

Shayan Marble Physical Characteristics
EUROPEAN STANDARD: DIN EN 12371: 2010

Test items	Test methods	Test results
Petrographic description	EN 12407: 2007	Sedimentary (Marble) Fractured.
Apparent density	EN 1936: 2006	2700 kg/m ³
Open porosity	EN 1936: 2006	0.41 %
Water absorption	EN 1925: 2008	0.15 %

Determination of Frost Resistance
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Summary of test results
(Average value)

Flexural strength in natural condition	EN 12372: 2006	7.67 MPa	
Flexural strength after 120 cycles freeze/thaw	EN 12371: 2010 EN 12372: 2006	6.27 MPa	18.25
Compressive strength in natural condition	EN 1926: 2006	63.92 MPa	
Compressive strength after 120 cycles freeze/thaw	EN 12371: 2010 EN 1926: 2006	43.87 MPa	31.37
Static modulus before testing	EN 14146	19.20 GPa	
Static modulus after 120 cycles freeze/thaw	EN 14146	18 GPa	6.25
Dynamic Modulus before testing	EN 14580	45.44 GPa	
Dynamic Modulus after 120 cycles freeze/thaw	EN 14580	41.87 GPa	7.85

Shayan Marble Chemical Characteristics

SiO ₂	0.57 %	LoI	43.46 %
Al ₂ O ₃	0.04 %	SO ₃	0.026 %
Fe ₂ O ₃	0.41 %	Cl	67 ppm
CaO	54.49 %	Ba	173 ppm
Na ₂ O	0.12 %	Sr	221 ppm
K ₂ O	0.11 %	Cu	14 ppm
MgO	0.43 %	Zn	15 ppm
TiO ₂	0.006 %	Pb	40 ppm
MnO	0.001 %	Ni	28 ppm
P ₂ O ₅	0.085 %	Cr	2 ppm