

T.R.
SULEYMAN DEMIREL UNIVERSITY
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 "Hera" belongs to Adalya Marble Industry Trade Inc.

June – 2015
ISPARTA / TURKEY





T.R.
SULEYMAN DEMIREL UNIVERSITY
MINING ENGINEERING DEPARTMENT
NATURAL STONE TECHNOLOGY LABORATORY
32260 / ISPARTA/TURKEY

Phone: +90 246 211 1308 - 211 1305 - 211 1703 Fax: +90 246 237 0859
Gsm: (532) 408 4974 (538) 735 0209
E-mail: servetdemirdag@sdu.edu.tr; nazmisengun@sdu.edu.tr

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 “**Hera**” belongs to **Adalya Marble Industry Trade Inc.**. The results of tests are presented in Tables. 02 / 06 / 2015





T.R.
SULEYMAN DEMIREL UNIVERSITY
MINING ENGINEERING DEPARTMENT
NATURAL STONE TECHNOLOGY LABORATORY
32260 / ISPARTA/TURKEY

Phone: +90 246 211 1308 - 211 1305 - 211 1703 Fax: +90 246 237 0859

Gsm: (532) 408 4974 (538) 735 0209

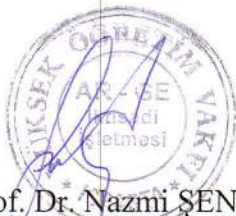
E-mail: servetdemirdag@sdu.edu.tr; nazmisengun@sdu.edu.tr

Company Name : **Adalya Marble Industry Trade Inc.**

Commercial Designation of Sample : **Hera**

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 ³	2.678 ± 0.007	kg/m ³	2678 ± 7	TS EN 1936	
Saturated	g/cm ³	2.685 ± 0.007	kg/m ³	2685 ± 7		
Density	g/cm ³	2.706 ± 0.004	kg/m ³	2706 ± 4	TS EN 1936	
Water Abs. at Atm. Press.						
by Volume	%	0.737 ± 0.07	%	0.737 ± 0.07	TS EN 13755	
by Weight	%	0.275 ± 0.03	%	0.275 ± 0.03		
Effective Porosity	%	0.737	%	0.737	TS EN 1936	
Real Porosity	%	1.05	%	1.05	TS EN 1936	
Fullness Ratio	%	98.95	%	98.95	TS 699	
Water absorption coefficient by capillarity	g/m ² .s ^{0.5}	0.57 ± 0.13	g/m ² .s ^{0.5}	0.57 ± 0.13	TS EN 1925	
Compressive Strength	kg/cm ²	1105 ± 133	MPa	108.4 ± 13.0	TS EN 1926	
Compressive Strength after Freeze-Thaw (12 cyc.)	kg/cm ²	960 ± 86	MPa	94.1 ± 8.4	TS EN 12371	
Changing of Compressive Strength after Freeze-Thaw (-)	%	13.12	%	13.12	TS EN 12371	
Decreasing of Weight after Freeze-Thaw	%	0.004	%	0.004	TS EN 12371	
Flexural Strength Under Concentrated Load	kg/cm ²	103 ± 9	MPa	10.1 ± 0.9	TS EN 12372	
Changing of Flexural Strength after Freeze-Thaw (-) (12 cyc.)	kg/cm ²	90 ± 11	MPa	8.9 ± 1.1	TS EN 12371	
Changing of Flexural Strength after Freeze-Thaw (-)	%	12.7	%	12.7	TS EN 12371	
Resist. to ageing by thermal shock						
by weight (-)	%	0.049	%	0.049	TS EN 14066	
by modulus of elasticity (-)	%	14.19	%	14.19		
Water vapour resistance factor (dry)	μ-value	272	μ-value	272	TS EN 12524	
Thermal conductivity (λ)	W/m.K	2.50	W/m.K	2.50	TS EN 12524 (Thermal resist.)	
Abrasion Strength (Method-B/Bohme)	cm ³ /50cm ²	10.2 ± 0.8	cm ³ /50 cm ²	10.2 ± 0.8	TS EN 14157	
Slip Resistance						
Dry	SRV	38.0 ± 0.4	SRV	38.0 ± 0.4	TS EN 14231	
Wet		27.8 ± 0.6		27.8 ± 0.6		
P-Wave Velocity	m/s	6055 ± 98	m/s	6055 ± 98	TS EN 14579	



Assoc. Prof. Dr. Nazmi ŞENGÜN



Assoc. Prof. Dr. Servet DEMİRDAĞ