

## 58844 - 58848 Granite Red

Widespread solidification rock. Granite has a granular, speckled appearance. It consists mostly of 1 to 4 mm large, firmly together baked crystals, of which 60-80% quartz (colorless or whitish, sometimes yellowish or red from embedded iron oxides), feldspar (opaque reddish, yellowish or whitish) and mica.

The mica portion consists of small, shiny flakes of biotite (shiny black) or of muscovite (shiny silver). Both types of mica can occur in the same granite ("two-mica granite").

The feldspar of the granite is mostly orthoclase or plagioclase. In addition to these main constituents, smaller proportions of magnetite, iron mica, tourmaline, tinstone, topaz, garnet, andalusite, fluorite, chlorite and the like, which are often only recognizable microscopically, are found in the granites.

The grain size of the granite can be fine, medium or coarse. Very coarse-grained granites are also called pegmatites. If the feldspars form particularly large (up to 5 cm) grains in a smaller-grained groundmass, a granite porphyry is present.

The specific weight of the granites varies between 2.6-2.73. The hardness is very high according to the hardness of the components (quartz 7, orthoclase 6, biotite 2-3), but the granite lying on the surface for a longer time can easily crumble, because the components (quartz, feldspar, mica) expand differently with the seasonal and diurnal temperature variations and therefore tensions arise, which loosen the rock. During the superficial weathering of the granite in nature, the feldspar is finally transformed into clay, while the quartz grains resist any chemical attack. Attack resist.

The origin of the granites is thought as follows: From the Archean to the Tertiary period, for various reasons, glowing hot magma masses repeatedly broke up from the depths of the earth without reaching the surface. As a result, the cooling of the magma was slow and relatively large crystals could form. Later - long after the magma solidified into granite - the protective rock layer was removed many times (example: Black Forest, Vosges), so that the granite could emerge and weather. Of course, granite is extraordinarily more common underground than in the relatively rare exposed places on the earth's surface. It forms the main component of the solid rock underground of our whole globe. It is found, among others, in the following exposed places on the earth's surface: Black Forest, Vosges, Bavarian Forest, Fichtel Mountains, Giant Mountains, Northern England, in the Alps, Cameroon, Madagascar, Greenland, in the Rocky Mountains and in the Cordilleras.

### Technical Data

Sizes of the available granites:

58844 Granite Red, fine powder:	0 – 0.1 mm
58846 Granite Red, very fine sand:	0.1 – 0.3 mm
58847 Granite Red, medium fine sand:	0.2 – 0.6 mm
58848 Granite Red, fine sand	0.5 – 1 mm

Color: red  
Density of raw material: 2.63g/cm<sup>3</sup> (20°C)  
Point of sintering: 1050°C

Mineralogical Composition (Powder-XRD of bulk, 8%)

Quartz:	38
Feldspar (Orthoclase):	27
Feldspar (Albite):	33
Pyroxene:	-
Muscovite/Illite	-
Olivine:	-
Mica (Biotite):	2
Amphibole (Hornblende):	-

Chemical Composition (wt%)

SiO <sub>2</sub> :	76.41
Al <sub>2</sub> O <sub>3</sub> :	12.38
Fe <sub>2</sub> O <sub>3</sub> :	1.38
TiO <sub>2</sub> :	0.16
MnO:	0.03
CaO:	0.60
MgO:	0.13
BaO:	-
K <sub>2</sub> O:	4.48
Na <sub>2</sub> O:	3.40
P <sub>2</sub> O <sub>5</sub> :	0.04
H <sub>2</sub> O:	1.00

Remarks: Colors of particles are UV-resistant.  
Color of bulk is thermal resistant up to 500°C under normal conditions.