

## **Forward Disclaimer**

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To: Recipients of this Document  
From: TSJ Holdings LTD

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### **Introduction**

TSJ Holding is an integrated global trading and logistics company connecting energy and mineral markets with disciplined execution and high-reliability performance. We specialize in refined petroleum products, strategic minerals, and industrial raw materials that are critical to modern industrial, transportation, and power sectors.

Our core mandate is to provide certainty across the value chain. TSJ Holding links producers, refiners, smelters, and end-users through transparent sourcing, bankable commercial structures, and rigorously managed operations that consistently align with contractual, technical, and regulatory requirements.

Supported by a diversified global partner network, robust financial capabilities, and deep market domain expertise, TSJ Holding operates as a strategic platform for counterparties seeking reliable supply, responsive customer service, and long-term commercial value creation.

### **Mineral Resource Products**

TSJ Holding sources, markets, and delivers critical minerals and metals (“Products”) used in manufacturing, infrastructure, and next-generation technologies. We work closely with miners, processors, and smelters to ensure consistent quality, specification compliance, and secure long-term material availability.

The information outlined herein reflects key technical characteristics and specification ranges of Products that TSJ Holding can supply. More detailed product data, including full specification sheets, test reports, and commercial terms, are made available following execution of a Non-Disclosure Agreement (NDA), completion of Know-Your-Customer (KYC) procedures, and satisfactory initial exchange of corporate and technical information.

## 1. Copper Cathodes (Grade A)

Standard: ASTM B115 (Grade 1) or LME Grade A (BS EN 1978).

Target Market: Cable, wire, and electronics manufacturing.

Parameter	Limit	Typical Value
Purity (Cu)	Min 99.9935%	99.99% - 99.999%
Oxygen (O)	ASTM E2575	Max 0.0005% (5 ppm)
Sulfur (S)	ASTM E2575	Max 0.0015% (15 ppm)
Iron (Fe)	ASTM E2575	Max 0.0010% (10 ppm)
Silver (Ag)	ASTM E2575	Max 0.0025% (25 ppm)
Dimensions	-	914mm x 914mm x 12mm (approx)

Note: Asian End Buyers almost exclusively demand LME Registered brands. Non-registered brands usually trade at a significant discount.

## 2. Copper Concentrates

Standard: No fixed ASTM; sold on contractual assay.

Target Market: Smelters.

Parameter	Standard Method	Typical Specification
Copper (Cu)	ISO 10258	Min 25% (Base grade)
Gold (Au)	Fire Assay	1 – 20 g/mt (Payable credit)
Silver (Ag)	Fire Assay	30 – 200 g/mt (Payable credit)
Arsenic (As)	ISO 13545	Max 0.5% (Penalty triggers >0.2%)
Fluorine (F)	Ion Selective	Max 300 - 500 ppm
Mercury (Hg)	CV-AAS	Max 10 ppm (Very strict)
Moisture	ISO 10251	Max 8 - 10% (Transport limit)

Note: Crucial. Vietnam has strict limits on "deleterious elements." If Arsenic is too high, the cargo may be rejected as "hazardous waste."

## 3. Copper Ore

Standard: Geological assay.

Target Market:

Processing plants (less common to trade raw ore internationally due to freight costs, but high-grade ore is traded).

Parameter	Typical Spec	Notes
Copper (Cu)	10% - 15%	Direct shipping ore (DSO) high grade.
Size	0 - 10 mm	Fines or Lumps (contract specific).
Moisture	Max 8%	To prevent liquefaction during shipping.
Impurities	-	Must comply with Vietnam's environmental "allowable waste" limits if not fully refined.

## 4. Aluminum (Ingots) & Bauxite

Context: Aluminum Ingots (P1020) for manufacturing.

## A. Aluminum Ingots (Primary)

Standard: ASTM B179 or LME P1020A.

Parameter	Limit
Aluminum (Al)	Min 99.7%
Iron (Fe)	Max 0.20%
Silicon (Si)	Max 0.10%
Zinc (Zn)	Max 0.03%
Form	Ingots, T-Bars, or Sows.

## B. Bauxite (Metallurgical Grade - if trading)

- $\text{Al}_2\text{O}_3$  (Alumina): Min 45-50%
- $\text{SiO}_2$  (Silica): Max 5% (Reactive silica is the penalty element)
- **Moisture:** Max 10%

## 5. Lithium (Battery Grade)

### A. Lithium Carbonate ( $\text{Li}_2\text{CO}_3$ ) – Battery Grade

Parameter	Unit	Standard Limit	Typical Value
Purity ( $\text{Li}_2\text{CO}_3$ )	%	Min 99.50	99.60
Sodium (Na)	%	Max 0.025	0.015
Calcium (Ca)	%	Max 0.005	0.003
Iron (Fe)	%	Max 0.001	0.0005
Silicon (Si)	%	Max 0.003	0.001
Chloride (Cl <sup>-</sup> )	%	Max 0.003	0.001
Sulfate ( $\text{SO}_4$ )	%	Max 0.010	0.005
Moisture ( $\text{H}_2\text{O}$ )	%	Max 0.250	0.150
Magnetic Impurities	ppb	Max 300	< 100
Particle Size (D50)	$\mu\text{m}$	3.0 – 8.0	5.5

### B. Lithium Hydroxide ( $\text{LiOH} \cdot \text{H}_2\text{O}$ ) – Battery Grade

Preferred for high-nickel cathodes (NCM 811) used in advanced EVs.

Parameter	Unit	Standard Limit	Typical Value
Purity (LiOH)	%	Min 56.50	57.10
Carbon Dioxide ( $\text{CO}_2$ )	%	Max 0.35	0.25
Sodium (Na)	%	Max 0.002	0.001
Potassium (K)	%	Max 0.001	0.0005
Calcium (Ca)	%	Max 0.005	0.003
Iron (Fe)	%	Max 0.0005	0.0003
Magnetic Impurities	ppb	Max 100	< 50
Acid Insolubles	%	Max 0.005	0.002

## 6. Zinc & Lead Concentrates

### A. Zinc Concentrate

Parameter	Unit	Rejection Limit (Vietnam/China Ref)	Typical Commercial Spec
Zinc (Zn)	%	Min 45.0%	50.0% – 55.0%
Silver (Ag)	g/mt	-	50 – 150 (Payable)
Gold (Au)	g/mt	-	0 – 2 (Payable if >1g)
Iron (Fe)	%	Max 12.0%	5.0% – 9.0%
Arsenic (As)	%	Max 0.50% (Strict)	< 0.20%
Cadmium (Cd)	%	Max 0.30%	< 0.15%
Mercury (Hg)	%	Max 0.01% (100 ppm)	< 0.005% (50 ppm)
Silica (\$SiO <sub>2</sub> \$)	%	Max 3.5%	1.5% – 2.5%
Fluorine (F)	ppm	Max 500	200 – 300
Moisture	%	Max 9.0%	7.0% – 8.0%

### B. Lead Concentrate

Parameter	Unit	Rejection Limit	Typical Commercial Spec
Lead (Pb)	%	Min 50.0%	60.0% – 65.0%
Silver (Ag)	g/mt	-	1,000 – 2,500 (High Value)
Zinc (Zn)	%	Max 7.0%	3.0% – 5.0%
Arsenic (As)	%	Max 0.50%	< 0.30%
Bismuth (Bi)	%	Max 0.20%	< 0.05%
Mercury (Hg)	%	Max 0.01%	< 0.005%
Moisture	%	Transport Limit	6.0% – 9.0%