

05

THE STONE NOTEBOOKS
STONE AND ARCHITECTURE

WALLS



2 UPSIDE DOWN

Today, the architect knows that stone is almost a vital material in our homes: he makes it vibrate with wood or uses it disconcertingly!

4 STONE WRAP

Stone goes round the house and perfectly integrates the building into its surroundings to bring unity to architecture with dispersed volumes.

6 MINERAL LANDSCAPES

Stone masonry explores unexpected realms, causes nature and architecture to interpenetrate and breathes energy and generosity into dwellings both strange and magical.

8 THE DIRECTION OF STONE

The façades of an arts centre break away from a traditional method of laying stone to symbolise the immense sheer faces of blue limestone quarries: it thus pays tribute to a material and to the men who shaped a region.

10 KNOW-HOW

Stonework shaped our towns and villages and gave each of our local regions its originality and its range of colours.

12 METAMORPHOSIS

The alteration of commercial space on the ground floor into premises for residential use calls for rough stone in a contemporary reinterpretation where tact is uppermost.



14 CYCLOPEAN WALL

A stapled facing of blue limestone crust forms a protective base for a building firmly planted in the ground.



16 STAPLED STONE

The seemingly precarious balance of stapled stone echoes the rigour and diversity of contemporary architecture.

05

STONE AND ARCHITECTURE | WALLS

Springing from the earth's crust, stone's solidity and hardness evolves from the hazy epochs of primeval times. Quarried opencast or from the deepest of cramped galleries, it also exhibits the incredible diversity of nature: fifteen or so different stones, each bearing a characteristic blend of shades and colour, within a territory of 17,000 km².

Hewn patiently from quarries by toil and sweat, stone asserted itself in the architecture of past centuries. Assembled in walls that deeply marked the landscape of our local regions for a long time, its life has been an eventful one. Walls that were raised and dismantled reflecting changing fashions, stones that were re-cut, reassembled, moved elsewhere, painted... The history of old country walls is the image of our history made of inventions, know-how, trends, savings and a few occasional brawls... It is also the history of sustainable development before the concept had been invented.

Today, architecture has discovered many other materials but has not forgotten stone for all that. This notebook provides ample evidence to back up that statement. Stone is still worked traditionally, sometimes very expressively and now integrates into elaborate technical structures or unexpected concepts. Stuck or stapled, compelled to do "as if", it often comes out on top: rough and wild, distinguished or plain, shimmering in the sun and rain, enhancing the use of wood, glass, brick or steel. Stone walls are an eye-catching feature in their own right.



Disconcerting or traditional combinations

UPSIDE DOWN

Stone and wood are an inspirational combination. The schistose sandstone used here was quarried only a short distance away. It is a material beyond comparison from a region with its own character. The choice of stone roots the house in its local origins. Wood opens out onto the landscape.



Like many traditional structures, the stonework foundation holds the house to the ground: here a slight slope foretells the deep valley and is the focus of all gazes. This wall, with its russet and slightly purplish-blue shades of colour, protects the house and acts as a bearing wall for the wooden structure set lightly on this solid course. It is repeated in an entry wall sheltered under the foliage of a screening thicket.

The horizontality of this volume in two thicknesses opens it out, like an observatory, on the two sides of a landscape. It does its best to insert it into nature with its rounded, soft and precious forms.

➤ PRIVATE HOUSE, MALMEDY, DESIGNED BY CRAHAY & JAMAIGNE - ARCHITECTES

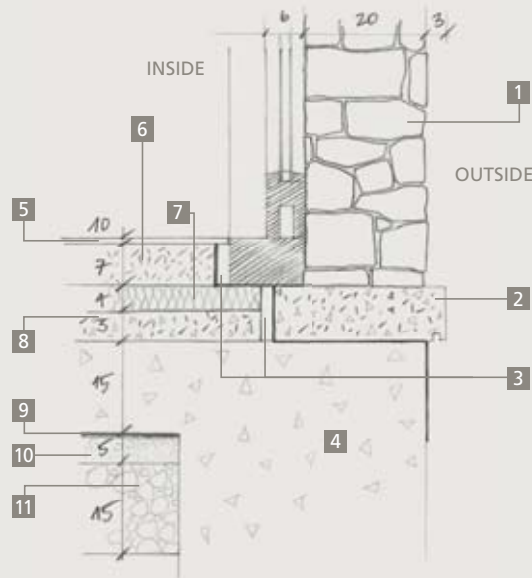
STONE

Originating from the Ardennes, schistose sandstone is a combination of silica, clayey, ferruginous and aluminiferous minerals, which explains its shimmering colours, its sometimes very mat, often bright glints, its great variety of colours and shades depending on the quarrying sites.

It is referred to by various names recalling the stone's geographical origin: grès de la Warche, pierre de Paliseul, grès de Mouzaive, pierre de Ranhissart. Rough, cleaved, sometimes sawn, schistose sandstone comes in the form of rough blocks, rubble stones or slabs. The latter are never less than 3 cm thick.

TECHNIQUE

The stonework is traditional masonry. It forms a first outer cover placed in front of a wall of baked clay blocks.



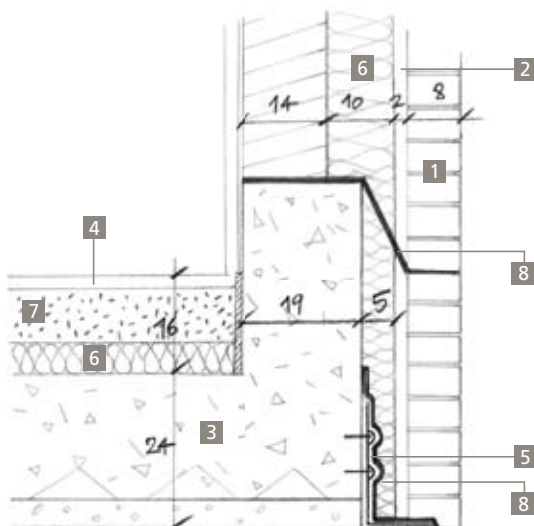
- 1 natural stone 200 mm
- 2 prefabricated concrete doorstep
- 3 thermal insulation
- 4 concrete slab
- 5 finish 10 mm
- 6 levelling screed 70 mm
- 7 insulation 40 mm
- 8 insulating substrate 50 mm
- 9 visqueen
- 10 sand 50 mm
- 11 metalling 150 mm



Stone on top

The originality of this house is undoubtedly its balanced volume on the first level, with no street-side window. The blue limestone elements used are 8 cm thick. They are underpinned by masonry supports, on which the entire facing rests. These supports are formed of an angle iron – adapted to the size of the stones, to match the facing and the density of the material – and, at the rear, welded, U-shaped, stainless-steel brackets. The rear of the brackets has an elongated hole which makes it possible to adjust the system vertically. The façade made of natural stone is offset by 5 cm from the concrete wall on which these supports are fastened. That allows the insulating material to be applied continuously.

► PRIVATE HOUSE, HOMBEEK, DESIGNED BY CREPAIN-BINST ARCHITECTES, KLOBO



- 1 blue limestone
- 2 crawl space
- 3 concrete
- 4 inside floor made of natural stone
- 5 masonry support
- 6 insulating material
- 7 screed
- 8 EPDM waterproofing membrane

Glued stone



STONE WRAP

Grey-coloured limestone brings a unifying note to a range of architectural features and easily integrates them into their surroundings. This house, backed on to a semi-detached house in the modernist style, is entirely covered with blue limestone and fits in well with the other houses in the row.



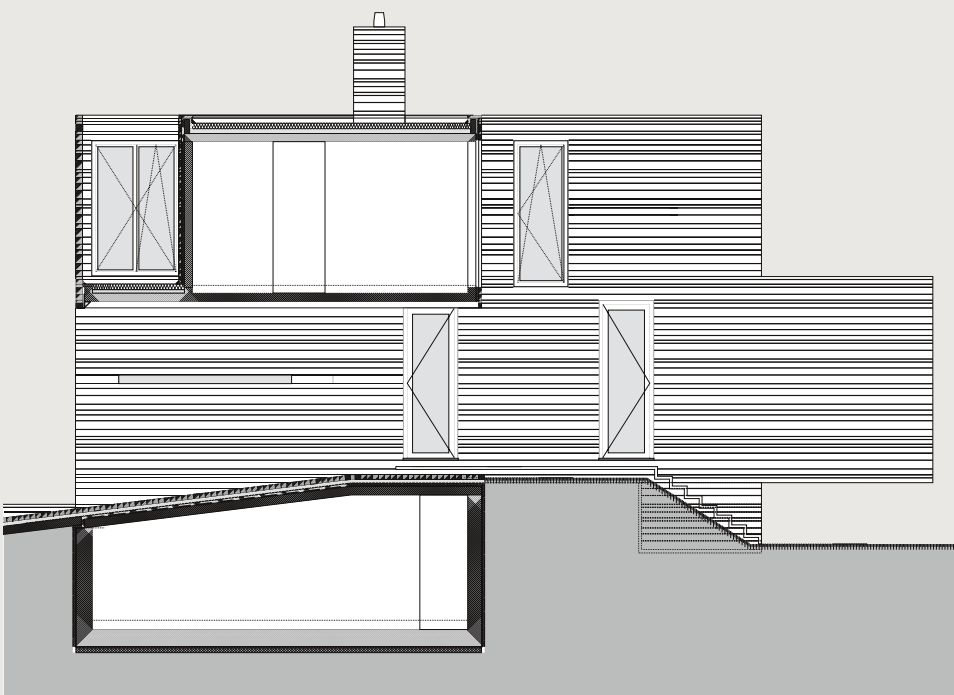
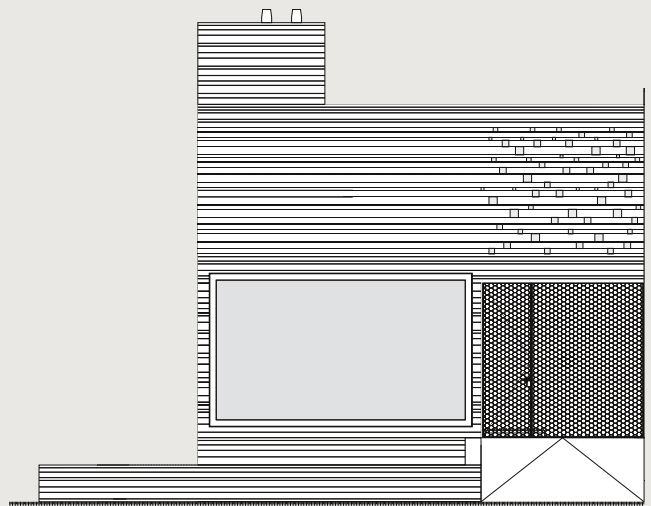
Fairly hemmed in on its street and north façades, the house opens out onto the back garden where the light enters through large bays and fills the main two living levels. The party wall is off-set allowing a south-facing façade to emerge without anything opposite it and so providing additional brightness to the upper floor. Seen from the garden, the volumes of the house thus seem lighter, almost floating above the ground. The passage under a very contemporary porch leads to the entrance over a slight ramp and leaves room for two vehicles to park. Openings have been made in the wall located above this passage: they are simply empty spaces owing to the fact that blue limestone rubble stones are missing here and there. A fragmented light flows through these openings onto the open-air bedroom patio.

► PRIVATE HOUSE, HOBOKEN, DESIGNED BY LLOX / RASAVN OPRESCU

TECHNIQUE

The stone is simply glued onto the walls as for baked clay masonry facing. These cleaved blue limestone rubble stones come in different thicknesses (5/8/10/12/15) and free lengths. The gluing techniques vary according to the type of backing

and the suppliers of adhesive mortar are best able to advise the person using them. There is no difficulty involved in gluing the stone if care is taken to ensure that the joints between the rubble stones are perfectly tight.





Stone makes itself at home

MINERAL LANDSCAPES

Stone masonry knows how to play with horizontal lines. Organic architecture has breathed a strong relationship with nature into some residential premises: intensity of the lines of force, instinctive and generous shapes and, of course, solely local materials, because such architecture is intended to be both ecological and bioclimatic.



The houses by the architect Yves Delhez do not go unnoticed and often have an underlying touch of humour. Bottoms of bottles emerge like sighting telescopes from a façade built with big rubble stones, different coloured stones converse in the rounded forms of structures, walls crease, flare, open out, tear apart, in short, yield to the designer's imagination: "My principles of composition are mainly based on the metamorphosis of shapes and also on the striking expression of opposites", the architect emphasises, "like the curve with the straight line, the heavy with the light, the open with the closed, the intended pigmentation with the natural colour of a material, etc."

These interactions often instil movement, a life specific to each building: instructions are given to the elements of composition: from the outside inwards – protect the private from the public –, from the inside outwards – position each building facing a favourite way –, from north to south – choose a bioclimatic axis – ... Such evolutionary and flexible houses express intense energy and their inhabitants feel a joy at settling in.

Yves Delhez's favourite outdoor materials are stone and wood but also any other material that can become "alive", malleable without becoming soft. "I learnt to know the limit of the possibilities of the different materials," he writes as a man who is always ready to get down to it and who knows his job... inside out.

► PRIVATE HOUSES, EUPEN, WITTENHOF, SCHLIERBACH, DESIGNED BY YVES DELHEZ



STONE

Yves Delhez's region is the region of arkose. A detrital rock rich in quartz, the originality of arkose is that it is a coarse sandstone containing feldspar. Furthermore, it is bound together by clay minerals and not limestone, which increases its resistance in time to rain. Originating from the north-eastern Ardennes, it is also referred to as pierre de Boussire, pierre de Waimes, and pierre des Hautes Tailles. Cleaved or half-cut, this stone, with its beautiful caramel-coloured tones, forms rubble stones at least 8 cm thick.



TECHNIQUE

Trass is the local name of a volcanic tuff occurring and quarried in the Eifel. It is a light, greyish or cream-coloured rock composed of very fine dusts and looks like pozzolana and has the same qualities. Trass is used to make mortar: mixed with lime, sand or with Portland cement, it is extensively employed in the Netherlands, Germany and

Luxembourg in hydraulic structures or in architecture. For twenty or so years, Yves Delhez has been using it for his stonework since Trass cement avoids all efflorescence and allows work to continue even during harsh frost. Unlike an increasingly widespread practice, where people prefer to work with very dry mortar, Yves Delhez's

masonry is always assembled in the traditional way even though it has to be admitted that the use of such materials is more expensive than the materials in current use. The result, however, matches his expectations.

A bridge, signal between two banks

As much an artwork as an engineering structure, this solid bridge crosses the little river Gantel, firmly rooted in the heritage of the inhabitants of The Hague, and recently restored. It connects the north and the south of the Laan van Wateringseveld and there are tracks for bicycles and trams. A signal was a welcome feature in the landscape to leave a strong mark on the site. The bridge is a traditional stonework structure combining three types of Belgian masonry stones: shale stone with anthracite grey and brown tones and more russet and purplish-blue schistose sandstone. The small white notes are Swiss quartzite.

> VLIETPARK BRIDGE, WATERINGEN (NL), DESIGNED BY ARCHITECTENBURO WISSINK



Vertical bonding



THE DIRECTION OF STONE

Because an arts centre is also in close symbiosis with its local area, here in Soignies, stone is called to mind not only as a truly native material but also through its form.



Like a solid mass of rock emerging from the ground, the Soignies arts centre has installed its powerful outline, draped in glass and stone, in the heart of the town. It brings echoes of history and heritage reminiscent of that blue limestone quarried for centuries on the territory of the municipality and instrumental in forging its identity.

It is as if the architects' office, L'Escaut, had "set" the building above a monumental stairway, a sort of outdoor amphitheatre. The arts centre dominates a square that opens skyward, like a blue limestone quarry.

For the outside walls, stone has been used in an unusual way, vertically, which transforms the building into a stone cliff on its south side. The main level nevertheless leaves room for the square with large glass surfaces amply lighting up the inside during the daytime or allowing a warm light to filter over the town as evening falls.

➤ VICTOR FARA ARTS CENTRE, SOIGNIES, DESIGNED BY L'ESCAUT-WEINAND

STONE

Blue limestone crust has asserted itself here as a rough but nonetheless very civilised material ! The elements have all the same sizes: 15 x 60 x 3 cm.

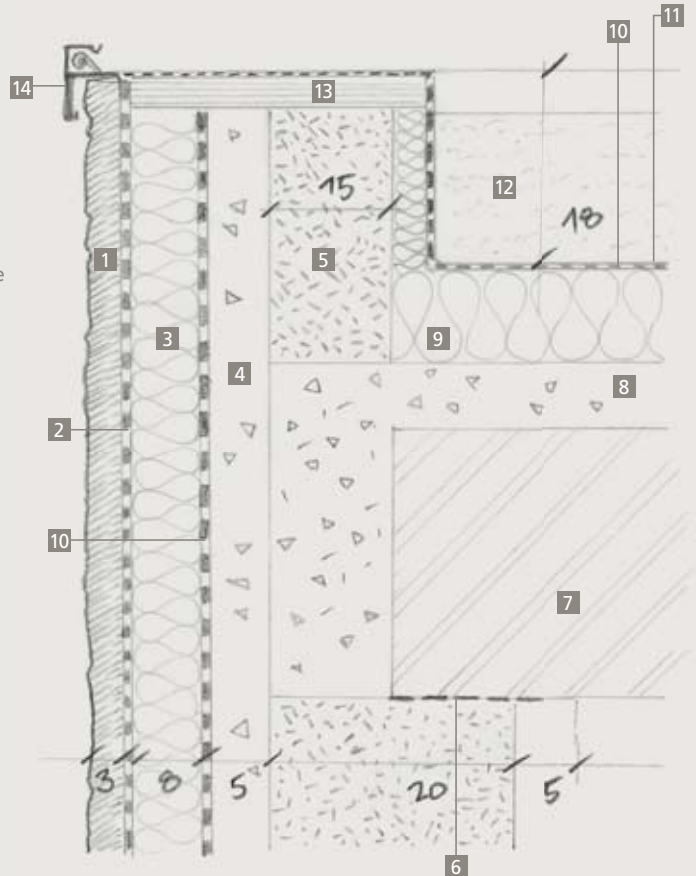


TECHNIQUE

The stone elements are glued on hardened polystyrene insulating material, itself mechanically fastened and glued on a concrete insulating wall.

- | | |
|--|------------------------------------|
| 1 facing made of blue limestone crust 15 x 60 x 3 cm | 8 compression screed |
| 2 waterproof glue/coating | 9 thermal insulation |
| 3 insulating material | 10 tightness membrane |
| 4 insulating wall | 11 membrane géotextile |
| 5 filling of the insulating wall | 12 gravel |
| 6 flexible membrane | 13 multiplex |
| 7 pre-stressed hollow-core slab | 14 natural aluminium ridge section |

SECTION AT ROOF LEVEL



Stone and bricks

For this building comprising a bank on the ground floor and accommodation on the upper floors, the choice turned to a simply treated stone to remain within the fixed budget: the pale blue tone of the "rough sawn" finish is interesting because it blends perfectly with the dark red bricks selected for the residential levels. Bonding is vertical here too: the marks left by the sawing blades accentuate the irregular bonding of the joints.

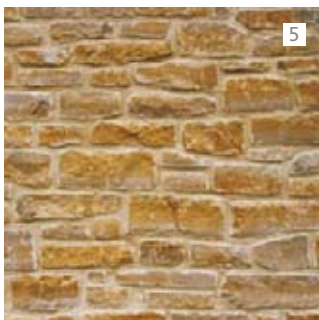
► KBC BUILDING, SINT-NIKLAAS, DESIGNED BY POLO-ARCHITECTS



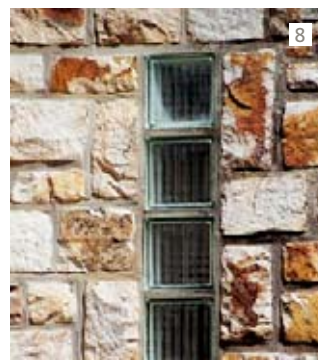
KNOW-HOW



Stone is first and foremost a masonry material. And the ways of assembling rubble stones, the ways the selected stones are cut and the pointing styles are the characteristic features of a region, its geology, a society, customs and know-how. In this case, it is impossible to produce an exhaustive iconography: these pictures are simply a very limited evocation but they do recall that such heritage is always a source of inspiration for today's creators.



- 1** VINALMONT LIMESTONE, PLAINEVAUX, DESIGNED BY DANIEL DETHIER
- 2** CONDROZ SANDSTONE, WAIMES, DESIGNED BY POM ARCHITECTURE & DESIGN
- 3** SCHIST, CUGNON
- 4** SCHISTOSE SANDSTONE, XHOFFRAIX, DESIGNED BY LUC NELLES
- 5** FONTENOILLE SANDY LIMESTONE
- 6** GOBERTANGE SANDY LIMESTONE
- 7** ARKOSE, WAIMES, DESIGNED BY DANIEL DETHIER
- 8** QUARTZITE, THEUX, DESIGNED BY BRAIPSON-FRISÉ





9 Even though the sizes of the stones are large, they seem to float in the whiteness of the mortar.

TRADITIONAL BUILDING, SWEDEN



10 By giving as much importance to the rubble stones as to the mortar that seems to drown them, the architect provides a reflective view of a new and fascinating material.

CHEMISTRY BUILDING, SART-TILMAN, LIÈGE, DESIGNED BY CLAUDE STREBELLE

A certain cachet

The beauty of bonding comes from the sensitivity of the mason involved. As for a lot of stone work, the craftsman's know-how is the hallmark of the project's success. There exist as many walls as there are men and women who love this absolutely natural material. These few examples show that the assembly of the shapes and sizes, the variety of the joints, the artist's creativity, and the contemporary interpretation of an age-old skill give a unique cachet to each building.



12 This graphic array integrating stone would be easily reinterpreted in a contemporary way.

HOUSE, OPEN AIR MUSEUM, FOURNEAU-SAINT-MICHEL



11 By playing with the available shapes and sizes, the artist disrupts our conventional way of seeing the masonry wall.

WALL IN CONDROZ SANDSTONE, CHAUDFONTAINE, ARTIST PAOLO GASPAROTTO



13 Painted stone widely used in times past brings out the structure and the lines of the building.

THE YELLOW HOUSE (BECOME WHITE TODAY), MUSEUM IN FLIMS (CH), DESIGNED BY VALERIO OLGATI

Urban change

METAMORPHOSIS

Converting a volume previously used for another purpose is never an easy thing. In this case, the conversion of a small shop into a flat looking onto the street is a subtle but radical change.

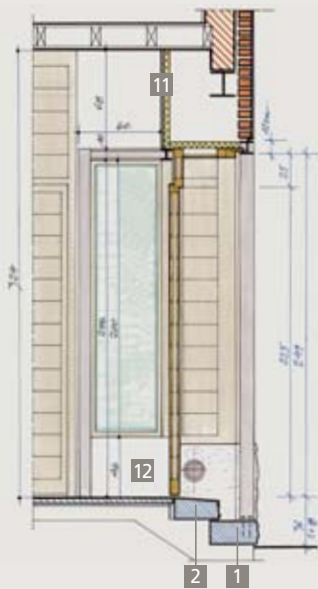
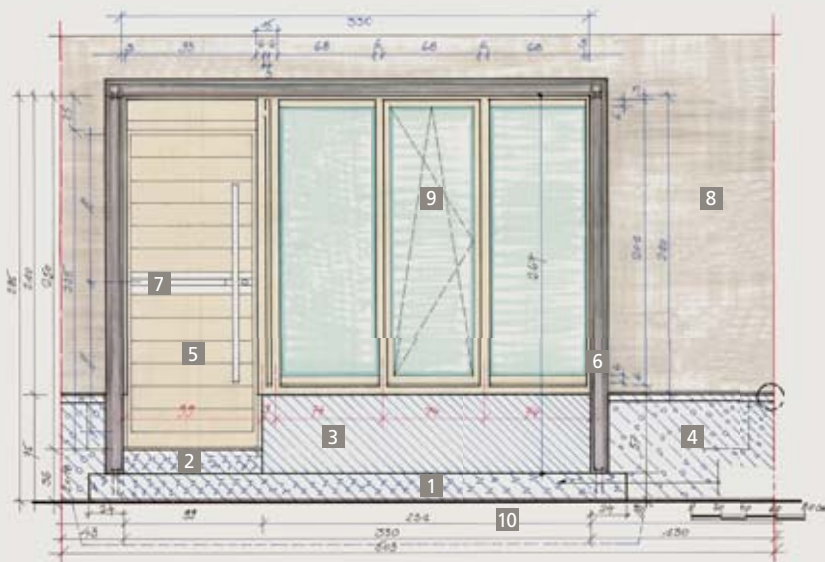


Entrusted with the assignment of converting this deserted shop in a district of Forest so that it could be used again as residential premises, the architect Yves Léonard tried not to completely obliterate the traces of this recent past: "small local shops were part of our urban heritage and marked the surrounding landscape. Their gradual disappearance was an underlying concern and guided me in my work".

He therefore decided to keep the shop window together with the so characteristic doorway and its few steps. "But the changes meant starting all over again for the entire premises to become easy to live in", Yves Léonard points out. "In fact, stone seemed to be able to give character and recall classical façades while being really contemporary". The approach to achieving this goal required quite particular care by the contractors in assembling the stones that fit into one another.

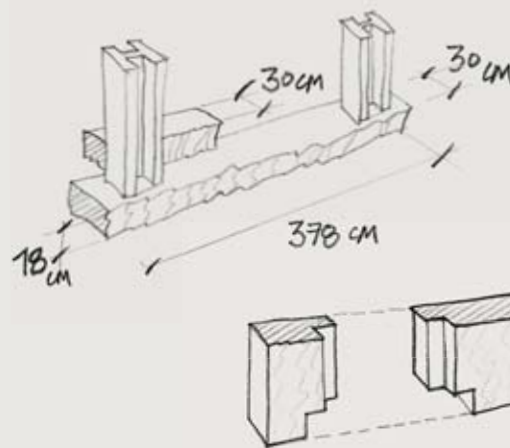
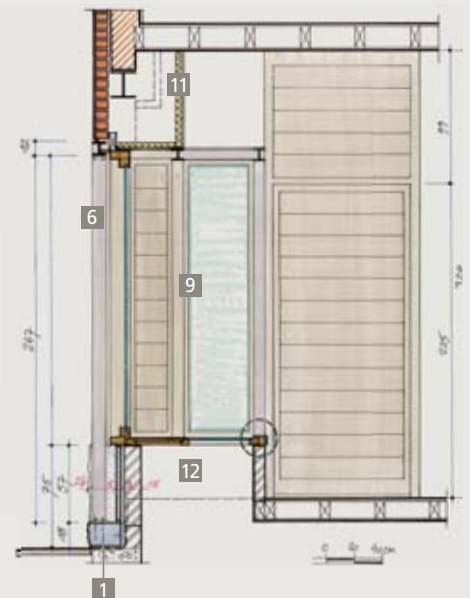
The choice of fairly rough finishes of blue limestone (crust with a very natural appearance, cleaved to give it a slightly wild beauty, saw marks on the stone surface) contributes to giving another, more structured, style to this façade, but does not make it stand apart from its neighbours. Its integration into the row is perfect and pleasantly modulates this urban landscape.

► PRIVATE FLAT, BRUSSELS, DESIGNED BY YVES LÉONARD



TECHNIQUE

What makes this project quite particular is the precision with which it has been implemented and the specific attention to detail such as the laying of the stones, so transforming this former shop window into a street façade. It all rests on a 3.78 m long blue limestone slab which needed to be placed perfectly in position and on which the steel gantry and the basement are fitted.



STONE

Blue limestone was chosen in three forms: crust for the basement, slabs with cleaved edges for the steps and sawn flags for the facing beneath the window.

- | | | | |
|--|--|--|--|
| <p>1 solid blue limestone step, sawn surface, split step, 378 x 18 x 30 cm</p> <p>2 solid blue limestone step, sawn surface, split step, 100 x 18 x 30 cm</p> <p>3 blue limestone basement, sawn finish</p> | <p>4 basement made of blue limestone crust, approx 26 cm thick</p> <p>5 door, impost, side returns and ceiling in Oregon</p> <p>6 galvanised steel beam, bolted fasteners and stiffener</p> | <p>7 stainless steel hardware</p> <p>8 self-coloured reinforced outdoor façade coating, very slightly granular</p> <p>9 Douglas fir triple frame, laminated glazing</p> | <p>10 reinforced concrete layer cast on cellar wall</p> <p>11 thermal insulation, insulating panel</p> <p>12 Ytong blocks</p> |
|--|--|--|--|



Effects of material

CYCLOPEAN WALL

Standing on the edge of the wide boulevard that takes you to Euralille in a few minutes, this building contributes to the architectural and urban renewal generated by the arrival of Eurostar in Lille and by the creation of this important business district. Stone plays an essential role in the project.



The basic starting point of the initial concept of the building as outlined by the architects was “a light building overhanging a solid base”. This concept is visually reflected in a wide wall where the intention is to contrast with the rather transparent, office floors, located above. A texture, a surface had to be found, which caught the eye and conjured up references to the coarse rock.

The blue limestone, quarried in nearby Belgium, quickly proved to be the material coming closest to this concept, especially blue limestone crust and its very uneven, solid surface, which forms the outer periphery of the deposit and bears the traces of the geological evolution of our subsoil. It may be cut into huge slabs whose raspy and coarse “skin” still scales off discreetly. That means that the choice of the quarry stones is an essential step in choosing both the desired colours – the darkest ones – and the right pieces – technically suited for hassle-free stapling.

Once the wall was completed, evenly sawn slabs were used to frame it and make the unevenness of the rock clearly visible so laying emphasis on the desired rough and natural effect.

► OFFICE BLOCK, LILLE (F), DESIGNED BY MEAS, WINDELS, QUATR’A, COUTURON ARCHITECTES ASSOCIÉS

TECHNIQUE

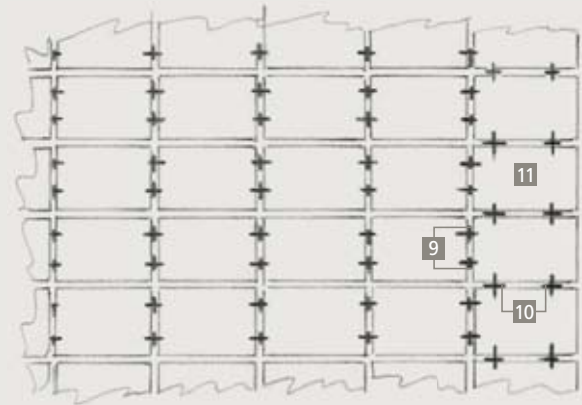
The stones are stapled here using stainless-steel brackets adjustable sideways and in height.

The concrete wall is insulated by a layer of glass wool covered with a black glass-fibre reinforcement resistant to weathering and with a waterproof layer. Generally speaking, the presence of the insulating material on the outside requires a space of at least 2 cm with the stone; in this project, it is 3 cm.

The stone slabs must have a maximum surface area of 1 m² and their biggest dimension must not exceed 1.4 m. The selected thickness depends on the nature of the stone, the staples used, the methods of laying and the extent of stresses. The thickness

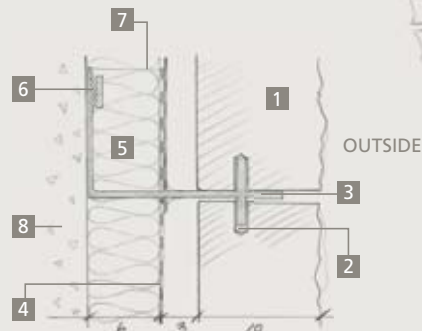
of the wall has to be drilled to insert the staples. The diameter of the staples is in the region of 8 mm and therefore requires a minimum lateral thickness of 11 mm on both sides, i.e. a total slab thickness of at least 3 cm. In this project, considering the uneven thickness of the blue limestone crust, an average thickness of 10 cm was selected. The slabs are fastened into the vertical joints (two connections across the width of the slab), except for the outside slabs, which are secured in the horizontal joints.

For joints left empty, and that is the case in Lille, the wall may not exceed a height of 18 m; in this case, it is 6 m high.

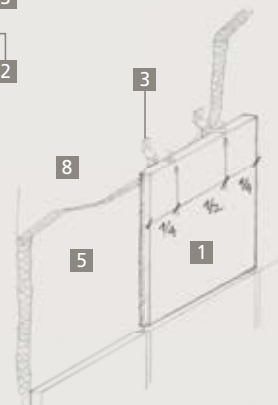


CROSS SECTION

- 1 facing made of blue limestone crust
- 2 stainless-steel pin
- 3 adjustable metal square bracket
- 4 waterproof layer
- 5 glass wool insulation with black glass-fibre reinforcement
- 6 fastening into the structural work
- 7 insulating connection
- 8 concrete structure

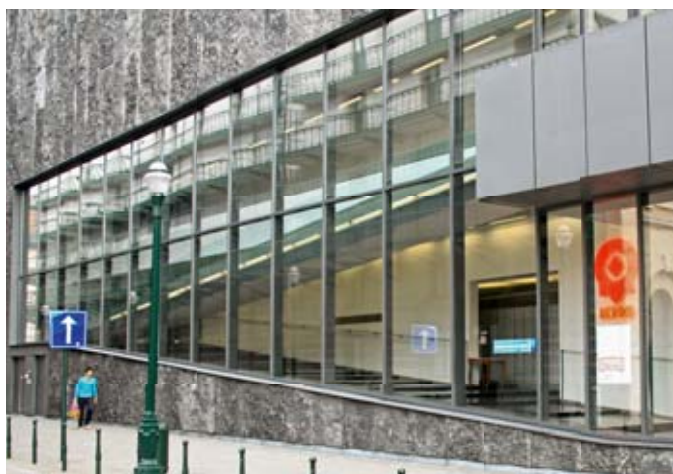


OUTSIDE



FAÇADE, FACE VIEW

- 9 fastening into vertical joints
- 10 fastening into horizontal joints
- 11 end of the façade



Coarse wall

The rough and mat aspect of blue limestone crust means that it can forcefully accompany smooth and shiny, metal or glass. The mineral shell of the new building of the Koninklijke Vlaamse Schouwburg (Flemish Royal Theatre) opens out onto a translucent wall inviting the citizens of Brussels to step inside this major cultural hotbed.

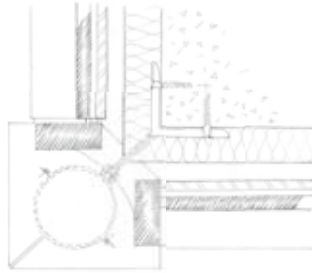
► KONINKLIJKE VLAAMSE SCHOUWBURG, BRUSSELS, DESIGNED BY A2RC ARCHITECTS



Careful attention to detail

Stapled stone cladding reflects the emphasis on design rigour and evidence in this case is the use of hollow joints to enhance the rhythmic outpouring of blue limestone. The architect's craft is to work at the details: insertion of the rain pipes at the corners of the building, metal plate at the openings so avoiding wet marks.

► AMPHITHÉÂTRE DE L'EUROPE, SART-TILMAN, LIÈGE, DESIGNED BY DANIEL DETHIER



STAPLED STONE

Overhang

In view of the space existing between the bearing block and the natural stone facing – Vinalmont limestone in this case –, the stones are fixed using a specific off-set structure, adapted on site.

► PRIVATE HOUSE, EMBOURG, DESIGNED BY BASTIN-COLLIN ARCHITECTES



Trompe-l'œil

Borders cut horizontally across the blue limestone facing tiles give the illusion of fine masonry.

► RESIDENTIAL BUILDING, CARRÉ 13, PARIS (F), DESIGNED BY MILLET CHABEUR ARCHITECTES

Prominent stapling

The outside walls of this Cistercian monastery are covered with wall tiles made of slate from the region. They are all identical to minimise the sawing costs at the quarry. The stapling system can be seen and allows the integration of windows of variable lengths.

► CISTERCIAN MONASTERY, TAUTRA ISLAND (N) DESIGNED BY JANSEN & SKODVIN



Glossary

Base / Basement / Foundation

Base or substructure or foundation of a building or wall.

Batter

The slope of the face of a wall that recedes gradually backwards and upwards.

Bond / Bonding

Way in which rough or hewn stones are arranged.

Brushed joints

Joints brushed with a scrubbing brush or a broom, when the mortar has started to set but is still soft.

Buttered or smoothed joints

Joints made with a jointer on fresh mortar.

Chamfer

A narrow flat surface of a flattened, jutting edge.

Cleaving / Cleaved

Action of splitting or causing a stone or ore to split, making a crack; split stone or ore.

Course / Layer

Layer of stones bonded in a wall.

Crust

Weathered surface of a layer of rock. The thickness of these surface alterations may vary according to the natural stone under consideration and the deposit.

Dry-joint masonry

Masonry of bonded hewn stones without mortar wedging and without binder.

Flamed

Finish obtained through surface scaling by passing a blowtorch over the stone.

Foot

Thickest base of a wall.

Header

Brick or stone laid across a wall with the shortest end exposed as facing. If it runs through the wall, it is referred to as a binding-stone or bonding-stone or throughband.

Hearting / Packing

Use of average size stones, unusable as facing stones, sunk in a bed of mortar between two bonded walls.

Mortar

Mixture of binders (plaster, lime, anhydrite, cement, resin, etc.), of a fine aggregate and water, used for sealing purposes.

Parpend / Perpend (stone)

Masonry element forming facing on each of the two opposite faces of a wall. The parpend forms a chain bond (overall cohesion) bracing the stonework.

Sanded joints

Joints obtained after the mortar has hardened using a sander (only on hard stone).

Scraped joints

Joints made with a stiff metal brush on dry mortar.

Rough sawn

Stone smooth in appearance displaying traces and ripples left by the sawing process, less than 1 mm offset.

Our thanks to the project designers who spared us a little of their time and agreed to be published. Our thanks to the producers, to their technical advisors and to the contractors.

Dominique Guerrier Dubarle is an agricultural engineer, specialising in the history of gardens and landscape. Sensitive to the constantly renewed work of yesterday's and today's designers, she shares her personal way of seeing recent achievements that highlight stone, her favourite material.

Cristina Marchi is a building archaeologist, specialising in heritage, its know-how and in heightening awareness about history and architecture. She is attentive to the "stone people" revealed through words and pictures to create wanted or unexpected links.



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For 20 years, **PIERRES et MARBRES de WALLONIE** has been disseminating accurate and detailed information about all the facets of natural stone in Wallonia: history, products, traditional and contemporary uses, technical expertise, documentation, restoration.

The **STONE AND ARCHITECTURE** notebooks are intended to be practical discovery tools for architects but also for the general public. Many and varied ways of incorporating natural stone into our surroundings are proposed, drawing on projects implemented in Belgium or abroad and thus presented in a detailed manner to designers.

This notebook is devoted to the use of natural stone in architecture highlighting **FAÇADES** and **OUTSIDE WALLS**. It presents achievements chosen for their originality or their classicism, their simplicity or a specific construction detail.

THE STONE NOTEBOOKS

This collection includes notebooks devoted to the garden, to public space and to architecture drawing on specific transversal themes.

STONE IN THE GARDEN
SURFACES 1 | WALLS 1 | STAIRWAYS 1
WATER 1 | SURFACES 2 1 | ...

STONE AND PUBLIC SPACE
SURFACES 1 | ...

STONE AND ARCHITECTURE
WALLS 1 | ...

