

7 Terminology

Denomination of European natural stones: EN 12440 (including traditional name, petrological family, typical color and place of origin)

Terminology of natural stones : EN 12670

See also an excerpt below

Glossary from BSI- building stone institute: [technical glossary of stone construction](#)

TERMINOLOGY		
EN 12670	GEOLOGICAL TERMS	DESCRIPTION
212	Acid rock	Igneous rock that contains more than 63% of silica.
218	Alkali feldspar	The alkali-rich feldspars microcline, orthoclase, sanidine, albite with less than 5% anorthite. See feldspar and plagioclase.
2114	Amphibole	Group of dark ferromagnesian silicate minerals, general formula
2115	Amphibolite	Metamorphic rock consisting mainly of hornblende and plagioclase. See 21181 and 21316
2119	Anisotropy	Property of some minerals and rocks of having different behaviour in different directions. I.e. Hardness in kyanite, thermal expansion in calcite, flexural resistance in slate.
2121	Andesite	Volcanic rock composed mainly of plagioclase ... and one or more of the dark minerals amphibole, pyroxene and biotite.
2129	Aplite	Fine grained dyke rock of granitic composition
2133	Arkose	Sedimentary detrital rock with less than 75% quartz and a high content of feldspar grains.
2136	Banded	Rock having alternating nearly parallel layers that differ in colour, fabric or mineral composition and because of that it shows alternating bands in a cross section
2137 - a)	Basalt (basanite) - scientifically	Volcanic rock consisting essentially of plagioclase (labradorite-anorthite) and pyroxene and includes a fine grained dense fabric.
2137 - b)	Basalt (basanite) - commercially	Basalt is a natural stone as per the scientific definition basalt and other rocks such as basalt, picrites, diabases, dolerites and microgabbros.
2138	Basic	Igneous rock with more than 45% and less than 52% of silica.
2139 - a)	Bedding plane	A planar or nearly planar surface that visibly separates the individual beds, layers or strata, especially in sedimentary rocks
2141	Biotite	Black rock-forming mineral of the mica group, formula; $K_2(Fe^{2+},Mg)_6-4(Fe^{3+},Al,Ti)_{0-2}(Si_{6-5}Al_{2-3})_{0-20-22}(OH,F)_{4-2}$
2143 - a)	Breccia	A coarse-grained clastic sedimentary rock composed by angular rock fragments held together by a mineral cement or in a fine grained matrix.
2144	Buntsandstein	The name of natural sandstone, referring to the age in history represented as "The lower part of Triassic Period".
2146	Calcareous	Containing calcium carbonate
2150	Calcite	Mineral, very common in some sedimentary and metamorphic rocks, formula $CaCO_3$; threemorphous with aragonite and vaterite.
2151	Calcitic dolomite	Carbonate rock with 50 to 89 % of the mineral dolomite
2152	Calcitic marble	A marble containing more than 90 % of calcite
2156	Carbonate	Mineral containing a CO_3 group, e.g. calcite, dolomite, siderite..

2157	Carbonate rock	Rock consisting chiefly of carbonate minerals, especially a sedimentary rock; limestone, dolomite and carbonatite are examples of carbonate rocks
2160	Cement - geological term	Mineral materia, usually chemically precipitated, that occurs in the spaces among the individual grains of a consolidated sedimentary rock, thereby binding the grains together as a rigid mass; silica, carbonates and iron oxides are common cements.
2166	Chert	Hard, compact and dense sedimentary rock, consisting dominantly of cryptocrystalline and/or amorphous silica; flint is a variety of chert
2167	Chlorite	Group of clay minerals, some of them green colour, general formula $(Mg, Fe^{2+}, Fe^{3+})_6AlSi_3O_{10}(OH)_8$
2173	Clay	Loose, extremely fine grained sediment or soft rock composed of particles with diameters less than 0,002 mm, mainly clay minerals and other minerals, especially quarts, feldspars and carbonates
2174	Clay minerals	Group of minerals, essentially hydrous silicates of aluminium with a layered crystalline structure; iron, magnesium, potassium and other cations are also present in their formula; the most common clay minerals belong to illite, montmorillonite and kaolinite mineral subgroups
2175	Clay slate; shale	Weakly metamorphosed claystone with intermediate character between claystone and a true slate
2176	Claystone	A rock with more than 67 % claysized minerals
2177 - a)	Cleavage	Rock: Tendency of a rock to split along closely spaced planar surfaces, originated by recrystallization and strain during metamorphism and tectonic deformation; the type of rock, strain intensity and metamorphic grade control the type of cleavage developed
2177 - b)	Cleavage	The splitting of a mineral along its crystallographic planes, thus reflecting crystal structure
2181	Conglomerate	Coarse-grained sedimentary rock composed of rounded to subangular fragments (pebbles, cobbles, boulders), set in a fine-grained matrix of sand or clay, and commonly cemented
2193	Dark mineral; mafic mineral	In thin section dark-coloured rock-forming minerals e.g. olivine, pyroxenes, amphiboles and biotite
2196	Deformation fabric; tectonic fabric	A rock fabric resulting from deformation, as lineations, cleavages, schistosity, preferred orientations of crystals etc (see 21119 fabric).
21100	Diagenesis	Process of mineralogical changes in sediments after deposition which result in a consolidated rock
21101	Diorite	Plutonic rock mainly composed of plagioclase (oligoclase-andesin), hornblende, and/or biotite
21103	Dolerite	Igneous rock with basaltic composition, commonly with ophitic fabric, occurring in dykes. See also diabase.
21104 - 1)	Dolomite	The mineral $CaMg(CO_3)_2$, commonly with some Fe replacing Mg (ankerite).
21104 - 2)	Dolomite	Carbonate rock with high percentage (90% to 100 %) of the mineral dolomite
21105	Dolomitic limestone	Carbonate rock with a certain percentage (10% to 50 %) of the mineral dolomite

21106	Dolomitic marble; magnesian marble	A marble containing more than 90 % of dolomite
21109	Elongate fabric	Fabric of granoblastic metamorphic rocks in which the crystals tend to be elongated with preferred orientation
21110	Epidote	A mineral (green to yellow in handspecimen) with the formula, $\text{Ca}_2(\text{Fe}, \text{Al})\text{Al}_2[\text{O}(\text{OH})(\text{SiO}_4)(\text{Si}_2\text{O}_7)]$ common in some metamorphic rocks or as alteration product
21113	Essential minerals; main minerals	Those minerals existing in a rock that are used for its classification in main petrographic families or classes; see quartz, alkali feldspar, plagioclase, feldspathoids
21118	Extrusive rocks; volcanic rocks	Igenous rocks that come to the surface of the earth in a molten condition
21119	Fabric	Spatial arrangement and geometrical relationships of the rock elements, as observed in hand specimen or by optical microscope
21125	Feldspar	Group of silicate minerals with the chemical composition KAlSi_3O_8 (orthoclase, microcline), $\text{NaAlSi}_3\text{O}_8$ (albite), $\text{CaAl}_2\text{Si}_2\text{O}_8$ (anorthite) with certain miscibility of the components; se anorthite, microcline, orthoclase, sanidine, plagioclase
21131	Fissile bedding	Bedding with laminae less than 2 mm in thickness
21133	Fissure	A visible crack or fracture in the rocks
21134	Flint	Variety of chert (2166)
21141	Foliation	Planar arrangement of components like minerals in any type of rock, especially the planar structure that results from flattening, segregation and other processes undergone by the grains in a metamorphic rock
21143	Fossil	The remains or marks of animals or plants in sedimentary rock
21144	Gabbro	A coarse grained plutonic rock consisting of plagioclase (labradorite-anorthite), clinopyroxene, and other minerals like orthopyroxen, and olivine (se 3211)
21147 - a)	Geological structure	A macroscopic feature of a rock mass or rock unit, generally seen best in the outcrop rather than in hand specimen, e.g. columnar structure, blocky fracture, platy parting, bedding.
21147 - b)	Geological structure	The general disposition, attitude, arrangement or relative positions of the rock units of a region or area, resulting from such geological processes as sedimentation, faulting, folding, igneous intrusions, etc.
21150	Gneiss	A metamorphic rock mainly consisting of quartz, feldspar and mica, in which bands rich in granular minerals such as feldspar and quartz, alternate with bands of planar minerals like mica. Might derive from an igneous rock (orthogneiss) or from sedimentary rock (paragneiss).
21154	Grain	Particles in a rock e.g. The crystals in a granite.
21155	Grain size	The predominant diameter of particles in a rock as observed. Note that the definition may be different if the particles are observed by the naked eye or under a microscope!
21156- a)	Granite - scientifically	Plutonic rock with alkali feldspar, quartz, little quantities of plagioclase, mica, and other minerals
21156- b)	Granite - commercially	Compact and polishable natural stone, used in decoration and building, mainly consisting of minerals with hardness between 5 and 7 on the Mohrs scale, such as quartz and feldspar.

21157	Granite black	A commercial term for black or dark coloured igneous rocks (see gabbro, diabase).
21158	Granoblastic	Fabric of metamorphic rocks in which the grains are nearly equal size. (Compare xenoblastic mineral and homeoblastic)
21166	Greywacke	A sandstone with abundant (more than 15% clayish) matrix
21168	Greenstone	Basic metamorphic rock of magmatic origin.
21172	Gypsum	Sulfidic mineral, which is common in evaporites and some carbonate rocks (Limonites).
21174	Heavy minerals	Accessory minerals with a density greater than 2,9 g/cm ³ .
21175	Hematite	A mineral, alpha-Fe ₂ O ₃
21181	Hornblende	Monoclinic amphibole with Al ₂ O ₃ and Fe ₂ O ₃ (See amphibolite).
21188	Igneous rock	A rock formed by solidification from molten material (magma)
21192	Inclusion	A small crystal, fragment, gas, or liquid filled void within a larger crystal.
21195	Intermediate rock	Said of an igneous rock that is transitional between acid and basic. The SiO ₂ -content is between 52-63% (weight).
21198	Intrusive rock	Igneous rocks which have invaded a pre-existing rock
21204	K-feldspar	Potassium-feldspar, see microcline, orthoclase, sanidine
21211	Larvikite	A syenite or monzonite characterised by the distinctive blue labradorescence of its feldspars
21220	Light minerals	Rock-forming minerals with a density less than 2,9 g/cm ³ , e.g. quartz, feldspar.
21221	Limestone	A sedimentary rock consisting chiefly of calcite, CaCO ₃
21222	Limonite	Hydrated iron oxide FeOOH
21224	Lineation	A general descriptive term for any kind of linear (one-dimensional) feature in the fabric of a rock.
21227	Lithification	The conversion of a newly formed sediment into a rock
21230	Lithology	The general character of a rock, particularly as seen in field-exposures and hand specimens; i.e., its mineral composition, fabric, primary structures, and the smaller-scale secondary structures.
21236	Macrostructure	Structural feature of a rock which can be seen without magnification.
21237	Mafic	A term referring to ferromagnesian minerals and rocks composed largely of these minerals.
21239	Magnesian limestone; dolomitic limestone	Carbonate rock with 10-49% of the mineral dolomite
21242	Main minerals	Those rock-forming minerals that occur in sufficient amount to be used in the classification of the rock.
21243	Marble	Scientifically: Metamorphic rock containing more than 50% of carbonates (calcite or dolomite) formed by metamorphic recrystallization of a carbonate rock (See 3232).

21243	Marble	Commercially: Compact and polishable natural stone, used in decoration and building, mainly consisting of minerals with hardness between 3 and 4 on the Mohs scale (such as calcite, dolomite or serpentine), e.g. marbles as per the scientific definition and cipolino marbles, as well as the following natural stones, provided that they are capable of taking a mirror polish: limestone marbles, limestoned, dolomites, calcareous breccias, travertines and serpentinites (See Mohs Scale)
21245	Massive	Of homogenous structure, without stratification, foliation, flow-banding, schistosity, and the like, said of some rocks, e.g. sandstones and limestones from reefs.
21246	Matrix	In a rock in which certain grains are much larger than the others, the grains of smaller size or even the glass are called the matrix, e.g. the groundmass of porphyritic igneous rocks; may be used also in sedimentary rocks.
21247	Meta	Prefix, indicating the parent rock has undergone a low grade metamorphic process (e.g. metasedimentary rocks or metavolcanics).
21248	Metamorphic grade	Estimated intensity or rank of metamorphism, measured by the difference in minerals between the assumed parent rock and the resulting metamorphic rock.
21249	Metamorphic rock	Includes all those rocks which have formed from a preexisting or parental rock by metamorphism
21250	Metamorphism	Process by which consolidated rocks are altered in their nature adjusting the mineralogical composition, structure, and texture to the different physico-chemical conditions existing in the earth; diagenesis is usually not considered as metamorphism.
21253	Mica	A mineral group consisting of silicates characterized by very perfect basal cleavage, the formula of the group is $(K,Na,Ca)(Mg,Fe,Li,Al)_{2-3}(Al_2,Si)_{4-10}(OH,F)_2$. See biotite, muscovite.
21257	Microcrack	Crack observable only in microscope
21258	Microcrystalline; microgranular	Applied to a rock in which the individual crystals can only be seen under the microscope.
21259	Microfabric	Refers to the microscopical structure and the texture of a rock.
21261	Mineral	A mineral is an element or chemical compound that is normally crystalline and that has been formed as a result of geological processes (Nickel, 1995)
21263	Minor elements	A mineral with concentrations less than 0,5% in a rock.
21264	Modal composition; mode	Mineral content of a rock determined by polarizing microscope in volume percentage.
21265	Mohs scale; hardness scale	The empirical scale developed by Mohs in which the relative hardness of a mineral is assessed: 1. Talc; 2. Gypsum; 3. Calcite; 4. Fluorite; 5. Apatite; 6. Orthoclase; 7. Quartz; 8. Topaz; 9. Corundum; 10. Diamond.
21266	Monzonite	A group of plutonic rocks standing compositionally between syenite and diorite (Le Maitre, 1989)
21269	Muscovite	A member of the mica group, usually white, general formula $KAl_2(AlSi_3)O_{10}(OH,F)_2$
21270	Mylonite	Fine grained, laminated rock with deformation fabric and grains showing a reduction in size, formed by brecciation and milling of rocks during deformation. Mylonites that show recrystallization are called blastomylonites.
21272	Natural stone	A piece of naturally occurring rock.

21282	Olivine	Silicate mineral series of solid solutions from forsterite, Mg_2SiO_4 , with fayalite, Fe_2SiO_4 .
21286	Opaque minerals	Minerals that are impervious to visible light, observed in thin section. See thin section.
21289	Ophitic fabric	Term referring to laths of plagioclase embedded in augite crystals, also in other rocks and by other minerals, e.g. in dolerites.
21292	Dimensional orientation	Preferred orientation showing a pattern dependent on shapes of fabric elements.
21303	Pegmatite	Very coarse grained igneous rock in dykes associated with a plutonic rock.
21309	Petrography	Description and classification of rocks by analysis of origin, fabric and mineral content, e.g. with polarizing microscope, X-ray diffraction, chemical analysis or other means.
21311	Phenocryst	One of the relatively large crystals in a porphyritic igneous rock.
21314	Phyllite	Schist with glittering layers of micas, consisting of these, chlorite, quartz, and other minerals
21316	Plagioclase	A solid solution series of minerals from $NaAlSi_3O_8$ (Albite=Ab) and $CaAl_2Si_2O_8$ (Anorthite=An); commonly the series is designated in terms of the mole fraction of the anorthite component (An) as follows: albite (An 0% to 10%), oligoclase (An 10% to 30%), andesine (An 30% to 50%), labradorite (An 50% to 70%), bytownite (An 70% to 90%), anorthite (An 90% to 100%). See also feldspar
21319	Plutonic rock	Igneous rock that has formed beneath the surface by consolidation from magma.
21325	Polygonal fabric; mosaic	Fabric of granoblastic metamorphic rocks in which the general shape of crystals are interlocking with moderately straight boundaries tending to meet in triple point.
21326	Porphyric; porphyritic fabric:	Fabric or texture of those igneous rocks in which larger crystals are set in a finer groundmass.
21330	Preferred orientation:	A fabric term used for a rock in which the grains are more or less systematically oriented produced by growth, deposition, or deformation.
21331	Primary minerals:	Those minerals that crystallized or were deposited in the original rock-forming process
21336	Pyrite:	Mineral of FeS_2 formula, dimorphous with marcasite.
21339	Pyroxene:	Mineral family of silicates of the general formula $R_2Si_2O_6$ with $R=Mg, Fe, Ca, Na, Al$, and other elements.
21341	Pyrrhothite:	A mineral with formula $Fe_{1-x}S$, instable to the weathering like many other fine grained sulfides.
21342	Quartz; silica:	Very common mineral of the formula of SiO_2 .
21345	Quartzite	Metamorphic rock consisting essentially of quartz.
21352	Recrystallisation	The formation of new mineral grains in a rock or in its constituents.
21355	Rhyolite	Volcanic rock with quartz, alkali feldspar, plagioclase and other components.
21357	Rock-forming minerals	The 50 to 100 principal oxidic minerals occurring in rocks, e.g. feldspar, quartz, pyroxene, amphibole, mica, calcite, dolomite, and clay-minerals
21361	Sand	A sediment of size range 0,06 - 2,00 mm
21362	Sandstone	A) Scientifically: a sedimentary rock composed of grains from quartz, feldspar, mica, and little fragments from older rocks.

21362	Sandstone	B) Commercially: a sandstone is a natural stone as per the scientific definition of sandstone and with silicates, calcite, clay minerals or iron oxides as cement.
21366	Schist	A) Scientifically: a foliated metamorphic rock composed of nearly parallel arranged mica chlorite, quartz and other typical minerals. See also foliation, schistosity, calc-schist
21366	Schist	B) Commercially: a schist is a natural stone possessing a well developed fissility that allows an easy split, i.e., slate, some gneiss and phyllites, some limestones, quartzites, and fine grained pyroclastic rocks.
21367	Schistose fabric	Fabric of metamorphic rocks displaying schistosity
21368	Schistosity	A variety of foliation usually developed in metamorphic rocks with a plane fabric consisting in a preferred orientation.
21369	Secondary minerals	Term applied to minerals formed as a consequence of the alteration of pre-existing minerals
21372	Sedimentary rocks	Rocks formed by the accumulation of sediment in water or in the air
21376	Serpentinite	A metamorphic rock consisting almost wholly of serpentine and relics of primary minerals. See green marble.
21377	Shale	Sedimentary rocks including the indurated, laminated, or fissile claystones and siltstones with cleavage parallel to bedding, consisting of phyllosilicate and quartz
21380	Silicate	A compound whose crystal lattice contains SiO ₄ -tetrahedra, either isolated or joined through one or more of the oxygen atoms to form groups, chains, sheets, or three-dimensional structures
21385	Siltstone	Fine-grained consolidated sedimentary rock composed predominantly of particles of silt size.
21389	Slate	A) Scientifically; fine-grained very low- to low-grade metamorphic rock possessing a well-developed fissility parallel to the planes of slaty cleavage
21389	Slate	B) Commercially: rocks which are easily split into thin sheets along a plane of cleavage resulting from a schistosity flux, caused by very low or low grade metamorphism due to tectonic compression. They are distinguished from sedimentary (stone) slates which invariably split along a bedding or sedimentation plane. See prEN 12326-1
21390	Slaty cleavage	A variety of foliation, typical for fine-grained metamorphic rocks such as slates, consisting in a continuous and homogeneous preferred orientation of the mineral grains, especially the platy crystals of mica show a plane texture visible in polarizing microscope.
21391	Soapstone	The term includes rocks consisting largely of talc, they have a soapy feel and are soft enough to be carved with a knife.
21402	Structure	A part of fabric that is related to arrangement of the parts of a rock, including geometric relationships between those parts, their shapes and sizes. The example of structure is shaped preferred orientation of rock-forming minerals. The prefixes micro- (in the thin section scale), meso- (hand specimen scale), and macro- (outcrop scale) can be used.
21404	Syenite	Plutonic rock consisting of alkali feldspar, some plagioclase, and other

		minerals.
21407	Tectonic	Resulting from forces during the deformation of the earths crust the rocks show features like cracks, faults, folds, flexures, striations, and brecciation
21411	Texture	A part of rock fabric that is related to the crystallographic porperties of rock-forming minerals like crystallographic preferred orientation.
21412	Thin section	An embedded fragment of rock or mineral ground to a thicknes of approximately 25 um, polished and mounted on a glass as a microscopical slide and often covered with a thin glass. See EN 12407.
21414	Tonalite	A plutonic rock consisting of quartz, plagioclase, and other minerals.
21418	Travertine; onyx marble	Travertine: a fine-grained freshwater limestone formed by rapid precipitation of CaCO ₃ from water. Onyx marble: Compact, banded variety of travertine, consisting of coloured and transparent layers of calcite and/or aragonite and capable of taking a polish.
21421	Trondhjemite; leuco-tonalite	Tonalite with high quartz content
21426	Ultrabasic	Igneous rock containing less than 45% by masse of SiO ₂
21427	Ultramafic	Describes rock containing less than 10% by volume pale minerals.
21432	Vein	Mineral body, thin in relation to its other dimensions, which cuts across the older country rock.
21438	Volcanic rocks	See extrusive rocks
21422	Xenoblastic mineral	A mineral constituent of a metamorphic rock which has grown without the development of its characteristic crystal faces. Analogous to allotriomorphic igneous rocks.