

Crystal Data: Monoclinic. *Point Group:* *m* or *2/m*. Forms hollow thin-walled cylinders, to 600 μm, or fibrous.

Physical Properties: *Cleavage:* n.d. *Fracture:* n.d. *Tenacity:* Non-plastic. *Hardness* = n.d. *D(meas.)* = n.d. *D(calc.)* = n.d.

Optical Properties: Opaque. *Color:* Black. *Streak:* n.d. *Luster:* Metallic.
Optical Class: n.d.

Cell Data: *Space Group:* *Pc*, *P2/c* or *P2₁/c*. *a* = 4.132(2) *b* = 43.1(2) *c* = 27.4(1) *β* = 93.2°
Z = 2

X-ray Powder Pattern: Le Rivet quarry, France.

3.36 (100), 2.063 (75), 3.69 (60), 3.28 (55), 2.99 (55), 2.912 (55), 3.99 (35)

Chemistry:	(1)
Ag	2.7
Pb	46.6
Sb	26.1
<u>S</u>	<u>17.8</u>
Total	93.2

(1) Biò, Italy; average of 8 electron microprobe analyses, microprobe analysis did not reveal any other elements (*Z* > 10) in significant amount, low analytical total ascribed to thinness of sample material; corresponding to ~ Ag₂Pb₂₂Sb₂₀S₅₃.

Occurrence: In sulfide and sulfosalt-bearing veins of quartz, barite, calcite, dolomite and siderite, cutting metamorphosed volcano-sedimentary rocks (Le Rivet, France) or in metamorphosed clastic sedimentary rocks (Biò, Italy).

Association: Galena, boulangerite (Le Rivet); geocronite, bournonite, fizélyite (Biò).

Distribution: At the Le Rivet quarry, Peyrebrune Pb-Zn-Ag ore field, 6 km E-SE of Réalmont, on the commune of Montredon-Labessonnié, Tarn department, France, and at Biò, in the upper galleries (Veneziana and Torinese) of the Pb-Ag-As-Sb Borgofranco mines, near Borgofranco d'Ivrea, 50 km north of Turin, Piedmont, Italy.

Name: For its appearance, as it occurs as thin micro-tubes.

Type Material: Specimens from Le Rivet quarry are in the Museum of Mineralogy, École Nationale Supérieure des Mines de Paris, France (M 82939); from Biò in the Museo Regionale di Scienze Naturali, Turin (# 15905), and the Museo di Storia Naturale, Università di Pisa, Italy (# 19630); and in the Musée Cantonal de Géologie, Université-Anthropole, Switzerland (MGL#92635).

References: (1) Moëlo, Y., R. Pecorini, M.E. Ciriotti, N. Meisser, M.T. Caldes, P. Orlandi, P-E. Petit, B. Martini, and A. Salvetti (2013) Tubulite, ~Ag₂Pb₂₂Sb₂₀S₅₃, a new Pb-Ag-Sb sulfosalt from Le Rivet quarry, Peyrebrune ore field (Tarn, France) and Biò, Borgofranco mines, Borgofranco d'Ivrea (Piedmont, Italy). *European Journal of Mineralogy*, 25, 1017-1030. (2) (2014) *Amer. Mineral.*, 99, 1811-1812 (abs. ref. 1).