



TEST REPORT

Natural stone – Water absorption

REPORT Nº: **232942PN003** DATE: **20-03-2023** PAGE: **1/2**

PETITIONER: **Kymen Granite Oy**
Myllykallionkuja 41, 45100 Kouvola. (Finland)

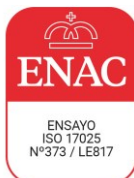
SAMPLE IDENTIFICATION:

Date of delivery **03-01-2023**
Description **6 cubic specimens of nominal dimensions 50x50x50 mm**
Commercial name * **Kymen Brown**
Petrographic definition * **–**
Place of quarrying * **Ummeljoki Kouvola**
Supplier * **Kymen Granite Oy**
Sampled by * **Kari Rahkonen (17-11-2022)**

* Information declared by the petitioner

TEST METHOD: **EN 13755:2008 Natural stone test methods. Determination of water absorption at atmospheric pressure**

Deviations **–**
Specimen preparation **–**
Place of testing **Centro Tecnológico del Mármol**
Dates of testing **08-02-2023 / 16-02-2023**





TEST REPORT

Natural stone – Water absorption

REPORT Nº: **232942PN003**

DATE: **20-03-2023**

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RESULTS:

Specimen

Water absorption, A_b (%)

Mean value of water absorption, \bar{A}_b

| 01 | 02 | 03 | 04 | 05 | 06 |
|-------|-----|-----|-----|-----|-----|
| 0,2 | 0,2 | 0,1 | 0,1 | 0,2 | 0,2 |
| 0,2 % | | | | | |

Remarks: The uncertainties are calculated and at the client's disposal
The results are expressed to the nearest 0,1 %

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Natural stone – Apparent density and open porosity

REPORT Nº: **232942PN004A** DATE: **20-03-2023**

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PETITIONER: **Kymen Granite Oy**
Myllykallionkuja 41, 45100 Kouvola. (Finland)

SAMPLE IDENTIFICATION:

Date of delivery **03-01-2023**
Description **6 cubic specimens of nominal dimensions 50x50x50 mm**
Commercial name * **Kymen Brown**
Petrographic definition * **–**
Place of quarrying * **Ummeljoki Kouvola**
Supplier * **Kymen Granite Oy**
Sampled by * **Kari Rahkonen (17-11-2022)**

* Information declared by the petitioner

TEST METHOD: **EN 1936:2007 Natural stone test methods. Determination of real density and apparent density, and of total and open porosity. Section 8.1**

Deviations **–**
Specimen preparation **–**
Place of testing **Centro Tecnológico del Mármol**
Dates of testing **30-01-2023 / 02-02-2023**



TEST REPORT

Natural stone – Apparent density and open porosity

REPORT Nº: **232942PN004A** DATE: **20-03-2023**

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RESULTS:

| Specimen | 07 | 08 | 09 | 10 | 11 | 12 |
|---|------------------------|------|------|------|------|------|
| Apparent density, ρ_b (kg/m ³) | 2620 | 2620 | 2620 | 2610 | 2620 | 2620 |
| Open porosity, p_o (%) | 0,5 | 0,5 | 0,5 | 0,4 | 0,5 | 0,5 |
| Mean value of apparent density, $\bar{\rho}_b$ | 2620 kg/m ³ | | | | | |
| Mean value of open porosity, \bar{p}_o | 0,5 % | | | | | |

Remarks: The uncertainties are calculated and at the client's disposal
The results of density are expressed to the nearest 10 kg/m³
The results of porosity are expressed to the nearest 0,1 %

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Natural stone – Abrasion resistance (Capon method)

REPORT Nº: **232942PN006**

DATE: **20-03-2023**

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PETITIONER: **Kymen Granite Oy**
Myllykallionkuja 41, 45100 Kouvola. (Finland)

SAMPLE IDENTIFICATION:

Date of delivery **03-01-2023**
Description **6 polished slabs of 150x150x30 mm**
Commercial name * **Kymen Brown**
Petrographic definition * **–**
Place of quarrying * **Ummeljoki Kouvola**
Supplier * **Kymen Granite Oy**
Sampled by * **Kari Rahkonen (17-11-2022)**
Planes of anisotropy * **–**

* Information declared by the petitioner

TEST METHOD: **EN 14157:2017 Natural stone test methods. Determination of the abrasion resistance. Section 3**

Deviations **–**
Specimen preparation **–**
Calibration factor **0,3 mm**
Place of testing **Centro Tecnológico del Mármol**
Dates of testing **22-02-2023 / 27-02-2023**





TEST REPORT

Natural stone – Abrasion resistance (Capon method)

REPORT Nº: **232942PN006**

DATE: **20-03-2023**

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RESULTS:

| Specimen | 13 | 14 | 15 | 16 | 17 | 18 |
|------------------------------|---------|------|------|------|------|------|
| Groove lengths (mm) | 14,5 | 15,0 | 14,5 | 14,5 | 15,0 | 14,5 |
| | 14,5 | 14,5 | 14,5 | 14,5 | 14,5 | 14,5 |
| Mean value of groove length | 14,5 mm | | | | | |
| Standard deviation | 0,1 mm | | | | | |
| Higher expected value, E_H | 15,0 mm | | | | | |

Remarks: The uncertainties are calculated and at the client's disposal
The results are expressed to the nearest 0,5 mm
According to EN 14157, only the biggest grooves of each specimen are considered

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Natural stone – Frost resistance (technological test)

REPORT Nº: **232942PN008B** DATE: **20-03-2023**

PAGE: **1/4**

PETITIONER: **Kymen Granite Oy**
Myllykallionkuja 41, 45100 Kouvola. (Finland)

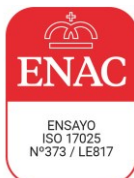
SAMPLE IDENTIFICATION:

Date of delivery **03-01-2023**
Description **2 sets of 10 specimens of nominal dimensions 300x50x50 mm**
Commercial name * **Kymen Brown**
Petrographic definition * **–**
Place of quarrying * **Ummeljoki Kouvola**
Supplier * **Kymen Granite Oy**
Sampled by * **Kari Rahkonen (17-11-2022)**
Planes of anisotropy * **–**

* Information declared by the petitioner

TEST METHOD: **EN 12371:2010 Natural stone test methods. Determination of frost resistance. Section 7.3.1**

Deviations **–**
Specimen preparation **–**
Conditioning **Drying in oven at 70±5°C to constant mass**
Load direction **–**
Place of testing **Centro Tecnológico del Mármol**
Dates of testing **25-01-2023 / 03-03-2023**



TEST REPORT

Natural stone – Frost resistance (technological test)

REPORT Nº: **232942PN008B** DATE: **20-03-2023**

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RESULTS:

Set 1 (not subjected to freeze-thaw cycles)

| Specimen | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 |
|-----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Breaking thickness, h (mm) | 51,5 | 51,7 | 50,9 | 49,2 | 49,2 | 49,4 | 50,5 | 49,6 | 49,2 | 50,2 |
| Breaking width, b (mm) | 50,7 | 51,6 | 48,8 | 50,4 | 50,3 | 49,5 | 51,0 | 49,5 | 50,1 | 49,8 |
| Span, l (mm) | 250,0 | 250,0 | 250,0 | 250,0 | 250,0 | 250,0 | 250,0 | 250,0 | 250,0 | 250,0 |
| Load increase (MPa/s) | 0,23 | 0,23 | 0,25 | 0,26 | 0,26 | 0,26 | 0,24 | 0,26 | 0,26 | 0,25 |
| Breaking load, F (N) | 2220 | 2760 | 1510 | 810 | 2010 | 1760 | 2470 | 2640 | 2140 | 2010 |
| Distance fracture to centre (mm) | 86,3 | 16,5 | 34,1 | 70,6 | 1,8 | 5,4 | 5,1 | 19,4 | 32,2 | 3,8 |
| Flexural strength, R_{tf} (MPa) | 6,2 | 7,5 | 4,5 | 2,5 | 6,2 | 5,5 | 7,1 | 8,1 | 6,6 | 6,0 |

Set 2 (subjected to 56 freeze-thaw cycles)

| Specimen | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
|-----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Breaking thickness, h (mm) | 50,6 | 50,1 | 49,1 | 49,2 | 50,2 | 49,6 | 50,1 | 50,4 | 49,6 | 49,6 |
| Breaking width, b (mm) | 50,1 | 50,2 | 50,3 | 50,0 | 49,7 | 50,2 | 50,2 | 50,4 | 48,9 | 50,1 |
| Span, l (mm) | 250,0 | 250,0 | 250,0 | 250,0 | 250,0 | 250,0 | 250,0 | 250,0 | 250,0 | 250,0 |
| Load increase (MPa/s) | 0,24 | 0,25 | 0,26 | 0,26 | 0,25 | 0,25 | 0,25 | 0,24 | 0,26 | 0,25 |
| Breaking load, F (N) | 1980 | 2230 | 1000 | 2060 | 2090 | 1680 | 1980 | 1460 | 1870 | 2010 |
| Distance fracture to centre (mm) | 18,1 | 2,9 | 23,4 | 7,1 | 23,9 | 11,5 | 17,7 | 7,3 | 3,0 | 7,4 |
| Flexural strength, R_{tf} (MPa) | 5,8 | 6,6 | 3,1 | 6,4 | 6,3 | 5,1 | 5,9 | 4,3 | 5,8 | 6,1 |



TEST REPORT

Natural stone – Frost resistance (technological test)

REPORT Nº: **232942PN008B** DATE: **20-03-2023**

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Mean value of flexural strength, F_0

6,0 MPa

Standard deviation, s

1,6 MPa

Mean value of flexural strength after 56 cycles, F_{56}

5,5 MPa

Standard deviation, s

1,1 MPa

Decrease of flexural strength after 56 cycles

8,0 %

Remarks: The uncertainties are calculated and at the client's disposal

The sample received consisted of 20 undifferentiated specimens. The separation between the two sets of 10 specimens to be tested, was carried out at random by the laboratory

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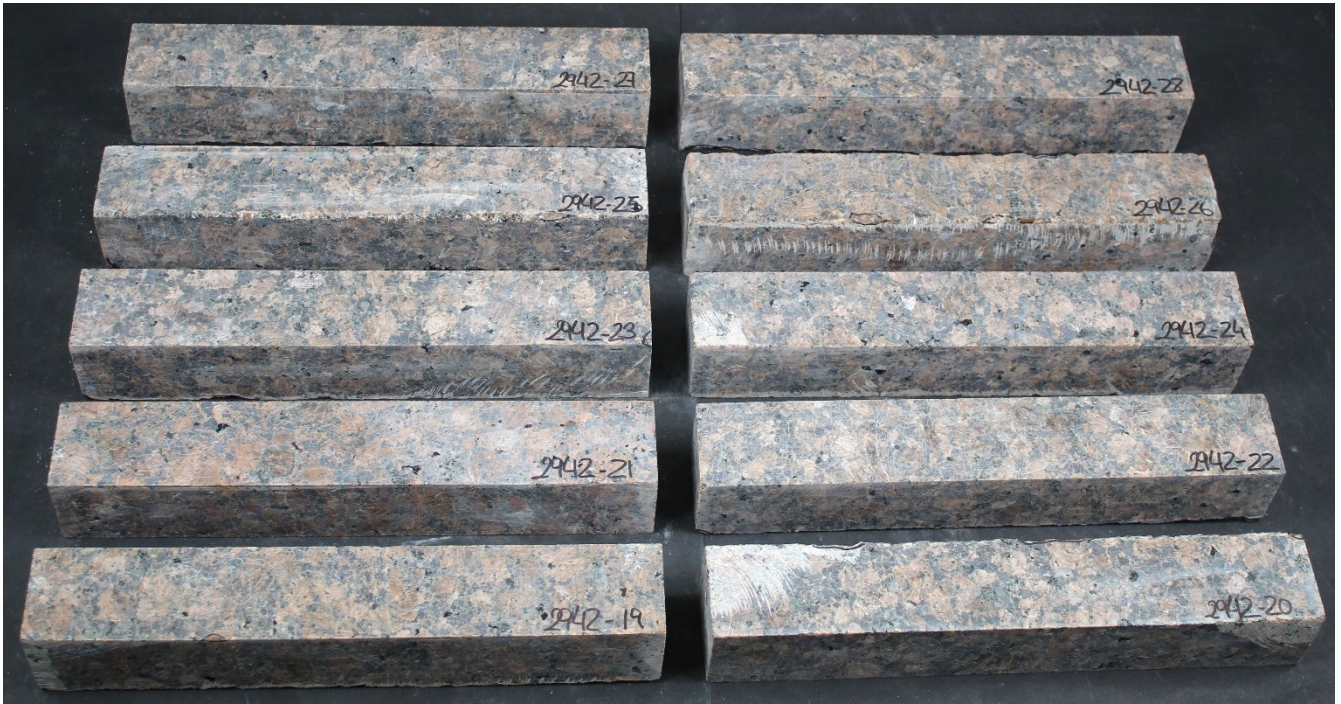
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Director Técnico

Natural stone – Frost resistance (technological test)

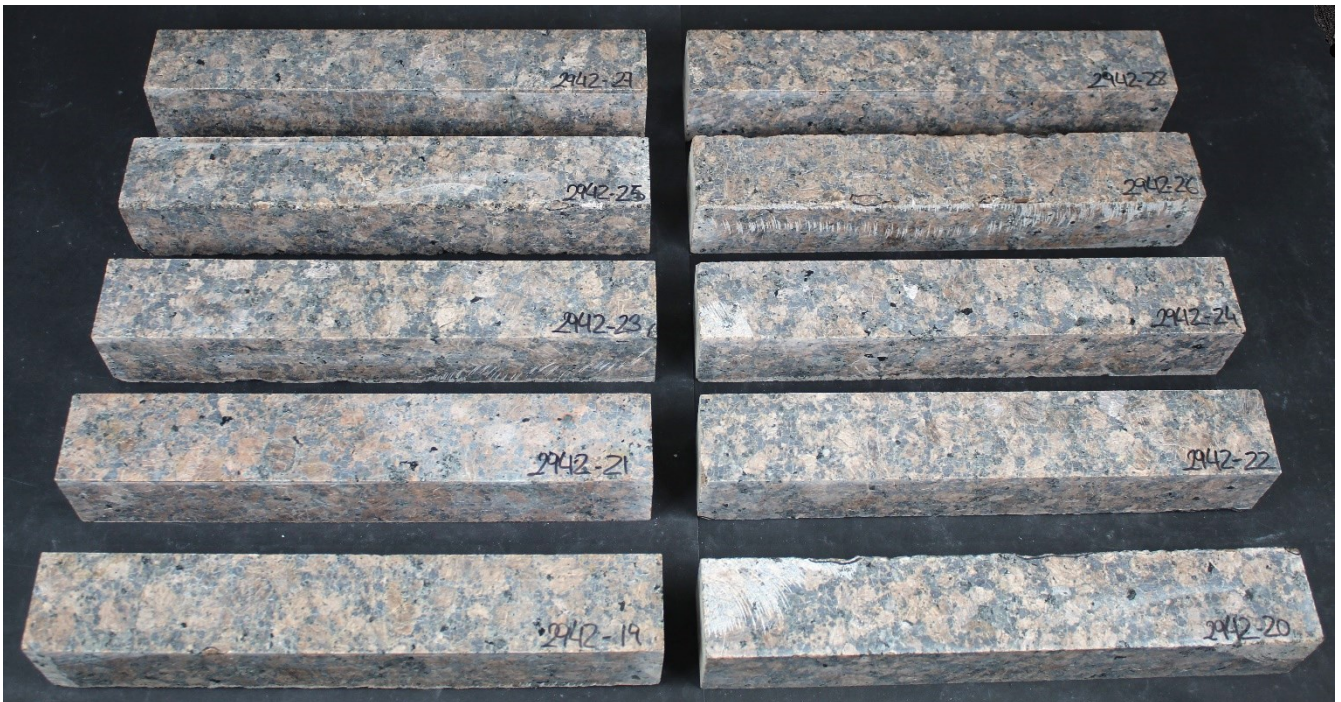
REPORT Nº: 232942PN008B DATE: 20-03-2023

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Set 2 before freeze-thaw cycles



Set 2 after 56 freeze-thaw cycles



Natural stone – Frost resistance (technological test)

REPORT Nº: **232942PN008D** DATE: **20-03-2023**PAGE: **1/4**PETITIONER: **Kymen Granite Oy**
Myllykallionkuja 41, 45100 Kouvola. (Finland)

SAMPLE IDENTIFICATION:

Date of delivery **03-01-2023**

Description **2 sets of 10 cubic specimens of nominal dimensions 70x70x70 mm**

Commercial name * **Kymen Brown**

Petrographic definition * **–**

Place of quarrying * **Ummeljoki Kouvola**

Supplier * **Kymen Granite Oy**

Sampled by * **Kari Rahkonen (17-11-2022)**

Planes of anisotropy * **–**

* Information declared by the petitioner

TEST METHOD: **EN 12371:2010 Natural stone test methods. Determination of frost resistance. Section 7.3.1**

Deviations **–**

Specimen preparation **–**

Conditioning **Drying in oven at 70±5°C to constant mass**

Load direction **–**

Place of testing **Centro Tecnológico del Mármol**

Dates of testing **25-01-2023 / 01-03-2023**





TEST REPORT

Centro Tecnológico
del mármol

Natural stone – Frost resistance (technological test)

REPORT Nº: **232942PN008D** DATE: **20-03-2023**

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RESULTS:

Set 1 (not subjected to freeze-thaw cycles)

| | | | | | | | | | | |
|--|------|------|------|------|------|------|------|------|------|------|
| Specimen | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
| Average width of faces, \bar{l} (mm) | 70,2 | 69,8 | 69,9 | 69,7 | 70,2 | 70,6 | 70,0 | 69,9 | 70,3 | 69,8 |
| Height, h (mm) | 69,6 | 70,0 | 70,0 | 70,5 | 70,3 | 70,7 | 69,3 | 69,7 | 70,2 | 70,2 |
| Breaking load, F (kN) | 790 | 1070 | 1030 | 900 | 880 | 1030 | 720 | 460 | 1120 | 1010 |
| Compressive strength, R (MPa) | 159 | 220 | 212 | 186 | 178 | 208 | 148 | 95 | 226 | 208 |

Set 2 (subjected to 56 freeze-thaw cycles)

| | | | | | | | | | | |
|--|------|------|------|------|------|------|------|------|------|------|
| Specimen | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 |
| Average width of faces, \bar{l} (mm) | 70,3 | 70,0 | 70,2 | 69,7 | 69,7 | 70,6 | 70,3 | 69,9 | 69,6 | 69,6 |
| Height, h (mm) | 69,9 | 70,4 | 69,2 | 70,8 | 70,3 | 70,4 | 70,3 | 70,3 | 70,8 | 69,9 |
| Breaking load, F (kN) | 1030 | 1050 | 800 | 850 | 910 | 850 | 890 | 830 | 940 | 770 |
| Compressive strength, R (MPa) | 209 | 215 | 163 | 176 | 188 | 170 | 179 | 170 | 195 | 160 |



TEST REPORT

Natural stone – Frost resistance (technological test)

REPORT Nº: **232942PN008D** DATE: **20-03-2023**

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Mean value of compressive strength, R_0

184 MPa

Standard deviation, s

41 MPa

Mean value of compressive strength after 56 cycles, R_{56}

182 MPa

Standard deviation, s

19 MPa

Decrease of compressive strength after 56 cycles

1,0 %

Remarks: The uncertainties are calculated and at the client's disposal

The sample received consisted of 20 undifferentiated specimens. The separation between the two sets of 10 specimens to be tested, was carried out at random by the laboratory

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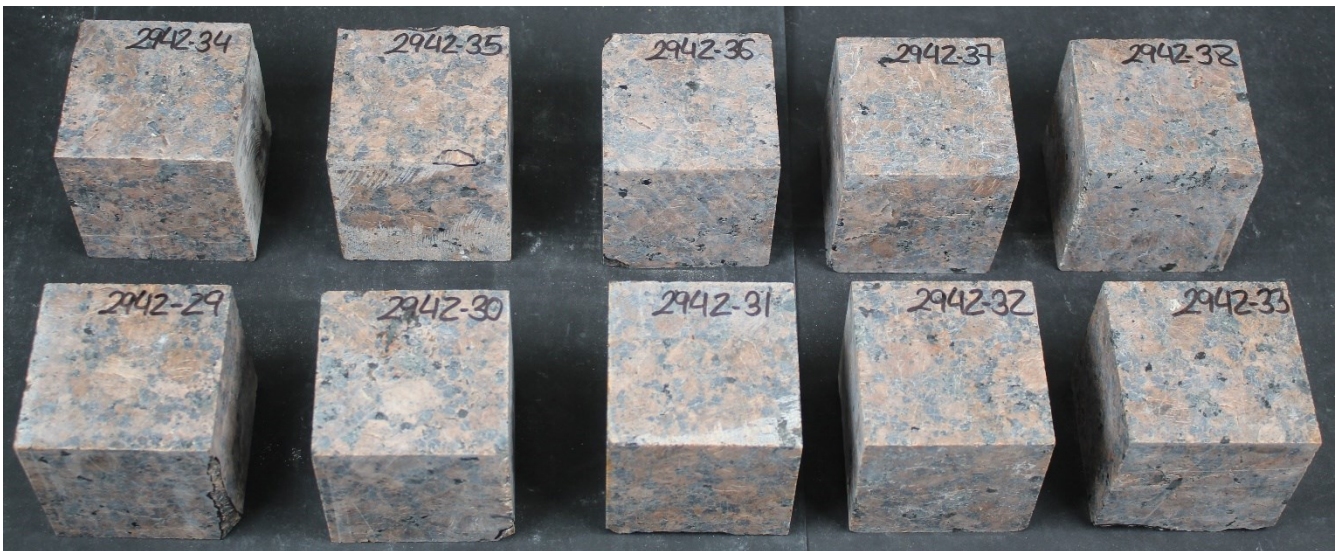
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Natural stone – Frost resistance (technological test)

REPORT Nº: 232942PN008D DATE: 20-03-2023

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Set 2 before freeze-thaw cycles



Set 2 after 56 freeze-thaw cycles



Natural stone – Compressive strength

REPORT Nº: **232942PN009A** DATE: **20-03-2023**

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PETITIONER: **Kymen Granite Oy**
Myllykallionkuja 41, 45100 Kouvola. (Finland)

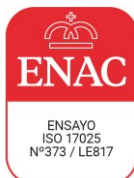
SAMPLE IDENTIFICATION:

Date of delivery **03-01-2023**
Description **10 cubic specimens of nominal dimensions 70x70x70 mm**
Commercial name * **Kymen Brown**
Petrographic definition * **–**
Place of quarrying * **Ummeljoki Kouvola**
Supplier * **Kymen Granite Oy**
Sampled by * **Kari Rahkonen (17-11-2022)**
Planes of anisotropy * **–**

* Information declared by the petitioner

TEST METHOD: **EN 1926:2006 Natural stone test methods. Determination of uniaxial compressive strength**

Deviations **–**
Specimen preparation **–**
Conditioning **Drying in oven at 70±5°C to constant mass**
Load direction **–**
Place of testing **Centro Tecnológico del Mármol**
Dates of testing **22-02-2023 / 28-02-2023**





TEST REPORT

Natural stone – Compressive strength

REPORT Nº: 232942PN009A DATE: 20-03-2023

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RESULTS:

| | | | | | | | | | | |
|---|---------|------|------|------|------|------|------|------|------|------|
| Specimen | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
| Average width of faces, \bar{l} (mm) | 70,2 | 69,8 | 69,9 | 69,7 | 70,2 | 70,6 | 70,0 | 69,9 | 70,3 | 69,8 |
| Height, h (mm) | 69,6 | 70,0 | 70,0 | 70,5 | 70,3 | 70,7 | 69,3 | 69,7 | 70,2 | 70,2 |
| Breaking load, F (kN) | 790 | 1070 | 1030 | 900 | 880 | 1030 | 720 | 460 | 1120 | 1010 |
| Compressive strength, R (MPa) | 159 | 220 | 212 | 186 | 178 | 208 | 148 | 95 | 226 | 208 |
| Average compressive strength, \bar{R} | 184 MPa | | | | | | | | | |
| Standard deviation, s | 41 MPa | | | | | | | | | |
| Coefficient of variation, v | 0,22 | | | | | | | | | |
| Lower expected value, E | 103 MPa | | | | | | | | | |

Remarks: The uncertainties are calculated and at the client's disposal

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Natural stone – Flexural strength

REPORT Nº: **232942PN010** DATE: **20-03-2023** PAGE: **1/2**

PETITIONER: **Kymen Granite Oy**
Myllykallionkuja 41, 45100 Kouvola. (Finland)

SAMPLE IDENTIFICATION:

Date of delivery **03-01-2023**
Description **10 specimens of nominal dimensions 300x50x50 mm**
Commercial name * **Kymen Brown**
Petrographic definition * **–**
Place of quarrying * **Ummeljoki Kouvola**
Supplier * **Kymen Granite Oy**
Sampled by * **Kari Rahkonen (17-11-2022)**
Planes of anisotropy * **–**

* Information declared by the petitioner

TEST METHOD: **EN 12372:2022 Natural stone test methods. Determination of flexural strength under concentrated load**

Deviations **–**
Specimen preparation **–**
Conditioning **Drying in oven at 70±5°C to constant mass**
Load direction **–**
Place of testing **Centro Tecnológico del Mármol**
Dates of testing **01-03-2023 / 03-03-2023**





TEST REPORT

Natural stone – Flexural strength

REPORT Nº: **232942PN010**

DATE: **20-03-2023**

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RESULTS:

| | | | | | | | | | | |
|---|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Specimen | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 |
| Breaking thickness, h (mm) | 51,5 | 51,7 | 50,9 | 49,2 | 49,2 | 49,4 | 50,5 | 49,6 | 49,2 | 50,2 |
| Breaking width, b (mm) | 50,7 | 51,6 | 48,8 | 50,4 | 50,3 | 49,5 | 51,0 | 49,5 | 50,1 | 49,8 |
| Span, l (mm) | 250,0 | 250,0 | 250,0 | 250,0 | 250,0 | 250,0 | 250,0 | 250,0 | 250,0 | 250,0 |
| Load increase (MPa/s) | 0,23 | 0,23 | 0,25 | 0,26 | 0,26 | 0,26 | 0,24 | 0,26 | 0,26 | 0,25 |
| Breaking load, F (N) | 2220 | 2760 | 1510 | 810 | 2010 | 1760 | 2470 | 2640 | 2140 | 2010 |
| Distance fracture to centre (mm) | 86,3 | 16,5 | 34,1 | 70,6 | 1,8 | 5,4 | 5,1 | 19,4 | 32,2 | 3,8 |
| Flexural strength, R_{tf} (MPa) | 6,2 | 7,5 | 4,5 | 2,5 | 6,2 | 5,5 | 7,1 | 8,1 | 6,6 | 6,0 |
| Average flexural strength, \bar{R}_{tf} | 6,0 MPa | | | | | | | | | |
| Standard deviation, s | 1,6 MPa | | | | | | | | | |
| Lower expected value, E | 2,8 MPa | | | | | | | | | |

Remarks: The uncertainties are calculated and at the client's disposal

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Natural stone – Breaking load at dowel hole

REPORT Nº: **232942PN012A** DATE: **20-03-2023**

PAGE: **1/2**

PETITIONER: **Kymen Granite Oy**
Myllykallionkuja 41, 45100 Kouvola. (Finland)

SAMPLE IDENTIFICATION:

Date of delivery **03-01-2023**
Description **10 slabs of nominal dimensions 200x200x30 mm**
Commercial name * **Kymen Brown**
Petrographic definition * **–**
Place of quarrying * **Ummeljoki Kouvola**
Supplier * **Kymen Granite Oy**
Sampled by * **Kari Rahkonen (17-11-2022)**
Planes of anisotropy * **–**

* Information declared by the petitioner

TEST METHOD: **EN 13364:2001 Natural stone test methods. Determination of the breaking load at dowel hole**

Deviations **–**
Specimen preparation **–**
Conditioning **Drying in oven at 70±5°C to constant mass**
Load direction **–**
Place of testing **Centro Tecnológico del Mármol**
Dates of testing **22-02-2023 / 28-02-2023**





TEST REPORT

Natural stone – Breaking load at dowel hole

REPORT Nº: **232942PN012A** DATE: **20-03-2023**

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RESULTS:

| | | | | | | | | | | |
|---|---------|------|------|------|------|------|------|------|------|------|
| Specimen | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 |
| Thickness, d (mm) | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| Breaking thickness, d_1 (mm) | 10,1 | 10,5 | 10,9 | 10,8 | 10,9 | 11,3 | 10,4 | 10,9 | 11,5 | 10,9 |
| Breaking load, F (N) | 2400 | 2200 | 1800 | 1950 | 1550 | 2250 | 2300 | 2000 | 2300 | 2450 |
| Maximum fracture length, b_A (mm) | -- | 41,3 | 41,3 | 53,9 | 58,2 | 52,9 | 61,1 | 51,2 | 53,0 | 24,9 |
| Mean value of breaking load, \bar{F} | 2100 N | | | | | | | | | |
| Standard deviation, s | 300 N | | | | | | | | | |
| Lower expected value, E | 1547 N | | | | | | | | | |
| Mean value of breaking thickness, \bar{d}_1 | 10,8 mm | | | | | | | | | |
| Mean value of maximum fracture lengths, \bar{b}_A | 48,6 mm | | | | | | | | | |

Remarks: The uncertainties are calculated and at the client's disposal
The results of breaking load and standard deviation are expressed to the nearest 50 N
Anomalous rupture in specimen No. 59

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TEST REPORT

Natural stone – Slip resistance

REPORT Nº: **232942PN020A** DATE: **20-03-2023**

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PETITIONER: **Kymen Granite Oy**
Myllykallionkuja 41, 45100 Kouvola. (Finland)

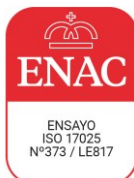
SAMPLE IDENTIFICATION:

Date of delivery **03-01-2023**
Description **3 slabs of 300x300x30 mm**
Surface finish * **Sawn**
Commercial name * **Kymen Brown**
Petrographic definition * **–**
Place of quarrying * **Ummeljoki Kouvola**
Supplier * **Kymen Granite Oy**
Sampled by * **Kari Rahkonen (17-11-2022)**

* Information declared by the petitioner

TEST METHOD: **EN 14231:2003 Natural stone test methods. Determination of the slip resistance by means of the pendulum tester**

Deviations **–**
Specimen preparation **–**
Slider used **76,2 x 25,4 mm**
Place of testing **Centro Tecnológico del Mármol**
Dates of testing **23-02-2023 / 24-02-2023**





TEST REPORT

Natural stone – Slip resistance

REPORT Nº: **232942PN020A** DATE: **20-03-2023**

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RESULTS:

| Specimen | 69.1 | 69.2 | 70.3 | 70.4 | 71.5 | 71.6 |
|--|------|------|-------------|------|------|------|
| Individual values of the slip resistance, in dry condition | 90 | 80 | 90 | 91 | 78 | 80 |
| Individual values of the slip resistance, in wet condition | 59 | 67 | 64 | 57 | 66 | 61 |
| Average slip resistance, in dry condition (SRV "dry") | 85 | | Uncertainty | | ± 6 | |
| Average slip resistance, in wet condition (SRV "wet") | 62 | | Uncertainty | | ± 3 | |

Remarks: The expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor $K=2$, which for a normal distribution provides a level of confidence of about 95%

DISCLAIMER:

The laboratory is not responsible for the sampling or for the information declared by the client. The results refer only to the sample received at the laboratory, on the expressed date.

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Antonio Molina
Director Técnico



TEST REPORT

Slip resistance (slipperiness)

REPORT Nº: **232942PN020J** DATE: **20-03-2023**

PAGE: **1/2**

PETITIONER: **Kymen Granite Oy**
Myllykallionkuja 41, 45100 Kouvola. (Finland)

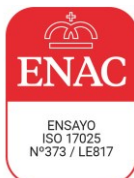
SAMPLE IDENTIFICATION:

Date of delivery **03-01-2023**
Description **1 natural stone slab of 300x300x30 mm**
Surface finish * **Sawn**
Commercial name * **Kymen Brown**
Petrographic definition * **–**
Place of quarrying * **Ummeljoki Kouvola**
Supplier * **Kymen Granite Oy**
Sampled by * **Kari Rahkonen (17-11-2022)**

* Information declared by the petitioner

TEST METHOD: **EN 16165:2021 Determination of slip resistance of pedestrian surfaces - Methods of evaluation. Annex C Pendulum test**

Deviations **–**
Type of slider used **57**
Place of testing **Centro Tecnológico del Mármol**
Dates of testing **23-02-2023 / 24-02-2023**





TEST REPORT

Slip resistance (slipperiness)

REPORT Nº: **232942PN020J** DATE: **20-03-2023**

PAGE: **2/2**

RESULTS:

| Test conditions | Dry | Wet |
|---------------------------------------|-----|-----|
| Slipperiness measured towards 0° | 90 | 59 |
| Slipperiness measured towards 90° | 80 | 67 |
| Slipperiness measured towards 45° | 90 | 64 |
| Value of the slipperiness, <i>PTV</i> | 80 | 59 |
| Uncertainty | ± 3 | ± 1 |

Remarks: The expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor K=2, which for a normal distribution provides a level of confidence of about 95%

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Natural stone – Petrographic examination

REPORT Nº: **232976PN001**

DATE: **20-03-2023**

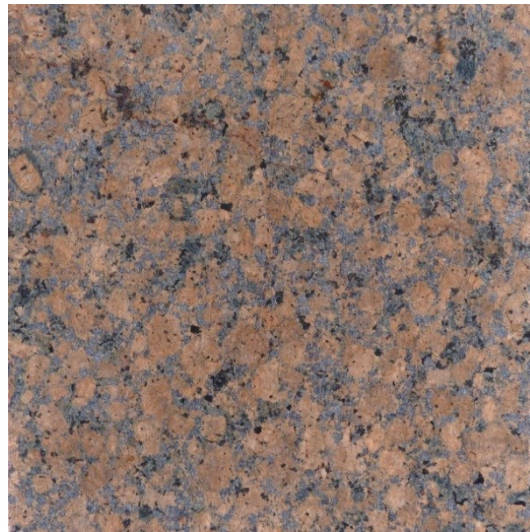
PAGE: **1/3**

PETITIONER: **Kymen Granite Oy**
Myllykallionkuja 41, 45100 Kouvola. (Finland)

SAMPLE IDENTIFICATION:

Date of delivery **03-01-2023**
Description **1 slab of 300x300x30 mm with sawn surface finish**
Commercial name * **Kymen Brown**
Place of quarrying * **Ummeljoki Kouvola**
Supplier * **Kymen Granite Oy**
Sampled by * **Kari Rahkonen (17-11-2022)**

* Information declared by the petitioner



TEST METHOD: **EN 12407:2019 Natural stone test methods. Petrographic examination**
Deviations **–**
Thin sections **1 non-oriented thin section of 28x48 mm, stained with sodium cobaltonitrite**
Place of testing **Centro Tecnológico del Mármol**
Dates of testing **16-03-2023**



TEST REPORT

Natural stone – Petrographic examination

REPORT Nº: **232976PN001**

DATE: **20-03-2023**

PAGE: **2/3**

RESULTS:

Macroscopic description

The sample shows dark greyish red colour (Munsell 6,1YR 3,5/1,2), coarse to very coarse grain size and granular fabric with rounded K-feldspar megacrysts (rapakivi).

Microscopic description

Plutonic rock, holocrystalline allotriomorphic inequigranular texture composed of:

- K-feldspar ≈50-60% of grain size 0,2-20 mm, anhedral, poikilitic, perthitic.**
- Quartz ≈20-30%, of grain size 0,1-2 mm, anhedral, as matrix of megacrysts and as drop-shaped inclusions in K-feldspar.**
- Plagioclase ≈5-10%, of size 0,2-2 mm, anhedral-subhedral, sometimes as a rim around K-feldspar megacrysts.**
- Accessories : biotite, opaque mineral, garnet, amphibole, zircon.**

Absence of pores or cracks.

Petrographic definition

Alkali-feldspar-granite¹

(1) Definition according to
Gillespie, M R, y Styles M T. 1999: BGS Rock Classification Scheme Volume 1. Classification of igneous rocks. British Geological Survey Research Report (2nd edition). RR 99-06.

Remarks:

The Munsell color designation on a macroscopic scale is included as guidance and qualitative only

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Natural stone – Petrographic examination

REPORT Nº: 232976PN001

DATE: 20-03-2023

PAGE: 3/3

Microphotograph of slide 232976-01: A) parallel polarizers; B) crossed polarizers

