Thrutek® ALN-AF Series

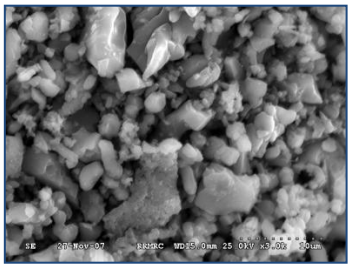
GLOBALTOP-MATERIALS
Your connective compounds matchmaker

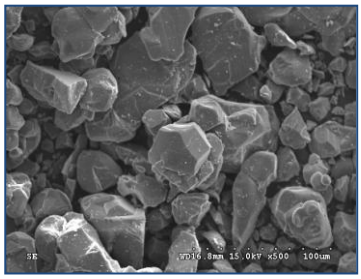
✧ Introduction

Aluminum Nitride (ALN) is a ceramic material possessing outstanding properties such as high thermal conductivity，high electrical resistance。

Thrutek®ALN-AF series is the grade with high purity and without surface modification for special application which **low metal content** is required 。

Customized size distribution for specific applications is welcomed。





✧ Specifications

- Melting point ： 2200 ℃.
- Boiling Point ： 2517 ℃.
- Specific Gravity ：3.26 g/cm³.
- Thermal Conductivity * ： 320 W/m.K (∗).
- Coefficient of Thermal Expansion ：4.5 x 10^{-6}
- Specific heat ：740 J/kg.℃.
- Dielectric constant ： 9 @ 1Hz.
- Dissipation factor: 0.0003 @ 1Hz.
- Volume resistivity: > 10^{14} Ω-cm.
- Mohs hardness: 9~10.

∗ :Theoretical value of single crystal.

✧ Product Features

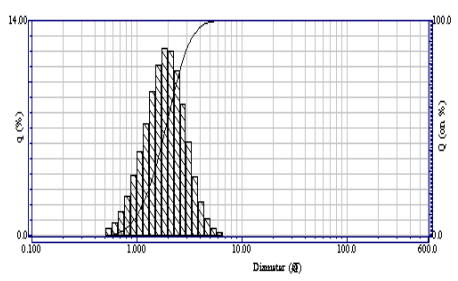
- ➢ Sharp size distribution.
- ➢ Low metal impurities.
- ➢ Low oxygen contents.
- ➢ Low CTE (Coefficient of Thermal Expansion).
- ➢ Continuous volume production, monthly up to ten tonnage capacity.

➢ Typical SSA Specifications

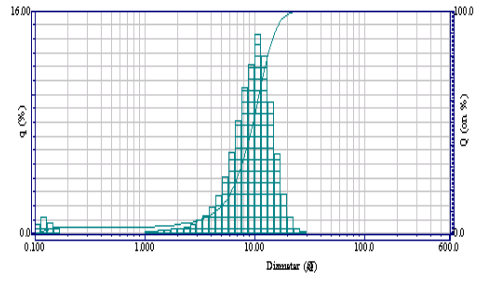
Type		ALN020AF	ALN050AF	ALN100AF	ALN200AF
Size Distribution*	D10 (μm)	1	2.5	4.5	6
	D50 (μm)	2.0	5.0	10	20
	D90 (μm)	4	10	30	80
SSA *	㎡/g	1.0225	0.4156	0.2987	0.1214

- D50 known as the median diameter or the medium value of the particle size distribution.
- SSA(Specific surface area) : the surface area of the particulate in terms of mass per unit surface area.

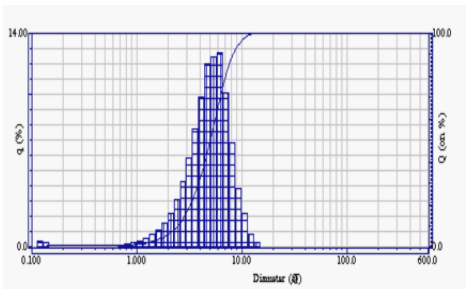
➢ Particle Size distribution



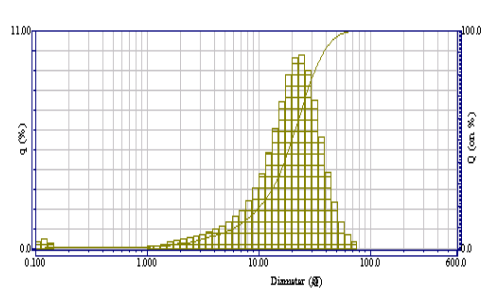
AlN020AF



AlN100AF



AlN050AF



AlN200AF

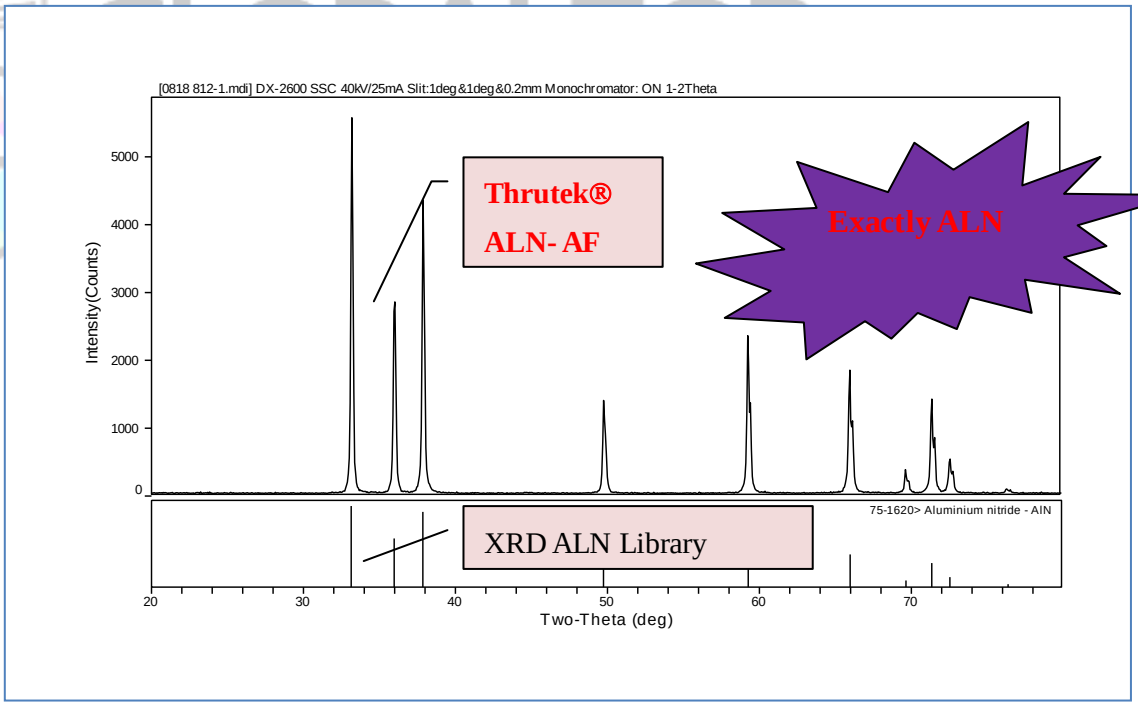
ICP analysis

Impurities	Fe	Si	Ca	Pb
20um	< 200	< 200	< 50	ND
10um	< 200	< 200	< 50	ND
5um	< 200	< 200	< 50	ND
2um	< 200	< 200	< 50	ND

EDS Analysis

Element	Weight%	Atomic%
N	34.84	50.73
Al	65.16	49.27
Totals	100.00	

XRD Analysis



Only Typical data for material selection purpose.

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