

**SULEYMAN DEMIREL UNIVERSITY**  
**MINING ENGINEERING DEPARTMENT**  
**NATURAL STONE TECHNOLOGY LABORATORY**  
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Sample Owner Company: **Portsan Marble A.Ş.**  
Commercial Designation of Sample: **Portsan Finike Limestone**

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<b>PHYSICAL and MECHANICAL PROPERTIES</b>						
	<b>METRIC SYSTEM</b>		<b>SI SYSTEM</b>		<b>BRITISH SYSTEM</b>	
Hardness	Mohs	2.5-3	Mohs	2.5-3	Mohs	2.5-3
Unit Volume Weight						
Dry	gr/cm <sup>3</sup>	2.232±0.010	kg/m <sup>3</sup>	2678±20	lbs/ft <sup>3</sup>	139.34±0.62
Saturated	gr/cm <sup>3</sup>	2.247±0.013	kg/m <sup>3</sup>	2247±13	lbs/ft <sup>3</sup>	140.28±0.81
Specific Weight	gr/cm <sup>3</sup>	2.689±0.02	kg/m <sup>3</sup>	2689±20	lbs/ft <sup>3</sup>	167.87±1.25
Water Absorbion at Atmosferic Pressure						
by volume	%	11.819±0.40	%	11.819±0.40	%	11.819±0.40
by weight	%	6.151±0.213	%	6.151±0.213	%	6.151±0.213
Water Absorbion at Boiling Water						
by volume	%	14.818±0.42	%	14.818±0.42	%	14.818±0.42
by weight	%	6.726±0.22	%	6.726±0.22	%	6.726±0.22
Effective Porosity	%	11.819±0.40	%	11.819±0.40	%	11.819±0.40
Real Porosity	%	16,45	%	16,45	%	16,45
Ratio of Fullness	%	83,55	%	83,55	%	83,55
P-Wave Velocity (Vp)	m/s	3653±137	km/s	3.653±0.137	ft/s	11981.84±449
Compressive Strength	kg/cm <sup>2</sup>	514.23±53	MPa	50.43±5.23	Psi	7313.96±759
Compressive Strength After Freezing	kg/cm <sup>2</sup>	488.33±68	MPa	47.89±6.67	Psi	6945.58±967.36
Compressive Strength Decreasing After Freezing	%	5.04	%	5.04	%	5.04
Weight Decreasing After Freezing	%	0.011	%	0.011	%	0.011
Flexural Strength under Concentrated Load	kg/cm <sup>2</sup>	59.14±6.12	MPa	5.80±0.60	Psi	841.19±87.02
Flexural Strength under Constant Moment	kg/cm <sup>2</sup>	62.92±8.87	MPa	6.17±0.87	Psi	894.85±126.18
Strength to Blow	kg.cm/cm <sup>3</sup>	20±1	kg.cm/cm <sup>3</sup>	20±1	kg.cm/cm <sup>3</sup>	20±1
Abrasion Strength (Bohme)	cm <sup>3</sup> /50cm <sup>2</sup>	40.28±2.50	cm <sup>3</sup> /50cm <sup>2</sup>	40.28±2.50	cm <sup>3</sup> /50cm <sup>2</sup>	40.28±2.50
Tensile Strength (Brazilian Test)	kg/cm <sup>2</sup>	30.08±3.26	MPa	2.95±0.32	Psi	427.84±46.41
Point Load Strength Index (I <sub>s(50)</sub> )	kg/cm <sup>2</sup>	21.62±5.51	MPa	2.12±0.54	Psi	307.47±78.32
Schmidt Rebound Hardness		34±1		34±1		34±1

Assist.Prof. Dr. Ibrahim Uğur

