

Building scheme for AEL



1. Periodic Building Unit – 2. Connection mode – 3. Projections of the unit cell content
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1. Periodic Building Unit:

AEL can be built using the crankshaft chain (bold in Figure 1 (left)) running parallel to a . The repeat distance along a crankshaft chain varies between 8.4-9.9 Å. The repeat unit consists of 4 T atoms. A one-dimensional Periodic Building Unit (PerBU) is obtained when five crankshaft chains are connected into a channel with a 10-ring aperture. The channel wall consists of fused 6-rings. The repeat unit of the PerBU is a cylindrical 6-ring band of 20 T atoms (bold in Figure 1 (right)).

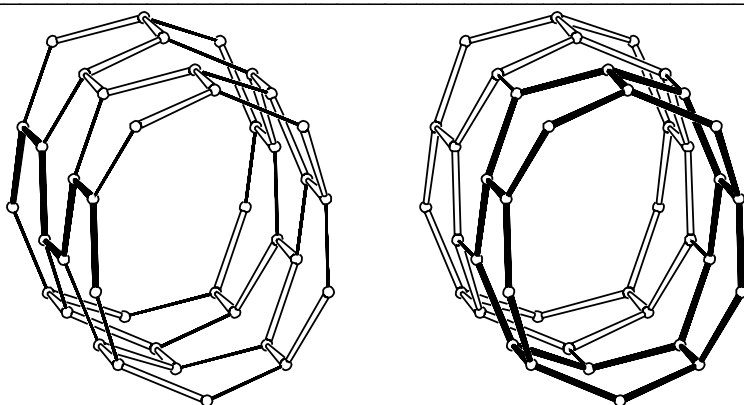


Figure 1. PerBU in AEL (viewed along a) constructed from five crankshaft chains (left) and from 6-ring bands, that can be built using two 5-fold (1,3,5,7,9)-connected 10-rings (right). ▲

2. Connection mode:

Neighboring PerBUs, related by a pure translation along c and by a shift of $\frac{1}{2}(a + b + c)$, are connected through 4-rings forming a single- and a double-crankshaft chain, respectively.

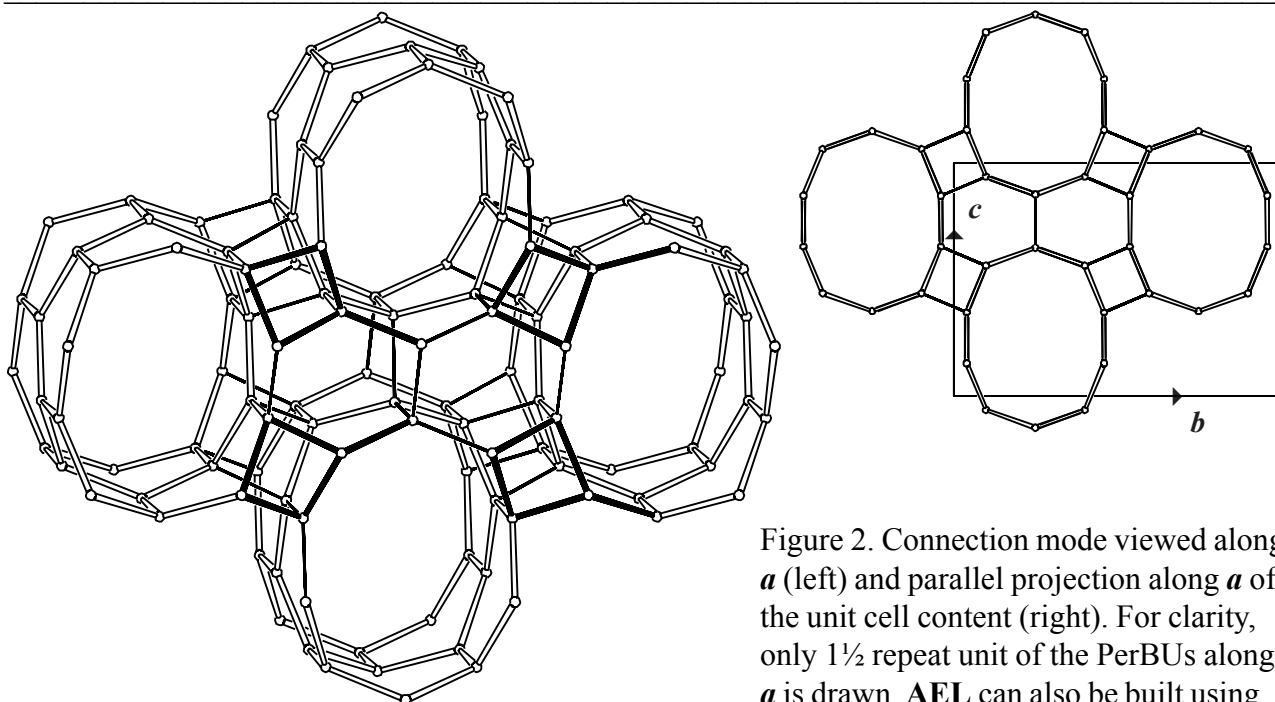


Figure 2. Connection mode viewed along a (left) and parallel projection along a of the unit cell content (right). For clarity, only $1\frac{1}{2}$ repeat unit of the PerBUs along a is drawn. AEL can also be built using 4-1 units (one set in bold). ▲

3. Projections of the unit cell content: See Figure 2. ▲

4. Channels and/or cages:

The non-interconnecting one-dimensional channels in **AEL**, parallel to ***a***, are topologically equivalent to the channels in **AFO** and **AHT**. One channel is depicted in Figure 3. The **poredescriptor** is added.

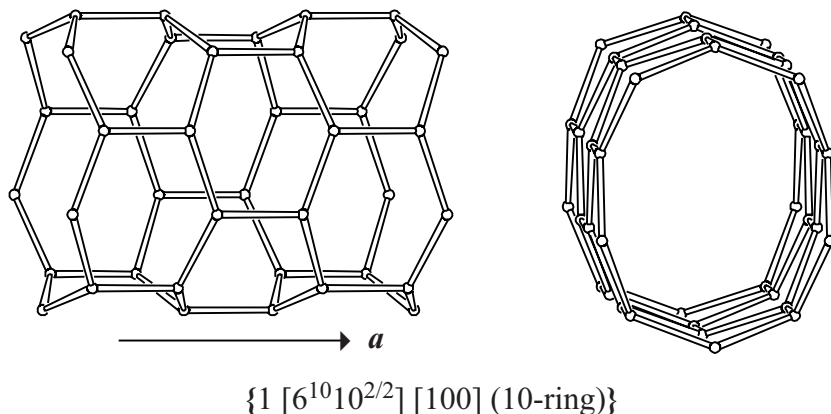


Figure 3. Channel in **AEL** viewed perpendicular to the channel axis ***a*** (left) and along ***a*** (right). ▲

5. Supplementary information:

Other framework types containing crankshaft chains

In several framework types at least one of the unit cell dimensions is between 8.4 and 9.9 Å. In many cases this indicates the presence of crankshaft chains.

In the **INTRO** pages links are given to detailed descriptions of these framework types (choose: **Crankshaft chains**). There is also a link provided to a summary of the Periodic Building Units used in the building schemes of these framework types (choose: **Appendix; Figure 3**). ▲