

Pehrmanite

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Crystal Data: Hexagonal. *Point Group:* $\bar{3} 2/m$. Tabular hexagonal crystals, to 250 μm , subhedral; as oriented overgrowths on nigerite.

Physical Properties: *Tenacity:* Very brittle. Hardness = 8–8.5 VHN = 1700 (100 g load). D(meas.) = n.d. D(calc.) = 4.07

Optical Properties: Semitransparent. *Color:* Light green; gray in reflected light.

Luster: Vitreous.

Optical Class: Uniaxial (-). *Pleochroism:* Weak to distinct; *O* = pale greenish; *E* = pale grayish brown. *Orientation:* Elongation positive. $n = [1.79]$ *Anisotropism:* Very weak.

R: (470) 8.34, (546) 8.11, (589) 8.01, (650) 7.86

Cell Data: *Space Group:* $R\bar{3}m$. $a = 5.70$ $c = 41.16$ $Z = [6]$

X-ray Powder Pattern: Rosendal pegmatite, Finland.

2.422 (10), 2.856 (8), 1.426 (5), 2.666 (4), 2.063 (4), 3.15 (3), 2.529 (3)

Chemistry:

	(1)
SiO ₂	0.00
TiO ₂	0.00
Al ₂ O ₃	64.40
FeO	23.30
MnO	0.30
ZnO	5.22
BeO	[4.9]
MgO	1.88
Total	100.00

(1) Rosendal pegmatite, Finland; by electron microprobe, average of two analyses; total Fe as FeO, BeO by difference, B shown present by ion microprobe; corresponds to $(\text{Fe}_{1.54}\text{Zn}_{0.30}\text{Mg}_{0.22}\text{Mn}_{0.02})_{\Sigma=2.08}\text{Al}_{5.99}\text{Be}_{0.93}\text{O}_{12}$.

Occurrence: In the wall zone of a granite pegmatite in “hornblende” gabbro.

Association: Quartz, plagioclase, sillimanite, muscovite, spessartine-almandine, chlorite, biotite, epidote, allanite, nigerite, calcite.

Distribution: In the Rosendal pegmatite, Kemiö (Kimito) Island, southwestern Finland.

Name: To honor Gunnar Pehrman (1895-?), Emeritus Professor of Mineralogy and Geology, Åbo University, Turku, Finland, for his work on the Kemiö pegmatites.

Type Material: Institute of Earth Sciences, Free University of Amsterdam, Amsterdam, The Netherlands, HL-6, HL-12.

; perhmanite = ferrottaaffeite-6N'3S; [full list given under högbohmite];