



# The Jullien Quarries The Condroz Quarries

PETIT GRANIT - BELGIAN BLUE LIMESTONE ■



Louvain-la-Neuve, arch. F. De Smet, 1999



Louvain-la-Neuve, arch. F. De Smet, 1999

## Petit granit | Belgian blue limestone

ALSO KNOWN AS	TYPE	STRATIGRAPHICAL AGE
Blue stone, <i>Petit granit - Pierre bleue de Belgique</i> ®	Crinoidal limestone	Upper Tournaisian (Lower Carboniferous, Palaeozoic)

### LOCAL QUARRIES FOR A QUALITY SERVICE

Situated in the heart of the Condroz region, the CARRIÈRES JULLIEN and the CARRIÈRES DU CONDROZ alone produce about 25 % of the volume of cut stones from the Condroz basin.

The two extraction sites employ about ten workers, whilst 25 people work in the high-tech processing plant, as slicers, cutters, marble-workers and finishers. To date, the quarries' annual extraction capacity is 2000 m<sup>3</sup> of marketable material, sawn with diamond wire.

The factory's output is divided as follows: 20 % as blocks for sculpture, slices and small pieces of cut stone for marble-workers; 65 % as shaped products (building stone, private or urban projects, furniture, funerary monuments, etc.); 10 % as slabs; 5 % as various. The CARRIÈRES JULLIEN export 25 % of their output.



Brussels, Cathedral S. Michel, M. Smolders

#### WORKING SITES

Carrière de Pailhe - 4560 PAILHE  
Carrière des Avins - 4560 LES AVINS

#### TECHNICAL CHARACTERISTICS\*

##### MINERALOGICAL COMPOSITION

Calcite ± 96%, traces of dolomite, quartz and pyrite

##### ATTRIBUTES

Apparent volumic mass  
**2687 kg/m<sup>3</sup>**

Porosity  
**0.28% vol**

Speed of sound within the material  
**5527 m/s**

##### PERFORMANCE

Resistance to compression  
**157.9 N/mm<sup>2</sup>**

Resistance to bending  
**16.7 N/mm<sup>2</sup>**

Modulus of static elasticity  
**86.9 GPa**

Rate of wear  
**2.87 mm / 1000 m**

Susceptibility to frost  
**none**

Coefficient of thermal transmission  
**2.9 W/mK**

Coefficient of thermal expansion  
**0.0046 mm/mK**

Sensitivity to atmospheric pollutants  
**none**

#### MAXIMUM DIMENSIONS OF BLOCKS

Length	Width	Thickness
4.4 m	1 m	1.2 m

#### MINIMUM THICKNESS FOR APPLICATION

**2 cm**

#### TECHNICAL APPROVAL

**ATG 00/H780**

#### APPEARANCE, COLOUR AND PATINA

This stone is characterized by the presence of a great many fossil remains, cemented together by a microcrystalline gangue containing very finely divided carbon. When the stone is freshly broken, the fossils produce a sparkling effect through the action of the light on the facets. The crinoids, corals and shells stand out pale against a dark background, which varies from light grey to black, through a range of bluish shades, according to the finish. The stone becomes lighter with exposure to harsh weather conditions, through the surface washing of the interwoven carbon.

#### FINISHED PRODUCTS AND STANDARD DIMENSIONS

This stone is widely admired for the numerous cuts and finishes it can take, as well as for huge range of sizes it can be given. It may be applied in several different ways, both inside and out: plinths, façades, as rubble stones, wall coverings, exterior tiles and setts, borders, doorsteps, surrounds for bay windows, window sills, stairs, interior paving, covering for interior walls, skirting boards, worktops, covering for bridges, rockfill, street furniture, as well as all the applications for marble-work, dressing and sculpture.

##### Dressed stones

length 30-150 cm, width 10-60 cm, thickness 2-30 cm

##### Floor tiles

length 20-60 cm, width 15-60 cm, thickness 2-5 cm  
free length, width 15/20/25/30 cm

##### Slices

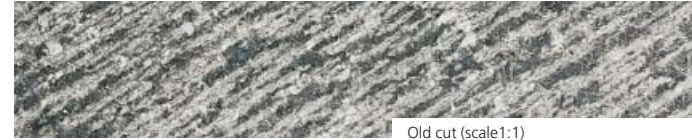
thickness 2/3/4/5/6/8/10/12/15/16/18/20/22/25/30 cm  
The size of the slices normally varies from 1 x 2 m to 1.55 x 2.80 m, according to thickness.  
In some exceptional cases measurements can attain 1 x 4.4 m.

The surface areas per element ideally measure 0.6 m<sup>2</sup> or less and their ideal length is 1.5 m or less. For anything larger, it will be necessary to use specially adapted methods when applying the material and the distinctive visual characteristics inherent in all natural matter will have to be borne in mind.

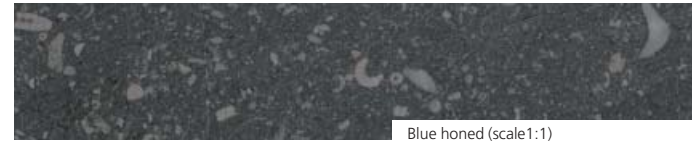
Non-standard dimensions, in addition to advice on application and maintenance, can be obtained directly from the producer.



Sclypé (scale 1:1)



Old cut (scale 1:1)



Blue honed (scale 1:1)

#### SURFACE TREATMENTS AVAILABLE

STANDARD CUTS	MINIMUM THICKNESS		STANDARD THICKNESS AND SPECIFIC FEATURES
	MEC.	MAN.	
Split	5 cm	–	5/8/10/15 cm
Sbattu	–	8 cm	–
Striated	–	5 cm	–
Bush-hammered	3 cm	4 cm	thick or thin (5 or 16 sawteeth)
Sclypé	5 cm	–	12/15 lines/dm
Chiseled	3 cm	5 cm	mechanical 15/20 strikes/dm manual 15/20/25 strikes/dm
Old cut	3 cm	5 cm	–
Ice flowers	3 cm	–	–

STANDARD FINISHES	MINIMUM THICKNESS		STANDARD THICKNESS AND SPECIFIC FEATURES
	MEC.	MAN.	
Sawn	2 cm	–	–
Flamed	3 cm	–	–
Grinded	2 cm	2 cm	P 14/80/120/220/320
Honed	2 cm	2 cm	G 14/80/120/220/320
Polished	2 cm	2 cm	G 700

#### DESCRIPTIVE SPECIFICATIONS

«Petit granit - Belgian blue limestone, crinoid limestone, grey-blue in tone, stratigraphic period Upper Tournaisian (Lower Carboniferous, Palaeozoic), belonging to the category [to specify] in accordance with the classification taking account of particular features regarding structure and appearance, as established in technical information note n° 220 of the C.S.T.C. (2002).

This stone comes from quarries holding the Technical Approval certified by the U.B.A.t.c, which covers the entire deposit. The finish and appearance will match the samples presented to the individual carrying out the project in question; these three contractual samples will show the standard appearance and the two extremes of variation allowed within the market.

Equivalence: Any proposed product or finish differing from the description given above must undergo the equivalence procedure described in manual 100.2 published by the department of construction quality at the Ministry of Communications and Infrastructure, now the Federal Public Service for the Economy.»

[\*] The information comes from Technical Information Note no. 220 of the Scientific and Technical Centre for Construction, 2002



## CARRIÈRES JULLIEN S.A.

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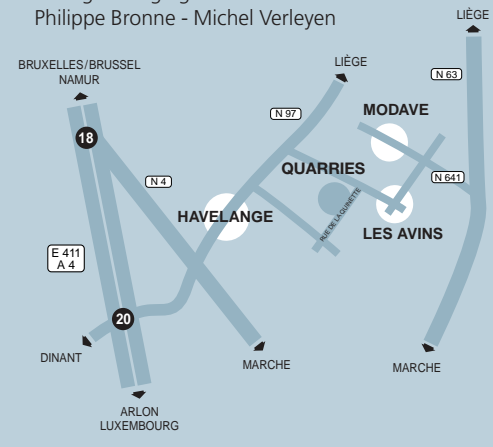
## CARRIÈRES DU CONDROZ S.A.

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### HEAD OFFICE AND FACTORY

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Acting managing directors:  
Philippe Bronne - Michel Verleyen



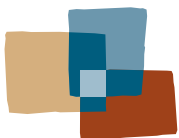
Liège, arch. atelier du Sart Tilman, Claude Strebelle, 1999-2000



Louvrange, landscape arch. J. Wirtz, 1999



Namur, arch. Bureau Aua, 1999



PIERRES & MARBRES WALLONIE



Member of the federation of belgian blue limestone - Petit Granit producers



Ministre de l'Aménagement du Territoire, de l'Urbanisme et de l'Environnement

