

Building scheme for AEN



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1. Periodic Building Unit:

AEN can be built using the T12-unit (bold in Figure 1) consisting of two strongly deformed 6-rings. The two 6-rings are 2-fold (1,3)-connected into three fused 6-rings. The two-dimensional Periodic Building Unit (PerBU) is obtained when T12-units, related along b by a glide mirror plane parallel to the bc plane and along c by pure translations, are connected into the bc layer as shown in Figure 1.

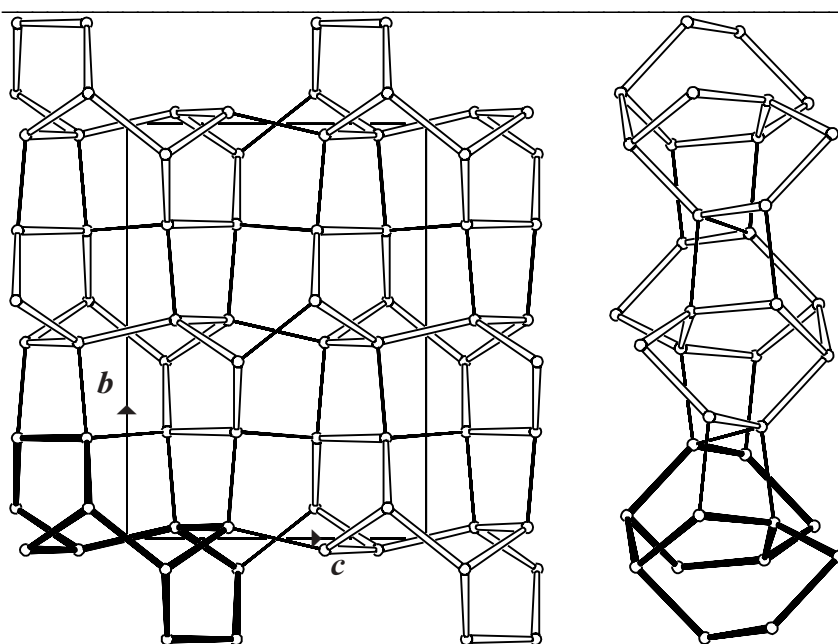


Figure 1. Parallel projection of the PerBU along the plane normal a (left), and perspective view along c (right). In the perspective drawing of the PerBU only one T12-unit along c is shown for clarity. ▲

2. Connection mode:

Neighboring PerBUs, related by a shift of $\frac{1}{2}b$, are connected along a by 4-rings as shown in Fig. 2.

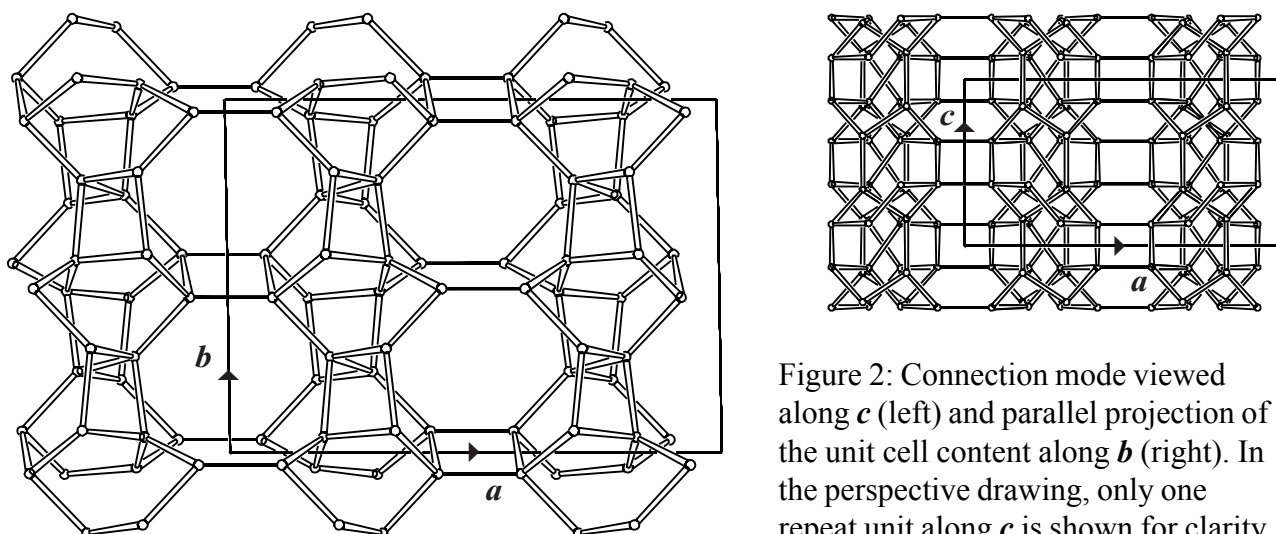


Figure 2: Connection mode viewed along c (left) and parallel projection of the unit cell content along b (right). In the perspective drawing, only one repeat unit along c is shown for clarity.

[AEN can as well be constructed using (twelve) 4-rings, as can be seen from the Figure] ▲

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

4. Channels and/or cages:

The (sinusoidal) channels along [001] and [010] can be obtained by connecting cavities (the channel intersections), related by 2-fold screw axes parallel to c and b , through common 8- and 4-rings. The cavity is shown in Figure 3 together with the **pore descriptor**. The fusion of cavities is illustrated in Figure 4.

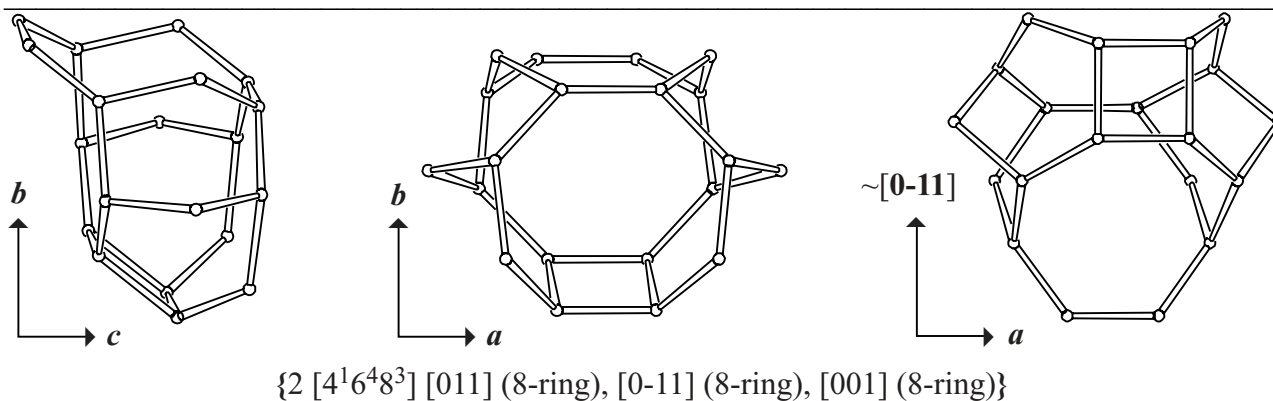


Figure 3. Channel intersection viewed along a (left), along c (middle) and along [011] (right).

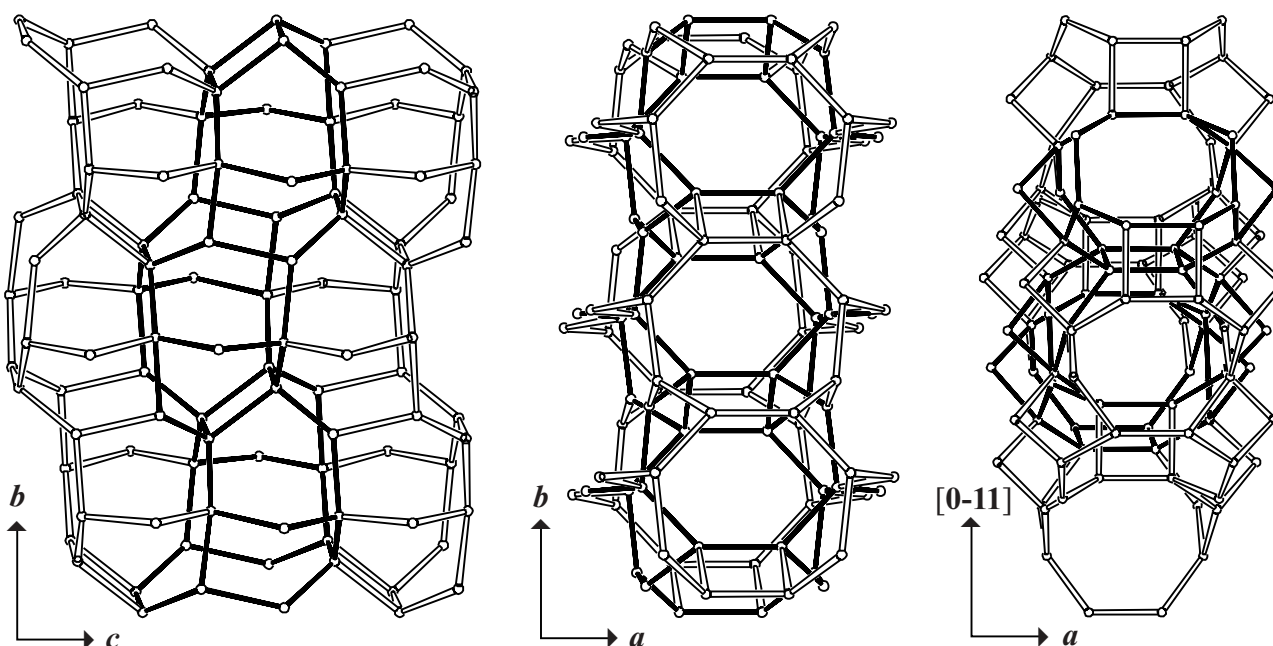


Figure 4. Fusion of cavities in the bc plane viewed along a (left), along c (middle) and along [011] (right). (Sinusoidal) channels are parallel to b and c . ▲

5. Supplementary information:

Other framework types containing (modified) double 6-rings (D6Rs)

Several other framework types can be built using (modified) D6Rs.

In the **INTRO** pages links are given to descriptions of other framework types containing (modified) D6Rs (choose: **Double 6-rings**). 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 7**). ▲