Wittichenite

Crystal Data: Orthorhombic. Point Group: 222. Commonly massive. Crystals rare, prismatic parallel to [001]; prisms show striae and are typically blocky in aspect.


R₁–R₂: (400) 35.0–36.9, (420) 34.1–35.8, (440) 33.2–34.7, (460) 32.7–34.0, (480) 32.6–34.1, (500) 32.9–34.7, (520) 33.2–35.0, (540) 33.5–35.2, (560) 33.6–35.3, (580) 33.5–35.3, (600) 33.2–35.2, (620) 33.0–35.2, (640) 32.8–35.2, (660) 32.4–35.0, (680) 31.7–34.6, (700) 30.8–34.0

Cell Data: Space Group: P2₁2₁2₁. a = 7.723 b = 10.395 c = 6.716 Z = 4

X-ray Powder Pattern: Wittichen, Germany.
2.85 (100), 3.08 (80), 4.55 (40), 2.66 (40), 3.83 (30), 3.19 (30), 2.39 (30)

Chemistry:

<table>
<thead>
<tr>
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<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
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<tr>
<td>Cu</td>
<td>37.79</td>
<td>38.0</td>
<td>37.7</td>
<td>38.46</td>
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<tr>
<td>Bi</td>
<td>42.56</td>
<td>42.8</td>
<td>43.4</td>
<td>42.15</td>
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<tr>
<td>S</td>
<td>19.13</td>
<td>18.3</td>
<td>18.7</td>
<td>19.39</td>
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<tr>
<td>Total</td>
<td>99.48</td>
<td>99.1</td>
<td>99.8</td>
<td>100.00</td>
</tr>
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</table>

(1) Daniel mine, Wittichen, Germany; by electron microprobe. (2) Seathwaite Tarn, England; by electron microprobe. (3) Wittichen, Germany; by electron microprobe. (4) Cu₃BiS₃.

Occurrence: In hydrothermal veins with other bismuth minerals (Wittichen, Germany); with Cu-Fe sulfides (Seathwaite Tarn, England); with secondary uranium minerals and selenides of Cu, Pb, and Bi (Kletno, Poland).

Association: Bornite, chalcocite, chalcopyrite, djurleite, digenite, tennantite, pyrite, stromeyerite, bismuth, empelctite, rammelsbergite, calcite, aragonite, fluorite, barite.


Name: After the type locality, Wittichen, Germany.

Type Material: Royal Ontario Museum, Toronto, Canada, M23304; Harvard University, Cambridge, Massachusetts, USA, 82408, 82409.