

GAMLE MURSTEN

OLD BRICKS WITH
CHARACTER AND A HISTORY

Gamle Mursten is the only company to have found a solution to the challenge of cleaning old bricks effectively. Thanks to its patented technology, Gamle Mursten cleans 5,000-6,000 bricks an hour, thereby helping to protect our environment for the future.

EVERY TIME YOU REUSE 2,000 OLD BRICKS INSTEAD OF NEW BRICKS, YOU SAVE THE ENVIRONMENT 1 TONNE OF CO₂.

Source: NIRAS Consultants



Odense Nye Silopakhus with top-class indoor climate

If money was all that mattered, Odense Nye Silopakhus, a converted landmark silo warehouse building in the city of Odense on Funen, Denmark, would probably not exist. It has actually cost more to renovate the former grain silo than it would have cost to build new. However, the developers Olav de Linde chose to extend the building's lifespan by rethinking its function, in so doing making history at the Port of Odense. Large parts of the warehouse had to be demolished in order to be rebuilt in the original style. The bricks from the original walls have been cleaned and reused for the new inner walls, contributing to a top-class indoor climate for employees at the consultancy firm ALECTIA.

Lars D. Christoffersen, Adjunct Professor at DTU and Research Manager at ALECTIA, says:

"We are very keen to swallow our own medicine. As certified working environment consultants, we obviously have to ensure that our offices comply with all statutory requirements. Our acoustics and indoor climate experts have therefore sought to achieve a top-class indoor climate. We have been very satisfied with these nice, modern offices, where the old bricks give the rooms a charming rustic appearance. It is lovely being able to welcome customers and business partners to inspiring and friendly offices which our employees like and enjoy working in, as it obviously rubs off on the atmosphere and job satisfaction levels."

No. of bricks supplied: 120,000
Tonnes of CO2 saved: 60
Architects: Archidea



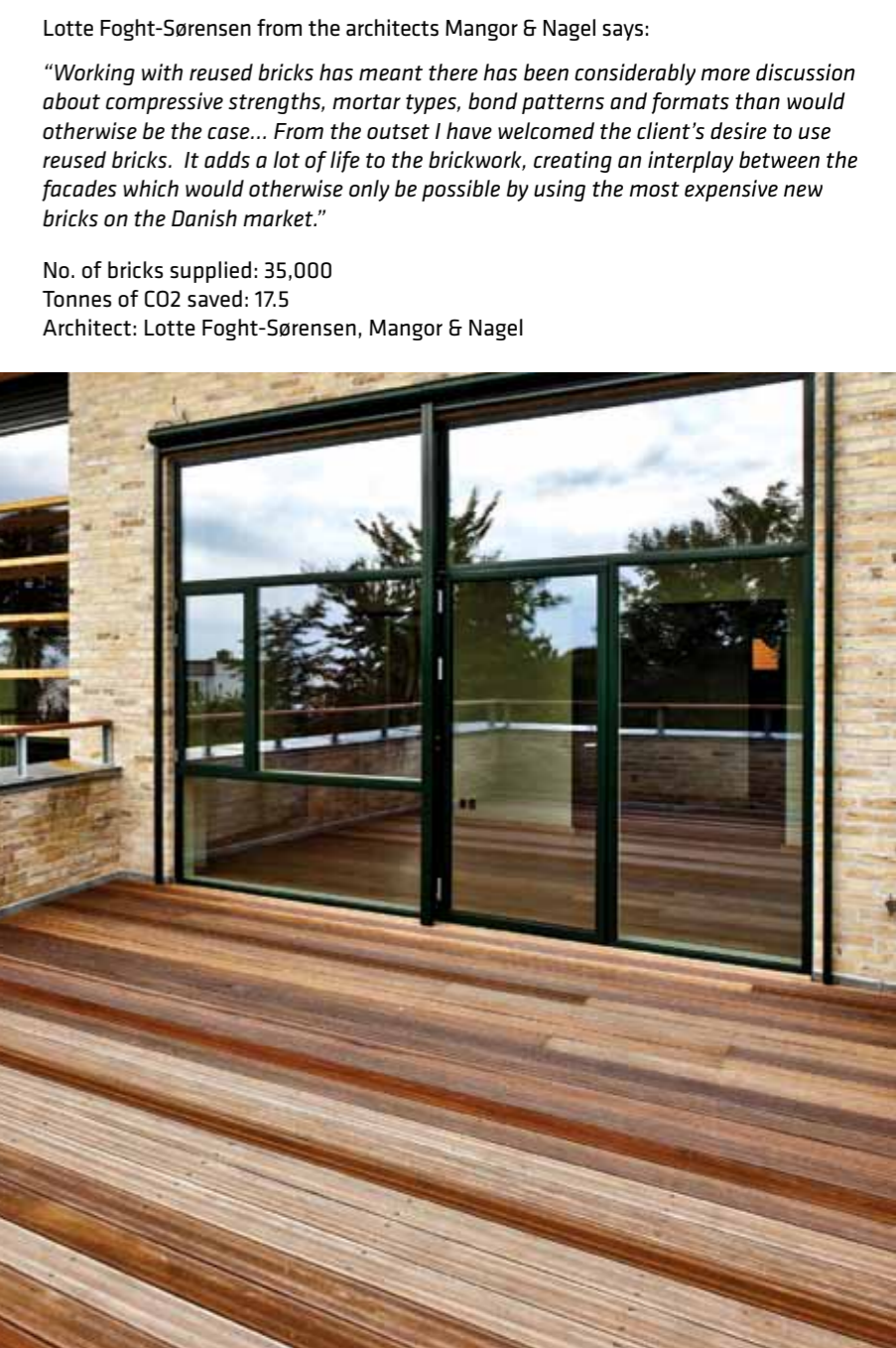
Old craftsmanship in a modern villa

"It has to be possible to build the house with reused bricks," speculated the client, without knowing where to find them. But that proved a surprisingly simple matter. Old, handmade bricks in different sizes which Gamle Mursten collected from a farm in southern Jutland in Denmark now sit in the walls of this modern villa overlooking the Sound. But even though the building is modern and designed to comply with energy class 1 requirements, it is also an example of using old brick-building techniques.

Lotte Foght-Sørensen from the architects Mangor & Nagel says:

"Working with reused bricks has meant there has been considerably more discussion about compressive strengths, mortar types, bond patterns and formats than would otherwise be the case... From the outset I have welcomed the client's desire to use reused bricks. It adds a lot of life to the brickwork, creating an interplay between the facades which would otherwise only be possible by using the most expensive new bricks on the Danish market."

No. of bricks supplied: 35,000
Tonnes of CO2 saved: 17.5
Architect: Lotte Foght-Sørensen, Mangor & Nagel





From construction waste to eco-label

The kindergarten Børnehuset Brobækken is the first institution in Denmark to be awarded the Nordic Swan Eco-label. At the same time, the institution meets the energy class 1 building requirements. The facades have been built using bricks in two different colours – yellow brick in a standard Danish format combined with the same type of yellow brick which has been grey-patinated with natural colours and lime water.

Construction waste becomes a resource

The bricks in Brobækken's facades come from Odense Renovation A/S's recycling centres. Previously, when bricks were delivered to Odense Renovation A/S, they were crushed and reused in construction projects, just like concrete and slate, but discarded bricks now have their own dedicated containers at the recycling centres. When a container is full, it is driven to the Gamle Mursten factory in Svendborg on Funen, where we clean and sort the bricks and stack them on pallets. The scheme is a great success, says Bjarne Munk, manager at one of the recycling centres, and who is very pleased with the positive contribution it is making to Odense Renovation's goal of recycling and reusing as much waste as possible:

"The citizens of Odense have been very quick to take advantage of the new scheme – and there is a very small percentage of defects in the brick container. It is easy for people to sort their waste correctly, and we receive a large number of whole bricks. We are pleased that we can forward the bricks whole to Gamle Mursten so they can be used for their original purpose instead of taking a step down the waste hierarchy, where they are crushed and reused as base course for new roads, for example."

A lesson in CO2 savings

According to the Danish Environmental Protection Agency, 1 tonne of CO2 is saved for every 2,000 bricks that are reused for building. In this way, the Municipality of Odense has spared the environment 15 tonnes of CO2 by using 30,000 bricks from its citizens' own properties to build the new eco-labelled kindergarten Brobækken. By choosing CO2-saving building materials, the local authority is going a step further than simply focusing on environment-friendly operations, for example heating or electricity consumption. And in addition, it teaches children about CO2 savings:

In practice, kindergarten staff talk with the children about what recycling is – how you can reuse things, and which recycled materials have been used to build Brobækken. The children also help to sort waste to help them understand why there are different waste bins in the building, and what each one is for.

Lime mortar further extends brick lifespan

If, one day, Brobækken is demolished, the bricks can always be cleaned and reused in a new building, thanks to the fact that hydraulic lime mortar was used for the bricklaying. Cement mortar is no good because it is harder than the bricks themselves, and makes it impossible to clean them.

No. of bricks supplied: 30,000

Tonnes of CO2 saved: 15

Architects: Arkitektfirmaet TKT A/S

"The bricks used to build our kindergarten are recycled bricks. They come from the recycling centre".

The children from Brobækken





Citizens' own bricks live on at Svendborg recycling centre

Building the recycling centre Svendborg Genbrugsstation represents a new lease of life for many bricks. Here, the citizens of Svendborg in southern Funen, Denmark, have themselves supplied the bricks which have been used to build the personnel building at the new centre. People deposit their bricks in the container for whole bricks, and we receive them at the factory where they are cleaned and packed so they can be used in new buildings.

Flemming Madsen from the Municipality of Svendborg's Department of Technical Services and Environment, says: "Our personnel building at Svendborg recycling centre was built using recycled bricks – what couldn't be more natural? We collect bricks for recycling, so it was obvious to use them ourselves. It's not just sustainable, the result is also beautiful."

No. of bricks supplied: 11,000
Tonnes of CO2 saved: 5.5
Architects: Arkitektfirmaet TKT A/S



Commonsensical use of resources

Sønderborg's new production college will be built using local, yellow Flensburg bricks from a large farm in Rinkenæs near the German border. The idea is that the region's history will live on in the bricks in the new institution. The narrow Flensburg brick has been produced at local brickworks since the 1800s. The college is being built according to the BOLIG+ energy-neutral standard, with geothermal heat, solar panels and students exercising on fitness bikes to ensure that the college produces more energy than it consumes.

Lars Sylvester from the architects Aarhusarkitekterne says:

"We have made a point of choosing these bricks because of their beautiful structure and format which tie in well with the building's architectural lines and materials. The old bricks are also an obvious opportunity to incorporate sustainable elements in the planning and building of the college as overall resource consumption must be reduced. Using old bricks saves resources on manufacturing the materials. And incorpo-

rating the BOLIG+ aspect in the building contributes positively to the overall environmental accounts – which simply makes a lot of sense. At Aarhusarkitekterne, we are greatly motivated by sustainability in itself, and we will not hesitate to use what we learn during this commission in other, suitable projects."

At Sønderborg Produktionskole, the walls will be built using hydraulic lime mortar, which Gamle Mursten delivers in silos. The fact that lime mortar is being used rather than cement mortar means that the bricks can be cleaned again and reused in a new building. Originally a large farm, now a production college – who knows where the bricks might find themselves in future?

No. of bricks supplied: 50,000
Tonnes of CO2 saved: 25
Architects: Aarhusarkitekterne A/S



Tove's House

The grey-patinated brickwork in 'Tove's House' is the result of a diligent selection process. In collaboration with the customer, we arrived at exactly the right type of brick, patination and sealant materials and colours. The grey-patinated Flensburg brick now goes under the name of 'Tove's brick'.

No. of bricks supplied: 30,000
Tonnes of CO2 saved: 15
Architects: Arkitektfirmaet Therkildsen ApS





Gamle Mursten supplies:

MACHINE-CLEANED, HAND-SORTED BRICKS for building projects where a rustic look is desired. All buildings in this brochure are built of machine-cleaned bricks.

HAND-CLEANED BRICKS for renovating existing buildings. Using bricks that have been used before and acquired a patina and which match the existing walls/roof means that repairs to older buildings will not be visible.

FLOOR BRICKS for both indoor flooring and outdoor surfacing, for example in greenhouses.

OLD BRICKS CUT AS 2 CM SHELLS. Mounting brick shells onto an existing wall avoids losing too many square metres of floorspace. It is a simple procedure, and we supply the glue, jointing mortar and spacer crosses for the task.

NATURAL HYDRAULIC LIME MORTAR. Gamle Mursten recommends lime products because they extend the bricks' lifespan. Lime products contribute to a healthy indoor climate and do not have any additives.

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Gamle Mursten

Gamle Mursten is a cleantech company that removes waste from the natural environment. Thanks to a patented cleaning technology, Gamle Mursten ensures that building waste can be recycled. Old bricks are cleaned, sorted manually and stacked by robots and sold for new building and renovation projects where clients want to minimise the impact of unnecessary CO2 emissions on the environment, as well as wanting brickwork with patina and character.

The old bricks often come from buildings dating back to 1900-1960. These bricks were fired in an old-fashioned ring oven, where the coal helped to give the clay a unique spectrum of colours. The old-fashioned production process and deference to the craft has helped to give the bricks a long lifespan.



GAMLE MURSTEN A/S

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