



REPRESENTATION OF THE PRIMARY PLANES OF A SAPPHIRE CRYSTAL

The respective crystal orientations impact properties such as: mechanical, optical, thermal, and birefringence.

Typical choices of sapphire orientation for various components are:

- **c-axis (c-Plane):** In a rod, the direction along its length. In a window, the direction perpendicular to the face. Most common for windows requiring low birefringence. Sometimes referred to as Zero-degree Sapphire.
- **m-Plane:** The plane containing the c-axis and inclined 30 degrees to the a-axis
- **a-Plane:** The plane containing the c-axis and inclined 30 degrees to the m-axis
- **r-Plane:** These planes are inclined 57.5667 degrees to the c-axis and in the same zone as the m-plane