

Crystal Data: Orthorhombic. *Point Group:* 2/m 2/m 2/m. As irregular flattened grains to 0.4 mm and as segregations to 0.7 mm.

Physical Properties: *Cleavage:* None. *Fracture:* [Uneven]. *Tenacity:* Brittle. Hardness = 5.5 VHN = 489(5) (50 g load). D(meas.) = 6.7(3) D(calc.) = 6.79

Optical Properties: Opaque. *Color:* Black, light gray in reflected light with brown-red internal reflections. *Streak:* Brown-red. *Luster:* Semi-metallic to metallic.

Optical Class: Weakly anisotropic; very weak birefractance; nonpleochroic.

R₁-R₂: (400) 15.20-14.02, (410) 15.18-13.69, (420) 15.05-13.49, (430) 14.79-13.27, (440) 14.53-12.95, (450) 14.28-12.76, (460) 13.97-12.82, (470) 13.75-12.95, (480) 13.58-13.05, (490) 13.44-13.13, (500) 13.33-13.20, (510) 13.25-13.22, (520) 13.23-13.19, (530) 13.25-13.18, (540) 13.32-13.20, (546) 13.41-13.19, (550) 13.47-13.28, (560) 13.67-13.45, (570) 13.94-13.67, (580) 14.25-13.94, (589) 14.57-14.24, (590) 14.58-14.25, (600) 14.90-14.58, (610) 15.18-14.90, (620) 15.41-15.16, (630) 15.56-15.32, (640) 15.61-15.31, (650) 15.55-15.15, (660) 15.41-14.83, (670) 15.22-14.48, (680) 15.00-14.12, (690) 14.88-13.93, (700) 14.76-13.76

Cell Data: *Space Group:* Pbcn (by analogy to other members of the group).
a = 14.335(2) b = 5.735(1) c = 5.058(1) Z = 4

X-ray Powder Pattern: Lipovka pegmatite field, Rezh district, Central Urals, Russia. 2.96 (100), 1.462 (90), 1.728 (70), 3.67 (60), 1.774 (60), 1.746 (50), 1.545 (50)

Chemistry:	(1)
MgO	5.27
FeO	6.71
MnO	0.82
TiO ₂	0.38
Nb ₂ O ₅	24.19
<u>Ta₂O₅</u>	<u>61.86</u>
Total	99.23

(1) Lipovka pegmatite field, Rezh district, Central Urals, Russia; average electron microprobe analysis; corresponds to (Mg_{0.56}Fe_{0.40}Mn_{0.05})_{Σ=1.01}(Ta_{1.20}Nb_{0.78}Ti_{0.02})_{Σ=2.00}O₆.

Polymorphism & Series: Continuous solid-solution with tantalite-(Fe) and columbite-(Fe).

Mineral Group: Columbite group.

Occurrence: As replacement rims on tantalite-(Mn) crystals in deeply desilicated granite pegmatite that cuts serpentinite near its contact with marble.

Association: Tantalite-(Fe), columbite-(Fe), microlite, calcite, sodic plagioclase.

Distribution: From the Lipovka pegmatite field, Rezh district, Central Urals, Russia.

Name: Suffix for dominant Mg in the composition and relation to *tantalite-(Fe)* and *tantalite-(Mn)*, named for the Greek mythical Tantalus, for the difficulty in bringing the mineral into solution.

Type Material: A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia.

References: (1) Pekov, I.V., O.V. Yakubovich, D.K. Shcherbachev, and N.N. Kononkova (2003) Magnesiotantalite [tantalite-(Mg)] (Mg,Fe)(Ta,Nb)₂O₆ - a new mineral of the columbite-tantalite group, from desilicated granite pegmatites of Lipovka (Central Urals), and its genesis. Zap. Vseross. Mineral. Obshch., 132(2), 49-59 (in Russian, English abs.). (2) (2004) Amer. Mineral., 89(2), 468-469 (abs. ref. 1). (3) (2004) Can. Mineral., 42(1), 231 (abs. ref. 1).