

## RFE Series - Product Datasheet

ThruTek Applied Materials produces over 100 standard and customized grades of AlN powders to meet a wide range of application requirements and has over 14 years of expertise in research and development of Aluminum Nitride powders.

## RFE Series

Spherical AlN powder makes it possible to achieve high thermal conductivity in fillers.

RFE Series spherical aluminum nitride powders have high purity spherical shaped particles designed for excellent flowability and loading.

The larger mean particle size and spherical shape not only provides a higher filling rate but also much improved thermal conductivity.

RFE Series AlN powders are surface coated for better coupling with epoxy resins and offer improved resistance against hydrolysis.

## Key Applications

RFE Series can be used in a variety of epoxy resins to develop highly thermal conductive products such as adhesives, gels, grease, pads and tapes, etc.

## Features & Benefits

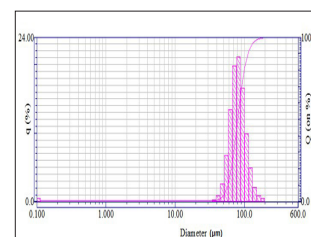
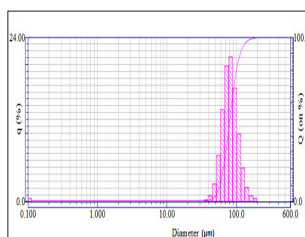
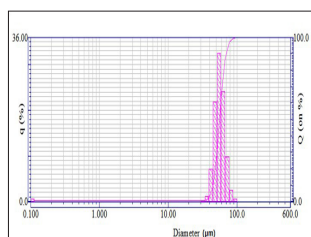
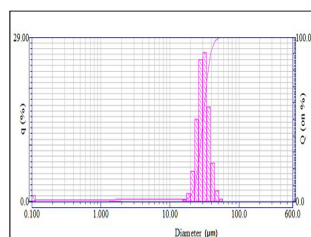
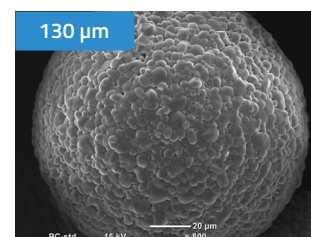
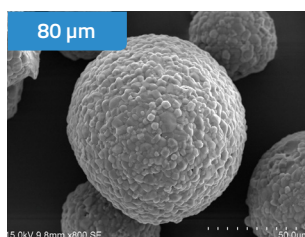
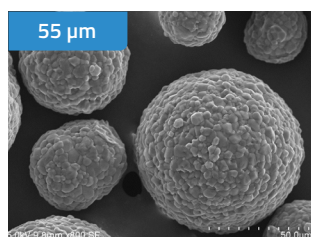
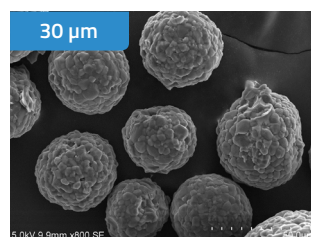
- Spherical Shaped Particles
- Sharp PSD and Low impurities
- Surface coated for better bonding with epoxy resins
- Water Resistant variants available
- Customizable PSD and surface coating

Properties		Available Grades			
		AlN300RFE	AlN550RFE	AlN800RFE	AlN13tRFE
Particle Type		Sintered Agglomerated			
Particle Shape		Spherical			
Surface Coating		Surface coated for improved bonding with epoxy resins			
Particle Size	D10	25 $\mu\text{m}$	40 $\mu\text{m}$	58 $\mu\text{m}$	100 $\mu\text{m}$
	D50	<b>30 <math>\mu\text{m}</math></b>	<b>55 <math>\mu\text{m}</math></b>	<b>80 <math>\mu\text{m}</math></b>	<b>130 <math>\mu\text{m}</math></b>
	D90	38 $\mu\text{m}$	72 $\mu\text{m}$	108 $\mu\text{m}$	170 $\mu\text{m}$
Specific Surface Area (SSA)		< 0.13 $\text{m}^2/\text{g}$	< 0.067 $\text{m}^2/\text{g}$	< 0.05 $\text{m}^2/\text{g}$	< 0.03 $\text{m}^2/\text{g}$
Impurities	Ca	< 100 ppm			
	Fe	< 150 ppm			
	Si	< 300 ppm			
	Pb	< 10 ppm			
	C	< 100 ppm			
	O	< 2.5 wt%			
Anti-Hydrolysis	Treatment	No water resistance treatment applied			
	Rating	Surface-coated AlN powder hydrolyzes in water in 24 to 72 hours			
Application		Ideally used as main filler in epoxy resins			

Chemical Name Aluminum Nitride | Formula AlN | CAS Number 24304-00-5

Form Powder | Color Gray | Purity  $\geq 97\%$  | Melting Point  $> 2200\text{ }^\circ\text{C}$  | Density 3.26  $\text{g}/\text{cm}^3$

## SEM Photo & Particle Size Distribution



**Disclaimer:** Data represented in this document are typical values only and not guaranteed. ThruTek reserves the right to make changes to the product information contained herein without notice.