

# GAL (ALUMINATE) PRODUCT FAMILY



Intematix green and yellow GALs (Aluminates) are versatile materials. Green GAL offers higher thermal stability than YAG and robust reliability, making it the perfect phosphor for high-power LEDs. Also, the breadth of the emission helps to fill the blue-green gap, enabling the highest CRI combined with great efficacy. For a bright cool white, yellow GAL shines in both illumination and display applications. Intematix makes Aluminates in different particle size ranges so you can choose the size that best fits your deposition process and packaging requirements.

## Features

- Broad emission, 120nm FWHM
- Choice of yellow & green wavelengths, 515-565nm
- High resistance to heat and humidity
- High thermal stability, 90% lm at 200°C

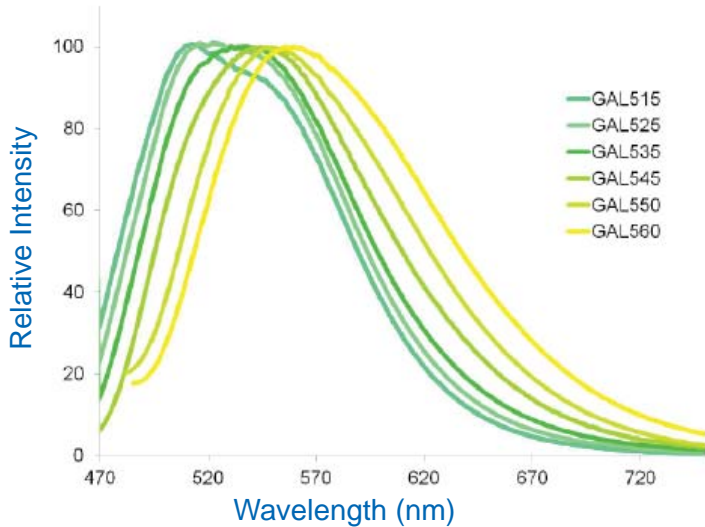
## Benefits

- Enables cool and warm whites
- Up to 98 CRI in blends with red phosphors
- No chromaticity shift in high power LEDs
- High-value substitute for YAG, Silicate
- Excellent for long life products

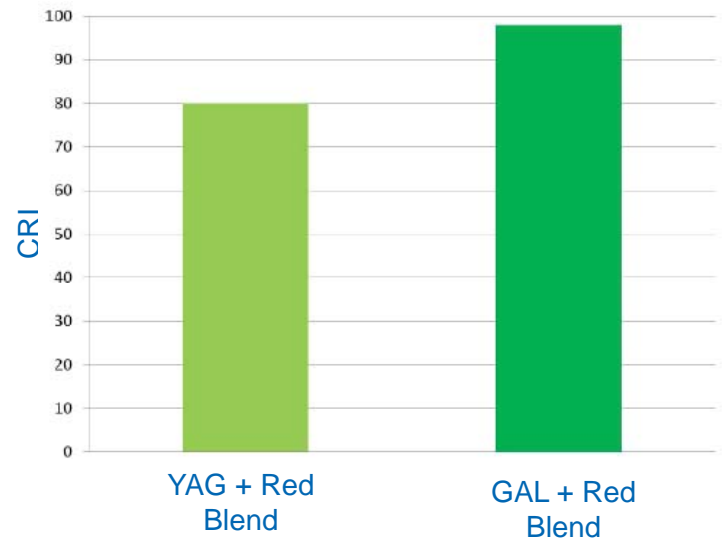
## Applications

- General Lighting - warm and cool whites
  - LED retrofit lamps
  - Architectural
  - Retail display
  - Commercial / industrial
  - Entertainment
  - Automotive interior lighting
- Display Backlighting - high brightness, 550-560nm
  - TV and monitor
  - Tablet PC and mobile display

## Extensive Spectral Distribution



## Highest Light Quality



## Intematix GAL Phosphor Product Line

Green GALs for high CRI lighting

Product	Peak Wavelength	Color Point		Particle Size
	$\lambda_p$ (nm)	CIE <sub>x</sub>	CIE <sub>y</sub>	D50V
GAL515	516	0.327	0.578	12,15
GAL520	522	0.332	0.577	12,15
GAL525	526	0.338	0.576	12,15
GAL530-01-05	530	0.354	0.573	5.5
GAL530-02-14	530	0.347	0.572	14
GAL535-01-B08	535	0.356	0.569	8.5
GAL535-03A-14	536	0.359	0.569	14.5
GAL535-03A-18	536	0.359	0.569	18
GAL535-03A-25	536	0.359	0.569	25
GAL536-01-05	535	0.364	0.571	4.5
GAL537	537	0.366	0.568	7.5
GAL540	540	0.371	0.565	11,14.5,18
GAL545	545	0.394	0.556	7,10,14,15

Note: There may be minor differences in color point and wavelength for some of the particle sizes listed within a product.

Yellow GALs for high brightness lighting / displays

Product	Peak Wavelength	Color Point		Particle Size
	$\lambda_p$ (nm)	CIE <sub>x</sub>	CIE <sub>y</sub>	D50V
GAL550-02-13	550	0.415	0.549	14
GAL555-02-13	555	0.431	0.540	14
GAL560-02-13	559	0.445	0.532	13
GAL565-02-03	567	0.464	0.519	3

## GAL U.S. Patent 8,529,791

What does it cover?

- Green GAL phosphor products and certain LuAG phosphors
- Combinations with red nitride or other red phosphors to create white light

Additional product options with alternative particle sizes may be available. Please consult your local Intematix sales representative for additional information.

**INTEMATIX**

For more information contact [Sales@Intematix.com](mailto:Sales@Intematix.com).

46410 Fremont Boulevard, Fremont, CA 94538

Tel: +1.510.933.3300 . [www.intematix.com](http://www.intematix.com)