

Negro Villar



Short description: Fine-grained black granite corresponding to a diabase dike.

Commodity (vocabulary)	Lithology (vocabulary)	Typical colour (code list)	Place of origin			
			Country	County / District / Province	Municipality / Community	Place/town / Village
granite	granodiorite	black	Spain	Badajoz	Villar del Rey	Villar del Rey

Geological setting



Geology: Intruding on a succession of slates and phyllites with intercalations of limestone, some dykes of diabasic composition appear, which are arranged subparallel to the reference surfaces of the nesting device. They are compact rocks of a dark color; towards the center of the dike they are massive, at the borders they acquire a grossly schistotic anisotropic fabric. The genesis of these diabasic rocks is not yet resolved, and doubts persist regarding their spatio-temporal relationships with the slates and phyllites. The fact that they are invariably associated with the succession of slates and phyllites is striking, and even more so is their apparent spatial relationship with the carbonate levels that emerge from the roof of the same. These data, by themselves, point towards a volcanic origin for this type of rocks.

The Pluto of Villar del Rey is an intrusive body that is lithologically composed of biotitic-amphibole megaporphyritic granites. There is an extraordinary development of feldspars, with a characteristic pink color, the matrix being coarse grained and also porphyritic in appearance, essentially composed of plagioclase, quartz and dark minerals (biotite and hornblende). The enclaves are between 5 and 20 cm and, given their infrequency, they do not affect the overall quality of the rock. The commercial variety that is exploited is the so-called Rosa Villar, obtained from exploitation fronts of variable length that generate blocks of medium to large size. Fine to medium grained gabros with dark green to black colors are also sold in this area, such as Negro Villar or Negro La Roca.

Production: Production is restricted to a single quarry located near the town of Villar del Rey.

Geological age: Lower Carboniferous.

Geological unit: Villar del Rey stock.

Application, use and heritage



Description: Flooring of a public park.

Petrography

Description: Under the microscope, the rocks have diabasic texture and are composed of plagioclase (labradorite) and pyroxene (diposidic augite), with considerable opaque contents. The samples of the borders of the dikes show schist and/or nematoblastic textures, caused by the action of a tectonometamorphic phase under low-grade conditions, which causes the alteration and breakage of the rock, with new chlorite formation, which is available involving plagioclase and pyroxene defining a planar factory. The age of these rocks is not determined.

Source of information: <http://www.igme.es/>.

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
3030	0.1	0.1	217	38

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
		0.157	

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
17.5				3200	

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: <http://www.dmgranite.es/granito/negro/negro-villar#>

Sources of more information

Type of information	Name of provider	URL
This data sheet	Instituto Geológico y Minero de España (IGME)	http://www.igme.es/
Non-commercial directory		
Commercial directory	DM Granite	http://www.dmgranite.es/granito/negro/negro-villar#
Scientific publication		
Other publication		

Compiled by:	Instituto Geológico y Minero de España (IGME) http://www.igme.es/	 Instituto Geológico y Minero de España
---------------------	--	--