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CARLSBERG SYSTEMS

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BOOOS REPRESENTATIONS THE NEW STREET

WITH CARLSBERG SYSTEMS, YOU CAN ACHIEVE A HIGH BRICK MASS IN THE FINISHED CONSTRUCTIONS AS WE MILL THIN GROOVES IN EACH ELEMENT.

## CARLSBERG SYSTEMS FROM RANDERS TEGL

Randers Tegl is Scandinavia's largest supplier of bricks, and Carlsberg Systems is an independent unit in the group. We have more than 25 years of experience with production of prefabricated brick elements. Our specialised knowledge allows us to realize even the most demanding projects with bricks. At the same time, our unique production method ensures a technically, economically and visually optimal solution – every single time.

## BRUTE STRENGTH MEETS ELEGANCE

We retain 80 % of the brick volume in each brick element, and we avoid using reinforced concrete systems. This ensures that our brick elements always work naturally with the surrounding brick structure and eliminates the risk of cracking and peeling. Not only does it make Carlsberg Systems stand out, it is also particularly suitable for projects with great architectural freedom and fewer dilation joints.

# **NEW CORPORATE DOMICILE**

Project: Alfa Laval, Aalborg

## Architect: PLH Architects

At an old shipyard site, a new office building constructed with reference to modern ship decks, has emerged. It is Alfa Laval's new head office with a ground floor-car park and three floors of offices. We assisted the architect and executive contractor with technical development of retaining principles.

Brick: RT 548 UNIKA Hera. A waterstruck brick with a full-cover black engrobe.

**Tilt elements:** We supplied single-handed upper lighters with dyed mortar, stainless-steel mounting brackets and single shifted overlays with cast sliding rails for mounting of wall brackets, which were also included in the delivery. In addition, we supplied composite brick tiles for the entire construction.





# **MODERN OFFICE BUILDING**

Project: DEG 42, Oslo

### Architect: A-lab

This is A-lab's last building in the BARCODE series at the Opera on Oslo's waterfront. The building is basically cylindrical with meeting room boxes attached to the eastern façade. The boxes have floor-to-ceiling windows, that allow unique views. Combined with the New Yorker fire staircase, which also slides down the eastern façade, this creates a unique sculptural and spectacular building.

**Bricks:** RT 445 Rustica Patina. A red hand-moulded brick with interplay of shades of black.

**Tilt elements:** The brick façade is done in full height, and the displaced window positions results in increased loads on the brick beams, as all weight is brought down to the foundation. 17 shift high prefabricated tile beams support the construction, and the meeting boxes are suspended in a bearing steel structure with further suspended bricklifts underneath the boxes.











# **RESIDENTIAL TOWERS**

Project: Basaren, Stockholm, Sweden

#### Architect: Wingårdhs

Basaren is a remarkable Swedish residential complex. Its free-standing settings lends character to the building, and the two towers and round corners complete the picture. At first, the project didn't include bricks, but to create a light and airy feel, Wingårdhs chose to go with bricks. They also added balconies, that provides a functionalist touch to the substantial building in the heart of Stockholm.

**Bricks:** RT 542 Unika Apollon. A combination of white grey glazed and nonglazed bricks.

**Tilt elements:** This building is particular unique because of its façade of transparent masonry, which is made possible by Carlsberg Systems. The devil is in the detail – and each brick used for the transparent part of the brickwork has two extruded holes, that matches the shape of the two-towered building. This requires extra structural support in wall elements, lintels and beams – but in turn, it provides a quiet synergy and gives the building the desired light and airy feel.









# IF YOU CAN DRAW IT YOU CAN BUILD IT

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# **CLASSIC BUT CONTEMPORARY**

Project: Institute for Biomedicine at Aarhus University

### Architect: Cubo Architects

This new building at Aarhus University lends the old university park a touch of contemporary architecture with its displaced wings and perforated end walls. At the same time, it fits into the traditional surroundings, where all buildings are yellow bricked. The result is a rewarding contemporary touch to the historical epicentre for education.

**Brick:** RT 207 Classica. A yellow uni-colour soft-moulded brick with four facades.

**Tilt elements:** One of the most exceptional elements in the projects is the gable. It is made possible by a transparent bond of RT 207 bricks, traditional brick consoles and a special but not noticeable Carlsberg Systems solution, that is self-supporting and suspended in concrete walls and stanchions.

![](_page_11_Picture_6.jpeg)

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![](_page_12_Picture_0.jpeg)

# THE LEANING TOWER

Project: Vesterbro, Aalborg

## Architect: Bjørk & Maigård ApS

The distinct sloppy façade makes for an innovative property in the city centre of Aalborg. Randers Tegl assisted the contractor in designing and planning expansion joints, as well as suspension principles and determination of the masonry course according to the placement of brick bellows. The design of the leaning façade posed special requirements for the carrying capacity of the building.

Bricks: RT 483 Classica. A red nuanced soft-stoned brick with four facades.

**Tilt elements:** A curved angle frame was constructed by using suspended threaded rods for mounting wall brackets. Randers Tegl's wall consoles were also included in the delivery, tailored to the slope of the façade. In addition, Randers Tegl supplied composite slabs for the entire construction.

![](_page_13_Picture_6.jpeg)

![](_page_13_Picture_7.jpeg)

![](_page_14_Picture_0.jpeg)

![](_page_14_Picture_1.jpeg)

# **AN ICONIC TRAFFIC TOWER**

Project: New control and signal tower, TCC East, Copenhagen

#### Architect: TranbergArkitekter

TCC East is a visionary and eye-catching cylindrical building with a diameter of 41.1 m and a masonry height of 40.9 m. The main challenge of the tower was the large iconic openings in the façade. Suspension in masonry brackets was not an option, and neither was horizontal expansion struts.

The challenge was resolved with moving brackets, as they can transfer horizontal features and compressive forces to the concrete backing wall. It had to be solved without simultaneous transfer of vertical forces, and the various vertical temperature-depended motion across the 41 m brick façade and concrete wall had to be considered as well.

The many offset openings in the façade required horizontal joints and special bricks in proper placing to shift the load down to the foundation. And of course, the curved shape of the building required special brik construction.

![](_page_15_Picture_6.jpeg)

![](_page_16_Picture_0.jpeg)

![](_page_17_Figure_0.jpeg)

## WE WORK WITH ALL TYPES OF BRICKS

Our great expertise in prefabricated brick constructions gives rise to both national and international inquiries. As a result, we have extensive experience with consultancy and calculation of unique constructions. A side effect is that we are used to work with bricks from a wide range of suppliers – as long as the material is brick, we are at home.

![](_page_18_Figure_0.jpeg)

## **COLLABORATION, OPMIZATION AND SAVINGS**

Architects, engineers and contractors use us as a solutionoriented partner for demanding projects. We are devoted to maintaining the architectural and aesthetic expressions of the project, and the result of a collaboration is optimisation of the technical construction, a simplified construction process and significant savings – of course, the earlier in the process we are involved, the better the effect is achieved.

![](_page_18_Picture_3.jpeg)

# **17 FLOORS OF BRICK**

Project: DNB NOR, OSLO

Architect: MVRDV, A-lab and Dark Architects

The bank's head office at the harbour consists of 17 floors of brick and glass. The building contains 37,000 m2 and is composed of 6x6-m modules, which are suspended in open spaces over several floors. The interior walls are made of bricks, glued to concrete walls – and the ceilings consist of prefabricated tiles. The result is a modern workspace with an urban feel and amazing fjord views.

Brick: RT 540 Unika Pantheon. A soft-moulded grey brick.

**Tile elements:** For the project, we used 5,752 m prestressed beams, 280,000 tiles, 1,400 m2 prefabricated ceiling modules and 1,100 m2 prefabricated coating modules for balconies.

![](_page_19_Picture_6.jpeg)

![](_page_20_Picture_0.jpeg)

# **CONTEMPORARY PARKING**

Project: Parking house, Vejle

Architect: Årstiderne Arkitekter

Car parks doesn't have to be all concrete. This centrally located parking house has 330 pitches spread over 11 decks. The façade is covered with prefabricated tiles to harmonise with the neighbouring town houses. We designed approx. 400 storey tiles and approximately 400 floor tiles for the task.

Brick: RT 481. A red nuanced soft brick with colour play.

**Tilt elements:** For the project, we used approximately 69,000 bricks; 439 pcs. slats single change (1,157 lm), 341 pcs. slats double change (901 lm), 4 pcs. special roll shift with reversed surfaces (11.5 lm) and 350 pcs. wall elements (867 m<sup>2</sup>).

![](_page_21_Picture_6.jpeg)

![](_page_22_Picture_0.jpeg)

# ANYTHING IS POSSIBLE

If you can draw It, you can build it – with our help. We solve all imaginable tasks with prefabricated tiles, and we have great experience to share with you. Our engineers are used to thinking out of the box, and they are ready to challenge conventional thinking in all phases of the project – from project stage to site. That's our approach, and that's how we have helped create unique and eyecatching solutions in many countries.

![](_page_24_Picture_0.jpeg)

# **INNOVATIVE THINKING ALL AROUND**

Project: Office building, Drengsrudbekken

## Architect: Arkitekterne as

This unconventional project has a curved façade, that is wrought in prefabricated elements. Every second floor is suspended with wall brackets and doubles. The remaining floors consist of special designed consoles of 4- and 6-shift beams. All building components have different properties, which requires precise calculations and dimensioning.

**Brick:** RT 546 Unika Attika. A grey soft-moulded brick with dark grey interplay of colours.

Tilt elements: The east and west gables are constructed by

- · 14 pcs. 4-shift prefabricated tile beams of 3.2 m
- · 14 pcs. 6-shift prefabricated brick beams of 4.9 m
- · 32.5 m double-change overlays and 132 pcs. curved façade overlays
- · 250 m curved double-sided façade overlays

And suspended in 360 pcs. masonry consoles with carrying capacity up to 17 kN.

![](_page_25_Picture_11.jpeg)

![](_page_26_Picture_0.jpeg)

# PRODUCTS

![](_page_27_Picture_1.jpeg)

#### **CARLSBERG SYSTEMS CEILINGS**

Brick ceilings open up new architectural possibilities. Both in and out, bricks can be used for ceilings.

![](_page_27_Figure_4.jpeg)

#### CARLSBERG SYSTEMS BEAMS

Brick beams with their own load capacity function as independent constructions. The existing masonry has no impact on the load capacity.

![](_page_27_Picture_7.jpeg)

#### **CARLSBERG SYSTEMS ARCHS**

We have great experience with bricks in different sizes and designs.

Preloaded bricklenders are in 1, 2 or 3 shifts. It is a prefabricated construction that besides wearing its own weight forms part of the overlying masonry in a composite brick.

![](_page_27_Picture_11.jpeg)

**CARLSBERG SYSTEMS WALL ELEMENTS** Prefabricated wall elements allow for alternative facade solutions in bricks.

![](_page_27_Figure_13.jpeg)

#### **CARLSBERG SYSTEMS LINTELS**

Pre-stressed lintels come in 1, 2 or 3 layers. It is a prefabricated construction that carries its own load while part of the existing masonry in a brick beam.

![](_page_27_Figure_16.jpeg)

4-, 5- and 6-layer beams

Pre-stressed rowlock courses

![](_page_27_Picture_20.jpeg)

Pre-stressed jack courses

![](_page_28_Picture_0.jpeg)

## **COMPLETE STRENGTH**

Strong tile designs require strong assembly. Carlsberg Systems uses only stainless steel brackets. A4, which meets the requirements for exposure class MX4. Our quality assurance is a guarantee that the completed solution is both secure and future-proof.

![](_page_28_Picture_3.jpeg)

## **ABOUT RANDERS TEGL**

With more than 100 years of experience, Randers Tegl A/S is the leading brick producer in Scandinavia. We are family-owned, and our constant product development derive from our experience, professional competences and the joy of creating new innovative projects brick by brick.

See our products on randerstegl.com

carlsberg@randerstegl.dk +45 87 11 45 11

![](_page_29_Picture_0.jpeg)