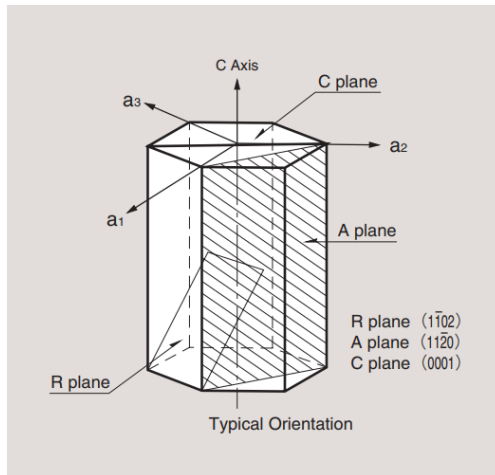


## Sapphire Viewports 130-VPS-xx

Synthetic sapphire is commonly used as a window material, because it is both highly transparent to wavelengths of light between ~180 nm (UV) and 5500 nm (IR), and extraordinarily scratch-resistant.

The key benefits of sapphire windows are:

- Very wide optical transmission band from UV to near-infrared, (0.15–5.5  $\mu\text{m}$ )
- Significantly stronger than other optical materials or standard glass windows
- Highly resistant to scratching and abrasion
- Extremely high melting temperature (2030 °C)



**Unit Cell of Sapphire**

All of our sapphire viewports are single crystal, the DUV quality use well defined crystal orientation, the so called "C-Cut", this means, the window surface is the C-plane, the optical axis is the C axis.

This orientation is also called zero degree oriented.

Sapphire viewports in CF Flanges can be used up to 450°C, soft gaskets should always been used. Compared to other window materials, the viewport is very thin.