

Rondorfite**Ca₈Mg(SiO₄)₄Cl₂**

Crystal Data: Cubic or Triclinic. *Point Group:* 2/m $\bar{3}$ or $\bar{1}$. As anhedral grains to 0.3 mm.

Physical Properties: *Cleavage:* None. *Fracture:* Conchoidal. *Tenacity:* Brittle.
Hardness = n.d. D(meas.) = n.d. D(calc.) = 3.03

Optical Properties: Transparent to translucent. *Color:* Orange-brown to amber.
Streak: Light amber. *Luster:* Vitreous.
Optical Class: Isotropic. $n = 1.676$

Cell Data: *Space Group:* F2/d $\bar{3}$. $a = 15.0850(3)$ Z = 8 or *Space Group:* P $\bar{1}$. $a = 15.100(2)$
 $b = 15.110(2)$ $c = 15.092(2)$ $\alpha = 90.06(1)^\circ$ $\beta = 90.01(1)^\circ$ $\gamma = 89.93(1)^\circ$ Z = 8

X-ray Powder Pattern: Bellerberg volcano lava field, eastern Eifel area, Germany.
2.666 (100), 1.540 (50), 2.901 (40), 1.964 (30), 1.885 (30), 1.777 (30), 1.459 (30)

Chemistry:	(1)	(1)	
Na ₂ O	0.07	SiO ₂	30.51
MgO	4.52	TiO ₂	0.13
CaO	57.05	Cl	6.71
FeO	0.54	- O = Cl	1.52
Al ₂ O ₃	0.40	Total	98.41

(1) Bellerberg volcano, eastern Eifel area, Germany; average of 8 electron microprobe analyses;
corresponds to (Ca_{8.09}Na_{0.02})_{Σ=8.11}(Mg_{0.89}Al_{0.06}Fe_{0.06})_{Σ=1.01}(Si_{4.04}Ti_{0.01})_{Σ=4.05}O_{16.20}[Cl_{1.51}(OH)_{0.29}]_{Σ=1.80}.

(2) Northern Caucasus, Kabardino-Balkaria, Russia; triclinic, Ca₈Mg(Si_{3.5}Al_{0.5})O_{15.5}(OH)_{0.5}Cl₂.

Occurrence: In metasomatized limestone xenoliths in leucite tephrite lava or ignimbrites. In
burned spoil heaps from coal mines (Czech Republic).

Association: Ettringite-thaumasite, mayenite, ternesite, cuspidine, larnite, “calcio-olivine”,
tobermorite, portlandite, hydrocalumite, a member of the ellestadite series, magnetite, hematite
(Bellerberg volcano, Germany); fluorche gemite, larnite, edgrewite, wadalite, eltyubyuite, lakargiite,
Th-rich kerimasite (Upper Chegem Caldera, Russia).

Distribution: A quarry at the Bellerberg volcano lava field, near Ettringen, 2 km north of Mayen,
Laacher See region, eastern Eifel area, Germany. From the Upper Chegem Caldera, Northern
Caucasus, Kabardino-Balkaria, Russia. From Zastávka, Rosice-Oslavany Coalfield, Czech Republic.

Name: Honors Alice and Eugen *Rondorf*, two mineral collectors, who found the mineral with Bernd
Ternes in 1979.

Type Material: The Natural History Museum, Vienna, Austria.

References: (1) Mihajlović, T., C.L. Lengauer, T. Ntaflos, U. Kolitsch, and E. Tillmanns (2004)
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[Si₁₂O₃₀], and a study of iron-rich wadalite, Ca₁₂[(Al₈Si₄Fe₂)O₃₂]Cl₆, from the Bellerberg (Bellberg)
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Gazeev, R. Włodyka, M. Dulski, and P. Dzierżanowski (2015) Fluorche gemite, Ca₇(SiO₄)₃F₂, a new
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Chegem Caldera, Northern Caucasus, Kabardino-Balkaria, Russia: occurrence, crystal structure, and
new data on the mineral assemblages. Can. Mineral., 53, 325-344. (4) Rastsvetaeva, R.K., A.E.
Zadov, and N.V. Chukanov (2008) Crystal structure of low-symmetry rondorfite. Crystallography
Reports, 53, 199-205 [triclinic]. (5) Hršelová, P., J. Cempírek, S. Houzar, and J. Sejkora (2013)
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