

Application fact sheet for LIBS and electrode coating

Boehmite (AlOOH)

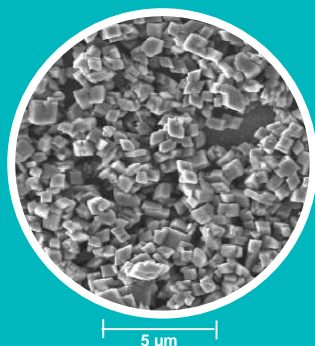
APYRAL® AOH 30

APYRAL® AOH 60

APYRAL® AOH 70

ACTILOX® 200SM

Functional mineral fillers for Lithium-ion battery separators (LIBS) and electrode coating



APYRAL® AOH 70

Product advantages

- Excellent dispersability
- Optimized habitus for coatings
- High thermal conductivity
- Low Mohs hardness
- Very low impurities (e.g. Na, Ca, Fe, ...)

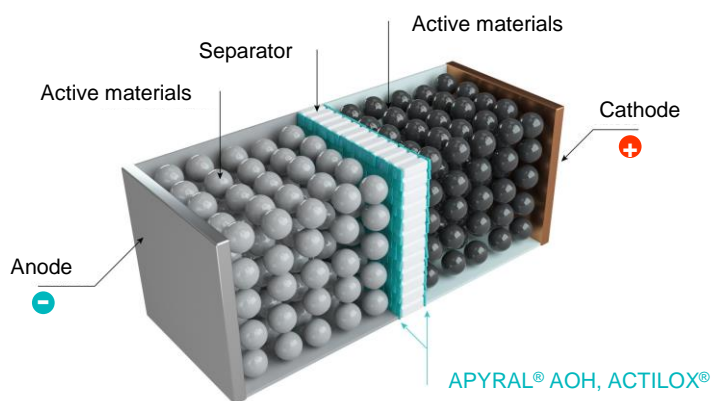
Properties of APYRAL® AOH 30 | 60 | 70 | ACTILOX® 200SM

Analysis	Unit	APYRAL® AOH 30	APYRAL® AOH 60	APYRAL® AOH 70	ACTILOX® 200SM
Al(OH) ₃	%	99	99	99	99
D ₁₀	μm	0.9	0.5	0.3	0.2
D ₅₀	μm	2.2	0.7	0.5	0.3
D ₉₀	μm	4	1.4	0.8	0.6
Specific surface area (BET)	m ² /g	3.2	5	7.5	18

Material constants

Appearance	White powder
Chemical formula	Al(OOH)
Crystal structure	Boehmite
Mohs hardness	3
Specific gravity [g/cm ³]	3.0
Refractive index	1.62

Schematic illustrations of LIBS-Batteries



Particle size distribution only via low shearing slurry dissolver (no milling!)

Water based test formulation:

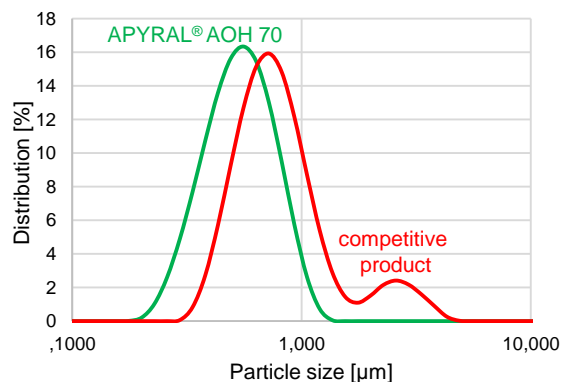
Wet type PE separator

- 0.5 % - 1.5 % Dispersant
- 1 % - 2 % Wetting agent
- 2 % - 5 % Binder system

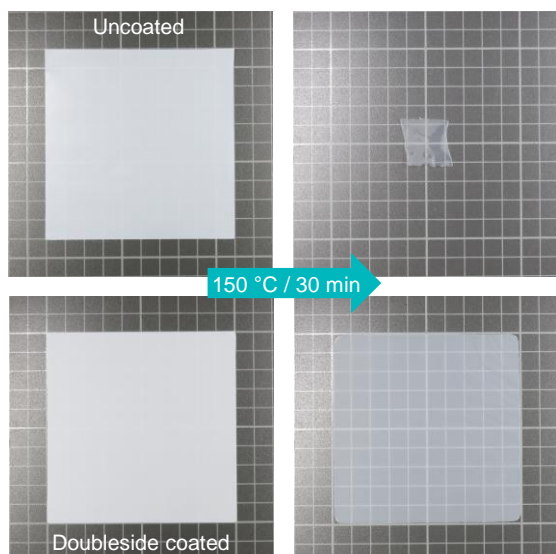
Dosage based on Boehmite content



No milling!



Anti-shrinkage-protection of PE-Separator via APYRAL® AOH 70 coating



PE-Separator (12 µm)

150 °C / 30 min	D ₅₀	Coated layer	Shrinkage of MD & TD	Gurley
	[nm]	[µm]	[%]	[s/100ml]
Reference PE	-	-	> 70	140
APYRAL® AOH 70	500	2 + 2	1 - 3	200

All data listed in this brochure are reference values and subject to production tolerances. These values are exclusive to the product description and no guarantee is placed on the properties. It remains the responsibility of the users to test the suitability of the product for their application.