

Thomsonite-Sr



ORTHORHOMBIC

Locality: Mount Rasvumchorr and Mount Yuksporr, Khibina alkaline complex, Kola Peninsula, Russia.

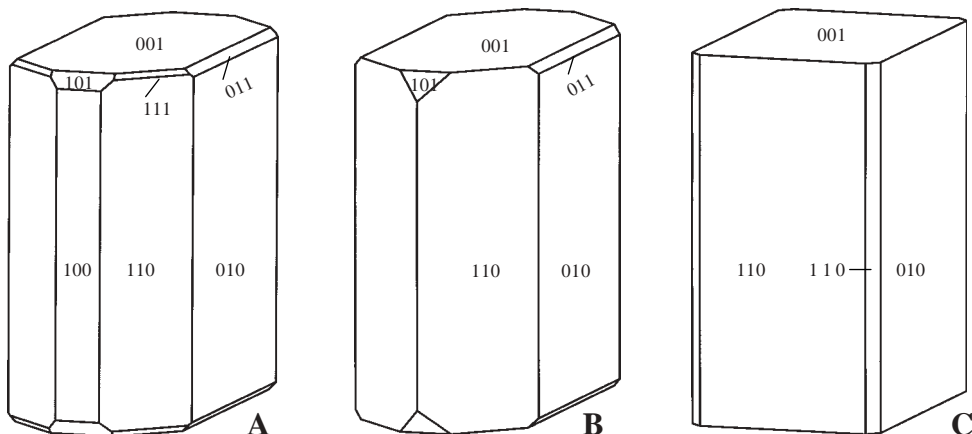
Occurrence: At Rasvumchorr, in veinlets cross-cutting natrolite of risschorrite pegmatite; associated minerals are: microcline, aegirine, annite, astrophyllite, magnetite, fluorapatite, pyrophanite, thomsonite-Ca, etc. At Yuksporr, in a veinlet cross-cutting urtite, as zones in thomsonite-Ca; associated minerals are: calcite, fluorapophyllite, tobermorite, thaumasite and barite.

General appearance: Euhedral crystals up to 0.2 H 0.2 mm (Rasvumchorr) and zones up to 0.02 mm (Yuksporr).

Physical, chemical and crystallographic properties: *Luster:* vitreous. *Diaphaneity:* transparent. *Color:* colorless. *Streak:* white. *Luminescence:* nonfluorescent. *Hardness:* 5. *Tenacity:* brittle. *Cleavage:* {100} perfect, {010} good. *Fracture:* uneven. *Density:* 2.47 g/cm³ (meas.), 2.62 g/cm³ (calc.). **Crystallography:** Orthorhombic, *Pcmm*, *a* 13.050, *b* 13.123, *c* 13.241 Å, *V* 2268 Å³, *Z* = 4, *a:b:c* = 0.9944:1:1.0090. *Morphology:* {100}, {010}, {001}, {110}, {101}, {011}. *Twinning:* none observed. **X-ray powder-diffraction data:** 6.63(7)(002), 4.66(8)(020,220), 3.49(9)(312,321), 3.19(8)(223,232,322), 2.960(10)(024,204,042), 2.860(10)(142,241,412), 2.691(10)(242), 2.186(7)(244,060,600). **Optical data:** Biaxial (+), α 1.528, β 1.532, γ 1.540, *2V*(meas.) 62°, *2V*(calc.) 71°; dispersion *r* > *v*, weak; nonpleochroic; orientation, *X* = *a*, *Y* = *c*, *Z* = *b*. **Chemical analytical data:** Mean of ten sets of electron-microprobe data: Na₂O 3.22, K₂O 0.14, CaO 3.85, SrO 16.27, BaO 0.24, Al₂O₃ 27.65, Fe₂O₃ 0.03, SiO₂ 33.51, H₂O 14.10, Total 99.01 wt.%. Empirical formula: (Sr_{1.42}Ca_{0.62}Ba_{0.01}) Σ 2.05(Na_{0.94}K_{0.03}) Σ 0.97 [Si_{5.03}Al_{4.89}O_{19.94}]•7.06H₂O. **Relationship to other species:** It is a member of the zeolite group, specifically the thomsonite series.

Name: Reflects the relationship to other members of the thomsonite series.

Comments: IMA No. 2000-025.



PEKOV, I.V., LOVSKAYA, E.V., TURCHKOVA, A.G., CHUKANOV, N.V., ZADOV, A.E., RASTSVETAeva, R.K. & KONONKOVA, N.N. (2001): Thomsonite-Sr $(\text{Sr,Ca})_2\text{Na}[\text{Al}_5\text{Si}_5\text{O}_{20}] \cdot 6-7\text{H}_2\text{O}$, a new zeolite mineral from the Khibina massif (Kola Peninsula) and the thomsonite-Ca – thomsonite-Sr isomorphous series. *Zapiski Vserossiyskogo Mineralogicheskogo Obshchestva* **130(4)**, 46-55 (in Russ.).