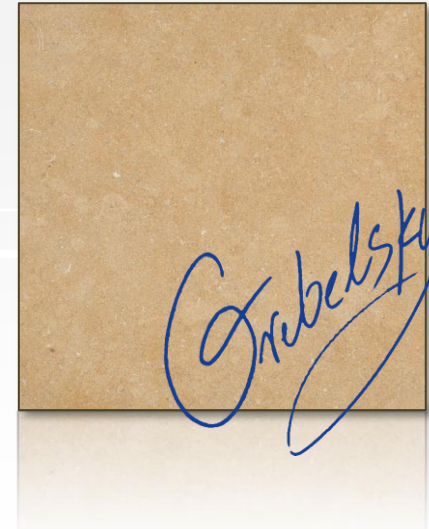



Halila



Exterior Usage: Suitable for paving and cladding applications in non-freezing conditions only.	Durability: Suitable for residential and/or low traffic areas. High traffic conditions require a high level of maintenance.	Usage in wet conditions: Spalling on the face of the stone may occur in case of access humidity or still water underneath the stone.
Color Range 	Other names: Antique Gold Galil Gold J. Gold Tafuch Stone Type: Limestone Quarry Location: Hebron	Special Notes: <ul style="list-style-type: none">• Might contain dry seams, pits, fossils and glass veins- all of which are inherent characteristics of the stone and are filled at the factory during production. Since these voids may sometimes lose their fillings, they should be refilled as a part of standard maintenance.• This stone contains deposits of minerals that may react to moisture. Caution should be taken in installations where this material is exposed to standing or running water which may result in spalling on the face of the stone.• Application of a sealer is recommended. (Note: It is advised to apply a sealer prior to grouting.)

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Date of issue: 28/06/2013

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Sample description

HALILA

Client

A.Grebelsky & Son (Jerusalem Marble)
Company #510234574
4 Hamelacha St. Hartuv A, Industry Zone 99065
Israel

provenance

Client's works #

type of specimen

Natural stone slabs and cubes

Sampler

Client

Date of sampling

Not declared

Date of delivery

14/04/2013

Number of entrance

13-2365

Date of entrance

10/05/2013

test start

10/05/2013

test end

28/06/2013

Reference

Initial type testing for CE mark according to :
EN 12057 :2004
EN 12058 :2004

* Test not accredited by ACCREDIA .

supply information by client

N.A. not applicable

** test performed by an external qualified laboratory

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NATURAL STONE TEST METHODS – PETROGRAPHIC EXAMINATION ** (UNI EN 12407:2007)

MACROSCOPIC DESCRIPTION

Natural stone slabs 180 x 90 x 30 mm with sawn surface finish.

Heterogeneous beige sedimentary fossiliferous rock, medium sand grained with locally opened irregular stylolitic joints. It is possible to appreciate ivory white micro constituents (bioclasts). The rock doesn't exhibit appreciable alteration traces. The rock looks massive, reacts with HCl and can be scratched with a metallic blade as it has a carbonatic origin.



Photo 1: macroscopic look of the BIOSPARITE commercially named "Halila". (Stereomicroscope 10m)

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supply information by client

NA, not applicable

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MICROSCOPIC DESCRIPTION

Calcareous rock with heterogeneous structure for the presence of compositional patches and locally open stylolites. The texture is organic - sedimentary with mixed support mainly granular and with grains dimensions of about 300 – 400 µm, though sub millimetric bioclasts are present too.

Allochemical compounds are made by bioclasts among which it is possible to recognize echinoderms' plates and spines which pores are sometimes filled with opaque minerals, bivalve fragments with foliated structures, algae fragments and organogenic fragments.

There are structureless micritic and aggregate grains, and also biomicritic intraclasts too.

There are no terrigenous compounds, while the orthochemical ones are made by spar carbonatic cement locally as syntaxial one. Opaque minerals (Iron oxides / hydroxides) as microgranulation are widespread in the section or as filler into bioclasts' pores.

There is no micritic matrix.

Discontinuity: it is mainly owed to inter and intra particle pores.

Alteration: absent

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supply information by client

N.A. not applicable

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PHOTOGRAPHIC DOCUMENTATION

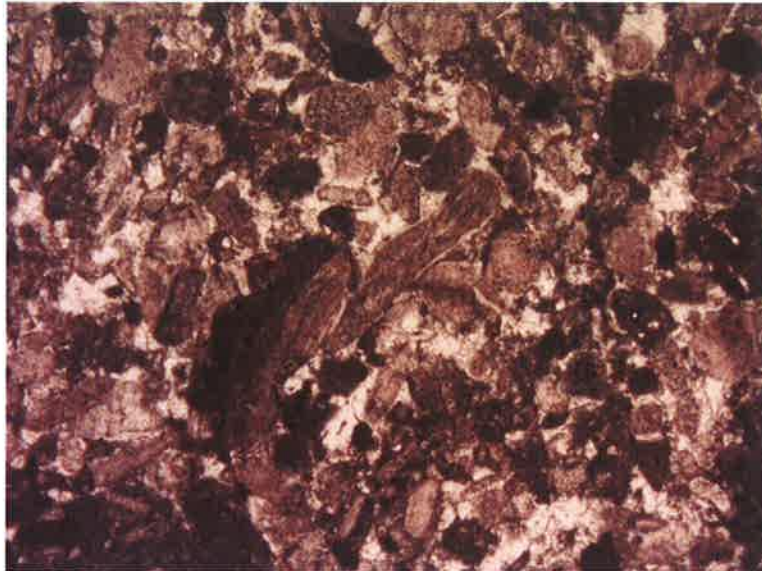


Photo 2: look of the material in thin section. The rock is made by a lot of bioclasts immersed into sparite (25 m. Nicols //).

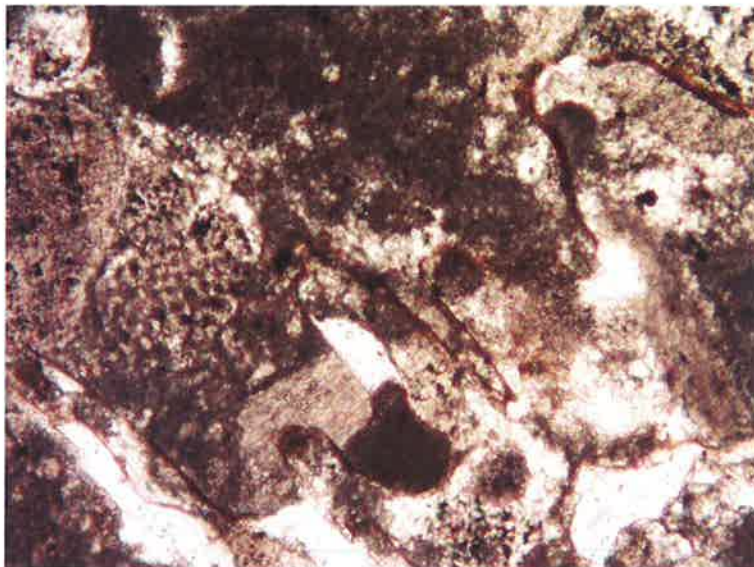


Photo 3: a stylolitic joint locally opened. (100 m. Nicols //)

PETROGRAPHIC DEFINITION (UNI EN 12670:2003):

Commercial definition: **HALILA**
Petrographic definition: **biosparite**

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Test report n° 13-2365-004/E

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DECLARATION OF REACTION TO FIRE CLASS (UNI EN 13501-1:2007)*

REACTION TO FIRE CLASS ¹

A 1

¹according to Commission Decision n° 96/603/EC.

DETERMINATION OF WATER ABSORPTION AT ATMOSPHERIC PRESSURE (UNI EN 13755:2008)

SPECIMEN	specimen dimensions (mm)			Dry specimen (g)	Saturated specimen (g)	Water absorption (%)
	n.	L	l	h	m _d	m _s
ASS - 1	50,5	50,5	44,0	286,23	289,83	1,3
ASS - 2	50,5	50,2	44,1	283,73	287,47	1,3
ASS - 3	50,6	50,4	44,4	284,26	288,11	1,4
ASS - 4	50,5	50,8	44,0	289,59	292,21	0,9
ASS - 5	50,2	50,3	44,0	281,64	285,73	1,5
ASS - 6	50,6	50,4	43,9	282,14	286,39	1,5
mean water absorption (%)						1,3±0,1

Note: extended uncertainty of the mean value has been calculated with a coverage factor $k = 2,53$ corresponding to a confidence level of 95 %

* Test not accredited by ACCREDIA

supply information by client

N.A. not applicable

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Laboratorio di ricerca altamente qualificato art. 14 DM 583/2000-G.U. n° 26/2003

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Test report n° 13-2365-004/E

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DETERMINATION OF APPARENT DENSITY (UNI EN 1936:2007) *

specimen	dry specimen (g)	saturated specimen (g)	immersed specimen (g)	Apparent density (kg/m ³)
ASS - 1	286,23	289,95	178,22	2556,7
ASS - 2	283,73	287,56	176,71	2554,5
ASS - 3	284,26	288,17	176,72	2545,5
ASS - 4	289,59	292,45	180,80	2588,5
ASS - 5	281,64	285,93	175,24	2539,3
ASS - 6	282,14	286,72	175,37	2528,7
Mean apparent density (kg/m³)				2550

DETERMINATION OF OPEN POROSITY (1936:2007)*

specimen	dry specimen (g)	saturated specimen (g)	immersed specimen (g)	Open porosity (%)
ASS - 1	286,23	289,95	178,22	3,3
ASS - 2	283,73	287,56	176,71	3,5
ASS - 3	284,26	288,17	176,72	3,5
ASS - 4	289,59	292,45	180,80	2,6
ASS - 5	281,64	285,93	175,24	3,9
ASS - 6	282,14	286,72	175,37	4,1
Mean open porosity (%)				3,5

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supply information by client

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Test report n° 13-2365-004/E

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DETERMINATION OF FLEXURAL STRENGTH UNDER CONCENTRATED LOAD (UNI EN 12372:2007)

- Load rate: 0,25 MPa/s
- Surface finish: sawn #
- Load orientation: perpendicolar to the utilization plane

specimen	Dimensions (mm)				Breaking load (N)	Flexural strength (MPa)
	n.	L	Supporting distance (l)	b		
F - 1	182	146,0	91,2	28,7	4873	14,2
F - 2	181,6	146,0	91,5	28,8	5300	15,3
F - 3	181,7	146,0	91,1	28,9	4330	12,5
F - 4	182,1	146,0	91,0	29,1	5432	15,4
F - 5	182,2	146,0	91,2	28,6	4033	11,8
F - 6	182,6	146,0	91,3	30,8	6180	15,6
F - 7	182,2	146,0	91,6	28,8	5586	16,1
F - 8	183,1	146,0	91,5	29,9	5101	13,7
F - 9	182,7	146,0	91,4	30,3	5140	13,4
F - 10	181,8	146,0	91,5	28,4	4467	13,3
Mean flexural strenght (MPa):						14,1

Number of specimen	10
Mean Value (MPa)	14,1 ±1MPa
Standard deviation	1,43
Coefficient of variation	0,10
Mean logarithmic	2,65
Logarithmic standard deviation	0,102
Minimum vale (MPa)	11,8
Maximum value (MPa)	16,1
Lower expected value (MPa)	11,4
Quantile factor K _S	2,10

NOTE: the extended uncertainty of the mean value has been calculated with a coverage factor k = 2,23, corresponding to a confidence level of 95 %

* Test not accredited by ACCREDIA

supply information by client

N.A. not applicable

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DETERMINATION OF THE SLIP RESISTANCE VALUE BY MEANS OF THE PENDULUM TESTER (UNI EN 14231:2004) (USRV)*

Specimen N°	Mean of the two recorded values measured in opposite directions (USRV)
S - 1	48
S - 2	55
S - 3	60
S - 4	52
S - 5	55
S - 6	57
Mean Value	55

- Slider length: 76 mm
- Surface finish[#]: sawn
- Slider and sampling « wet »

DETERMINATION OF THE SLIP RESISTANCE VALUE BY MEANS OF THE PENDULUM TESTER (UNI EN 14231:2004) (SRV)*

- Slider Length: 76 mm
- Surface finish[#]: honed
- Slider and specimen condition: "dry"

Specimen N°	Average value ¹ (SRV "dry")
1	45
2	46
3	45
4	47
5	45
6	46
Average value	46

* Test not accredited by ACCREDIA

supply information by client

N.A. not applicable

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- **Slider Length: 76 mm**
- **Surface finish#: honed**
- **Slider and specimen condition : "wet"**

Specimen N°	Average value ¹ (SRV "wet")
1	14
2	13
3	13
4	15
5	14
6	13
Average value	14

The TRL pendulum tester has a range of reading from 0 to 150, high values indicate good slip resistance.

¹Note: mean value of 5 + 5 individual measurement obtained with orientation A and A to 180°

Geotechnical Division
The Director
Dr. Geologist Francesco Bazzolo

* Test not accredited by ACCREDIA
supply information by client

N.A. not applicable

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