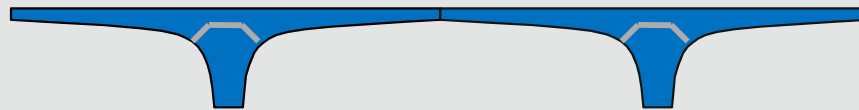


11050



Super Light Structures

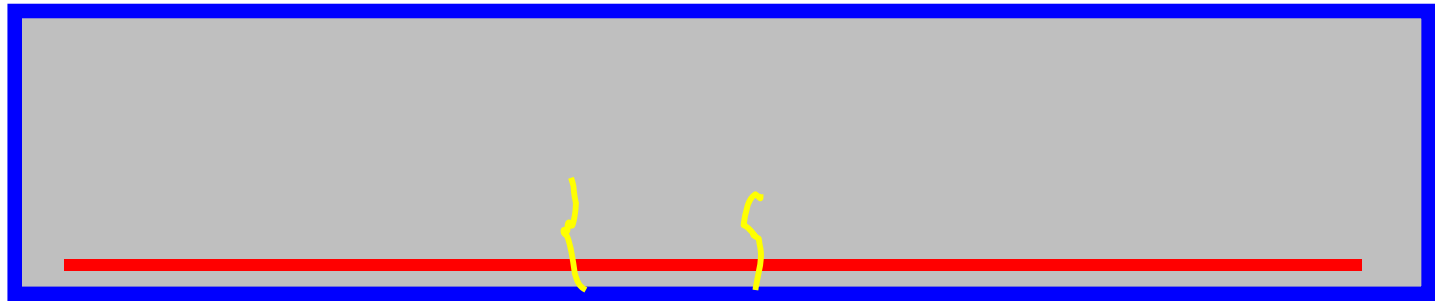


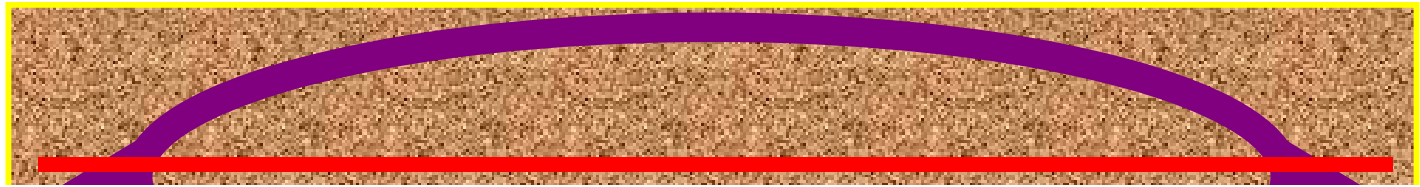
Light
Aggregate
Concrete

Problems:
Low Strength
Massive
Structures
Short Spans



Villa Adriana





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E04C 2/06 (2006.01)

(74) Agent: **Zacco Denmark A/S**; Hans Bekkevolds Allé 7,
DK-2900 Hellerup (DK).

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(72) Inventor; and

(75) Inventor/Applicant (for US only): **HERTZ, Kristian** [DK/DK]; Bækkeskovvej 30, DK-2700 Brynshøj (DK).

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Published:
— with international search report

(54) Title: **LIGHT-WEIGHT LOAD-BEARING STRUCTURE**

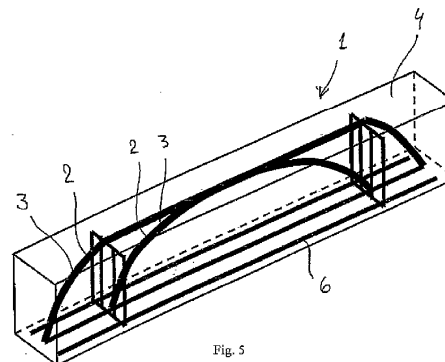


Fig. 5

(57) Abstract: The invention relates to a light-weight load-bearing structure (1) with optimized compression zone (2), where along one or more compression zones (2) in the structure (1) to be cast a core (3) of strong concrete is provided, which core (3) is surrounded by concrete of less strength (4) compared to the core (3) of strong concrete. The invention also relates to a method of casting of light-weight load-bearing structures (1) with optimized compression zone (2) where one or more channels, grooves, ducts, pipes and/or hoses (5) formed in the load-bearing structure (1) serves as moulds for moulding one or more cores (3) of strong concrete in the light-weight load-bearing structure (1).

WO 2009/068483 A1



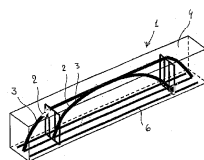
(12) ОПИСАНИЕ ИЗОБРЕТЕНИЯ К ЕВРАЗИЙСКОЙ ЗАЯВКЕ

(43) Дата публикации заявки: 2010.12.30 (51) Int. Cl. E04C 2/04 (2006.01)
E04C 2/06 (2006.01)
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(32) 2007.11.26
(33) EP; US
(86) PCT/EP2008/066013
(87) WO 2009/068483 2009.06.04
(71) Заявитель:
ТЕХНИКАЛ ЮНИВЕРСИТИ ОФ
ДЕНМАРК (DK)
(72) Изобретатель:
Херте Кристман (DK)
(74) Представитель:
Медведев В.Н. (RU)

(57) Изобретение относится к легкой несущей конструкции (1) с оптимизированной зоной (2) сжатия, где вдоль одной или более зон (2) сжатия в конструкции (1), подлежащей отливке, предусмотрена сердцевина (3) из прочного бетона, сердцевина (3) которой окружается бетоном с меньшей прочностью (4) по сравнению с сердцевиной (3) из прочного бетона. Изобретение также относится к способу литья легких несущих конструкций (1) с оптимизированной зоной (2) сжатия, где один или более каналов, канавок, проходов, усадочных раковин и/или рукавов (5), образованных в несущей конструкции (1), служат в качестве пресс-форм для формирования одной или более сердцевины (3) из прочного бетона в легкой несущей конструкции (1).



201070653
A1



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100140

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有限公司
张健 关兆晖

发文一:

2013年03月22日



申请号: 201070653

发文序号: 2013031900057209

申请人或专利权人: Alcor 股份有限公司

发明创造名称: 轻质混凝土结构

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审查部门: 专利局审查及复审部

联系电话: 010-62032650



2010.4 2010.4 2010.4 2010.4 2010.4 2010.4 2010.4 2010.4 2010.4 2010.4

Need to reduce environmental impact





CO₂

Building operation 40%
Concrete
100%

Steel
500%

Construction 10%
Super-light
50%

?

3,00 kg CO₂/kg steel

0,16 kg CO₂/kg concrete

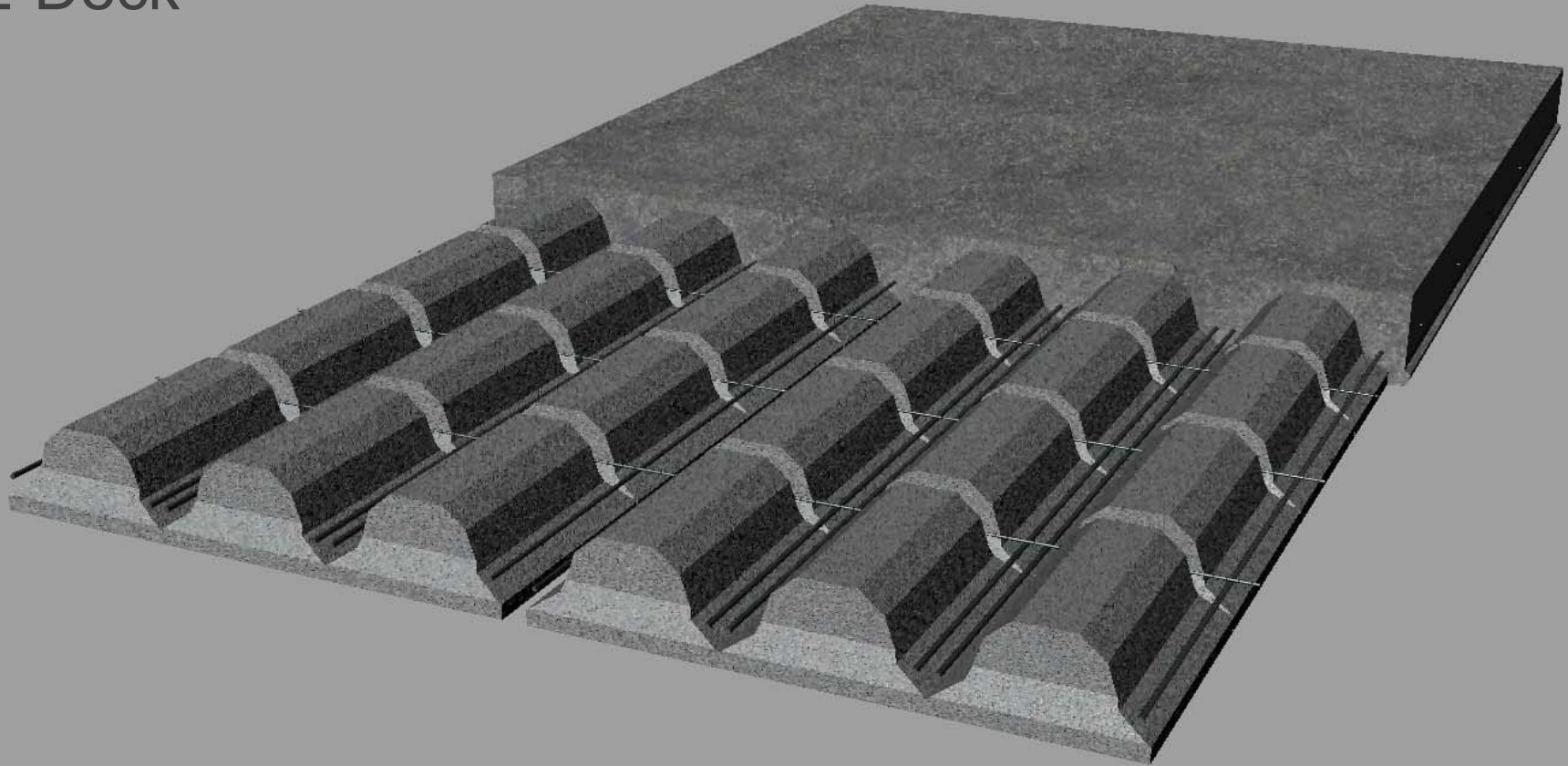




**2010 People's Choice
Global Ideas
Competition
Winner**



SL-Deck



THE **SUPERLIGHT** DECK BY abeo®











PERSTRUP
Kortgele 4-6, Box 1, 8560 Kollnd, Tel. 87 74 88 00
SL-0009
element nr.: **13/4040** montage nr.:
ordre nr.: **3986** K-3 **03/10/13**
veegt: 1 kg startdatum:



Increase of demands related to sound-damping

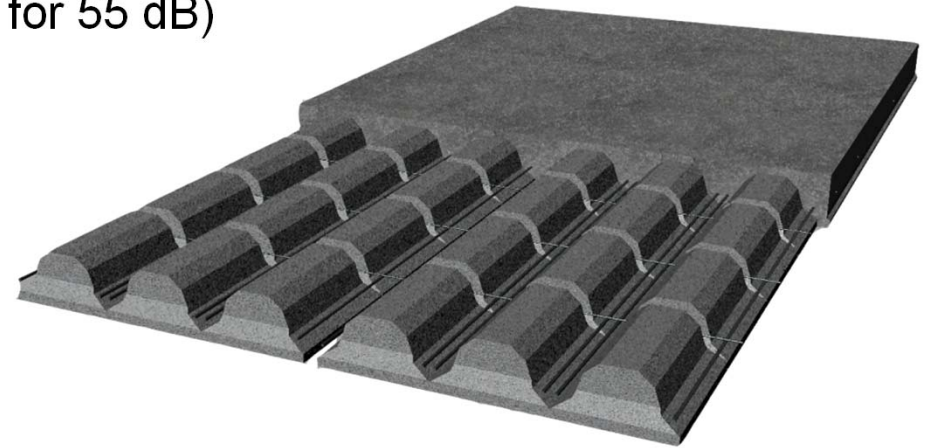
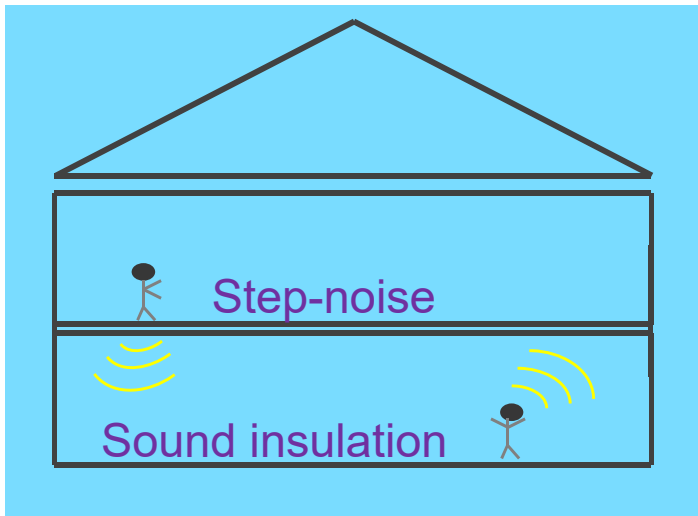


abeo



Acoustics SL-Deck New DK Requirements

- Insulation: **58 dB** > 55 dB OK
(at 350 kg/m², where other decks need: 440 kg/m² for 55 dB)
- Step noise: 47 dB < 53 dB OK



abeo a/s



Increase of demands related to fire protection



abeo®



DBI



DBI



DBI

4 hours fire resistance



After 4 hours standardfire the SL-Deck deflected 50 mm.
Load was increased from bending of 8 m domestic to 9 m office load
Simply supported!

Time 245 min
Reinforcement 240 and 390 C
Oven 1155 C

Accredited test at
Danish Institute of Fire Technology



Increase of demands to functionality and design









Øresund Strandpark. Henning Larsen







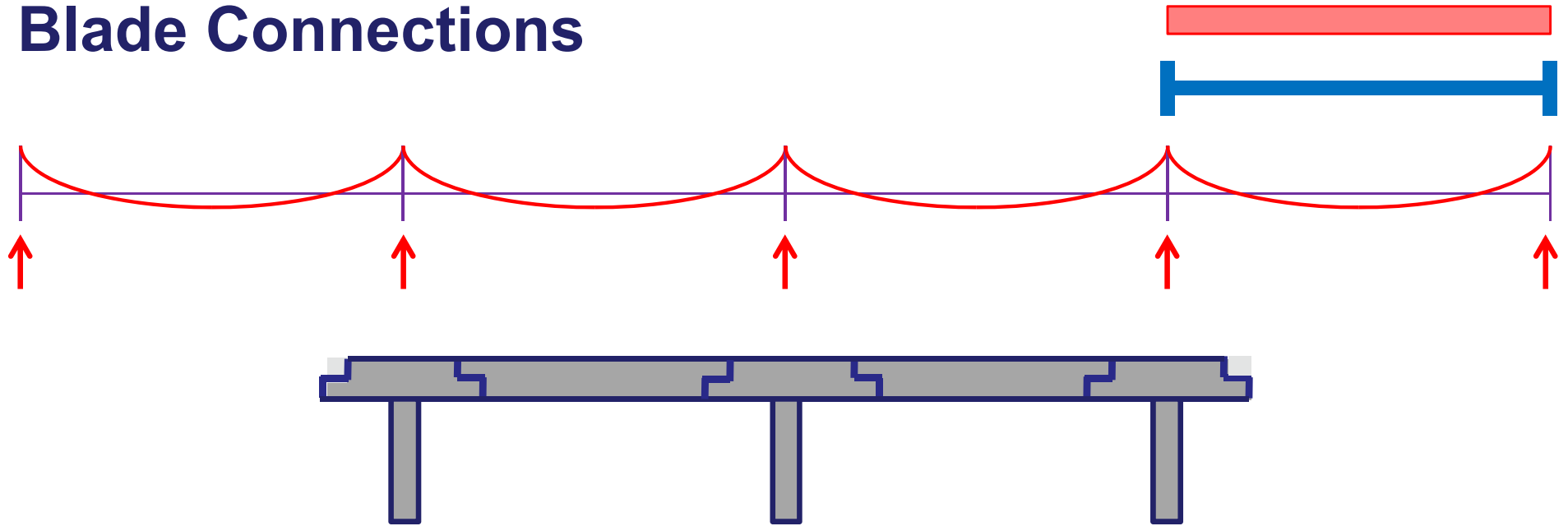
Gl. Hellerup
BIG



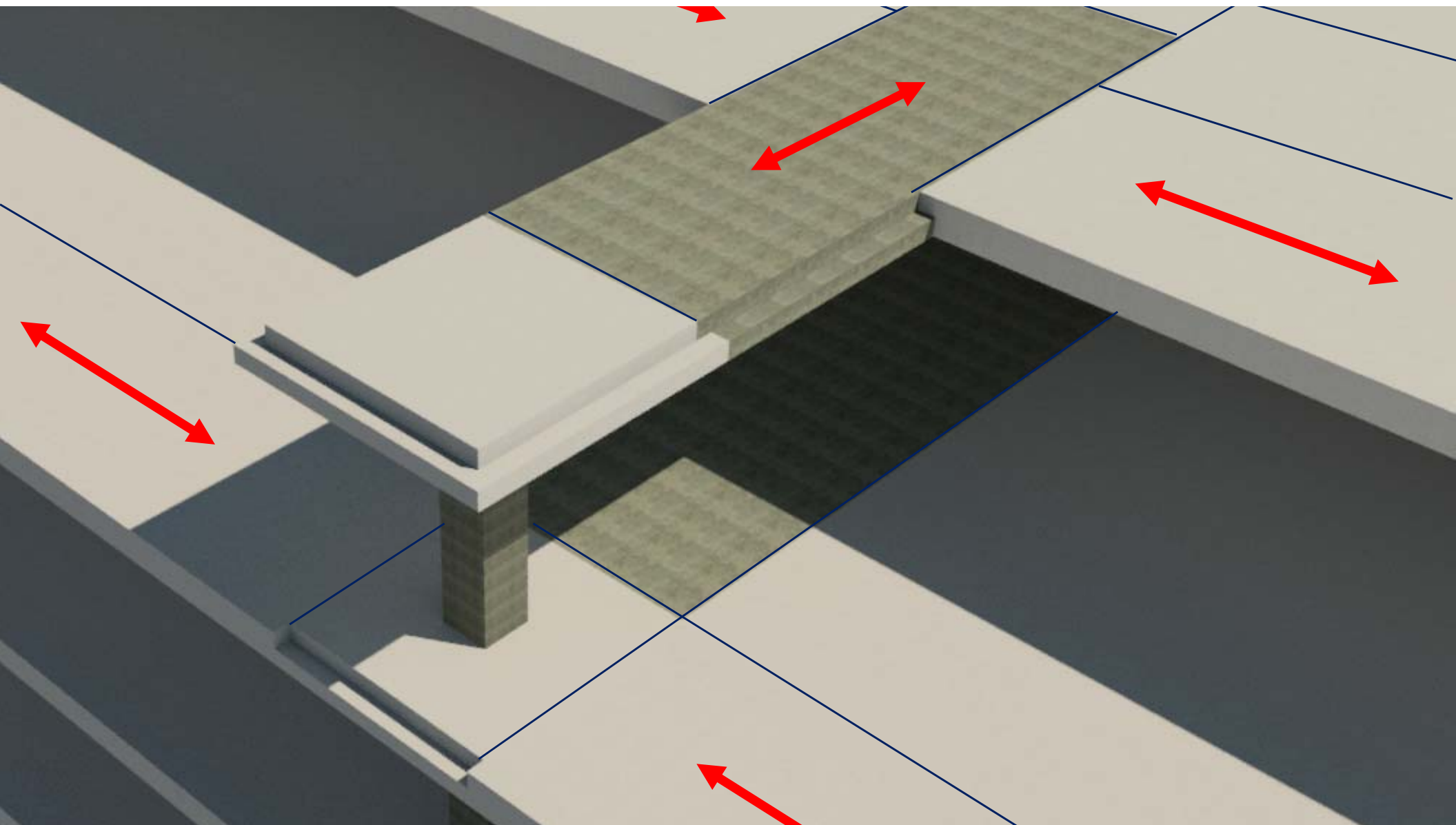




Blade Connections



No Beams
50% Longer Spans





Årstiderne Innovest



SL-03

31

SL-02

32

SL-01



Innovest Aarstiderne

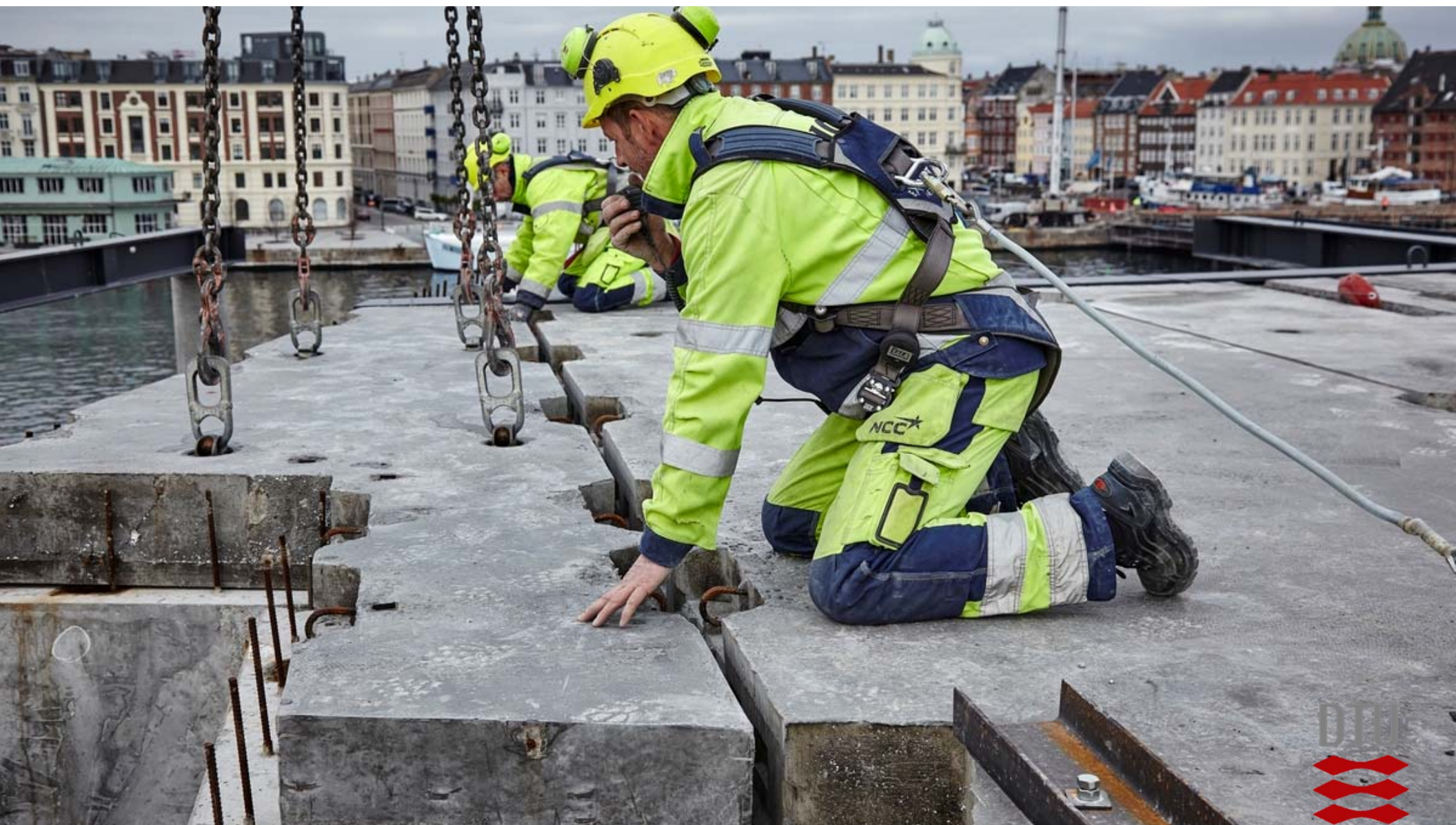








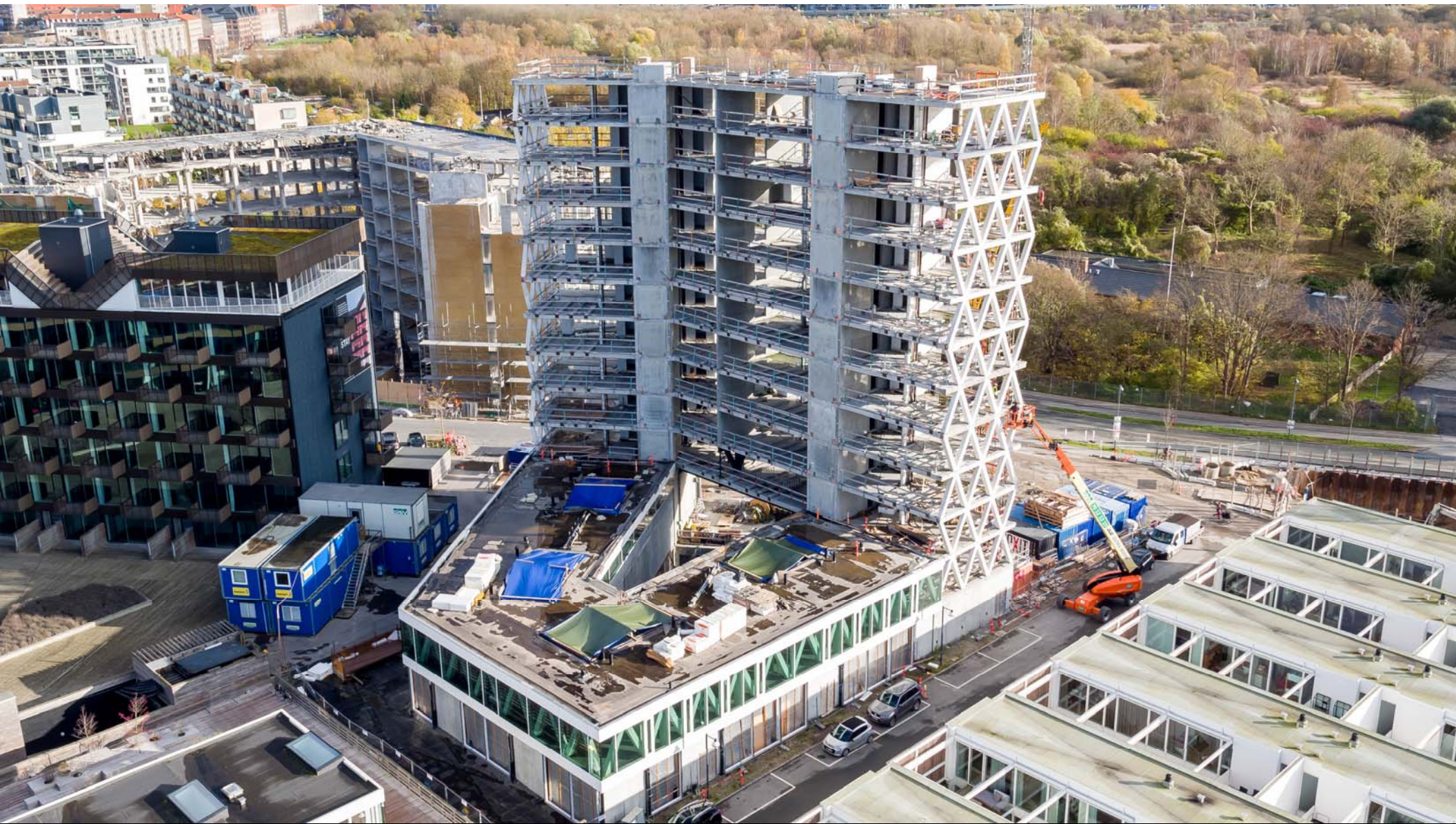
Krøyers Plads. Cobe





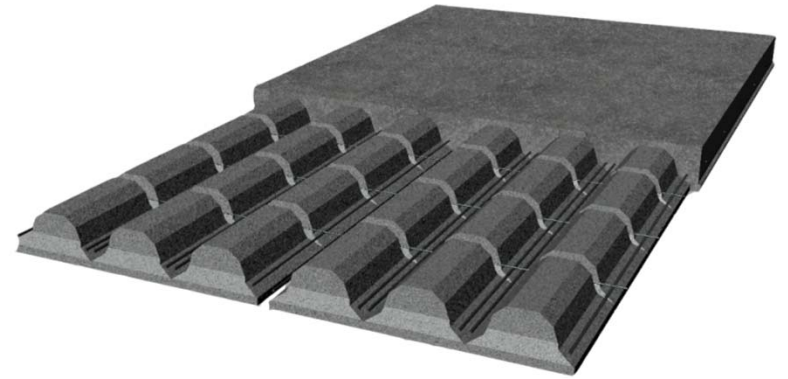
Sfinxen
Holgaard Arkitekter





Flexibility

SL-Deck



Mass Produced

Standard width and
thicknesses
Minor details may deviate

Standard Options

Standard width and
thicknesses
Fixed ends, Blade
connections,
Cantilevers, Etc, Etc, Etc,

Taylor Made

Free shapes
Free detailings
Elements or In-situ



Advantages SL Deck

Great Flexibility

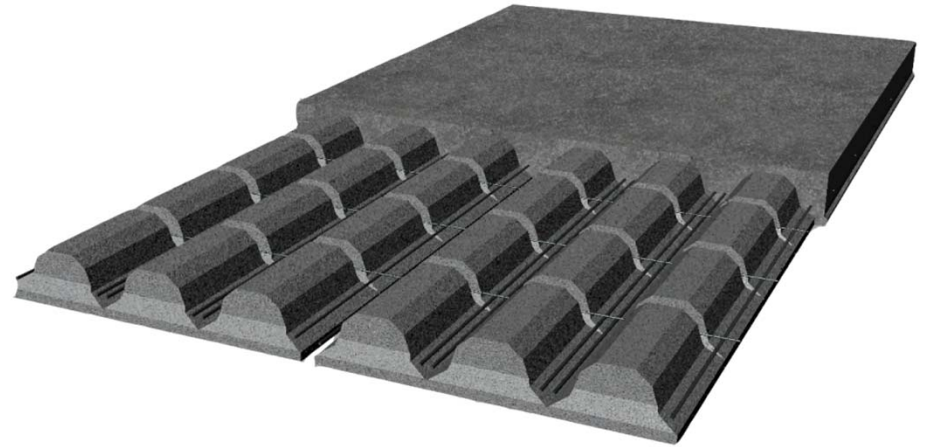
Fire Resistance 240 min

Sound Insulation 57 dB

+

Super-Light General Benefits:

Small Weight, Long Spans, Clean Technology, Low Price







Kvistö Centre Helsinki Skanska+NCC 22.000 m²





Soundproofing



Flexible



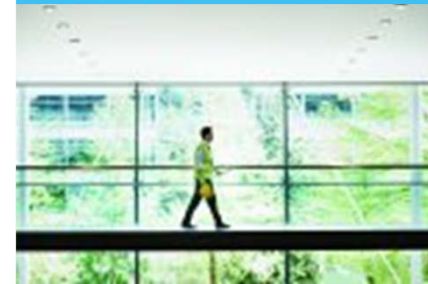
Eco-friendly



All-in-one



Firesafe



Larger spans



Low weight

7 STRONG BENEFITS



THE **SUPERLIGHT** DECK BY abeo®

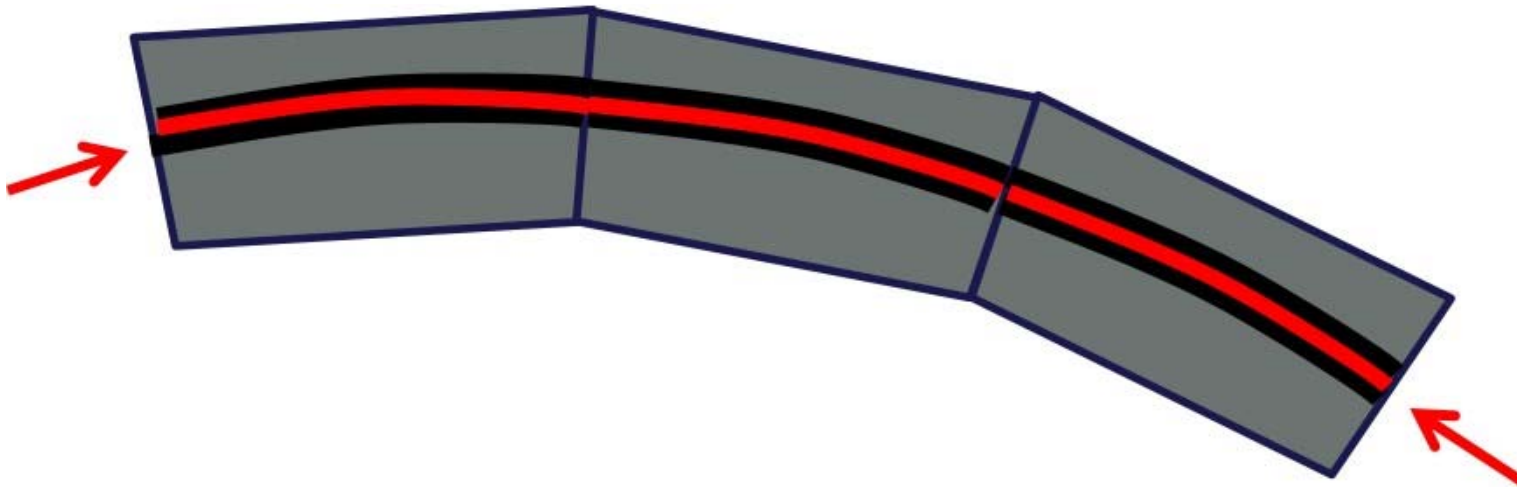




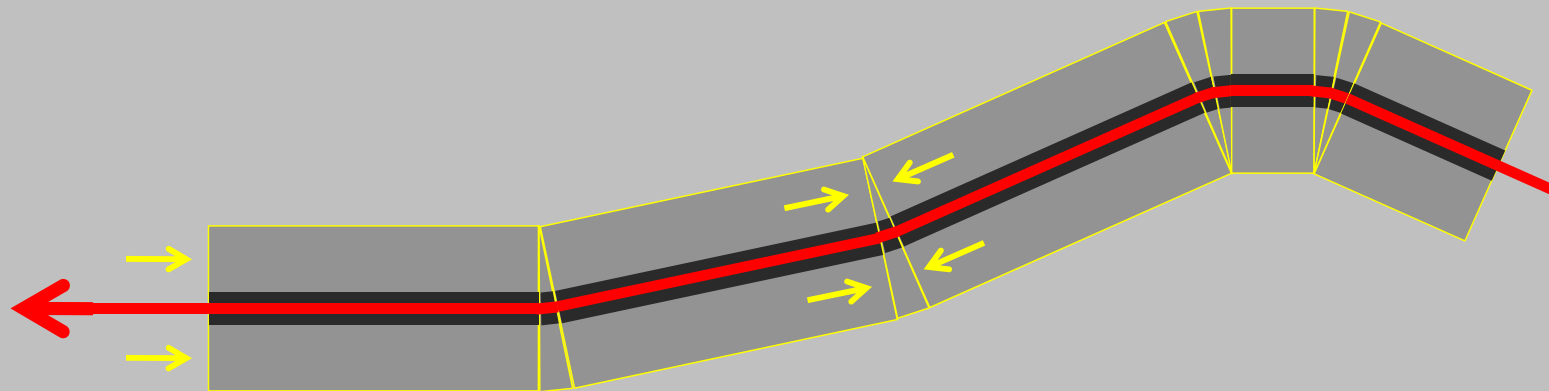
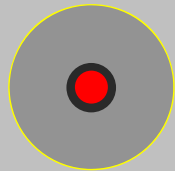
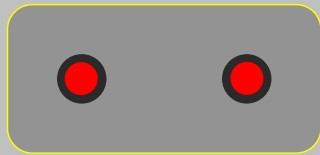
Test Beam M. Sc Project BYG.DTU



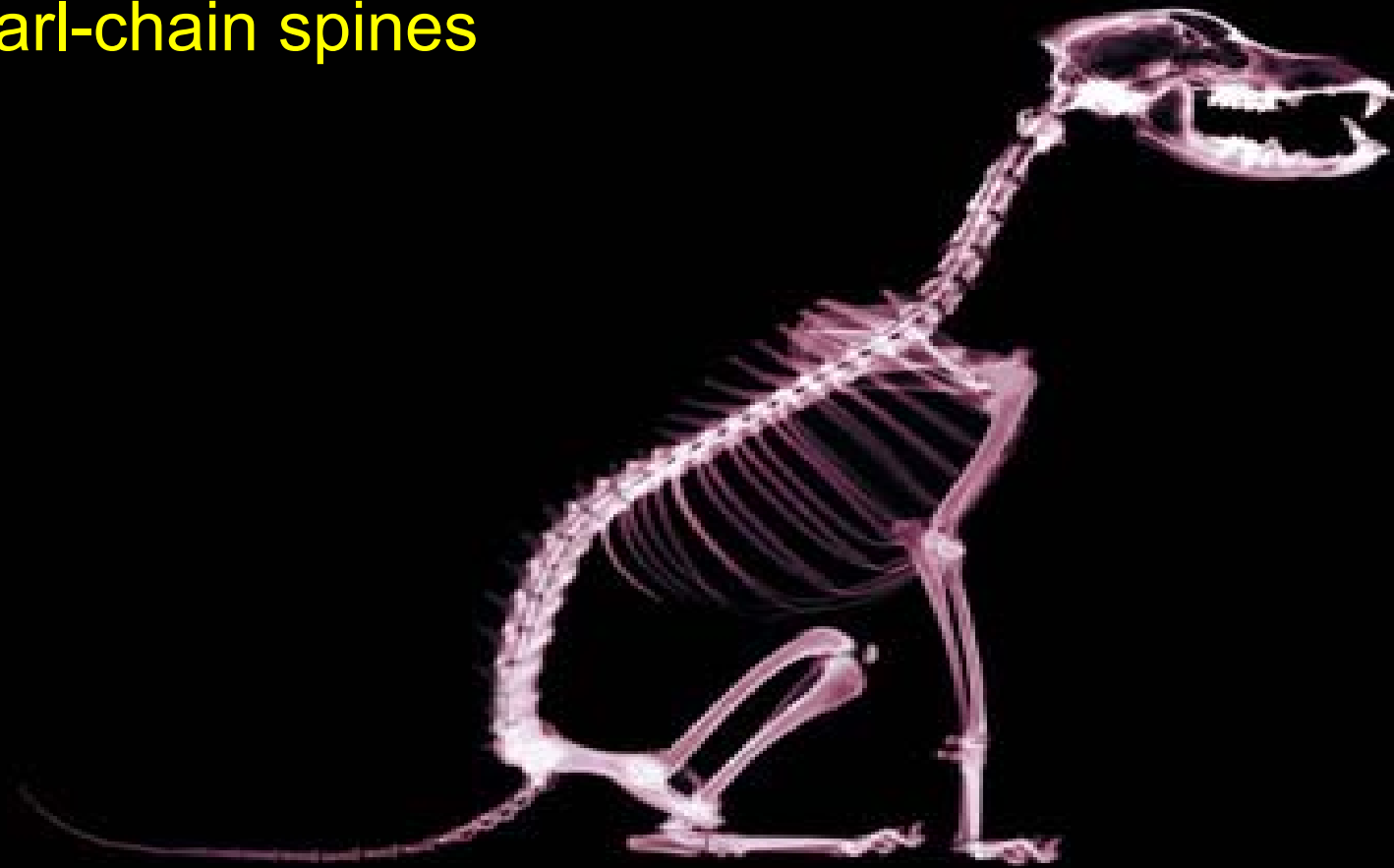
Pearl Chain Reinforcement



Pearl Chain Reinforcement

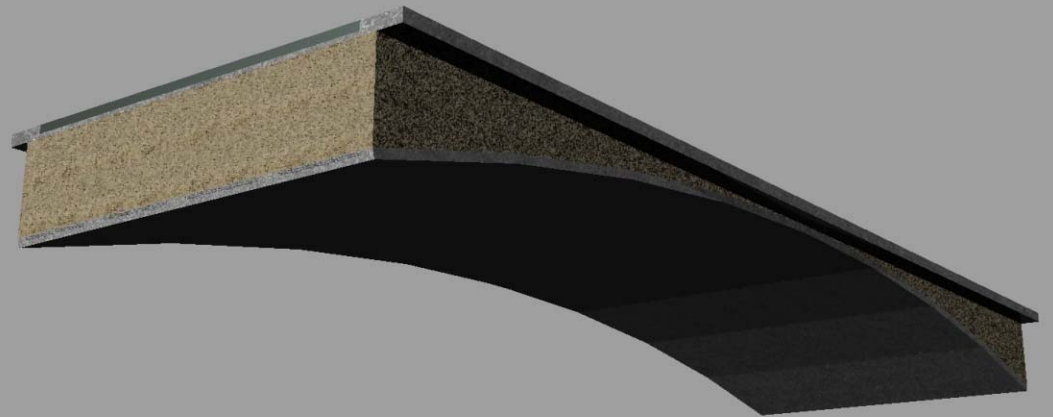
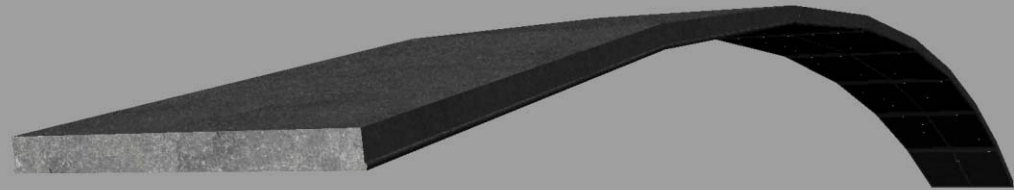


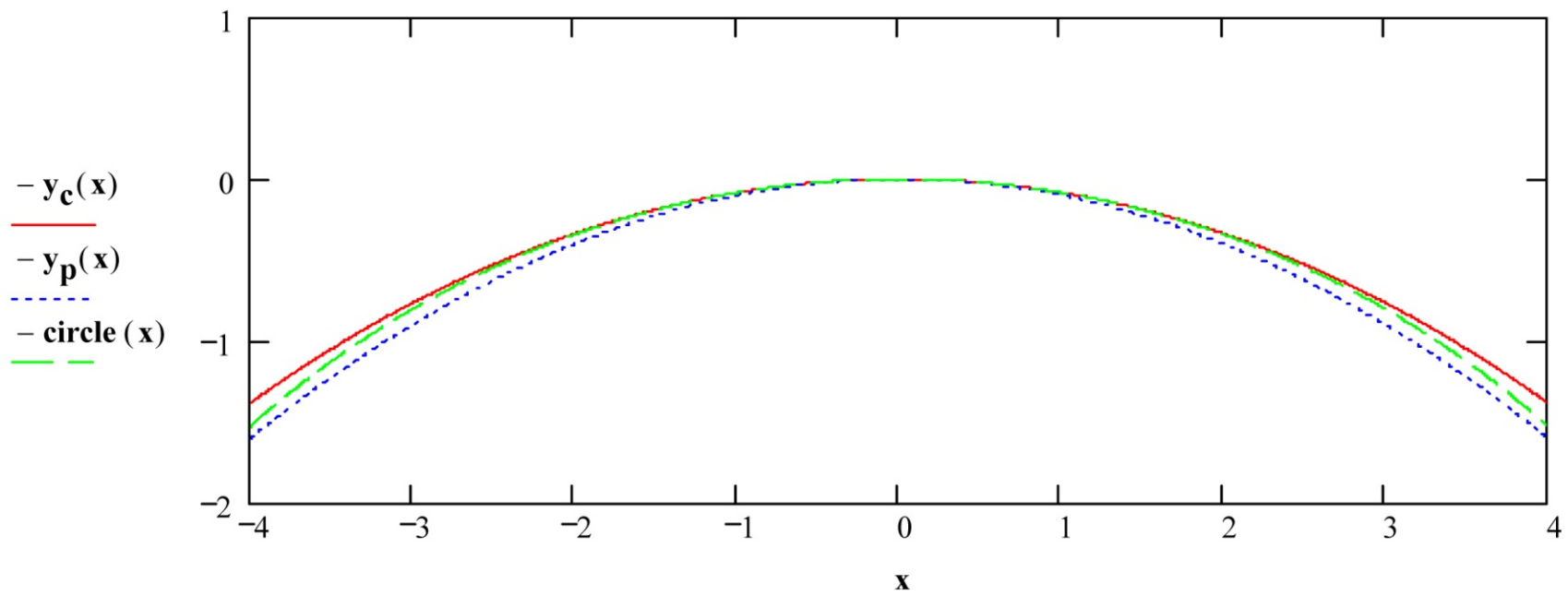
Super-light structures with Pearl-chain spines



The engineer decides
where the forces should be





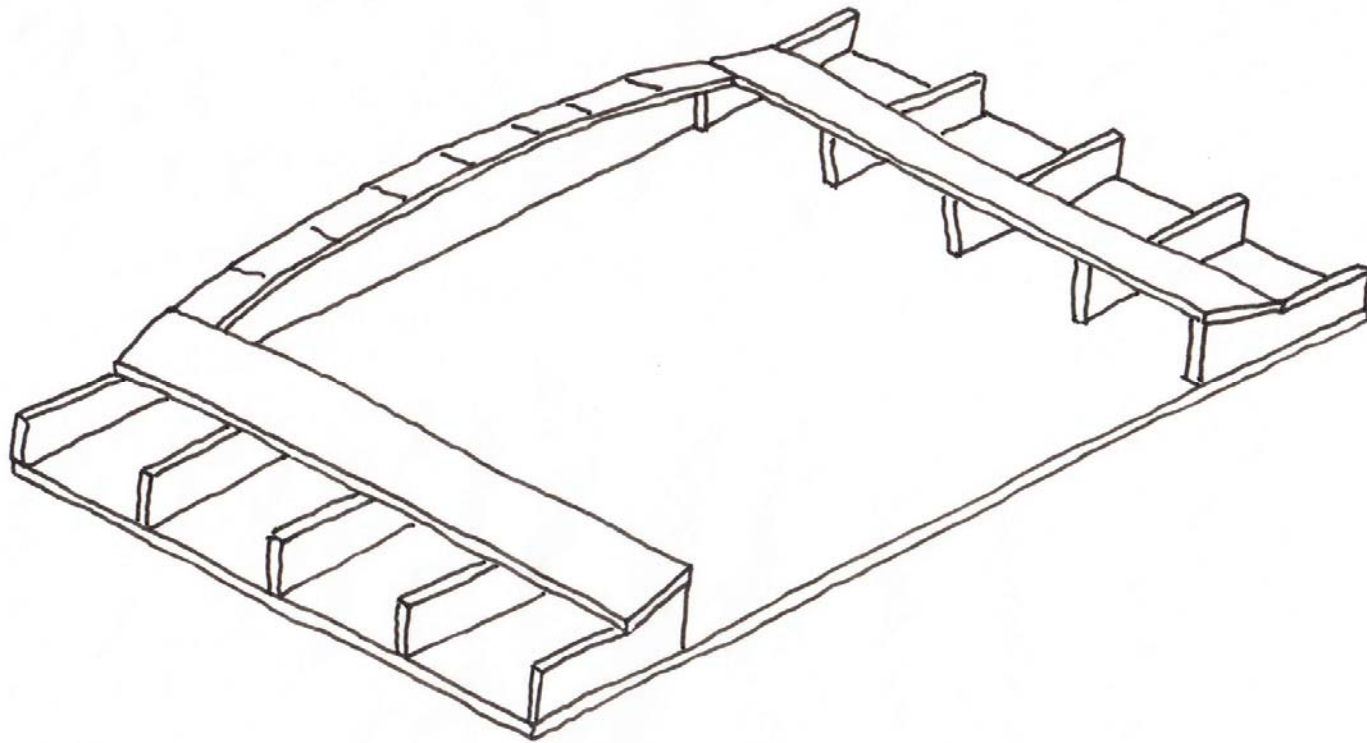


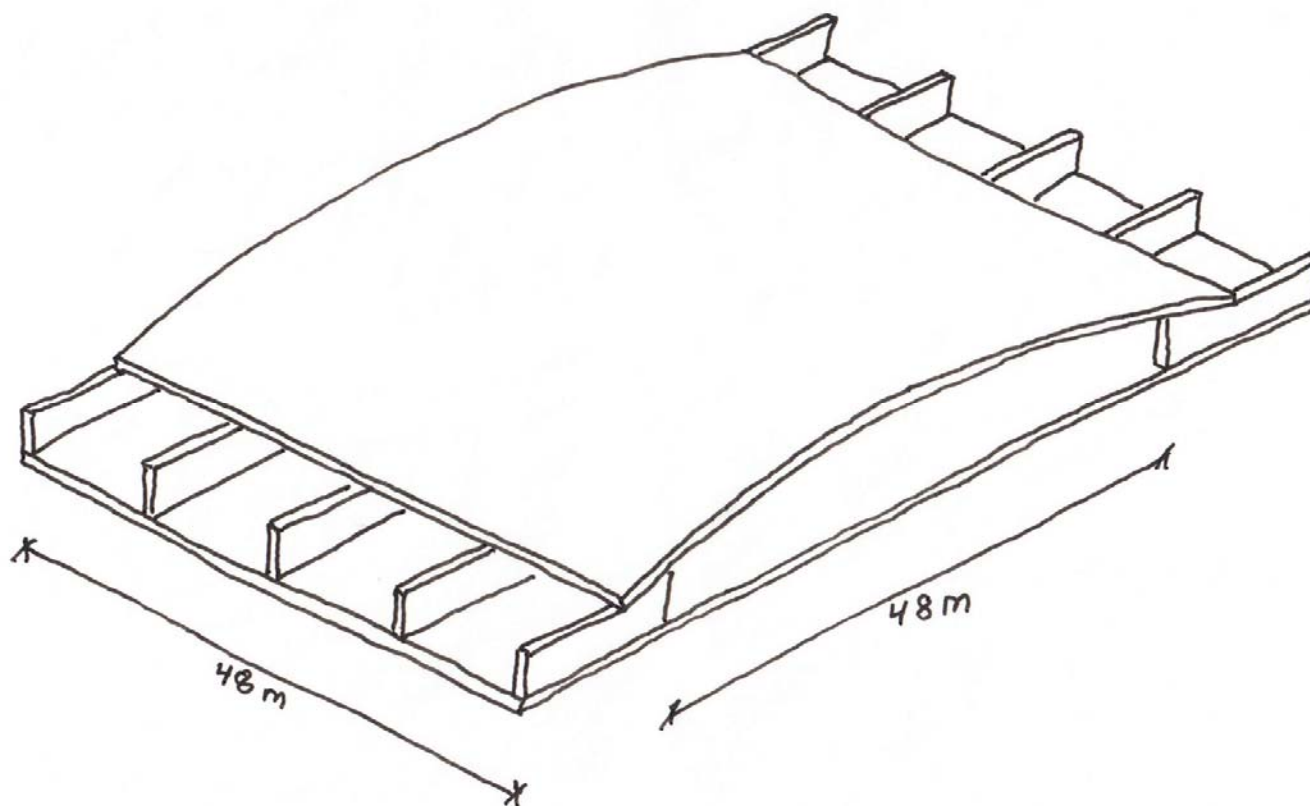
Circle , Chain line y_c , Parabola y_p

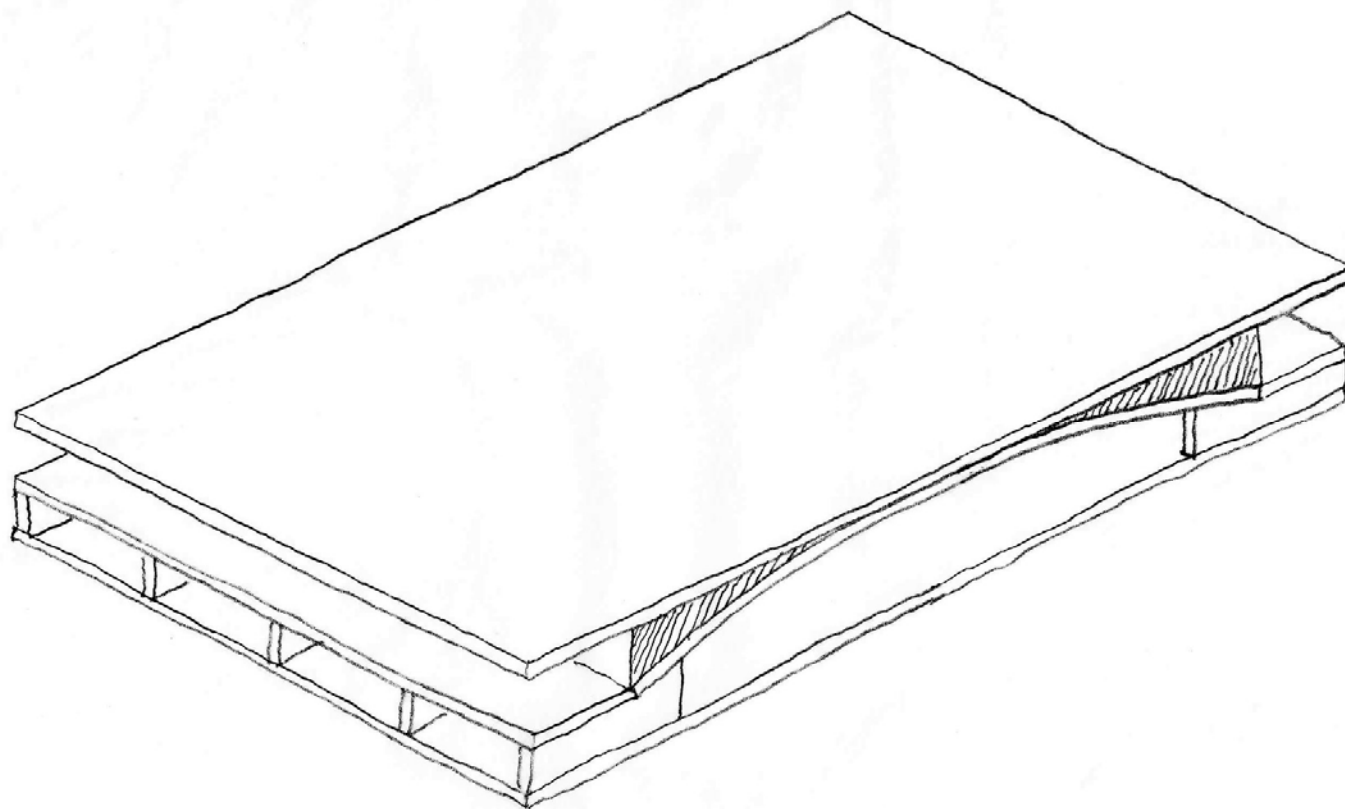




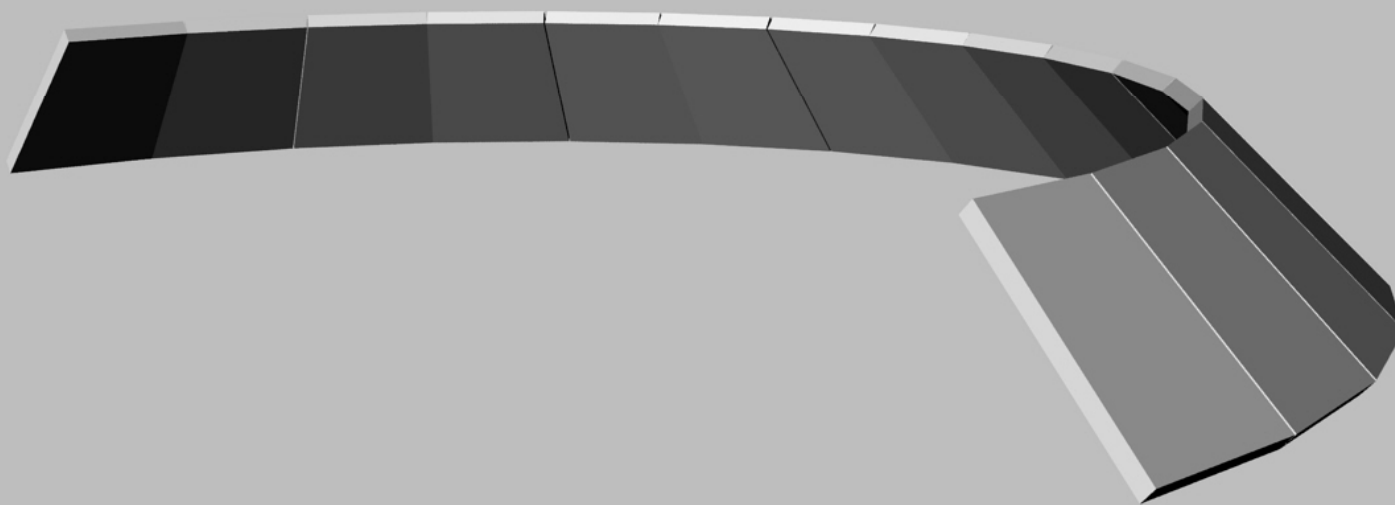


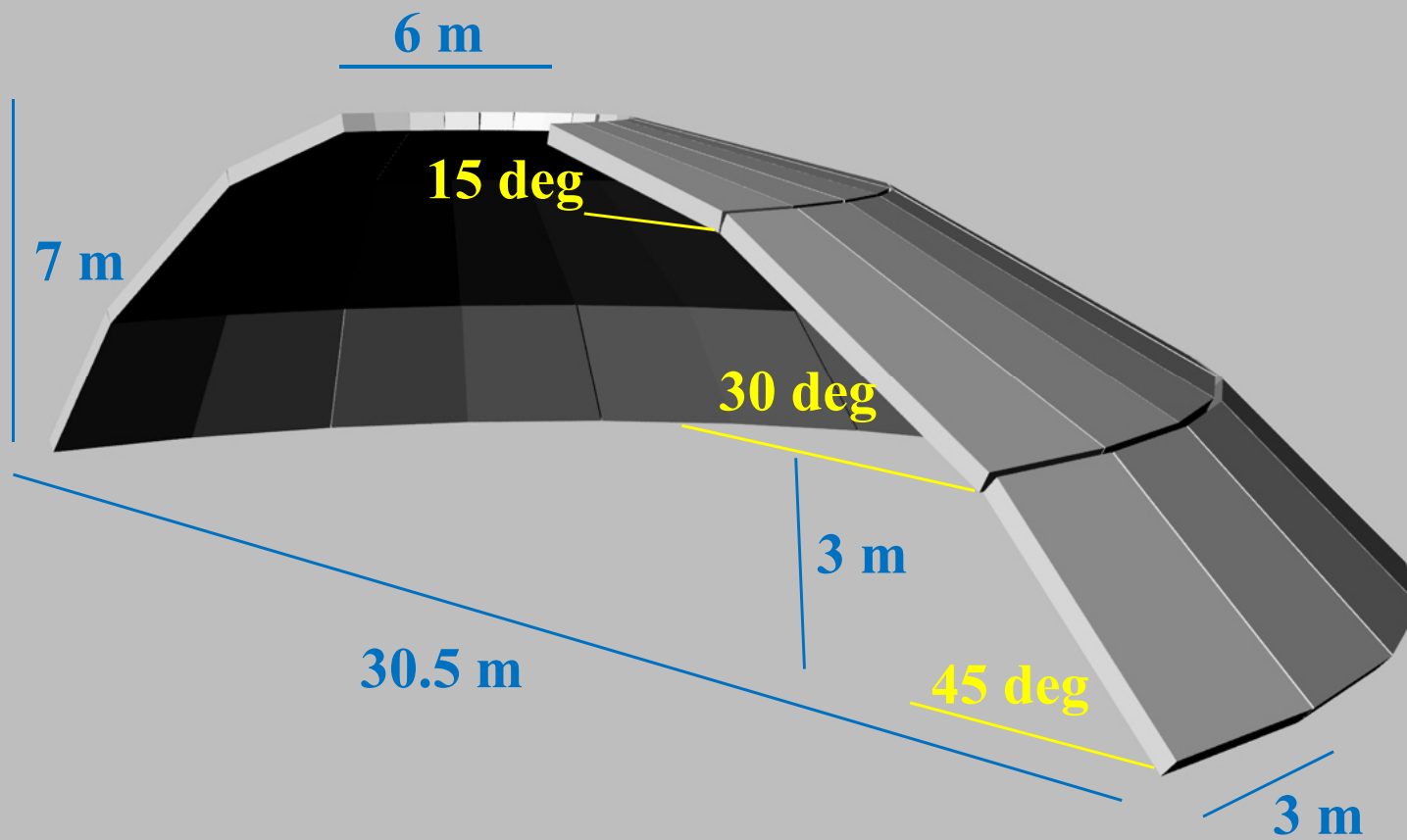


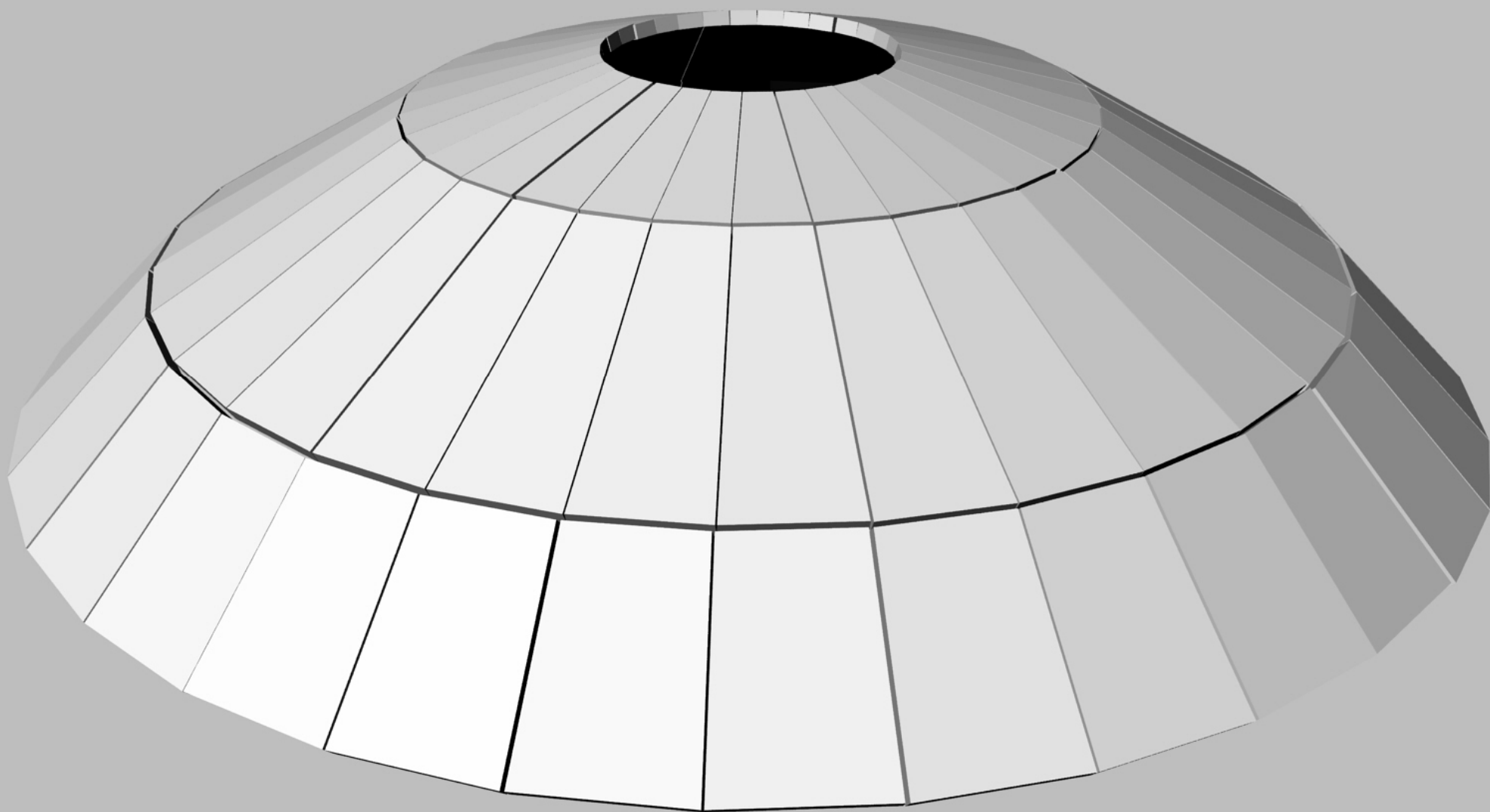


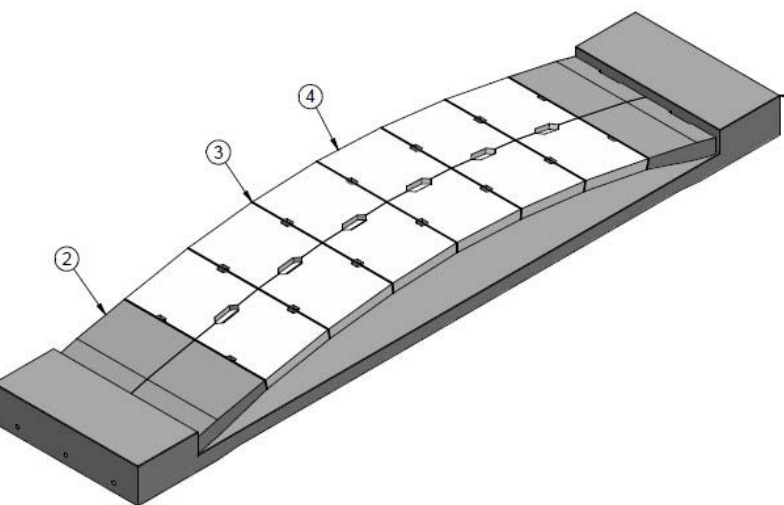




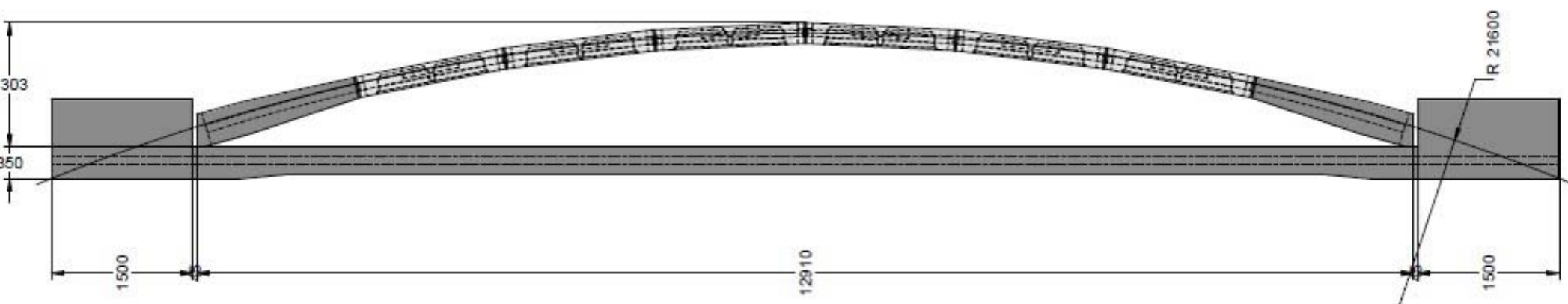








Test Bridge II



abeo®

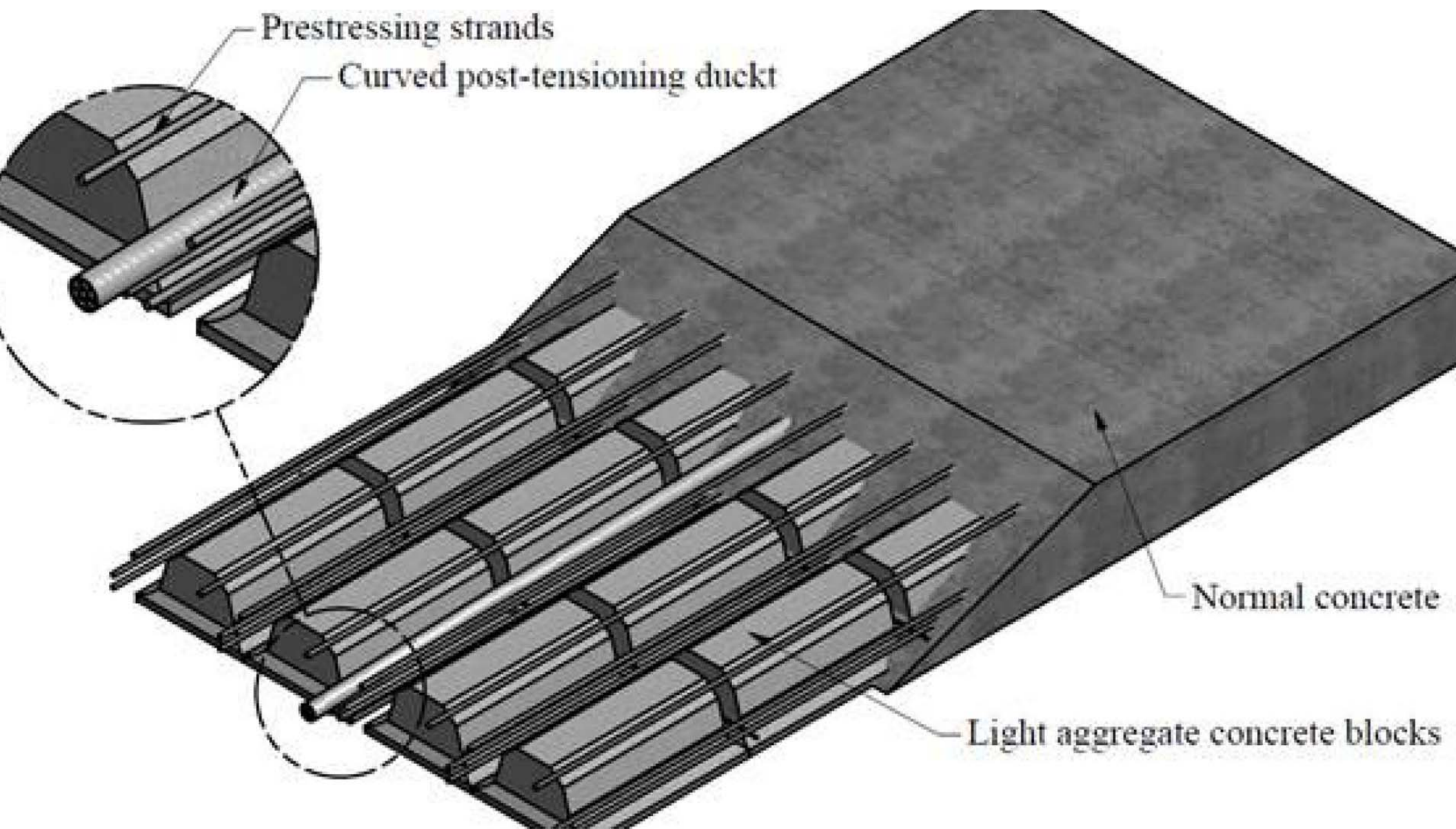
Grontmij

SKANDINAVISK
Spændbeton

PERSTRUP

Højteknologifonden

DTU



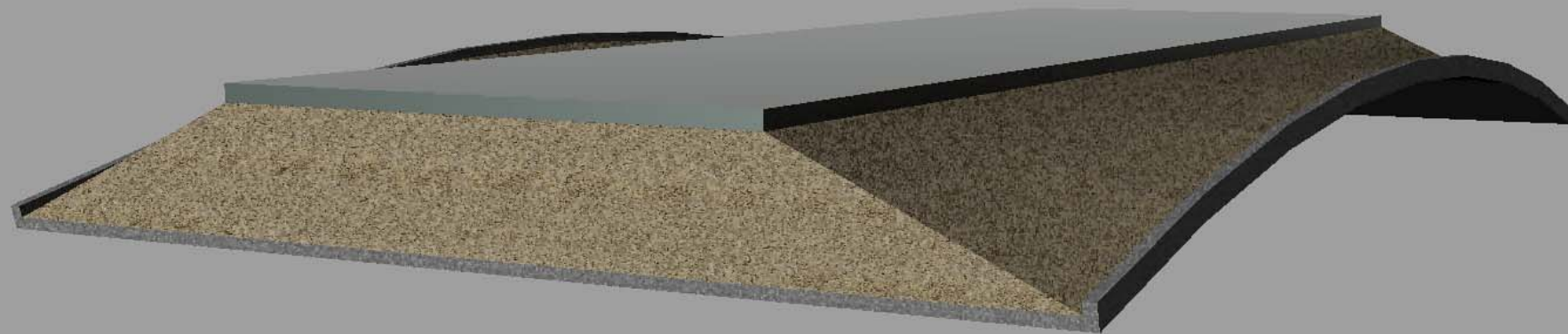










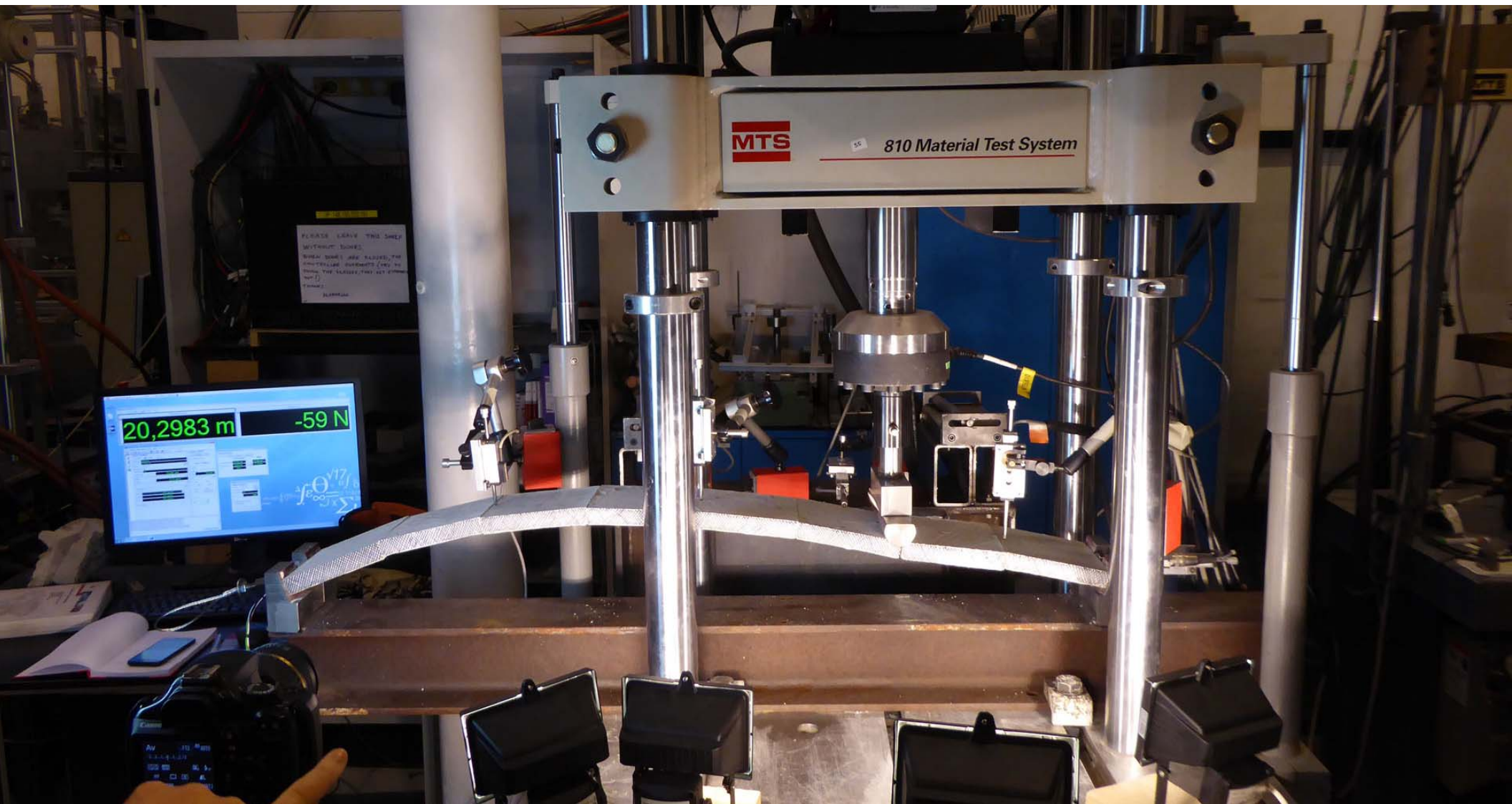


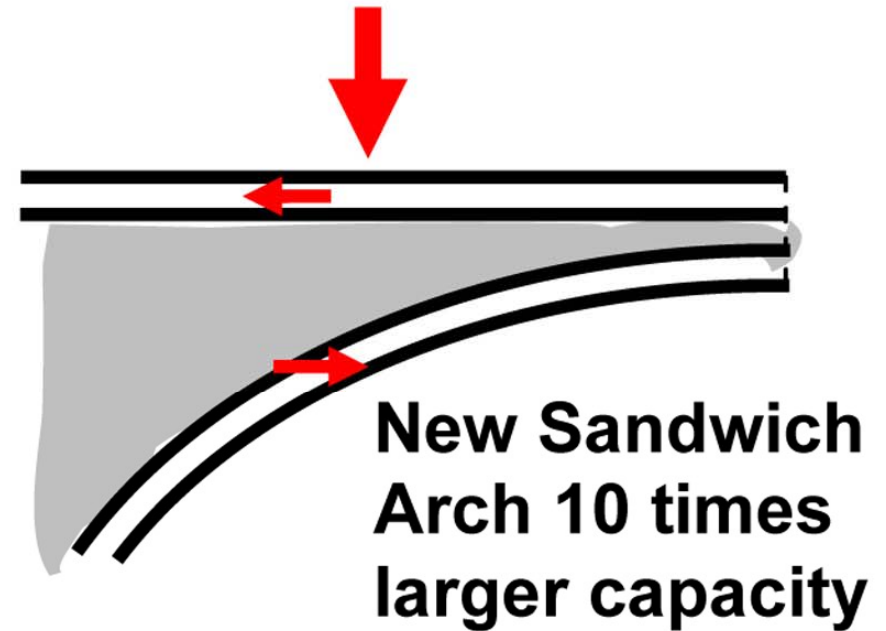
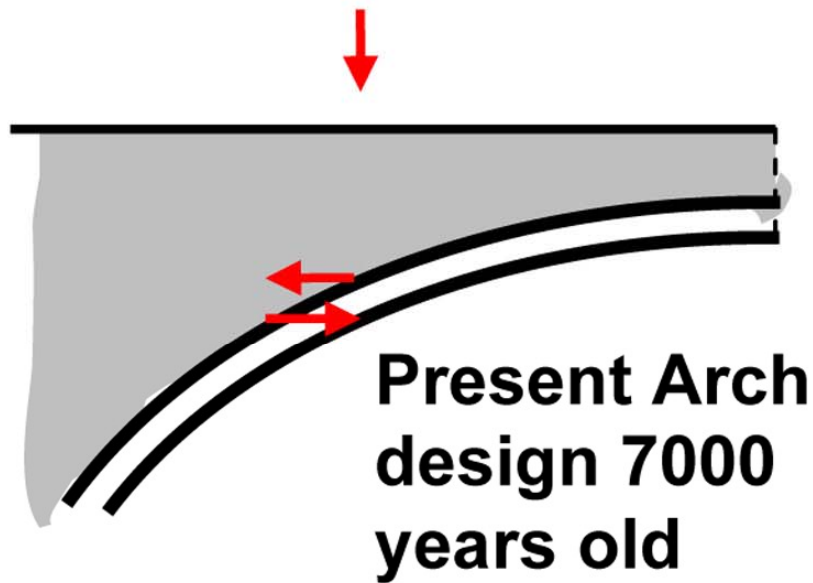
abeo a/s

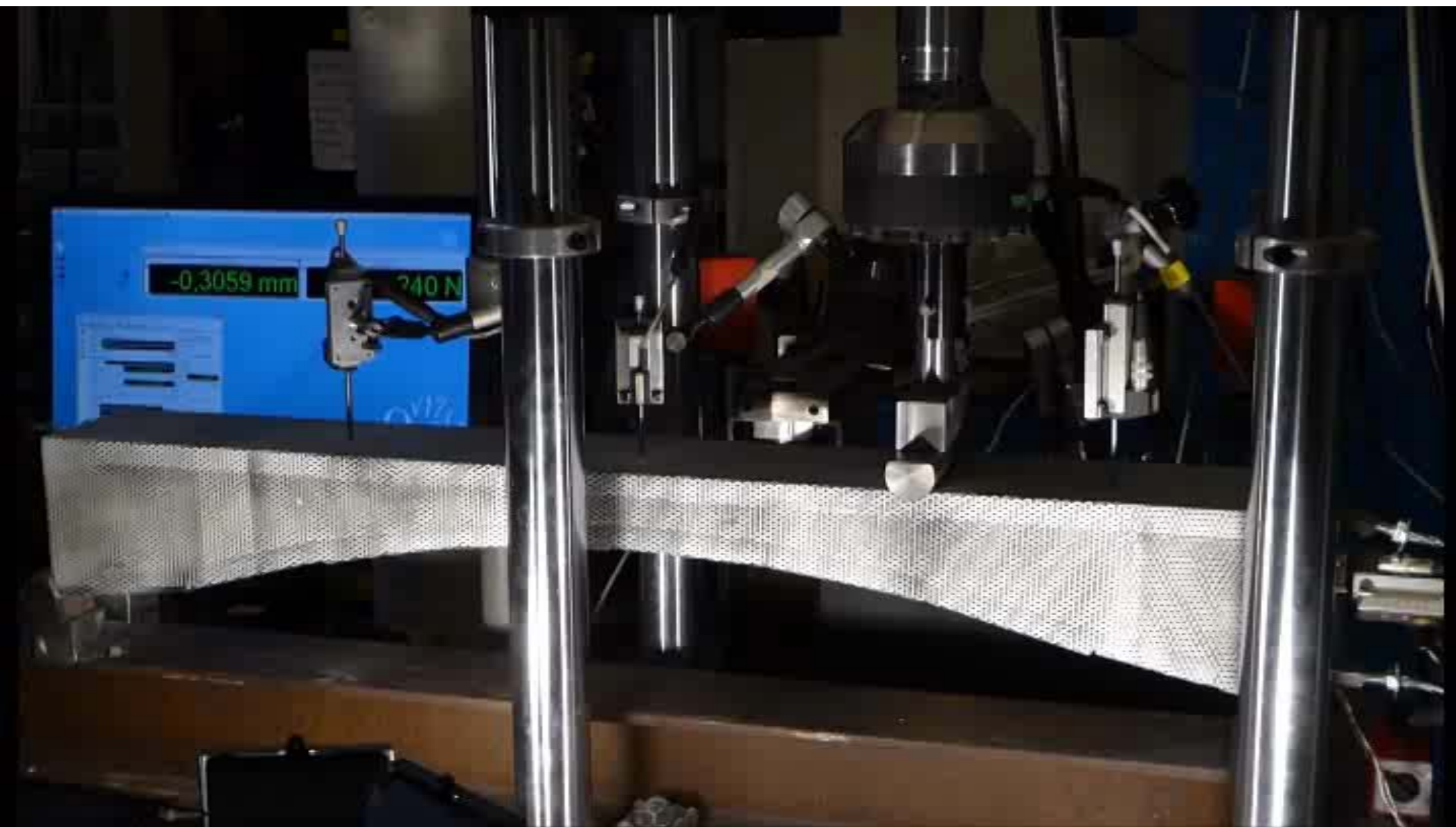


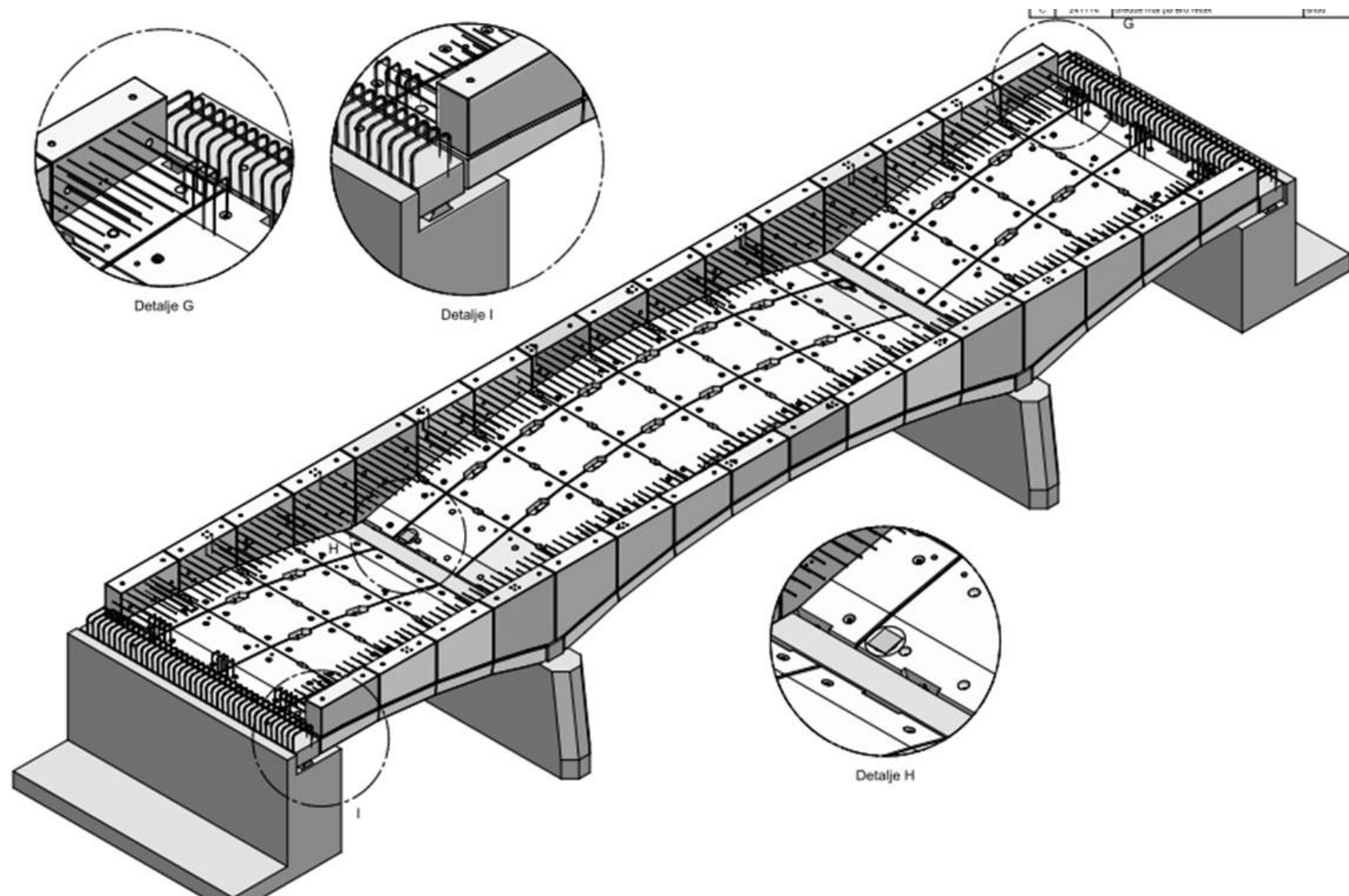
2014-03-13
Drain Concrete











2015-03-17 Vorgod Å







ALL-IN-ONE



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go to www.abeo.dk



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