

Kyma UV-AIN templates are grown using a modified plasma vapor deposition of nanocolumns process (PVDNC™) and provide a high quality AIN buffer for subsequent AIN or AlGaIn device epitaxy on c-plane sapphire. Typically utilized in UV- LEDs, the templates are also suitable for use in electronic devices, and for basic research. Kyma UV-AIN templates have several advantages over MOCVD and HVPE grown-templates which include:

- Increase in MOCVD throughput by eliminating the sapphire pre-treatment and AIN template layer growth steps
- Lower cost and superior scalability versus MOCVD or HVPE AIN templates
- Superior asymmetric (102) XRD properties compared to other templates
- Available up to 150mm diameter, on SSP or DSP sapphire, and at 400 or 500nm thickness

Properties:

Orientation: c-axis (00.1) \pm 0.2°

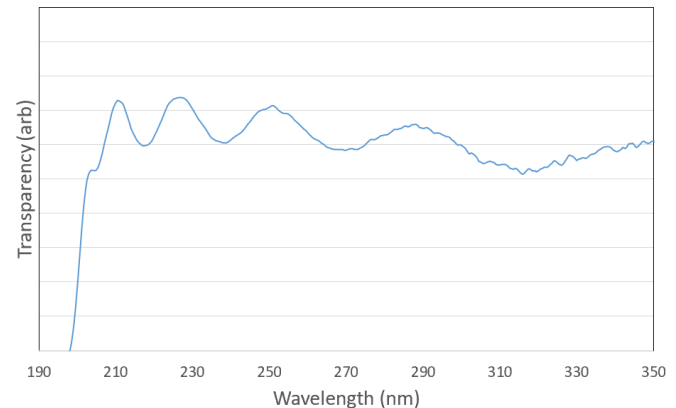
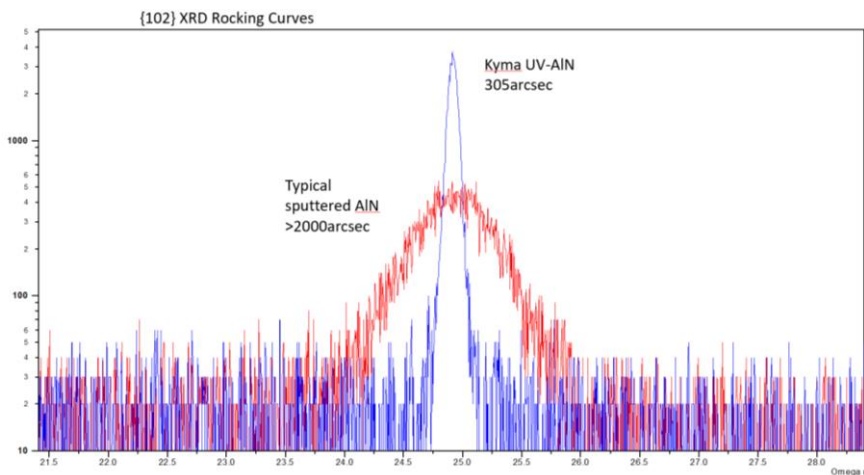
Conduction Type: Semi-insulating

XRD Linewidths (002) / (102): <100 arcsec / <500arcsec (60 arcsec / 300 arcsec typical)

Front Surface Finish (Al-face): Epi-ready, RMS <1 nm

Back Surface Finish: SSP or DSP sapphire from vendor

Edge Exclusion Area: 1 mm for 2" (50.8mm) & 5 mm for 4"-6" (100mm-150mm)



(Left) XRD comparison for (102) of Kyma UV-AIN template vs. typical sputtered templates and (right) optical transparency of the UV-AIN template.