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FACULTY OF ENGINEERING  
DEPARTMENT OF MINING ENGINEERING

NATURAL STONE TECHNOLOGY LABORATORY  
32260 ISPARTA

**TECHNICAL REPORT**

The physical, mechanical and petrographic properties in accordance with TS EN standards of the marble samples called as "Monte Bello" belongs to Adalya Marble Industry Trade Inc.

June – 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 and petrographic descriptions of marble samples called as “**Monte Bello**” belongs to **Adalya Marble Industry Trade Inc.**. The results of tests are presented in Tables. 02 / 06 / 2015





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Company Name : Adalya Marble Industry Trade Inc.

Commercial Designation of Sample : Monte Bello

Date: 02 / 06 / 2015

PHYSICAL AND MECHANICAL PROPERTIES					
	Metric System		SI System		Standard
Hardness	Mohs	3.5 - 4	Mohs	3.5 - 4	TS 6809
Bulk Specific Gravity					
Dry	g/cm <sup>3</sup>	2.689 ± 0.001	kg/m <sup>3</sup>	2689 ± 1	TS EN 1936
Saturated	g/cm <sup>3</sup>	2.696 ± 0.001	kg/m <sup>3</sup>	2696 ± 1	
Density	g/cm <sup>3</sup>	2.718 ± 0.006	kg/m <sup>3</sup>	2718 ± 6	TS EN 1936
Water Abs. at Atm. Press.					
by Volume	%	0.689 ± 0.05	%	0.689 ± 0.05	TS EN 13755
by Weight	%	0.256 ± 0.02	%	0.256 ± 0.02	
Effective Porosity	%	0.689	%	0.689	TS EN 1936
Real Porosity	%	1.06	%	1.06	TS EN 1936
Fullness Ratio	%	98.94	%	98.94	TS 699
Water absorption coefficient by capillarity	g/m <sup>2</sup> .s <sup>0.5</sup>	0.57 ± 0.18	g/m <sup>2</sup> .s <sup>0.5</sup>	0.57 ± 0.18	TS EN 1925
Compressive Strength	kg/cm <sup>2</sup>	1222 ± 111	MPa	119.8 ± 10.9	TS EN 1926
Compressive Strength after Freeze-Thaw (12 cyc.)	kg/cm <sup>2</sup>	1161 ± 64	MPa	113.8 ± 6.2	TS EN 12371
Changing of Compressive Strength after Freeze-Thaw (-)	%	5.00	%	5.00	TS EN 12371
Decreasing of Weight after Freeze-Thaw	%	0.004	%	0.004	TS EN 12371
Flexural Strength Under Concentrated Load	kg/cm <sup>2</sup>	67 ± 15	MPa	6.6 ± 1.5	TS EN 12372
Changing of Flexural Strength after Freeze-Thaw (-) (12 cyc.)	kg/cm <sup>2</sup>	62 ± 9	MPa	6.1 ± 0.8	TS EN 12371
Changing of Flexural Strength after Freeze-Thaw (-)	%	7.15	%	7.15	TS EN 12371
Resist. to ageing by thermal shock					
by weight (-)	%	0.035	%	0.035	TS EN 14066
by modulus of elasticity (-)	%	15.03	%	15.03	
Water vapour resistance factor (dry)	μ-value	275	μ-değeri	275	TS EN 12524
Thermal conductivity (λ)	W/m.K	2.52	W/m.K	2.52	TS EN 12524 (Thermal resist.)
Abrasion Strength (Method-B/Bohme)	cm <sup>3</sup> /50cm <sup>2</sup>	9.0 ± 0.3	cm <sup>3</sup> /50 cm <sup>2</sup>	9.0 ± 0.3	TS EN 14157
Slip Resistance					
Dry	SRV	43.7 ± 0.7	SRV	43.7 ± 0.7	TS EN 14231
Wet		23.7 ± 0.8		23.7 ± 0.8	
P-Wave Velocity	m/s	6130 ± 67	m/s	6130 ± 67	TS EN 14579



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