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FACULTY OF ENGINEERING  
DEPARTMENT OF MINING ENGINEERING

NATURAL STONE TECHNOLOGY LABORATORY  
32260 ISPARTA

## TECHNICAL REPORT

The physical and mechanical properties in accordance with TS EN standards of the marble sample (201500204 license number is expressed) belongs to Adalya Marble Industry Trade Inc.

September – 2015  
ISPARTA / TURKEY





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## PREFACE

Various laboratory tests were applied in accordance with TS EN standards to determine the physical and mechanical properties of marble samples (201500204 license number is expressed and location: Bekilli/Denizli/Turkey) belongs to **Adalya Marble Industry Trade Inc.** The results of tests are presented in Tables. 18 / 09 / 2015





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Sample Sender : Adalya Marble Industry Trade Inc.

License Number : 201500204

Date : 18 / 09 / 2015

PHYSICAL AND MECHANICAL PROPERTIES					
	Metric System		SI System		Standard
Hardness	Mohs	3 – 3.5	Mohs	3 – 3.5	TS 6809
Bulk Specific Gravity					
Dry	g/cm <sup>3</sup>	2.711 ± 0.001	kg/m <sup>3</sup>	2711 ± 1	TS EN 1936
Saturated	g/cm <sup>3</sup>	2.714 ± 0.001	kg/m <sup>3</sup>	2714 ± 1	TS EN 1936
Density	g/cm <sup>3</sup>	2.751 ± 0.009	kg/m <sup>3</sup>	2751 ± 9	TS EN 1936
Water Abs. at Atm. Press.					
by Volume	%	0.291 ± 0.036	%	0.291 ± 0.036	TS EN 13755
by Weight	%	0.108 ± 0.013	%	0.108 ± 0.013	TS EN 13755
Effective Porosity	%	0.291	%	0.291	TS EN 1936
Real Porosity	%	1.45	%	1.45	TS EN 1936
Fullness Ratio	%	98.55	%	98.55	TS 699
Water absorption coefficient by capillarity	g/m <sup>2</sup> .s <sup>0.5</sup>	0.39 ± 0.07	g/m <sup>2</sup> .s <sup>0.5</sup>	0.39 ± 0.07	TS EN 1925
Compressive Strength	kg/cm <sup>2</sup>	834 ± 115	MPa	81.8 ± 11.3	TS EN 1926
Compressive Strength after Freeze-Thaw (12 cyc.)	kg/cm <sup>2</sup>	789 ± 49	MPa	77.3 ± 4.8	TS EN 12371
Changing of Compressive Strength after Freeze-Thaw (-)	%	5.39	%	5.39	TS EN 12371
Decreasing of Weight after Freeze-Thaw	%	0.039	%	0.039	TS EN 12371
Flexural Strength Under Concentrated Load	kg/cm <sup>2</sup>	147 ± 22	MPa	14.4 ± 2.2	TS EN 12372
Changing of Flexural Strength after Freeze-Thaw (-) (12 cyc.)	kg/cm <sup>2</sup>	134 ± 15	MPa	13.1 ± 1.4	TS EN 12371
Changing of Flexural Strength after Freeze-Thaw (-)	%	8.57	%	8.57	TS EN 12371
Resist. to ageing by thermal shock					
by weight (-)	%	0.018	%	0.018	TS EN 14066
by modulus of elasticity (-)	%	20.46	%	20.46	TS EN 14066
Water vapour resistance factor (dry)	μ-value	10000	μ-değeri	10000	TS EN 12524
Thermal conductivity (λ)	W/m.K	2.55	W/m.K	2.55	TS EN 12524 (Thermal resist.)
Abrasion Strength (Method-B/Bohme)	cm <sup>3</sup> /50cm <sup>2</sup>	10.28 ± 0.5	cm <sup>3</sup> /50 cm <sup>2</sup>	10.28 ± 0.5	TS EN 14157
Slip Resistance					
Dry	SRV	44.7 ± 2.5	SRV	44.7 ± 2.5	TS EN 14231
Wet		29.1 ± 3.1		29.1 ± 3.1	TS EN 14231
P-Wave Velocity	m/s	5638 ± 260	m/s	5638 ± 260	TS EN 14579

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