



HAMMILL & GILLESPIE

466 Southern Blvd, Chatham, NJ 07928
PH (973) 822-8000 / Fax (973) 822-8050
www.hamgil.com

Cornwall Stone Fact Sheet

Cornwall stone is a partially decomposed granite containing feldspar, quartz, kaolinite, mica, and trace amounts of fluorspar.¹ It has a variable chemical consistency, with properties similar to feldspar. It is commonly used in cone 6 (2232 ° F.) to cone 9 (2300 ° F.) glazes as a flux, helping to bring other materials into a melt. Raw color can be white, purple, or green, but Cornwall Stone melts to a white opaque glass at high temperature. As has happened with many other raw materials, the mine producing Cornwall Stone has closed. Hammill & Gillespie, a supplier of specialty clays and minerals, has found a substitute which can be used as a replacement in most glaze formulas. However, it is always best to test any new material before committing to large scale production.

Chemical Analysis of Original and H&G's Cornwall Stone Typical % Analysis

Original Cornwall Stone

SiO ₂	72.90 %
TiO ₂	0.02%
Al ₂ O ₃	14.93%
Fe ₂ O ₃	0.13%
CaO	2.06%
MgO	0.09%
Na ₂ O	4.00%
K ₂ O	3.81%

Loss on ignition 1.05

H&G's Cornwall Stone

SiO ₂	77.39%
TiO ₂	0.05%
Al ₂ O ₃	14.06%
Fe ₂ O ₃	0.20%
CaO	0.42%
MgO	0.05%
Na ₂ O	3.56%
K ₂ O	3.34%
P ₂ O ₅	0.22%
BaO	0.05%
PbO	0.02%

Loss on ignition 1.06

Comparison of 100% Samples of H&G's and Original Cornwall Stone Cone 9 (2300 °F.)





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H&G's Cornwall Stone Original Cornwall Stone

A popular cone 9 glaze was chosen for comparative testing as a base glaze (no metallic coloring) and a variation with cobalt carbonate. The glazes were fired in an oxidation electric kiln.

Base Glaze with original Cornwall stone

Cornwall stone	46
Whiting	34
E.P.K.	20

Base Glaze with H&G's Cornwall stone

Cornwall stone	46
Whiting	34
E.P.K.	20

Blue Glaze Variation

Cobalt carbonate	1/8%
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Blue Glaze Variation

Cobalt carbonate	1/8%
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Original and New Cornwall Stone in Glaze Formulas Cone 9 (2300 °F.) oxidation firing

Original Cornwall Stone base glaze H&G's Cornwall Stone base glaze



Blue glaze variation

Blue glaze variation

The new Cornwall Stone can be purchased from Hammill & Gillespie, 466 Southern Washington Boulevard, Chatham, NJ 07928, phone 973-822-8000

Footnotes:



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1. Frank & Janet Hamer, The Potter's Dictionary 4th Edition 1977. A&C Black, University of Pennsylvania Press, page 77.