

Drammensgranitt (Drammen Granite)

Røykengranitt

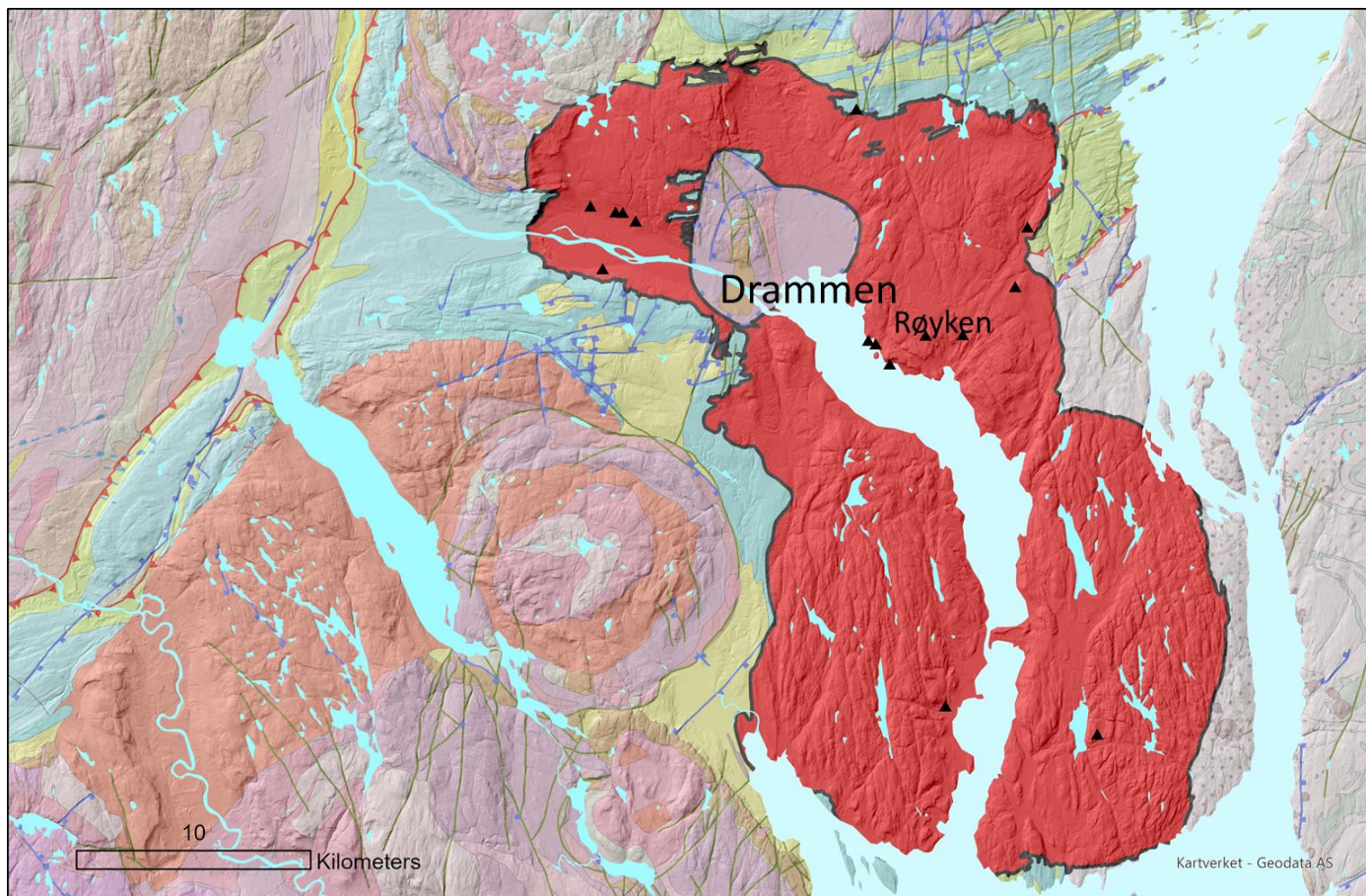


5 centimeters

Short description: Brownish red, coarse-grained granite. 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
Commercial Granite	Granite	Redish brown	Norway	Viken	Røyken	Høgåsen

Geological setting



Geology: The Drammen Granite is the collective name of a group of plutons of predominantly granitic composition. It crops out SW Oslo around the city of Drammen (red colour). Black triangles are main quarry sites, most of them historic. The Drammen granite belongs to a range of igneous rocks in the Carboniferous-Permian Oslo rift.

Production: There are tens of historic quarry sites in the area, producing building-stone, monuments and paving stone. Quarrying initiated in the late 19th century, reaching a peak in the early 20th century. Around 1900, 5000 workers produced granite in the area for domestic and foreign markets. At present time, only one quarry near Røyken is in production.

Geological age: Permian 267 Ma

Geological unit: [Drammensgranitten](#)

Application, use and heritage

Description: The granite was employed for buildings and monuments from the mid-1800's, and was important in the Oslo architecture early 20th century. Many cities in Norway have listed buildings with Drammen granite façades. It was also used for acid-resistant production towers at a Norwegian nitrate factory. Post WW2 the granite has been most important for outdoor use, such as kerbs and urban furniture. The main office of the Norwegian National Bank (1986) has Drammen granite façade.



Drammen granite façade in the main office of the Norwegian National Bank, Oslo, constructed 1986.

Petrography

Description: Medium- to coarse-grained granite, composed of K-feldspar (red), quartz (grey), plagioclase (white) and biotite (black). The colour of the granite vary from redish brown to lighter yellowish grey, and it may contain small cavities due to the shallow emplacement depth during crystallization.

Source of information: Geological Survey of Norway

Mineral composition

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

Potassium feldspar (%)	Plagioclase (%)	Quartz (%)	Biotite (%)	Opaques (%)		
60	15	15	7	3		

Source of information: NGU estimate

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
2570		0,44	206,5	11,2

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		
Polished				

Source of information: Natursteinskompaniet

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	Geological Survey of Norway	https://geo.ngu.no/api/faktaark/mineralressurser/vi/sNaturstein.php?objid=9642&lang=nor
Map link	Geological Survey of Norway	https://geo.ngu.no/kart/common_mobil/?_kart/mineralressurser_mobil/_lang=nor::extent=237781.83351250825,6629963.378910098,239627.71632500825,6630764.671878848::map=9
Non-commercial directory	Natural stone online	Detailansicht (naturalstone-online.com)
Commercial directory		
Scientific publication	NGU Bulletin	https://aps.ngu.no/pls/oradb/rf.Visdok?c_dokid=000036174
Other publication		

Compiled by:	Geological Survey of Norway (NGU) https://www.ngu.no/	 GEOLOGICAL SURVEY OF NORWAY - NGU -
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