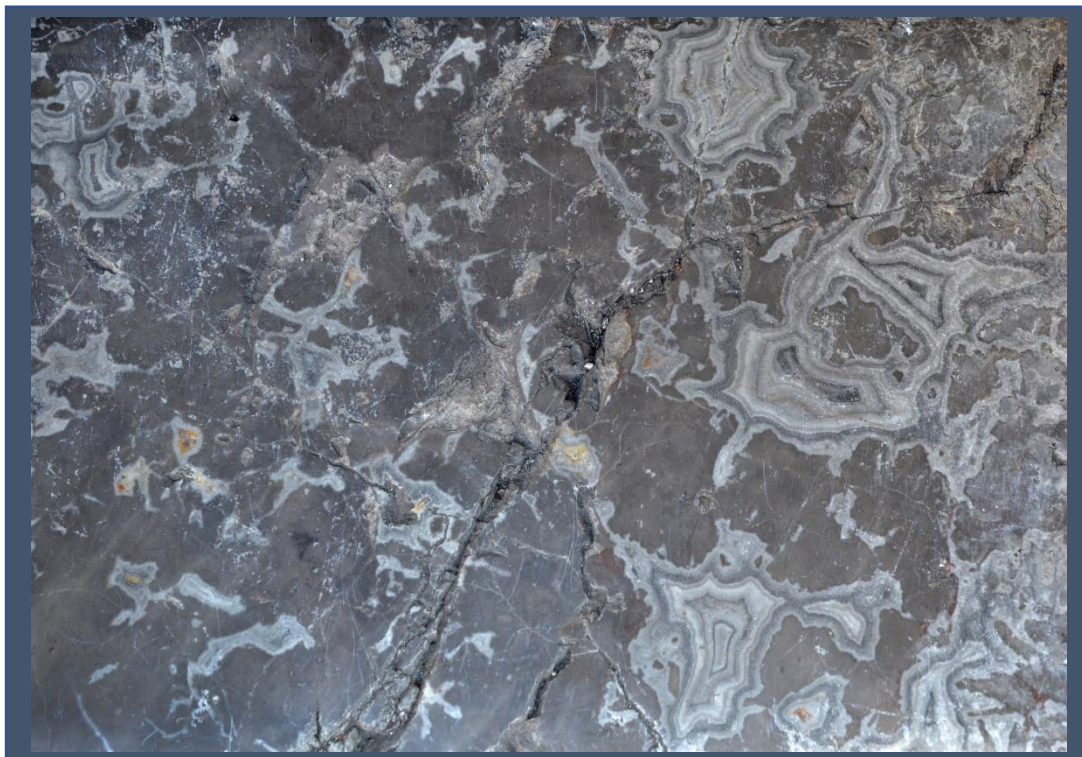


Gliniški apnenec

Glinice limestone

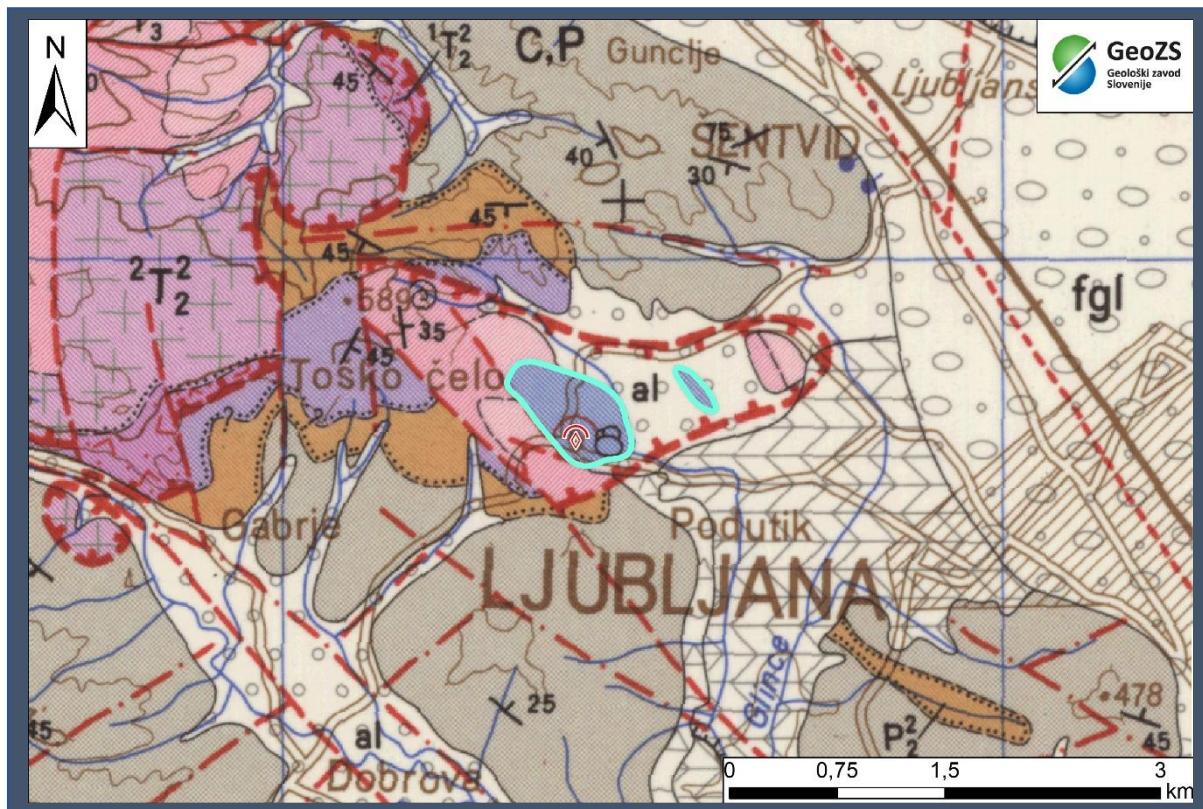


10 cm

Short description: Grey or dark grey, fine-grained, micritic or ooid limestone with numerous white and red calcite veins, with numerous fissures and corrosion vuges. The image displays a polished surface.

Commodity (vocabulary)	Lithology (vocabulary)	Typical colour (code list)	Place of origin			
			Country	County / District / Province	Municipality / Community	Place/town / Village
limestone	limestone	grey	Slovenia	Notranjska (traditional province)	Brezovica	Glinice, Podutik

Geological setting



Geology: A shallow-marine thick-bedded limestone formed on the Dinaric carbonate platform. It is exposed in a fault-bounded block at the village of Glinice, which has given the stone-mason's name to the limestone.

Production: Abandoned quarry in Glinice, near Podutik (W Ljubljana).

Geological age: Lower Jurassic (Lower Lias)

Geological unit: Outer Dinarides – middle Lower Jurassic limestone and dolomite

Application, use and heritage

Description: This grey micritic limestone with interbeds of oolitic and oncolytic limestone is used as decorative and building stone mainly in Ljubljana. The quarry near Podutik had been active from Roman times.



The large entrance portal of the Souvan house (1827) is made of Glinice limestone. Both ribbed pillars exhibit typical cockade texture.

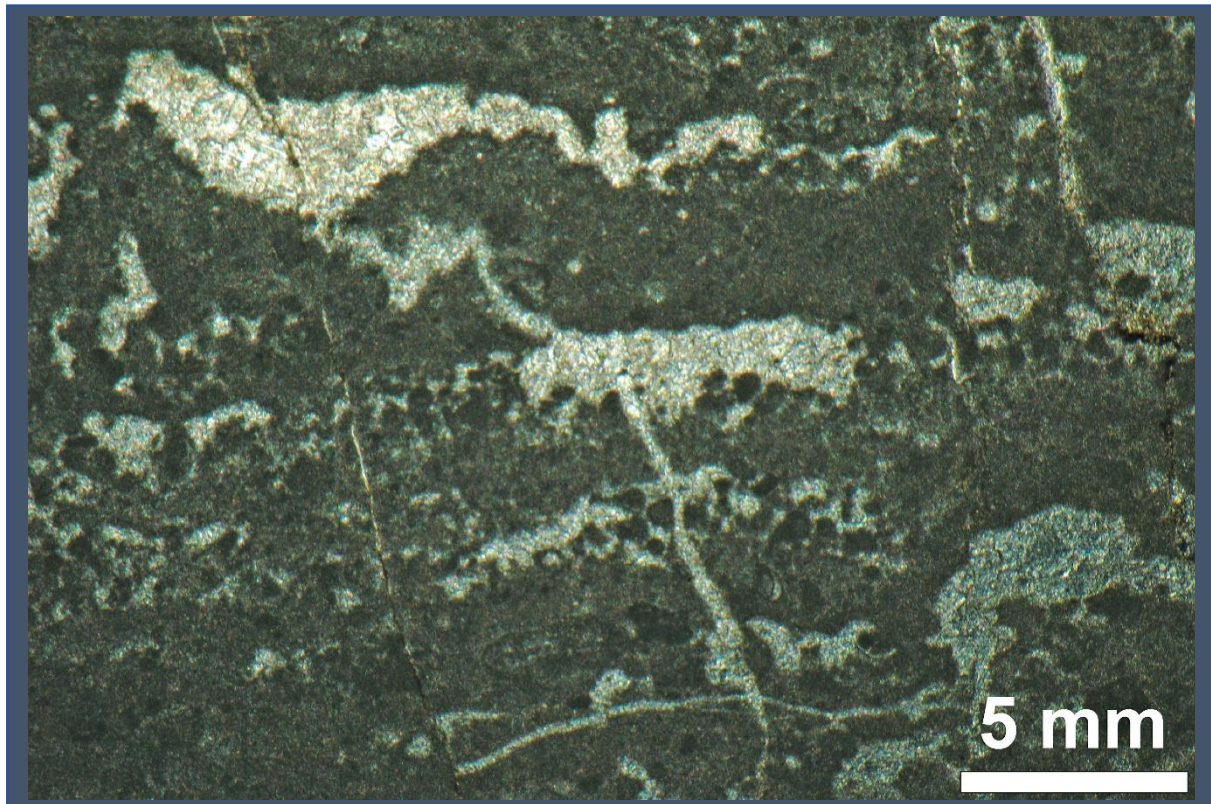


The central Špital bridge made of Glinice limestone dates back to 1842. Arch. Jože Plečnik added the left and right concrete bridges in the years 1929–31 to make one of the most recognizable sites of Ljubljana.



An old fountain carved from Glinice limestone.

Petrography



Description: Micritic and algal biomicritic limestones prevail, interrupted by interbeds of oosparitic limestones.
Photo: R. Brajkovič

Source of information: Geological Survey of Slovenia, Ramovš, 1990; Novak, 2003.

Mineral composition

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

Mineral 1 (%)	Mineral 2 (%)	Mineral 3 (%)	Mineral 4 (%)	Mineral 5 (%)	Mineral 6 (%)	Mineral 7 (%)

Source of information:

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		

Methods applied and 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 (%)

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:

Sources of more information

Type of information	Name of provider	URL
This data sheet		
Non-commercial directory	Geological Survey of Slovenia: Mining Registry Book	https://www.ms.geo-zs.si/en-GB
Commercial directory		
Scientific publication	RAMOVŠ, A. 1990. Gliničan od Emone do danes. Geološki zbornik 9, 171 pp. MIRTIČ, B., MLADENVIČ, A., RAMOVŠ, A., SENEGAČNIK, A., VESEL, J., & VIŽINTIN, N. 1999. Slovenski naravni kamen. Ljubljana, Geological Survey of Slovenia, Slovenian National Building and Civil Engineering Institute, University of Ljubljana Geology department. 131 pg. NOVAK, M. 2003. Zgornjetriasne in spodnjejurske plasti na območju Podutika pri Ljubljani. Geologija, 46/1, 65-74.	
Other publication		

Compiled by:	Geological Survey of Slovenia (GeoZS) www.geo-zs.si	Logo 
---------------------	---	--