Jerusalem Gold

Exterior Usage:

Suitable for cladding in freezing and nonfreezing conditions.

Suitable for paving in **non-freezing** conditions. Not Recommended for paving in freeze-thaw conditions.

Durability:

Suitable for residential and/or low traffic areas. High traffic conditions require a high level of maintenance.

Usage in wet conditions:

Spalling may occur in case of humidity access or still water underneath the stone.

Grubel

Color Range



Other Names: Ramon Gold Ramon Yellow

Stone Type: Limestone

Quarry Location: Mitzpe Ramon, Grebelsky Quarry

Special Notes:

• 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.)



September 2, 2016

A. Grebelsky & Son Attn: Arik Grebelsky 4 Hamelach St. Jerusalem, 95065 Isreal

Dear Mr. Grebelsky,

The samples you identified as "Jerusalem Gold, Ramon Gold" were tested per ASTM C170 Compressive Strength per your request (TCNA Test Report: TCNA-538-16). The analysis was performed by the Bishop Materials Laboratory part of Clemson University. All comments, findings, and interpretations within this report were made by the Bishop Materials Laboratory.

PRODUCT TESTING SERVICE

Fax (864) 646-2821

The following is an image of the product which was submitted for testing.



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9/2/2016

Katelyn Simpson Laboratory Manager







100 Clemson Research Blvd. Anderson, SC 29625 (864) 656-1094 www.BishopMaterialsLab.com

Results of Tests on Brick conducted in accordance with ASTM C170 - 15b Standard Method for Compressive Strength of Dimensional Stone

9/6/2016

Name:	Tile Council of North An	nerica	Plant:	North America Offce		
	100 Clemson Research	Blvd.	Report Number:	7151_15186		
	Anderson, SC 29625		Date Sampled:	8/29/2016		
Phone:			Date Completed:	9/2/2016		
ax:			Technician	Mark Young		
Fest Equipment:	BML - 032 (Satec), BML	- 005 (Dryer), BML-015	5 "12 inch Caliper"			
Sample Description:	TCNA-538-16 Jerusalem Gold, Ramon Gold					
			Dry			
ID #	Average Length (in.)	Average Width (in.)	Area (in. ²)	Test Peak (lbf)	Compressive Strength (psi)	Test Date
1	3.02	3.05	9.21	182400	19800	9/2/2016
2	3.03	3.05	9.21	201100	21800	
3	2.99	2.98	8.90	121900	13700	
4	3.05	2.99	9.11	218700	24000	
5	3.03	2.98	9.05	123100	13600	
Average	3.02	3.01	9.10	169440	18580	
				St Dev	4739	
			Wet			
ID #	Average Length (in.)	Average Width (in.)	Area (in.2)	Test Peak (lbf)	Compressive Strength (psi)	Test Date
1	3.06	3.05	9.33	114600	12300	9/2/2010
2	3.04	3.11	9.45	135900	14400	
3	3.09	3.05	9.41	139000	14800	
4	3.05	3.07	9.35	156200	16700	
5	3.02	3.07	9.28	132100	14200	
Average	3.05	3.07	9.36	135560	14480	
				St Dev	1571	

Shap Theha



August 11, 2016

A. Grebelsky & Son
Attn: Arik Grebelsky
4 Hamelach St.
Har Tuv Jerusalem, 95065
Israel

Dear Mr. Grebelsky,

Tile Council of North America has tested the samples you submitted. Test report TCNA-538-16 is enclosed. If you have any questions or concerns, please contact us.

PRODUCT TESTING SERVICE

Fax (864) 646-2821

Anderson, SC 29625 Tel (864) 646-TILE

Best Regards,

TILE COUNCIL OF NORTH AMERICA, INC.

Katelyn Simpson Laboratory Manager Enclosures



TCNA TEST REPORT NUMBER:

TCNA-538-16

Anderson, SC 29625 Tel (864) 646-TILE Fax (864) 646-2821 **PAGE:** 1 **OF** 3

TEST REOUESTED BY:

A. Grebelsky & Son

TEST METHOD: ASTM C97: "Absorption and Bulk Specific Gravity of Dimension Stone"

Informal Test Method Description: These test methods cover the tests for determining the absorption and bulk specific gravity of all types of dimension stone, except slate. These test methods are useful in indicating the differences in absorption between the various dimension stones. See ASTM C97 for all method details and information.

TEST SUBJECT MATERIAL:	Identified by client as: "Jersusalem Gold, Ramon Gold"
	Approximate Size as Received: 3"x3"x3"

TEST DATE:

8/1/2016 - 8/3/2016

TEST PROCEDURE NOTES:

- Sample prep: None •
- The specimens were dried in an oven for 48 hours before a dry weight was recorded for each specimen.
- The specimens were then submerged in water for an additional 48 hours before measuring the saturated and • suspended weights.
- The weight percent absorption and the density were then calculated based on the weight measurements made.

TEST RESULTS:

	% Water Absorption	Density (lb/ft ³)
Specimen 1	0.50%	165.9
Specimen 2	0.59%	165.3
Specimen 3	0.89%	163.7
Specimen 4	0.64%	164.9
Specimen 5	0.52%	165.7
Average:	0.63%	165.1

COMMENTS: None

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PAGE: 2 OF 3

TEST REQUESTED BY:

A. Grebelsky & Son

TEST SUBJECT MATERIAL: Identified by client as: "Jersusalem Gold, Ramon Gold"

TEST METHOD: ASTM C97: "Absorption and Bulk Specific Gravity of Dimension Stone"

ASTM SPECIFICATIONS*:

ASTM standard	Stone Type	Specification
ASTM C503	Marble – Calcite	Maximum 0.20% Absorption; Minimum 162 lb/ft ³ Density
ASTM C503	Marble – Dolomite	Maximum 0.20% Absorption; Minimum 175 lb/ft ³ Density
ASTM C1527	Travertine (Interior or	Maximum 2.5% Absorption; Minimum 144 lb/ft ³ Density
	Exterior)	
ASTM C568	Limestone (Low Density)	Maximum 12.0% Absorption; Minimum 110 lb/ft ³ Density
ASTM C568	Limestone (Medium Density)	Maximum 7.5% Absorption; Minimum 135 lb/ft ³ Density
ASTM C568	Limestone (High Density)	Maximum 3.0% Absorption; Minimum 160 lb/ft ³ Density
ASTM C615	Granite	Maximum 0.40% Absorption; Minimum 160 lb/ft ³ Density
ASTM C616	Quartz (Sandstone)	Maximum 8% Absorption; Minimum 125 lb/ft ³ Density
ASTM C616	Quartz (Quartzitic Sandstone)	Maximum 3% Absorption; Minimum 150 lb/ft ³ Density
ASTM C616	Quartz (Quartzite)	Maximum 1% Absorption; Minimum 160 lb/ft ³ Density

*For more detailed information, refer to ASTM C503 Specification for Marble Dimension Stone, ASTM C1527 Specification for Travertine Dimension Stone, ASTM C568 Specification for Limestone Dimension Stone, ASTM C616 Specification for Quartz-Based Dimension Stone and ASTM C615 Specification for Granite Dimension Stone

IMAGE OF PRODUCT TESTED:





100 Clemson Research Blvd. **TCNA TEST REPORT NUMBER:**

TCNA-538-16

PAGE: 3 OF 3

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8/11/2016

Katelyn Simpson Laboratory Manager



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PAGE: 1 **OF** 3

TEST REQUESTED BY:

A. Grebelsky & Son

TEST METHOD: ASTM C880: "Flexural Strength of Dimension Stone"

Informal Test Method Description: This test method covers the procedure for determining the flexural strength of stone by use of a simple beam using quarter-point loading. This test method is useful in indicating the differences in flexural strength between the various dimension stones. See ASTM C880 for all method details and information.

TEST SUBJECT MATERIAL:

Identified by client as: "Jersusalem Gold, Ramon Gold" Approximate Size as Received: 4"x12"x1.25"

TEST DATE:

8/1/2016-8/3/2016

TEST PROCEDURE NOTES:

- Sample prep: None
- Five of ten specimens were dried in an oven for 48 hours. The remaining five were submerged in water for 48 • hours.
- All ten specimens were broken by a four point load on an Instron universal tester with a load rate of 600 psi/min and a span of 10.0 inches*.

Dry Condition	Flexural Strength (psi)	Wet Condition	Flexural Strength (psi)
Specimen 1	1830	Specimen 1	1287
Specimen 2	1667	Specimen 2	920
Specimen 3	1486	Specimen 3	700
Specimen 4	1538	Specimen 4	1145
Specimen 5	1451	Specimen 5	950
Average	1594	Average	1000
St. Deviation	155	St. Deviation	225

TEST RESULTS:

*COMMENTS: The test method states that the specimens shall be 15" long. The client submitted 12" long specimens therefore the span was set to 10". The test was modified per the client's request.



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Fax (864) 646-2821 PAGE: 2 OF 3

TEST REQUESTED BY:

A. Grebelsky & Son

TEST SUBJECT MATERIAL:

Identified by client as: "Jersusalem Gold, Ramon Gold"

TEST METHOD: <u>ASTM C880: "Flexural Strength of Dimension Stone"</u>

ASTM SPECIFICATIONS*:

ASTM standard	Stone Type	Specification
ASTM C503	Marble (Calcite or Dolomite)	Minimum 1000 psi
ASTM C1527	Travertine (Interior or Exterior)	Minimum 500 psi
ASTM C568	Limestone (Low Density)	No Requirement
ASTM C568	Limestone (Medium Density)	No Requirement
ASTM C568	Limestone (High Density)	No Requirement
ASTM C615	Granite	Minimum 1200 psi
ASTM C616	Quartz (Sandstone)	No Requirement
ASTM C616	Quartz (Quartzitic Sandstone)	No Requirement
ASTM C616	Quartz (Quartzite)	No Requirement

*For more detailed information, refer to ASTM C503 Specification for Marble Dimension Stone, ASTM C1527 Specification for Travertine Dimension Stone, ASTM C568 Specification for Limestone Dimension Stone, ASTM C616 Specification for Quartz-Based Dimension Stone and ASTM C615 Specification for Granite Dimension Stone

IMAGE OF PRODUCT TESTED:





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100 Clemson Research Blvd. TCNA TEST REPORT NUMBER:

TCNA-538-16

PAGE: 3 OF 3

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8/11/2016

Katelyn Simpson Laboratory Manager



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TCNA-538-16

Fax (864) 646-2821 PAGE: 1 OF 3

TEST REQUESTED BY:

TEST METHOD:

A. Grebelsky & Son

ASTM C1353-15: "Abrasion Resistance of Dimension Stone Subjected to Foot Traffic Using a Rotary Platform Abraser"

Informal Test Method Description: This test method covers the establishment of an index of abrasion resistance by determination of loss of volume resulting from abrasion of dimension stone. A specimen is abraded using rotary rubbing action under controlled conditions of pressure and abrasive action. See ASTM C1353 for all method details and information.

TEST SUBJECT MATERIAL:

Identified by client as: **"Jersusalem Gold, Ramon Gold"** Approximate Size as Received: 4"x4"

TEST DATE:

8/1/2016 - 8/5/2016

TEST PROCEDURE:

- Sample prep: None
- Three specimens were tested.
- The bulk density of the specimens was determined by following the procedure in ASTM C97.
- After, drying the specimens the average index of abrasion (I_w) resistance was determined by following the procedure in ASTM C1353 using a Taber Abraser for 1,000 revolutions
- The relative humidity of the test area was 50%

TEST RESULTS:

	Index of Abrasion (Iw)
Specimen 1	52
Specimen 2	40
Specimen 3	66
Average:	53

COMMENTS: None

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TEST REQUESTED BY:

A. Grebelsky & Son

TEST SUBJECT MATERIAL:

Identified by client as: "Jersusalem Gold, Ramon Gold"

TEST METHOD:ASTM C1353-15: "Abrasion Resistance of Dimension Stone Subjected to Foot
Traffic Using a Rotary Platform Abraser"

ASTM SPECIFICATIONS*:

ASTM standard	Stone Type	Specification
ASTM C503	Marble (Calcite or Dolomite)	Minimum H _A 10 (ASTM C241)
ASTM C1527	Travertine (Interior or Exterior)	Minimum H _A 10 (ASTM C241)
ASTM C568	Limestone (Low Density)	Minimum H _A 10 (ASTM C241)
ASTM C568	Limestone (Medium Density)	Minimum H _A 10 (ASTM C241)
ASTM C568	Limestone (High Density)	Minimum H _A 10 (ASTM C241)
ASTM C615	Granite	Minimum H _A 25 (ASTM C241)
ASTM C616	Quartz (Sandstone)	Minimum H _A 2 (ASTM C241)
ASTM C616	Quartz (Quartzitic Sandstone)	Minimum H _A 8 (ASTM C241)
ASTM C616	Quartz (Quartzite)	Minimum H _A 8 (ASTM C241)

*For more detailed information, refer to ASTM C503 Specification for Marble Dimension Stone, ASTM C1527 Specification for Travertine Dimension Stone, ASTM C568 Specification for Limestone Dimension Stone, ASTM C616 Specification for Quartz-Based Dimension Stone and ASTM C615 Specification for Granite Dimension Stone

Note: I_W and H_A are similar values for softer stones like marble and limestone, but not for harder stones like granite. The specifications state the following regarding the abrasion methods: "The supplier of the No. 60 Alundum abrasive, Norton, has indicated that the formula for Norton treatment 138S has been changed. The new abrasive is currently more aggressive, resulting in lower abrasive hardness values (H_A) than when the standard (ASTM C241) was initially established. As such, care should be taken when interpreting H_A values from tests using the new abrasive, particularly with regard to current ASTM stone standard specification requirements for abrasion resistance, which were developed when the original abrasive was still in use. Committee C18 is actively studying alternatives to address this issue." "Abrasion resistance test method C1353 will eventually replace test method C241 and it is not necessary to perform both tests"

IMAGE OF PRODUCT TESTED:



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PAGE: 3 OF 3

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Katelyn Simpson Laboratory Manager