

Raw Materials Of WNPL With Specifications

01. AMMONIUM NITRATE CRYSTAL / EMULSION GRADE

(Annual Requirement= 5000 MT Required)

Specifications:

<u>Parameters</u>	<u>Specified limits</u>
1. Physical Appearance	➤ White in crystalline form ➤ Free from all visible impurities
2. Purity	>99 %
3. Density	~0.85-0.90 kg/ Lit.- ¹
4. Moisture (Karl Fischer)	0.60 % maximum
5. Volatile matter	0.20% maximum
6. Organic coating, inert coating	Nil
7. pH (10% aqueous solution)	~ 5.0 (Five)
8. <u>Heat stability at 80°C</u> (by Able Heat Test Apparatus)	30 minutes Minimum
9. <u>Crystal size distribution</u>	
Retention on BSM # 16 (USM # 18)	~ 6.0 % (Greater than 1 mm)
Retention on BSM # 30 (USM # 35)	~ 58.0% (0.5 - 01 mm)
Retention on BSM # 60 (USM # 60)	~ 33.0% (0.25 - 0.5% mm)
Pass through BSM # 60 (USM # 60)	~ 03% (smaller than 0.25 mm)

2. HIGH DENSITY AMMONIUM NITRATE

(Annual Requirement= 5000 MT)

Required Specifications:

Parameters	Specified limits
2. Physical Appearance	➤ White in crystalline form ➤ Free from all visible impurities
10. Purity	>99 %
11. Density	0.85-0.90 kg/ Lit - EMULSION GRADE 0.90-1 kg/ Lit - CRYSTALLINE/ DENSE GRADE
12. Moisture (Karl Fischer)	0.60 % maximum
13. Volatile matter	0.20% maximum
14. In organic coating,	less than 0.1% - CRYSTALLINE / DENSE GRADE NIL - EMULSION GRADE
15. pH (10% aqueous solution)	~ 5.0 (Five)
16. Heat stability at 80°C (by Able Heat Test Apparatus)	30 minutes Minimum
17. <u>Crystal size distribution</u>	
Retention on BSM # 16 (USM # 18)	~ 6.0 % (Greater than 1 mm)
Retention on BSM # 30 (USM # 35)	~ 58.0% (0.5 - 01 mm)
Retention on BSM # 60 (USM # 60)	~ 33.0% (0.25 - 0.5% mm)
Pass through BSM # 60 (USM # 60)	~ 03% (smaller than 0.25 mm)

03. POROUS PRILLED AMMONIUM NITRATE (PPAN)

(Annual Requirement = 3000 MT)

Required Specifications:

Sr. #	Parameters	Specified Limits
01.	Physical Appearance	Prills form and free from all visible impurities.
02.	Purity	99 % Minimum
03.	Density	0.79 - 0.83 kg/Lit.- ¹
04.	Moisture (Karl Fischer)	0.1 %
05.	Absorption of Fuel Oil	8 % minimum
06.	Organic Coating	0.1 Maximum
07.	pH (10% aqueous solution)	5 - 6
08.	<u>Heat Stability at 80 °C</u> (by Able heat Test apparatus)	30 minute minimum
10.	<u>Dry Sieve Analysis:</u> Retention on USM # 10 (BSM # 08) USM # 18 (BSM # 16) USM # 35 (BSM # 30) Pass through	05 % 85 % 10 % 01 %

04. EMULSIFIER (Sorbiton Mono Oleate)

(Annual Requirement = 40 MT)

Required Specifications:

Sr. #	Parameters	Specified Limits
01.	Physical Appearance	1) Dark yellowish brown Oily Liquid 2) Free from any visible impurities
02.	Density at 25 °C	0.98 ~ 1.0 gcm ⁻³
03.	Viscosity at 25 °C	950 ~ 1100 cst
04.	Water Content	1.0 % Maximum

05. CO – EMULSIFIER (PIBSA):

(Annual Requirement = 3.50 MT)

Required Specifications:

Sr. #	Parameters	Specified Limits
01.	Physical Appearance	1) Thick brownish Liquid 2) Free from any visible impurities.
02.	Specific Gravity at 15.6 °C at 100 °C	0.90 ~ 0.92 0.85 ~ 0.89
03.	Viscosity at 100 °C	120 ~ 150 cst

06. MIRCO HOLLOW SPHERES)

(Annual Requirement = 12 MT)

Sr. #	Parameters	Specified limits
1	Physical Appearance	i) White Color Micro Balloons ii) Free From Visible Impurities
2	Bulk density	0.065 - 0.095 g.cm ⁻³
3	Effective density	0.125 - 0.155 g.cm ⁻³
4	Particle size by volume Microns Mean Size	65 – 95 µm
5	Volume loss @ 100 PSI %	< 10 % maximum

07. PURE ALUMINUM WIRE 99.5%

(Annual Requirement = 15 MT)

Required Specifications:

Sr. #	Parameters	Specified Limits
01	Material	Pure Aluminum wire 99.5 %, material grade – 1050-A as per EN 573 / 3 & EN 1301 / 02 (superseded DIN – 1712/3 & 1790 / 1). Soft tempered O.
02	Physical Appearance	Bright surface without any defect in coil of maximum 50 kg.
03	Aluminum Wire Dia	8.0 ± 0.05 mm.
04	Tensile Strength	65 to 95 N / mm ²
05	Inner diameter of coil	450 mm.
06	Outer diameter of coil	700 mm.
07	Chemical Test (B.S 1475 SIB, Wire UK)	Aluminum Wire = 99.5%: Silicon (Si) = 0.3% Copper (Cu) = 0.05%: Zinc (Zn) = 0.10 %: ferrous (Fe) = 0.4%: Manganese (Mn) = 0.05% Note: Cu + Si + Fe + Mn + Zn = 0.5, Total impurities must not exceed more than 0.5%
08	Packing	Each coiling roll of 50 kg in Seaworthy packing. Each coiling roll should be wrapped in the polythene / plastic sheets before packing in the wooden-boxes.

08. WAX BLENDED

(Annual Requirement = 100 MT)

Required Specifications:

SR. #	Description	Ranging Limit
01.	Physical Appearance	1) White to Yellow in clour. 2) Free from visible impurities.
02.	Congeaing Point	60 – 67 C
03.	Viscosity at 100 C	6 – 10 est
04.	Needle Penetration at 25 C	02 – 03 mm
05.	Oil Content	0.3 – 0.8 %
06.	Acidity	Nil
07.	Flash Point	> 250 C
08.	Antioxidant	0.07 - 0.11 %

09. PURE ALUMINUM STRIPS (99.5%)

(Annual Requirement= 5 MT)

Required Specifications:

Sr. #	Parameters	Specified Limits
01	Material	Pure Aluminum Strips in coils: material grade 1050A: Al-Purity 99.5% as per EN 573 & 485 – 2 and tempered O / H I I I.
02	Physical Appearance	Pure Al - Strip in coils. Material Grade: Al.99.5 / G11: Soft bright surface.
03	Aluminum Strips	a. Size width; 30 mm. b. Thickness: 0.4 - 0.02 mm. c. Coil Weight: 15 - 20 kg. d. Coil Inner dia : 400 mm.
04	Tensile Strength RM	65 to 95 Mpa
05	Yield Point RP 0.2	Minimum 15 Mpa
06	Elongation A 50	Minimum 26%
07	Chemical Test B.S 1470 SIB, 1050 A - 0	Al = 99.5 % min: Si = 0.25% max: Fe = 0.40 % max: Cu = 0.05 % max: Mn = 0.05 % max: Mg = 0.05% max: Zn = 0.07 % max: Ti = 0.05 % max. Others = 0.03 % max.
08	Packing	Each Roll of 15 - 20 kg in Seaworthy packing. Each roll should be rapped in the polythene / plastic sheets before packing in the wooden-boxes

10. SODIUM NITRATE

(Annual Requirement= 500 MT)

Required Specifications:

Sr. #	Parameters	Specified limits
1.	Physical Appearance	Colorless, transparent and odorless crystals, powder
2.	Purity	99.0% minimum
3.	Taste	Saline and slightly bitter
4.	Moisture content	0.40 % maximum
5.	pH	5 ~ 9.5
6.	Chloride (as NaCl)	< 0.15%
7.	Matter insoluble in water	0.10% maximum
8.	Heat Stability At 80 °C By Able Heat Test Apparatus	30 minutes
9.	Sieve analysis Retention on BSM # 18 (USM# 20)	0.5 % maximum
10.	Qualitative presence of Na ⁺¹ and NO ₃ ⁻¹	Positive