTRESSED HOLLOWCORE ASSOCIATION

FOREWORD

Dear Colleagues,

I am delighted to invite you to the IPHA Technical Seminar 2025 in Kraków, the second largest city in Poland. IPHA promotes the free exchange of information between its international members to ensure that they are all up-to-date on technical matters and design issues which are of fundamental importance to the industry. This time IPHA will focus fully on our research project Holcolodis, conducted by key professionals from our industry. These technical seminars present an opportunity for engineers and technicans in your company to discuss the latest developments in hollowcore flooring. The Holcolodis project is now in its 4th year, and it represents the perfect time to put together this must-attend event for all involved in the hollowcore industry. Full details are included in this document, the registration is now open, and IPHA hereby invites members to attend.

Yours sincerely,

Seamus McKeague
President IPHA

Dear IPHA friends,

As President of the Technical Committee and responsible for the current research project Holcolodis, I hereby invite Engineers and Technicians to join the upcoming Technical Seminar on our Holcolodis project. We are in the last phase of the project, and by October 2025 we will focus on the exchange of research results and best practices in the area of load distribution in hollowcore flooring. In this seminar we would like to share and discuss the preliminary results with you as professionals from the hollowcore industry. The presentations and discussions will give you more insights into load distribution, but also more generally in designing precast building structures with hollowcore floors. And of course, you can meet your fellow engineers to discuss other interesting matters.

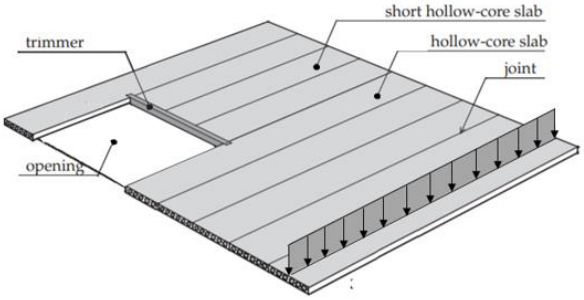
I look forward to seeing you in Kraków in October 2025!

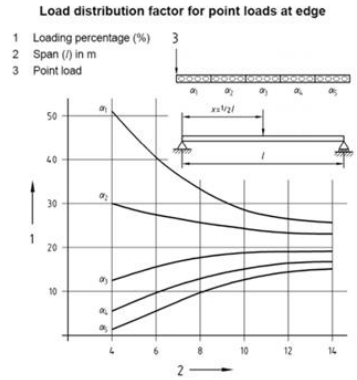
Wim Jansze
President Technical Committee IPHA

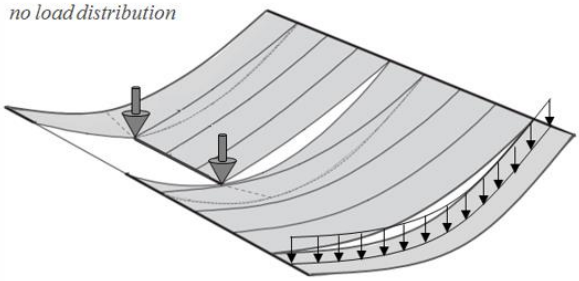
BACKGROUND

IPHA has a proud history of involvement in research that has enhanced understanding and competitiveness of hollowcore as a flooring solution. Previous projects include **HOLCOTORS** (2002-2004) on hollowcore shear and torsion and **HOLCOFIRE** (2009-2014) on hollowcore fire resistance. Started in 2022 and running into 2026, **HOLCOLODIS** investigates the load distribution between hollowcore slabs. Three experimental tests on hollowcore floors were funded by IPHA as an industry-wide effort to get better insights in the load distribution phenomena, backed up with complementary FEM analyses.

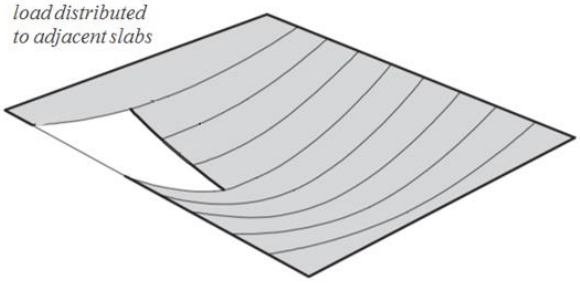
The research objective of **HOLCOLODIS** is to investigate the load distribution between adjacent slabs that are part of a floor system. It includes the influence of torsion in floor fields. Current design approaches are most valid for equally loaded rectangular floor fields, but in practice, it is very common to have concentrated loads acting on individual slabs, complicated support conditions, or just floor fields with large openings. Calculating such slabs as individually supported simple elements can lead to increased reinforcement or even the use of deeper slabs. Hollowcore slabs are part of connected systems with shared loads. The use of load distribution is common practice, but despite its long track record, still not very clear.







- slabs on rigid support
- slabs not connected at joint
- loading by prestress, self weight and liveload



- all boundary conditions applied
- slabs connected at joint
- loading by prestress, self weight and liveload

The standards from PCI/ACI and Eurocode give a common basis and language to many countries worldwide, also of IPHA members, and give rules on load distribution. The PCI hollowcore design manual gives rules of thumb for determining load distribution factors and refers to guidelines based on full-scale testing and studies satisfying ACI 318. EN1168 Annex C is dedicated to the calculation of load distribution factors based on graphs published first in FIP in 1988. The data and analysis behind these are no longer available, nor verifiable. Additionally, the graphs used are theoretical, and in practice floors largely differ from these theoretical examples.

Also, torsion occurs in many ways within hollowcore floors, and even more so in the case of those with complicated support, boundary, or load conditions, where it is necessary to take simultaneous torsional moments into account. Many research items are worthy of mention, but broadly speaking, a better understanding of load distribution through the elaborate research will lead to better design rules and competitiveness for hollowcore floor construction.

Wednesday 22 OCTOBER 2025

>	Arrival in Kraków during afternoon or night
	Check-in hotel Vienna House / Registration for the Technical Seminar

THURSDAY 23 OCTOBER 2025

08:25	Collect in front of hotel, walk to Faculty of Civil Engineering and Laboratory
09:00	Session at University
	Group 1 – Visit Building Physics lab -> Structural lab
	Group 2 – Visit Structural lab -> visit Building Physics labs
11:00	Walk back to the hotel/ / Registration for the Technical Seminar
12:00	Lunch
13:00	Opening, introduction to Holcolodis - Wim Jansze
13:20	Short introduction to load distribution – Milosz Jeziorski
13:35	Standards provisions for load distribution and related concerns – Wit Derkowski
14:10	State-of-the-art in experimental research and analytical models – Elena Michelini
14:45	Numerical modeling of HC slabs under concentrated loads – Milosz Jeziorski
15:15	Break
15:45	Experiments on SLS/ULS load distribution on three floors – Milosz Jeziorski
17:00	End of first day
19:00	Drinks and dinner at restaurant in the Old Town

FRIDAY 24 OCTOBER 2025

08:00	Room open
08:30	Analysis shear/bending/torsion in SLS/ULS – Milosz Jeziorski
10:00	Break
10:30	Workshop on findings with discussions – Lars Reimer
11:15	Workshop on findings with discussions – Ronald Klein-Holte
12:00	Lunch
13:30	Workshop on findings with discussions – Pieter van der Zee
14:15	Roadmap for finalizing the research project – Milosz Jeziorski
14:30	Planning of Holcolodis practical design recommendation book - Wim Jansze
14:45	Closure of the seminar – Wim Jansze
15:00	End of Seminar
>15:15	Taxi transport to airport, or continue your stay in Kraków

Milosz JEZIORSKI | Consolis Group Technology | Poland

Milosz Jeziorski is R&D Project Manager at Consolis Group Technology. Since 2022, he has been fully occupied as IPHA Holcolodis project manager (fully sponsored by Consolis). Milosz studied Civil Engineering at the Technical University of Łódź (BSc 2015, MSc 2018). In 2019 he won the first prize for the best civil engineering thesis of 2018. Milosz started working as precast designer at Consolis Engineering Services in 2017. In 2019 he was awarded the Consolis Young Talent Award. Moreover, Milosz is a PhD student at Kraków University of Technology, where he is academically guided by Prof. Wit Derkowski.

Wit DERKOWSKI | LNU / CUT | Sweden/Poland

Wit Derkowski has been Associate Professor at the Department of Building Technology at Linnaeus University since September 2020. In the years 1996-2020 he was working as a University Professor at the Prestressed Concrete Structures Chair at Cracow University of Technology. Wit graduated as Civil Engineer at CUT (MSc 1996; PhD 2005; DSc 2017). At the moment he guides 3 PhD-students. Since 2024 he has chaired the *fib* Commission 6 Prefabrication as well as the Chair of the Concrete Structures Section at the Polish Academy of Sciences.

Elena MICHELINI | University of Parma | Italy

Elena Michelini is Associate Professor of Structural Engineering at the Department of Engineering and Architecture, University of Parma, where she lectures “Structural Safety Assessment” and “Design and Control of Structures”. She graduated in Civil Engineering at the University of Parma, and received her PhD on Structural Mechanics in 2007. She is author of about a hundred scientific publications, and is a reviewer for major international journals. She is member of *fib* TG7.7 "Sustainable concrete masonry components and Structures" and *fib* TG2.3 "Fire design of concrete structures ".

Lars REIMER | CRH Concrete | Denmark

Lars Reimer has been the Technical manager at CRH Concrete since 2010. Lars graduated as civil engineer at AUC (MSc 1987). After some years as consulting Engineer, Lars started in the precast business at Spæncom in 1994. Experience in design, production and project management before moving to Technical Manager. He is a member of the Danish CEN TC250 mirror committee and chairman of the Danish Precasters technical committee. Lars participated for Denmark in the Holcofire research project.

Ronald KLEIN-HOLTE | Consolis VBI | The Netherlands

Ronald Klein-Holte is R&D manager at VBI. Ronald finished his study Civil Engineering at HAN (BSc, 1981), and after 3 years working as structural consultant, he started at VBI. In the last 40 years he specialized in the design and application of hollow cores floors. He is, among other memberships, member of *fib* Commission 6 and convener of CEN TC229/WG1/TG1 that published and maintains the EN1168 product standard for hollowcores. Ronald participated in the Holcotors and Holcofire research projectteams.

Pieter VAN DER ZEE | CRH Structural Concrete | Belgium

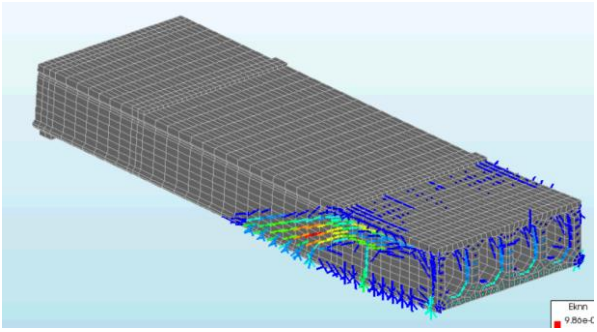
Pieter van der Zee is Technical Director of CRH Structural Concrete. Pieter studied at Higher Technical Education in Amsterdam, and started his career in IT for the municipality of Amsterdam. Pieter began to work for Ergon in 1989 as a designer and from 1992 as an engineer and project manager. In 2008 he was the responsible Head of Design Department, and since 2016 he has been appointed Technical Director of CRH Structural Concrete Belgium. Pieter has been active for many years in *fib* Commission 6 and CEN TC229/WG1/TG1. Pieter was an IPHA board member from 2016 to 2022.

Technical Seminar – exchange of information

The Technical Seminar addresses the current research status in order to inform all IPHA members on the project. The findings run like a thread through the IPHA Technical Seminar. The project has delivered 3 research reports, and so far 4 international papers have been published in renowned journals. Moreover, the research and feedback of this Technical Seminar will be summarized in a practical design book of load distribution that will be published in the autumn of 2026 for all IPHA members. The outcomes of the research will therefore be soon usable in daily design for IPHA members in order to be ahead of the market.

"Knowledge is the only thing that multiplies when shared"

All participants will receive a request for a load distribution calculation to prepare for the seminar. The outcomes of all calculations will be presented anonymously at the seminar.



Published papers on load distribution

- Jeziorski, M, Derkowski, W. Comparative study of various provisions on load distribution, Fib Symposium, Oslo, 2022
- Jeziorski, M, Derkowski, W. Finite element analysis of hollow core floor subjected to point load. Fib Symposium, Istanbul, 2023
- Jeziorski, M, Derkowski, W., Michelini, E. Vertical load distribution in precast hollow core floors State of the art and future perspectives. Structural Concrete 2024; 1-18.
- Jeziorski, M, Derkowski, W. Comprehensive numerical investigation of the concentrated load capacity in prestressed hollow core floors. Engineering Structures 335, 2025

IPHA Technical Committee

The IPHA Technical Committee guides the research project Holcolodis. The Technical Committee consists of industry experts: Wim Jansze (Chairman, IPHA), Pieter van der Zee (IPHA), Ronald Klein-Holte (Consolis), Lars Reimer (CRH), (*Abdulkadhir Roble (Heidelberg Materials 2022-2024*), Prof Wit Derkowski (academic guidance LNU/CUT), and Milosz Jeziorski (project manager).

Sponsors and partners of the project

IPHA INTERNATIONAL PRESTRESSED HOLLOWCORE ASSOCIATION

CONSOLIS

Cracow University of Technology

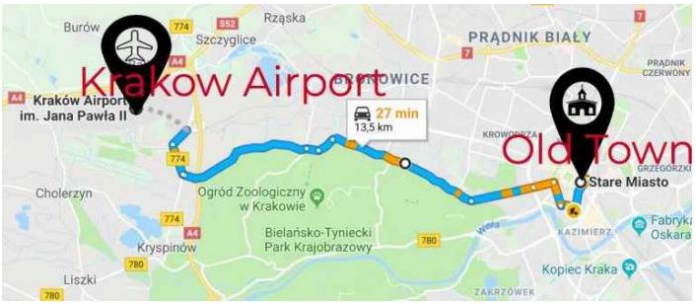
CRH

UHASSELT KNOWLEDGE IN ACTION

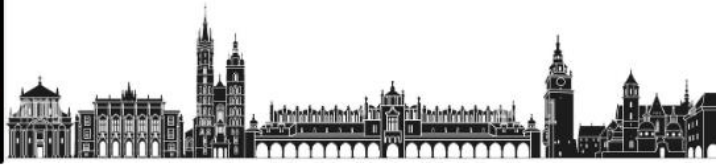
SHM SYSTEM

Kraków. Kraków is a beautiful and historic City. Kraków is the second largest and one of the oldest cities in Poland. Situated on the Wisła River, the city dates back to the 7th century. Kraków has traditionally been one of the leading centres of Polish academic, cultural, and artistic life, and was the capital of Poland from 1038 to 1569. The Jewish quarter of Kraków, Kazimierz, is the best preserved of all in Poland, with considerable cultural value for tourists. In 1978, UNESCO approved the first ever sites for its new World Heritage List, including the entire Old Town, Kraków's Historic Centre. Today the city has a population of 760,000 and about 8 million people live within a 100 km radius of its famous main Market Square.

The Technical Seminar is situated in **VIENNA HOUSE by Windham** located in the center of Kraków. Participants need to book the hotel (€ 160 per night including breakfast) through the IPHA website using the reservation link on page 8. Final reservations will be provided after seminar registration and acceptance at IPHA.



Participants are advised to travel through Kraków John Paul II International Airport (IATA: KRK). A (shared) taxi from the airport to city center takes 20 to 45 minutes, dependent on traffic (costs approximately PLN100/€25). Vienna House is located very close to the railway station and Kraków University of Technology, and is situated near the Old Town of Kraków.



ONLINE REGISTRATION

Online Registration
Technical Seminar 2025
October 23-24, 2025, Kraków

Please register the online form no later than August 18, 2025

REGISTRATION LINK
click here

You can reserve the amount of nights online at Vienna House Hotel as follows:
When registration is accepted, IPHA will inform the participant on the Vienna House Hotel reservation. The special rate of €160 per overnight plus breakfast applies only when the registration and hotel reservation has been made before 18.08.2025.

IPHA full member participants will receive a request for a load distribution calculation to prepare before the seminar. The outcomes will be presented anonymously at the seminar.

Please note the following conditions when filling in the online registration:

- Registration is only open for Full members and Associate members of IPHA.
- Registration is mandatory and is required before August 18, 2025.
- One person per registration. If more than one person per company wants to register, each one should register online individually.
- Registration is limited to 50 participants.
- Registration includes 2 days seminar program, 2 lunches and 1 dinner (23 October).
- Participants assume the costs of travelling to/from the hotel and the costs of accommodation themselves (reservation through IPHA, payment at the hotel counter).
- There is no registration fee for the participant. However, in case of no show at the Technical Seminar, € 250 no-show fee plus hotel costs (if IPHA has to pay for your reservation because you did not show up) will be invoiced to your company.
- The seminar starts Thursday 23 October at 08:25 with a walk to the University. Participants are requested to travel on Wednesday 22 October. On the Friday 24 October you are advised to book flights departing after 18:30 h.

For further information please contact:

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IPHA Executive Director

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