Anglo Pacific minerals

Nepheline Syenite

Filler Grade

In filler applications, nepheline syenite primarily serves as a performance enhancer and has the following functions/advantages:

- improves weatherability
- improves abrasion, scrub, stain, mildew and chalking resistance
- high brightness (> 92)
- great UV protection to resin and pigment system, and high yellowing resistance
- low tint strength even at high loading that maximizes the color strength
- optimal refractive index allows for high loading in transparent and translucent coatings and stains
- good dispersibility and low oil absorption in both water and solvent systems, and low viscosity even in high filler/pigment loading
- stable pH and chemical inertness
- low vehicle demand and exceptional resistance to frosting

Chemical Analysis

SiO_2	~ 61.50%
Al_2O_3	~ 20.80%
Fe_2O_3	< 0.15%
TiO_2	~ 0.03%
Na_2O	~ 8.40%
K_2O	~ 6.10%
CaO	~ 0.75%
MgO	~ 0.10%

These oxides primarily exist in nepheline and alkaline feldspar, and there is no free crystalline silica present in APNS.

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Nepheline Syenite

Filler Grade

Typical Properties	APNS 3	APNS 4	APNS 5	APNS 7	APNS10	APNS 12
106µm	100%	100%	100%	100%	100%	100%
75µm	99.9%	100%	100%	100%	100%	100%
45µm	98%	99.9%	100%	100%	100%	100%
30µm	90%	98.5%	99.5%	99.5%	99.8%	100%
20µm	75%	90%	90%	99%	99.5%	100%
15µm	65%	82%	75%	95%	98%	100%
10µm	50%	63%	65%	85%	97%	99.9%
5µm	25%	35%	30%	50%	80%	90%
2µm			10%			48%
D50 (µm)	10.0	7.0	8.0	4.5	2.5	2.1
Bulk Density	0.86	0.83	0.78	0.63	0.56	0.50
Oil Absorption (g/100g)	~21	~22	~24	~27	~31	~32.5
Whiteness	81	82.5	83	84.5	86	88.5
CIELAB Color L:	93.0	94.0	94.5	95.5	96.0	96.5
CIELAB Color a:	-0.50	-0.50	-0.50	-0.50	-0.50	-0.50
CIELAB Color b:	4.80	4.70	4.60	4.20	4.10	3.85
Hardness (mohs)	6.0	6.0	6.0	6.0	6.0	6.0
pH	8.9	8.9	8.9	9.1	9.2	9.3
Moisture	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%

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