

Rauris Marmor

Rauriser Kristallmarmor

Rauriser Dunkelblau/Weiß



5 cm

Short description: fine to medium crystalline, usually mica-rich marble, partially white, partially dark blue in colour

Commodity (vocabulary)	Lithology (vocabulary)	Typical colour (code list)	Place of origin			
			Country	County / District / Province	Municipality / Community	Place/town / Village
Commercial Marble	Marble	Blue-grey	Austria	Zell am See / Salzburg	Rauris	Adelkaralm

Geological setting



Geology: In the Hohe Tauern, sequences of marbles (light blue signature with red strokes on the map) several tens of metres thick occur in the area between the Rauris valley and the Gastein valley. These marbles are partly pure white, partly dark blue and bituminous; what they all have in common is the ubiquitous mica; in some areas there is also an intercalation with calcareous mica schists or muscovite-biotite mica schists.

Production: The quarrying area is limited to a single quarry in the area of the Adelkaralm in the rear Rauris valley (red marking).

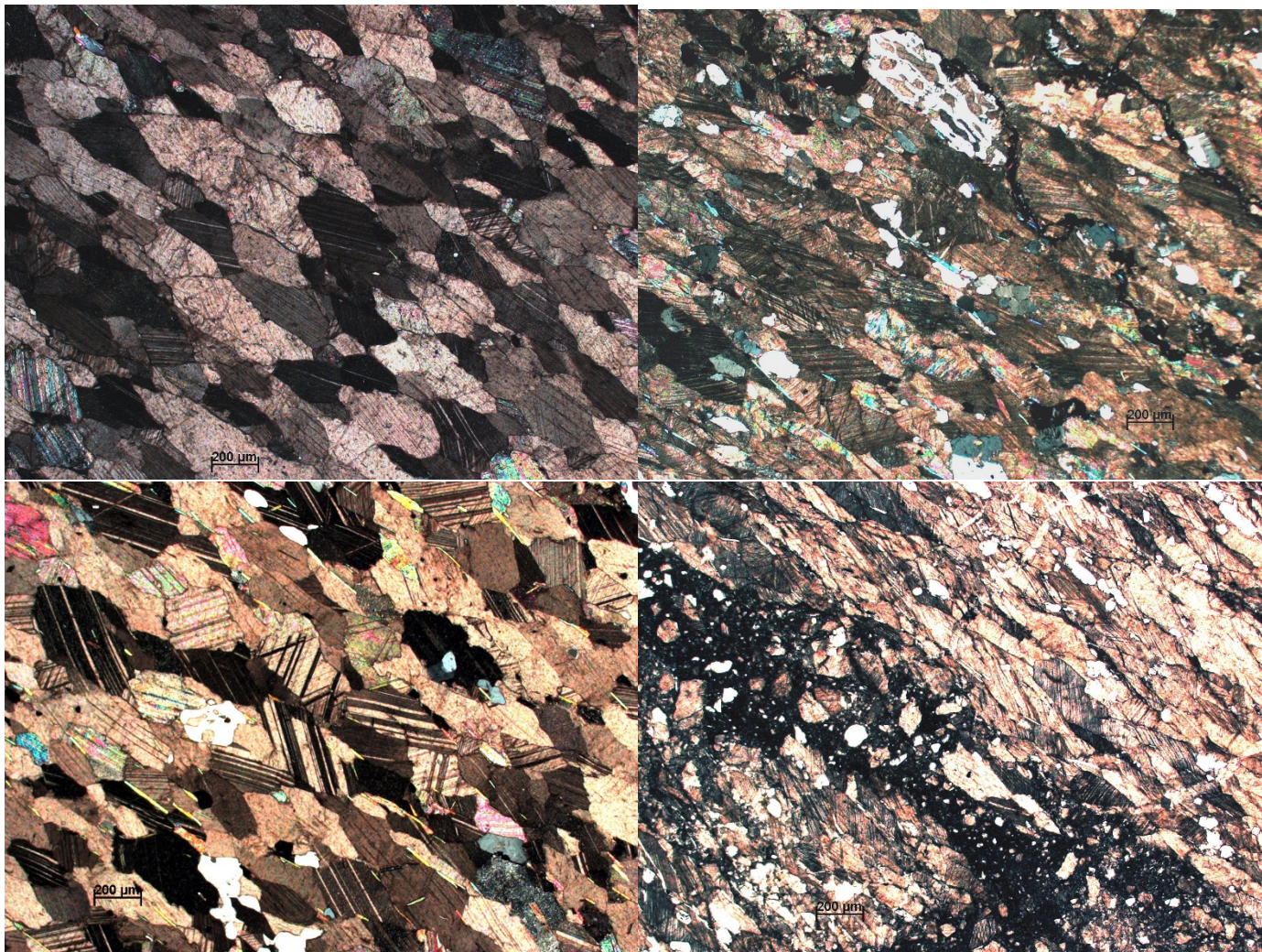
Geological age: Late Jurassic (Malm)

Geological unit: Angertal-Marmor / Silbireck Marmor (URI: <http://resource.geolba.ac.at/GeologicUnit/114>);
tectonic unit: Venediger Nappe System (URI: <http://resource.geolba.ac.at/tectonicunit/286>)

Application, use and heritage

Description: Rauris Marble can be grouped into distinct but just slightly differing shades of colours (white, light blue, blue). The stone is mainly used for the production of a wide variety of slabs for interior and exterior use. The most common applications include façade slabs, floor slabs, steps, pools and wellness areas, solid kitchen slabs, washbasins as well as bathtubs.

Petrography



Description: The marbles at Adelkaralm are mainly fine grained (about 0.1 - 1 mm) and foliated. The thin sections are from different stratigraphical sections within the quarry. There are seldom pure white marbles (upper left), more often there occur light but micaceous marbles with some quartz (lower left). Examples from the grey marbles are the siliceous marble with feldspar idioblasts and calcite inclusions, with limonitized pyrite and much organic substance (upper right), and the marble with cataclastic bands parallel to the schistosity (lower right). All but last photomicrograph with crossed polarizing filters.

Source of information: Geological Survey of Austria (GBA)

Mineral composition

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

Calcite	Quartz	Albite	Muscovite	Chlorite	Zoisite	Disthene
MM	SM	SM	SM	SM	AM	AM
Pyrite						
AM						

Source of information: Geological Survey of Austria (GBA)

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

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	

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

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		

Source of information:

Chemical properties

Main elements

SiO ₂ (%)	Al ₂ O ₃ (%)	Fe ₂ O ₃ (%)	TiO ₂ (%)	MgO (%)	CaO (%)	Na ₂ O (%)	K ₂ O (%)	MnO (%)	P ₂ O ₅ (%)	SO ₃ (%)	LOI (%)
2,90	0,74	0,31	0,06	0,77	52,7	0,05	0,26	0,08	0,24		41,5

Trace elements

V (ppm)	Cr (ppm)	Mn (ppm)	Co (ppm)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)
Sr (ppm)	Cd (ppm)	Ba (ppm)	Pb (ppm)	Be (ppm)	Rb (ppm)	Bi (ppm)	U (ppm)
Sc (ppm)	Y (ppm)	Th (ppm)	Sb (ppm)	Ta (ppm)	Nb (ppm)	Zr (ppm)	Sn (ppm)
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: average value from 2 samples; analysis of major and minor elements: energy-dispersive X-ray fluorescence analysis; gravimetric determination of the loss on ignition; Geological Survey of Austria (GBA)

Sources of more information

Type of information	Name of provider	URL
This data sheet	Geological Survey of Austria (GBA)	https://www.geologie.ac.at
Non-commercial directory		
Commercial directory		
Scientific publication		
Other publication		

Kieslinger, A. (1963): Die nutzbaren Gesteine Salzburgs.- Mitteilungen der Gesellschaft für Salzburger Landeskunde: Ergänzungsband, xi+435 S., Bergland-Buch, Salzburg.

Picture of stone surfaces: Source: Werbegemeinschaft der Steinmetzmeister im Rahmen der österreichischen Bundesinnung unter Mitarbeit der Landesinnungen Wien, Niederösterreich, Oberösterreich und Steiermark (Ed., 1994): Naturstein II.- Natursteinkatalog, 96 Bl., Wien.

Geological map: Pestal, G., Hejl, E. & Braunstingl, R. (2005): Geologische Karte von Salzburg 1:200.000.- 1 Bl., Geologische Bundesanstalt, Wien.

Topographic map: Basemap.at (<https://basemap.at>)

Compiled by:	Geological Survey of Austria (GBA) https://www.geologie.ac.at	 Geologische Bundesanstalt
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