

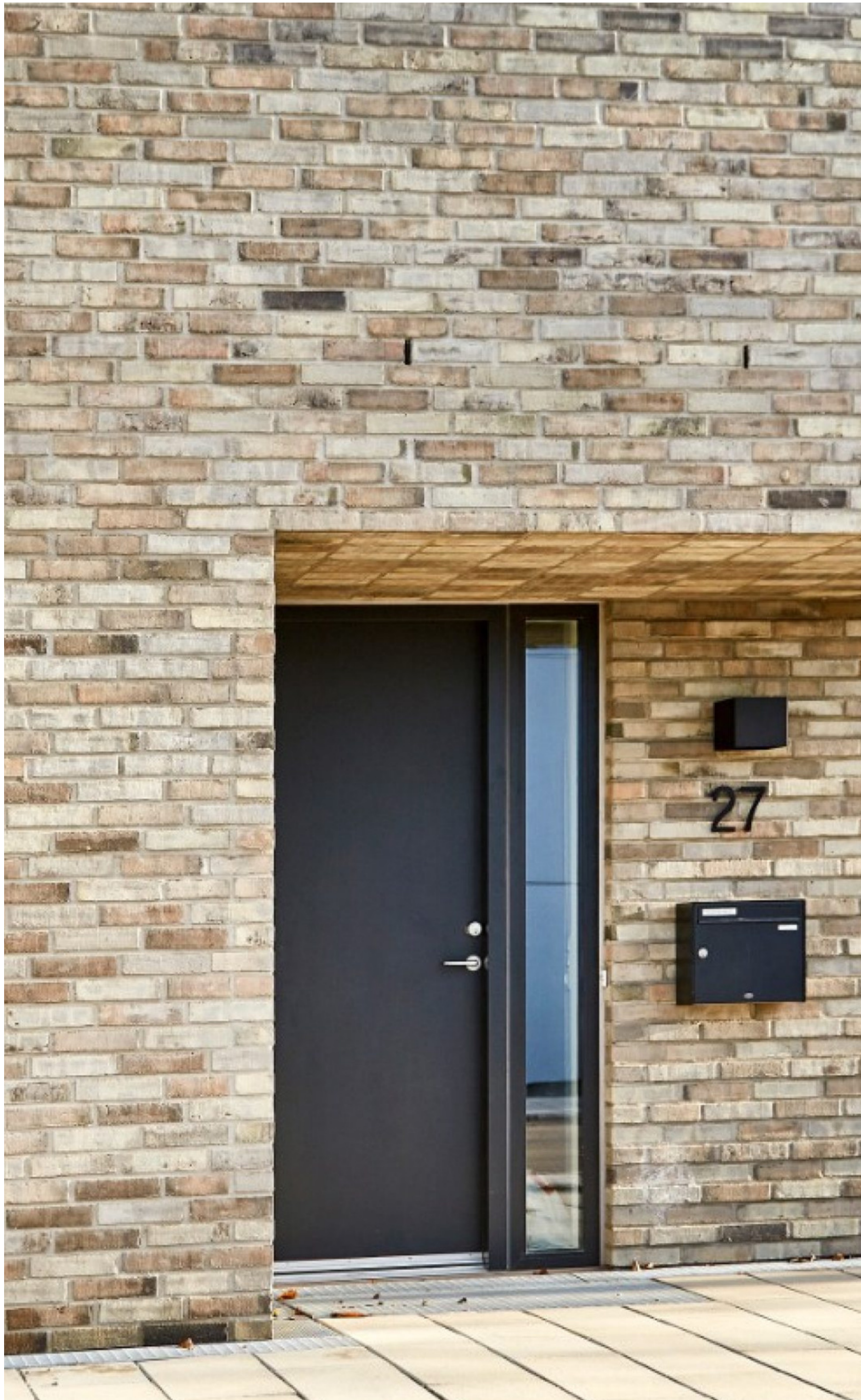
LOHAS

AUSTRALIA

BRICK COLLECTION

DANISH LESS BRICKS SPEC GUIDE

LOHASAU.COM



BIOGAS WINDMILLS ARE MORE CLIMATE FRIENDLY

As a company, it is important for us both to take responsibility for to reduce the construction industrys climate footprint and to be able to live up to our customers, increasing demand on CO2-reducing brick. From 2020-2024 we will be visiting Squirrel-sound Wienerberger reduce our CO2 dischargewith 30%, in 2030 we must reach 80%, and in 2050 at the latest we must be CO2-neutral.

The LESS series of bricks is among the new measures we have done to bring down our CO2-leakage in production. All our LESS bricks are produced today with biogas and electricity from wind turbines. At the same time, we have reduced raw material consumption. It has done possible to reduce CO 2-derivation in the production of LESS with 70-90% compared to a traditional brick produced with natural gas.

CO2- the savings in the production of LESS covers phase A3 in the EPD. For that one full savings for the whole product life cycle use our product specific EPDs



Since 2022, 65% of the energy is for our brick production in From Scandinavia certified biogas that is a fossil-free and CO 2-neutral energy source. This means that we already from 2022 has reduced CO2-print from our brickworks with 35%

CO2 - the discharge in the production of LESS is reduced by 70-90% due to burning with certificate biogas and 15% less raw material.

DEMATERIALIZING : LESS, LESS CO2 – SAME PROPERTIES

In Egernsund Wienerberger we have developed a new CO2 saving series of bricks called LESS with obvious sustainable benefits. They have exactly the same goal and appearance as a traditional one smooth brick, but it is perforated in the middle.

That means 15% less raw material. It is burned naturally on biogas and uses green electricity, which contributes to an additional CO2 reduction.

Raw materials are generally a scarce resource, and dematerialization is therefore one of the most important headlines in our product development.

Dematerialization means, that we remove material from the individual brick, then we reduce the need for non-renewable raw materials. The dematerialization gives also an energy saving in both drying and burning - 15% less water must be removed from the stone during drying, and 15% less material must be fully burnt in the oven. We also reduce CO2- the emission during transport, and on the construction site one is delivered lighter bricks for the benefit of the working environment.

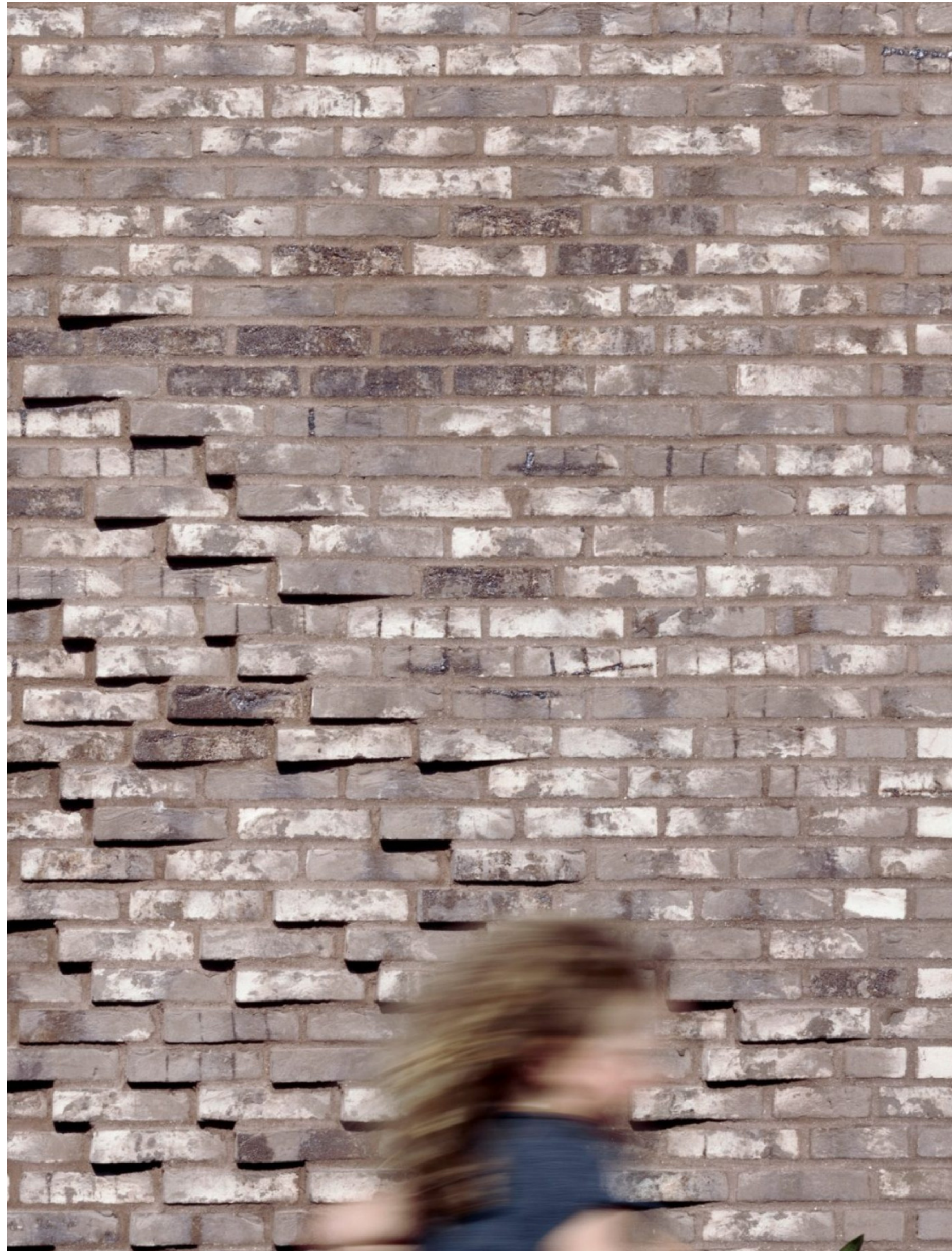
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It is our objective that we must achieve by 2050 at the latest a CO2-neutral production. With our CO2-reducing brick LESS for the future we are already good at construction time to deliver the next ones important steps on the way forward towards the target. Under the headline we have dematerialization namely constant focus on that refine and develop new types of brick with markedly lower material consumption, which at the same time can meet technical requirements and design wishes of architects and builders.



FACTS ABOUT LESS



Raw material savings of 15%

Thanks to its holes in the lying surface must be used.

15% less raw material for the manufacture of our LESS bricks compared to ordinary bricks. In general weighs LESS approx. 15% less than traditional soft iron brick.

70-90% less CO2 emissions

The CO2 emissions in the production of LESS reduced by 70-90% due to the transition to biogas and 15% less raw material. CO2 - the savings in the production of LESS covers phase A3 in the EPD.

For that one full savings for the whole product life cycle use our product specific EPDs for LESS.

Application

The LESS brick can be used in the same type of constructions and with the same type of mortar, which is used with it traditional soft iron brick.

Environmentally friendly transport

Also, the transport of LESS brick gives a smaller environmental impact. One move delivers namely 15,000 stones opposite one normal move that can deliver 12,800 bricks.

Increased mortar consumption

Because of the holes used there 5% more mortar. That affects the CO2 account for the masonry negatively. Where much depends on the chosen one mortar's specific impact.

Lower weight

LESS weighs 15% less than a traditional Danish soft-polished bricks and are therefore easier to handle the construction site and better for the working environment.



LESS — ENMURSTEN IN COUNTLESS COLOR SHADES

The soft-laid LESS brick comes in more than 40 beautiful colours and with expressions that vary from the very lively and contrasting to the quiet and tight. The LESS brick matches both the modern construction and renovations.

The entire series is burned on certified biogas and uses green electricity.



OUR LESS RANGE



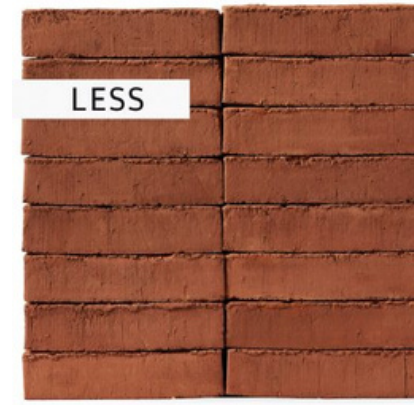
Jern



Hvid Marmor



Cold Hawaii



Dyb Rod



Rod Nuanceret



Valmue



Flint



Hvide



Ingefaer



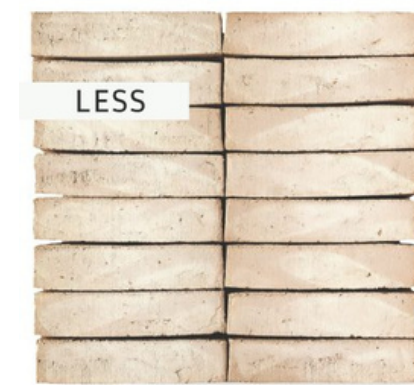
Cinnobar



Dodenkop



Kobber



Halm



Messing



Magma



Lava



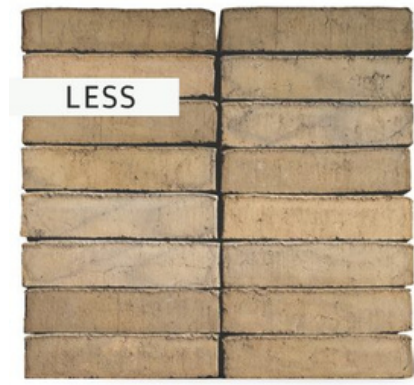
Grafit



Mahogany



Sand



Eg



Fynsk Gul



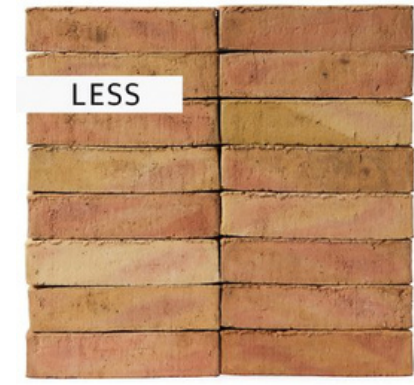
Sort Onyx



Kul



Gul Nuanceret



Efterar med kul



Rod Okker

THE DEVELOPMENT OF LESS



Although it might sound simple at first to make holes in a brick, it is actually one major technical challenge to reach the goal with. After many trials and sparring with our suppliers of brickworks machines and not at least our innovative employees are we succeeded in developing method and machines that work in large scale.

The challenge is that the freshly painted bricks are a lot soft and not very dimensionally stable, in that it has a very high water content. It requires both precision and speed, and the process has taken a few years to perfect. The result is a new brick, which reduces CO2 emissions in production with 70- 90% compared to a ordinary soft coat brick. CO2- the savings in the production of LESS covers phase A3 in the EPD. For that one full savings for the whole product life cycle use our product-specific EPDs for LESS.

“It took us a long time to find one production method that could make holes in a soft iron brick.”

Rikke Ask, architect maa, Head of Product Management

DOCUMENTED ENVIRONMENTAL IMPACT

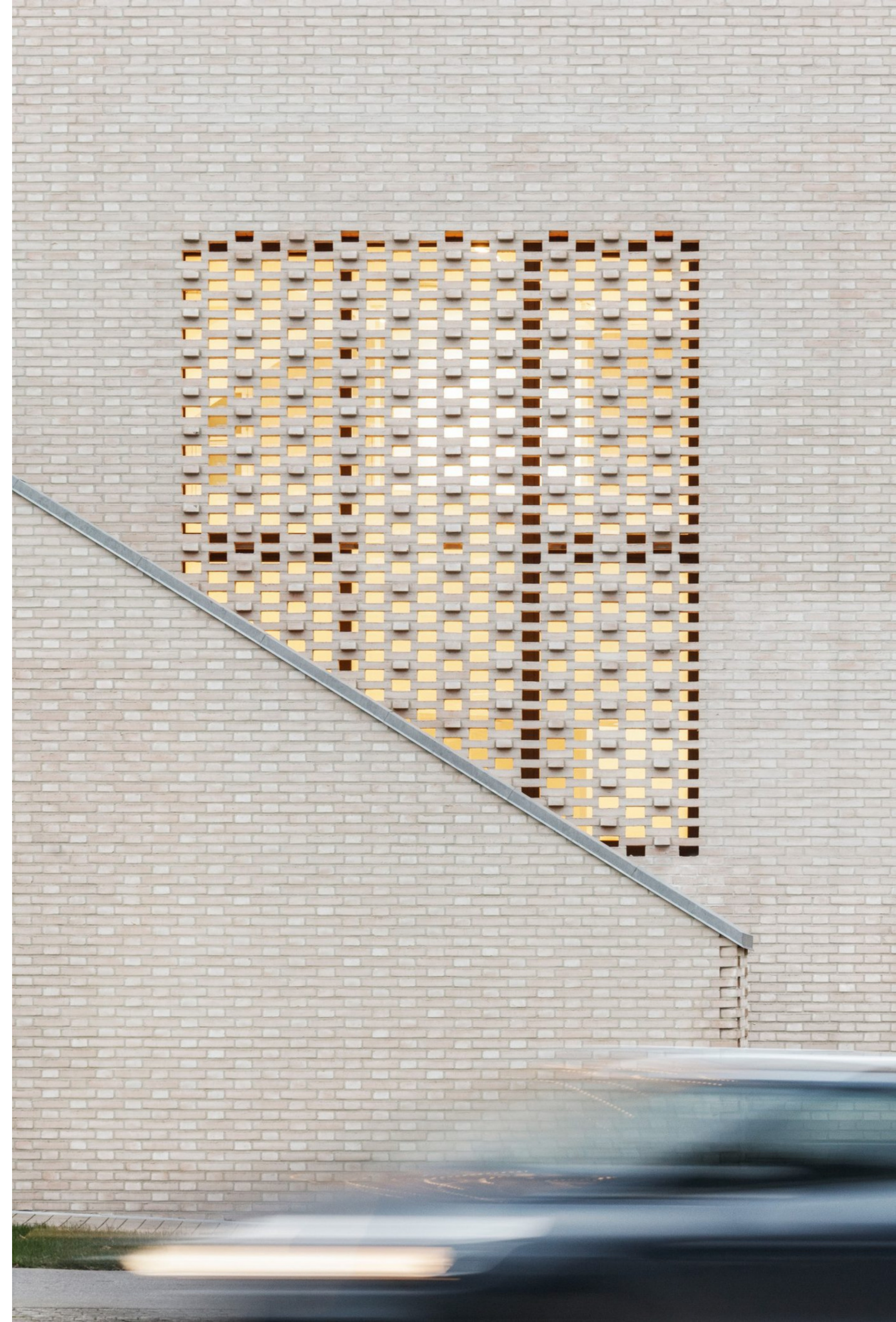
The construction industry has increasingly increased its focus on sustainable building materials with a low CO2 footprint, and more and more buildings are built according to sustainability standards such as DGNB, LEED and BREEAM.

It stands requirements for the documentation of our products and the environmental impact they have.

The voluntary environmental product declaration – EPD (Environmental Product Declaration) – is based on the life cycle assessment of the individual products and are essential to be able to compare products and find sustainable ones Choice of materials.

With our product-specific EPDs and LCAByg files you can you make life cycle calculations and document more easily the buildings climate impact with our LESS bricks.

You can find third- party verified EPDs on all of ours LESS products on our website or at EPD Denmark.





Project name: Sdr. Ringvej 33A, Brøndby
Architect: Norconsult-Skovhus Arkitekter
General contractor: CASA (today known as Nordstern)
Certification: DGNB Gold
Product: Red nuanced LESS and Copper LESS

RESIDENTIAL AREA WITH CONCERN FOR THE ENVIRONMENT

With the goal of DGNB Gold the requirements were extremely high on the new housing project in Brøndby, where Nordstern has built 215 apartments on a total of 17,000 square meters.

The choice of bricks for the facade fell early on our environmentally friendly LESS bricks, which both reduce the material consumption and produced using of certified biogas.

Two varieties of bricks combined with three kinds mortar draws the facade expression on it new square buildings, as a property developer and general contractor, Nordstern, has performed at Sdr. Ring road 33A in Brøndby west of Copenhagen.

- The ambition has from the start been to obtain a DGNB Gold certification, which makes that the requirements are extremely high, says project manager Kasper The elf from Nordstern and continues:

- We have a goal that 95 percent of all our buildings up to 2023 must be certified, which means that we work purposefully with the sustainability from the earliest phases of construction. We strive to come as early in the process as possible, so we have the opportunity to influence the choices that are met, among other things in relation to materials which constitutes a significant part of the certification. For the project there was from the start a desire to use red bricks for the facade, and we therefore entered into dialogue with Egersund Wienerberger about the possibilities. Kasper Nissen tells about the process:

- We were introduced to LESS when we spoke to Egersund Wienerberger about our wishes for the bricks.

And we could quickly see the advantage in helping to create sustainable construction by choosing some bricks with lower material consumption, which is also burned with wood using biogas.

In addition, Egersund has Wienerberger got prepared EPDs (environmental product declarations) on LESS is absolutely essential in projects which must be certified, explains Kasper Nissen: - We want to make good ones buildings with good materials, and there is the EPD an important parameter because it means that we can meet early the right sustainable choices. Our choice of suppliers means a lot when it is about the possibilities for certification.

“ We could see the advantage in being involved to create sustainable construction by choosing bricks with lower material consumption, which at the same time is burned using biogas.”

Kasper Nissen, Project Manager at Nordstern

LESS - THE BRICKS CREATE DETAILED FACADES IN THE BELLAQUARTER



Project name: Bella 3N and Strunges Hus
Architect: Urban Agency
Certification: DGNB Gold
Product: Iron LESS, Coal LESS and Flint LESS

Boats are turned up sustainability and looks details in the masonry | Bellakvarteret in Ørestad.

Here our CO2 shines - reducing LESS bricks two brand new residential buildings with earthy color shades, well-chosen mortar colors and details in the masonry.

Bellakvarteret is developed and constructed with great focus on sustainability. Actually, is the entire area certified on in advance with DGNB Gold, and the green measures permeate the choice of materials in the neighborhood two new residential buildings Bella 3N and Strunges Hus, narrator project manager Thomas Walcher from Urban Agency:

- Since sustainability in Bellakvarteret is at the forefront, has been important to create robust buildings in high quality that lasts many years, and to choose some greener materials. Here are the LESS bricks included to make a difference, and IN collaboration with Egernsund We found Wienerberger the right colors, which give the desired expression. The choice of our LESS bricks have both made it possible to unite design visions with sustainable advantage.

- The bricks play one important role in housing facade design, where we have worked with classical masonry details and varying mortar colours that provides a vibrant and exclusive expression.

Therefore there is not just chose a sustainable one brick, but also added weight on choosing a product in a high quality and at a reasonable price price, says Thomas Walcher. The two new residential buildings are a fine example of how our LESS bricks lower the climate footprint, without it is necessary to go on compromise with the design. It is not without reason that we offers the LESS range in many different ones colour variants that do possible to choose one more sustainable brick that fits perfectly to the individual project.

- Thanks to material selection and earth colors are created one connection between as well the two buildings as a whole the neighborhood. At the same time stands the buildings strongly as unique buildings with each independent design concept, rounds Thomas Walcher

“Since the sustainability in connection with Bellakvar teret is paramount, it has been important to create robust high-quality buildings that last for many years, and partly to choose some greener materials. Here is The LESS bricks help to make a difference.”
Thomas Walcher, project manager at Urban Agency

LESS IS THE FIRST STEP TOWARDS ONE 100% CO₂-NEUTRAL PRODUCTION



With the new climate requirements in the building regulations, where everything new construction must document climate impact through a life cycle assessment (LCA), is the need for environmentally friendly and durable building materials bigger than ever before.

Construction and housing conditions make up the largest part of our overall economy, both when we build, but we also reach lives and lives in the buildings, and not least when we have to get rid of dilapidated buildings. We just see in Denmark, it says new construction and renovations of homes for approx. 20% of the total CO₂ emissions.

Here the brick plays a significant role. The LESS series is first step on the road to one significantly more sustainable construction.

At Egernsund Wienerberger We want to take responsibility and contribute to reducing the construction industry's climate footprint. It is one of our goals that we know the end of 2024 must cut 30% of our CO₂ emissions. By 2050, we will have a CO₂-neutral production. We would like to be measured on, in addition to our quality and service.

“To be able to fulfill our objective of a CO₂-neutral production in 2050 it is crucial, that we work strategically with reducing CO₂.”

Henrik Dietrichsen, Regional Managing Director Nordic



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