Pilion Schists Neochori

Scale 1:1

Short description: Fine-grained, green coloured mylonite with off white agglomerates and white spots. Foliation planes are visible to the naked eye.

Commodity (vocabulary)	Lithology (vocabulary)	Typical colour (code list)	Place of origin			
			Country	County / District / Province	Municipality / Community	Place/town / Village
Slate/Schist	Mylonite	Green	Greece	Thessalia	Volos	Neochori

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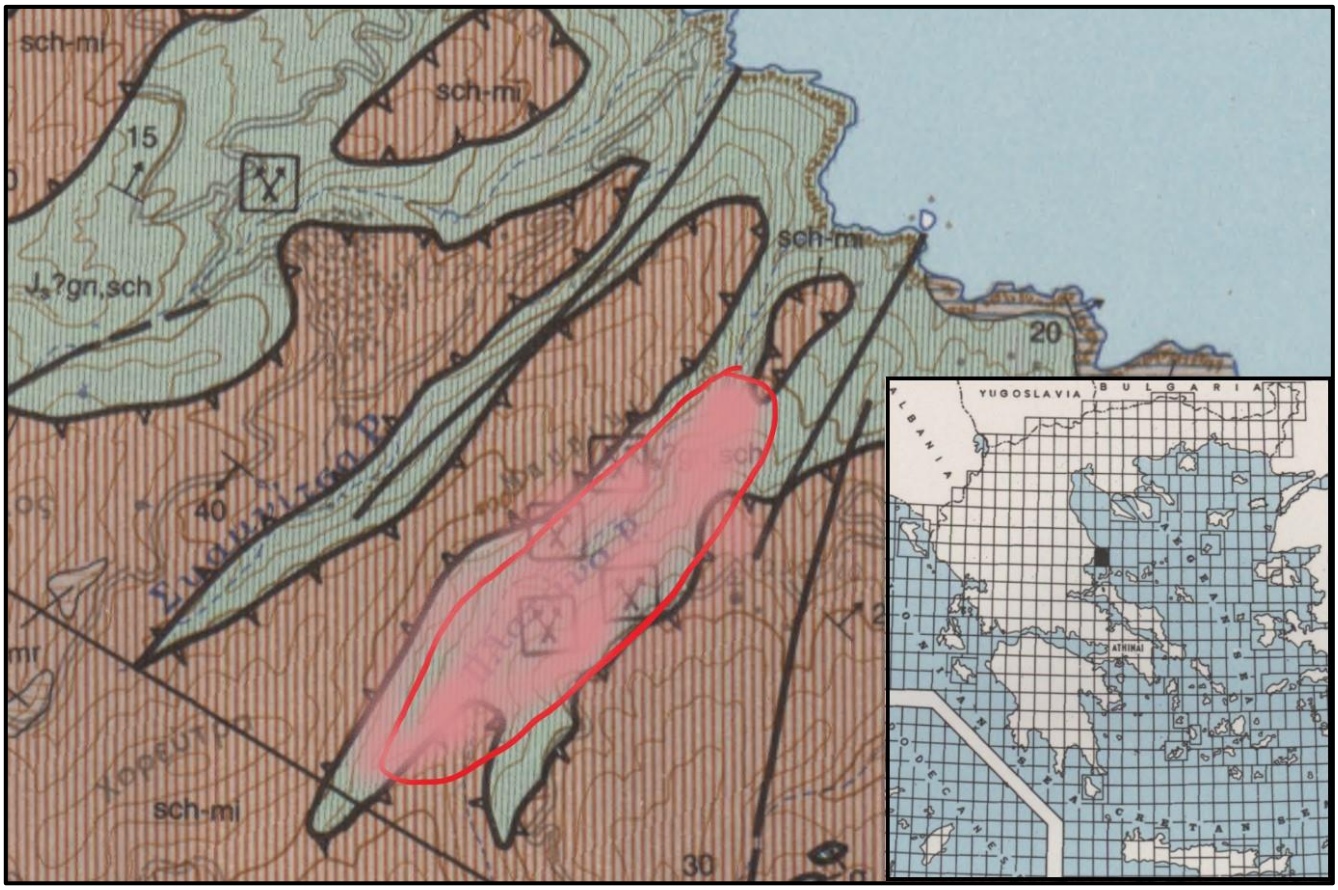
Geological setting



Geology: Pilion Schists – Neochori (red marking) belong to the formations of Pelagonian Zone and precisely to Schists – gneisses – schistgneisses. They overlie normally the middle Triassic – upper Jurassic marbles. They are mainly gneisses and locally augen-gneisses, schistgneisses and less schists, greenish in colour. The gneisses are leucocratic, alternating with the schistgneisses and the schists. Their main mineralogical constituents are feldspars, chlorite, micas, calcite, quartz and epidotes. In the area of Kalamaki village, where they are being extracted, they are epidote-chlorite-muscovite-quartz schistgneisses.
(Source: Geological Map of Greece 1:50000, Zagora Syki Sheet)

Production: The most important quarry area is near Kalamaki and Neochori villages, in South Pelion.

Geological age: Upper Jurassic

Geological unit: Pelagonian Zone

Application, use and heritage

Description: Pilion Schists – Neochori can be used as building material for various stone constructions, such as terraces, gutters, benches and walls. They are ideal for paving of roads and footpaths, for the construction of floors (indoor and especially outdoor). They are also used for wall coverings.

Photos taken from Pilion Schists quarries

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Pilion stones extracted from Pilion Schists quarries

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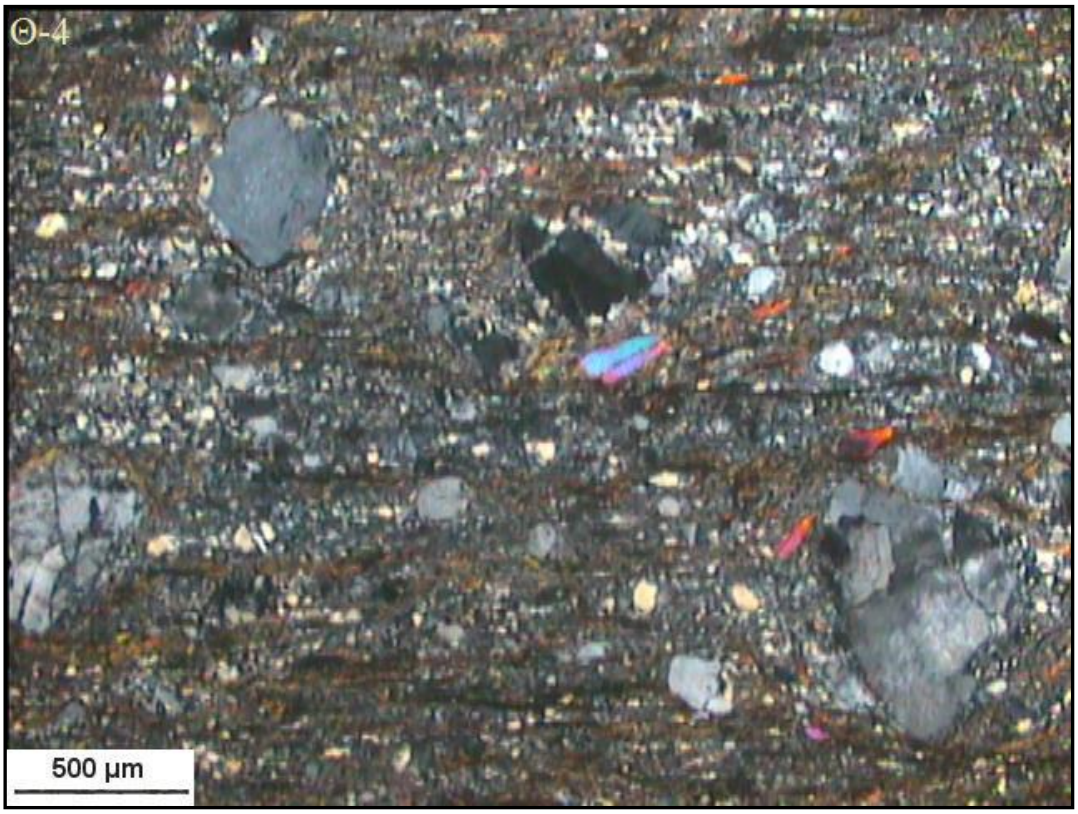
Outdoor and indoor flooring with Pilion Schists

Petrography



Description: Photomicrograph of thin section, showing the hypidiomorphic, elongated and oriented crystals. The foliation planes are visible to the naked eye. The texture is protomylonite. Quartz phenocrysts display undulatory extinction, while muscovite crystals exist in the form of “micafish”. The green colour is due to muscovite and chlorite presence, while the off white agglomerates and the white spots are due to quartz and feldspars.

Source of information: Hellenic Survey of Geology and Mineral Exploration

Mineral composition

If no accurate number, use MM=main minerals, SM = Subordinate minerals, AM=accessory minerals

Quartz (%)	Feldspars - Albite (%)	Muscovite - Mica (%)	Kaolinite (%)	Chlorite (%)	Opaque minerals (%)	
36	32	30	1	1	AM	

Source of information: Hellenic Survey of Geology and Mineral Exploration

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Physical properties

Apparent density (EN 1936) kg/m^3	Open porosity (EN 1936) % vol	Water absorption at atmospheric pressure (EN 13755) % wt	Uniaxial Compressive strength (EN 1926) MPa	Flexural strength under concentrated load (EN 12372) MPa
2690	1,1	0,3	-	34,3

Real density (EN 1936) kg/m^3	Total porosity (EN 1936) % vol	Water absorption coefficient by capillary (EN 1925) (g/m^2 x s^{0,5})	Flexural strength under constant moment (EN 13161) MPa

Frost resistance (EN 12371)				
Technological Test (Test A)				Identification Test (Test B): Number of cycles completed prior to stone failure
Flexural strength (EN 12372) after freeze-thaw cycling, MPa	Number of cycles	Uniaxial compressive strength (EN 1926) after freeze-thaw cycling, MPa	Number of cycles	
37,6	48			

Resistance to ageing by thermal shock (EN 14066)			
Change in dynamic modulus of elasticity (increase: +; decrease: -) %	Change in open porosity (increase: +; decrease: -) %	Change in ultrasound pulse velocity (increase: +; decrease: -) %	Change in flexural strength under conc. load (increase: +; decrease: -) %
-		-	

Abrasion resistance (EN 14157)			Resistance to salt crystallisation (EN 12370)	Breaking load at dowel hole (EN 13364)	
Method A - Wide Wheel Abrasion Test, mm	Method B - Böhme Abrasion Test, cm^3 / 50cm^2	Method C - Amsler Abrasion Test, mm	Change in mass (increase: +; decrease: -), %	Breaking load, N	Thickness of the test specimens, mm
20,5	10	-	-	-	-

Slip resistance by means of the pendulum tester (EN 14231 / CEN/TS 16165)			Rupture energy (EN 14158), Joule	Thermal Conductivity (EN 1745), W/m·K
Tested surface finish	Slip Resistance Value — SRV			
	Dry test condition	Wet test condition		
			9	-

Source of information: Hellenic Survey of Geology and Mineral Exploration

Chemical properties

Main elements

SiO_2 (%)	Al_2O_3 (%)	Fe_2O_3 (%)	TiO_2 (%)	MgO (%)	CaO (%)	Na_2O (%)	K_2O (%)	MnO (%)	P_2O_5 (%)	SO_3 (%)	LOI (%)
71,5	14,65	1,85	<0,05	0,65	1,60	3,71	3,75	<0,05	-	-	1,12

Trace elements

V (ppm)	Cr (ppm)	Mn (ppm)	Co (ppm)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)
18	35	289	2,0	17	5,0	52	2,0
Sr (ppm)	Cd (ppm)	Ba (ppm)	Pb (ppm)	Be (ppm)	Rb (ppm)	Bi (ppm)	U (ppm)
179	<1,0	535	26	2,0	113	<1,0	2,0
Sc (ppm)	Y (ppm)	Th (ppm)	Sb (ppm)	Ta (ppm)	Nb (ppm)	Zr (ppm)	Sn (ppm)
5,0	15	9,0	1,0	2,3	15,1		
Ag (ppm)	B (ppm)	Mo (ppm)	W (ppm)	Ga (ppm)	Ge (ppm)	Se (ppm)	Cs (ppm)
Tl (ppm)							

REE

La (ppm)	Ce (ppm)	Pr (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Gd (ppm)	Tb (ppm)
Dy (ppm)	Ho (ppm)	Er (ppm)	Tm (ppm)	Yb (ppm)	Lu (ppm)		

Methods applied and source of information: Hellenic Survey of Geology and Mineral Exploration

Sources of more information

Type of information	Name of provider	URL
This data sheet	Hellenic Survey of Geology and Mineral Exploration	https://www.eagme.gr/
Non-commercial directory		
Commercial directory		
Scientific publication		
Other publication		

Compiled by:	**Hellenic Survey of Geology and Mineral Exploration (H.S.G.M.E.)** https://www.eagme.gr/	