









LEAD
HEDGING PRICE RISK

MCX
METAL & ENERGY
Trade with Trust



Lead has been in use for thousands of years because it is easy to get from the ground and easy to shape and work with. It was used by the Romans for pipes, drinking vessels, and fasteners. Lead is a shiny, gray-blue metal that gets tarnished easily to a dull gray colour. It is soft and malleable and is very shiny when molten and is very heavy. It is also corrosion-resistant. Lead is found very rarely in the earth's crust as a metal. Galena is the main lead ore. It is usually found in association with zinc, silver, and copper ores. It is one of the most sustainable and recyclable commodities. It can be recycled indefinitely, without loss of its physical or chemical properties.

(Source: Wikipedia)

LEAD APPLICATION

Lead is principally used for manufacturing batteries, especially the ones used in automobiles, motorcycles, and electric cars. Its incredible density provides protection from radiation and is used in hospitals, dental surgeries, laboratories, and nuclear installations. Lead acid batteries provide vital back-up emergency power supply during power failures in computer installations, banks, telephone exchanges, and aircraft control towers, among others. In the ongoing quest for clean energy, people have been turning to alternative sources, such as wind power and solar cells, whose storage and distribution systems rely on lead acid batteries. In earthquake-prone regions, such as Japan and California, the buildings are mounted on lead shock absorbers that help minimize damage during tremors or earthquakes.

DOMESTIC SCENARIO & OUTPUT

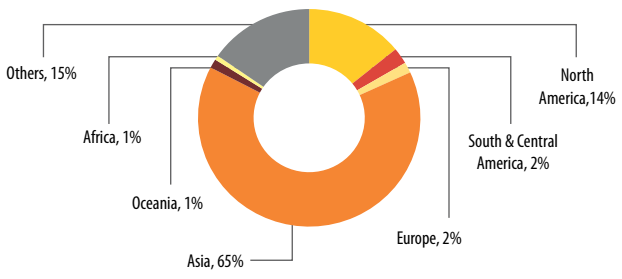
India imports nearly 80 per cent of its lead concentrate requirement every year. Lead concentrate is processed, and refined lead is produced for consumption in the market

- Lead is a freely importable commodity as per Govt. of India norms.
- Lead is used for various applications, but the largest consumer of lead is the automotive battery sector.
- Lead prices are influenced by several domestic and international factors. India is only a price taker.
- In India, the main producer of lead is Hindustan Zinc Limited (HZL), a public sector enterprise. Almost the entire production of lead from India is by this company which produced 1,97,838 tonnes of refined lead during 2018-19 and 1,81,370 tonnes in 2019-20.

GLOBAL OUTPUT & USAGE

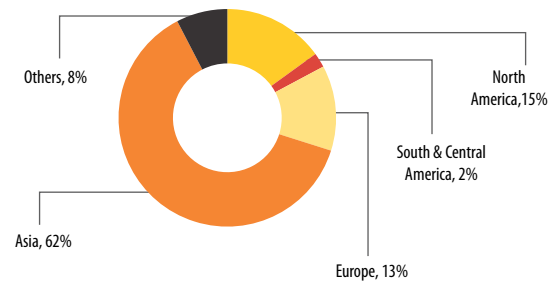
According to the International Lead and Zinc Study Group, global refined lead production in 2020 decreased by 3.7% to 11.74 million tonnes, and metal consumption decreased by 5.1% to 11.54 million tonnes, resulting in a production-to-consumption surplus of about 196,000 tonnes of refined lead.

COUNTRY/REGION-WISE SHARE IN GLOBAL REFINED LEAD PRODUCTION (2020)



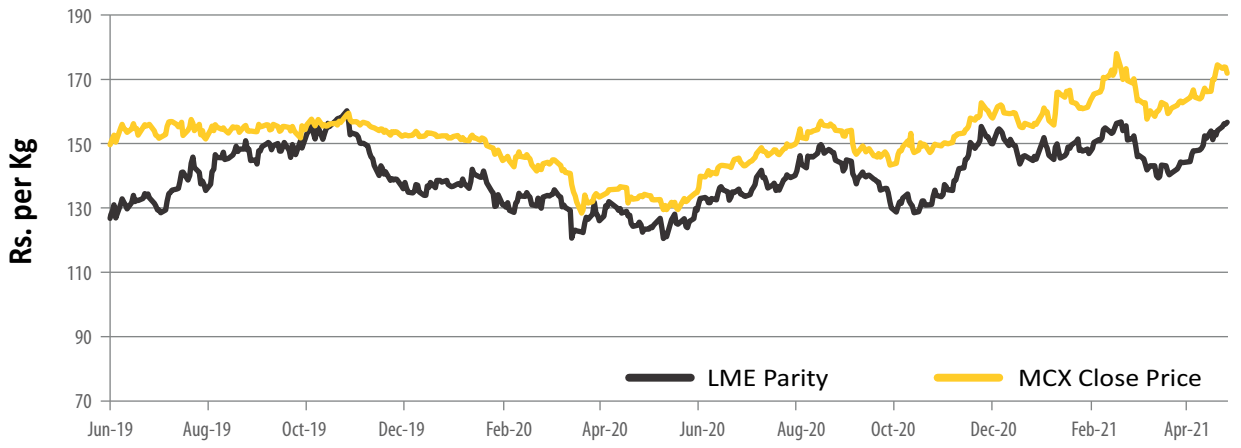
Source: World Bureau of Metals Statistics / Bloomberg

COUNTRY/REGION-WISE SHARE IN GLOBAL REFINED LEAD CONSUMPTION (2020)



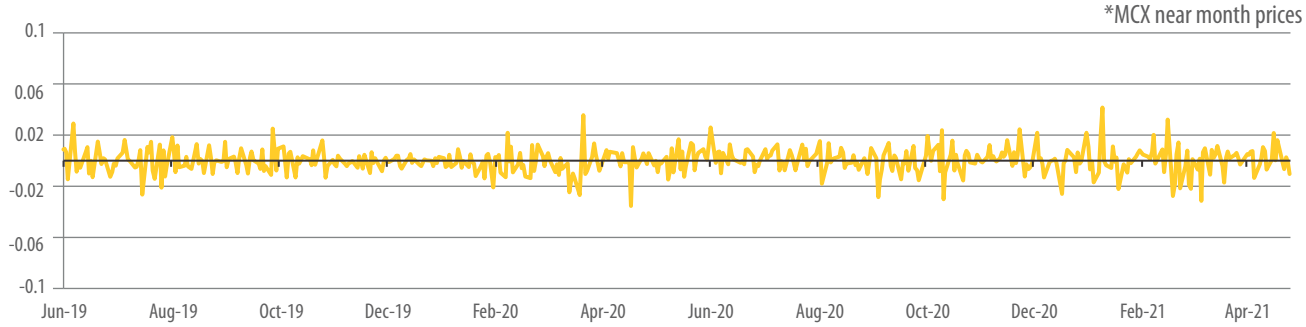
Source: World Bureau of Metals Statistics / Bloomberg

LEAD PRICE MOVEMENT



AVERAGE DAILY VOLATILITY LEAD*

*MCX near month prices



YEAR	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021#
ANNUALIZED VOLATILITY	28%	17%	20%	17%	24%	24%	25%	22.3%	23.9%	15%	19%

#till 29 Apr. 2021

World Refined Lead Supply and Usage 2016 - 2021

'000 Tonnes

	2016	2017	2018	2019	2020	2021			
						Nov	Dec	Jan	Feb
Mine Production	4713	4588	4593	4728	4517	417.1	424.2	382.6	377.1
Metal Production	11546	11897	12186	12195	11673	1055.0	1070.2	993.2	940.4
Metal Usage	11508	12046	12232	12163	11501	1050.4	1063.7	997.6	933.0

Source - International lead and zinc study group

A comprehensive Hedge Policy Document is available at:
https://www.mcxindia.com/docs/default-source/market-operations/trading-surveillance/reports/hedgepolicy.pdf?sfvrsn=2

PRICE RISK MANAGEMENT

Risk management techniques are critical for participants, such as producers, exporters, marketers, processors, and SMEs. Modern techniques and strategies, including market-based risk management financial instruments like 'Lead Futures', offered on the futures platform can improve efficiencies and consolidate competitiveness through price risk management. The importance of risk management cannot be overstated; an expert committee set up by the government found that commodity derivatives exchanges are efficiently fulfilling their functions of price discovery and price risk management.

HEDGING MECHANISM

Hedging is the process of reducing or controlling risk. It involves taking equal and opposite positions in two different markets (such as physical and futures market), with the objective of reducing or limiting risks associated with price change. It is a two-step process, where a gain or loss in the physical position due to changes in price will be offset by changes in the value on the futures platform, thereby reducing or limiting risks associated with unpredictable changes in price. In the international arena, hedging in Lead futures takes place mostly in two major exchanges: London Metal Exchange (LME), and Shanghai Futures Exchange (SHFE).

IMPORTANCE OF HEDGING

Hedging is critical for stabilizing incomes of corporations and individuals. Reducing risks may not always improve earnings, but failure to manage risk will have direct repercussion on the risk bearers' long-term income. To gain most from hedging, it is essential to identify and understand the objectives behind hedging. A good hedging practice, hence, encompasses efforts by companies to get a clear picture of their risk profile and benefit from hedging techniques.

PARTICIPANT HEDGERS

Commodity Exchanges offer a transparent hedging platform, besides bringing about economic and financial efficiencies by de-risking production, processing, and trade. Futures Exchanges' engagement has led to large efficient gains in supply chains, with exporters gaining a larger share of global prices, and producers getting better prices and much better access to markets. All those who have or intend to take positions in physical Lead are participant hedgers.

These are:

- Importers
- Exporters
- Refiners
- Processors
- Stockists
- SMEs

FACTORS AFFECTING PRICE VARIATIONS

- Prices ruling in the international markets
- Indian Rupee and US Dollar exchange rates
- Economic factors: industrial growth, global financial crisis, recession, and inflation
- Commodity-specific events: construction of new production facilities or processes, new uses or the discontinuance of historical uses, unexpected mine or plant closures (natural disaster, supply disruption, accident, strike, and so forth), and industry restructuring—all affect metal prices.
- Government trade policies (implementation or suspension of taxes, penalties, and quotas)
- Geopolitical events
- As societies develop, their demand for metal increases based on their current economic position, which could also be referred as 'National Economic Growth Factor'.

FACTS ON HEDGING

Understand the risk profile and appetite while formulating clear hedging objectives

- Hedging can shield the revenue stream, profitability, and balance sheet against adverse price movements Hedging can maximize shareholder value
- Common avoidable mistake is to book profits on the hedge while leaving the physical leg open to risk
- Hedging provides differentiation to companies in a highly competitive environment
- Hedging also significantly lowers distress costs in adverse circumstances confronting a company
- A properly designed hedging strategy enables corporations to reduce risk. Hedging does not eliminate risk, it merely helps to transform risk
- To gain the most from hedging, it is essential to identify and understand the objectives behind hedging and to get a clear picture of their risk profile

APPRECIATING THE BENEFITS OF HEDGING

Situations prevailing in the Lead industry are given below (see box), which will demonstrate how the futures platform may be used by participants to manage price risk by entering into Lead Futures contracts. We will look at the effect of price movement in either direction.



Lead acid batteries are the mainstay of storage technologies for renewable energy source, such as solar cell and wind turbines. They are also used to power cars, trucks, buses, motor-bikes, electric vehicles and hybrid vehicles.

APPRECIATING THE BENEFITS OF HEDGING

Situations prevailing in the Lead industry are given below, which will demonstrate how commodity exchange platform may be used by participants to manage price risk by entering into Lead Futures contracts. We will look at the impact of price movement in either direction.

THE SITUATION

Cool Batteries is a company involved in the manufacture and retail sales of battery. Significant boom in the auto segment has led a to sharp growth in battery demand in sales volume. Price volatility is of big concern to the company. A consultant appointed by the management has recommended that price risk should be managed by taking up position on the futures platform.

Hedging against domestic sales

GOING SHORT: SCENARIOS WHERE PRICES EITHER RISE OR FALL

The company, Cool Batteries has routine sales of 50,000 batteries every month. Based on experience, the company has put forward the following facts.

- The company purchases 10 tonnes of Lead every week to conduct routine production.
- The processed material will be ready to be sold in 2 weeks.
- The sale price of finished goods will be as per prevailing price at the time of final sales.
- It is difficult to predict the sales price 2 weeks ahead.
- The company's objective is to lock prices.

SCENARIO 1: IF PRICES WERE TO FALL

DETAILS	FUTURES PLATFORM	PHYSICAL MARKET
10th October	SELL Lead Futures Contract	Raw material bought
25th October	BUY Lead Futures Contract	Processed material sold, at ruling price

The net position of the above transactions will negate price risk

(₹/Kg)

DATE	LEAD SPOT PRICE	LEAD FUTURES PRICE (expiry 31st October)
10-10-201X	162	163
25-10-201X	155	156

(₹/Kg)

MARKET	DATE	ACTION	PRICE	DATE	ACTION	PRICE	PROFIT/LOSS
Futures	10-10-202X	SELL	163	25-10-202X	BUY	156	**7 (profit)**
Spot	10-10-202X	BUY	162	25-10-202X	SELL	155	

Net selling price: ₹162, i.e. (₹155 + ₹7)

EXPLANATION

The Treasury Team of Cool Batteries, short sells 2 lots (1 lot = 5 tonne) of 31st October Lead contract on 10th October and squares the contracts on 25th October. The value of raw material in the finished goods sale is ₹15,50,000 (155*2*5000) and cash inflow from futures platform due to rise in prices is ₹70,000 (7*2*5000). Thus, the net value realized from the sale of finished goods is ₹16,20,000 (70,000+15,50,000), making the net selling price ₹162 per kg (16,20,000/10,000), which is the budgeted price.

SCENARIO 2: IF PRICES WERE TO RISE

DETAILS	FUTURES PLATFORM	PHYSICAL MARKET
10th October	SELL Lead Futures Contract	Raw material bought
25th October	BUY Lead Futures Contract	Processed material sold, at ruling price

The net position of the above transactions will negate price risk

(₹/Kg)

DATE	LEAD SPOT PRICE	LEAD FUTURES PRICE (expiry 31st August)
10-10-202X	162	163
25-10-202X	169	170

(₹/Kg)

MARKET	DATE	ACTION	PRICE	DATE	ACTION	PRICE	PROFIT/LOSS
Futures	10-10-201X	SELL	163	25-10-202X	BUY	170	**7 (loss)**
Spot	10-10-201X	BUY	162	25-10-202X	SELL	169	

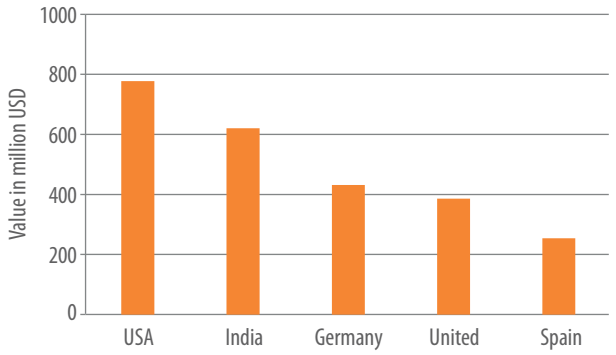
Net selling price: ₹162, i.e. (₹169 - ₹7)

EXPLANATION

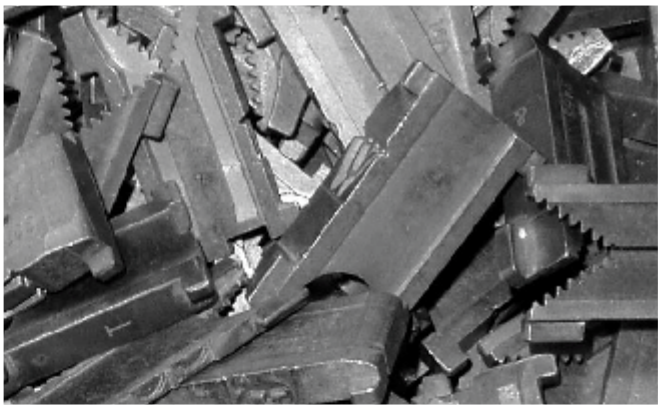
The Treasury Team of Cool Batteries, short sells 2 lots (1 lot = 5 tonne) of Lead 31st October contract on 10th October and squares the contract on 25th October, making a loss of ₹7 per kg. The value of raw material in the finished goods sale is ₹16,90,000 (169*2*5000) and cash flow outgo on futures platform due to rise in prices is ₹70,000 (7*2*5000). Thus, the net value realized from the sale of finished goods is ₹16,20,000 (16,90,000 - 70,000), making the net selling price ₹162 per kg (16,20,000/10,000), which is the budgeted price.

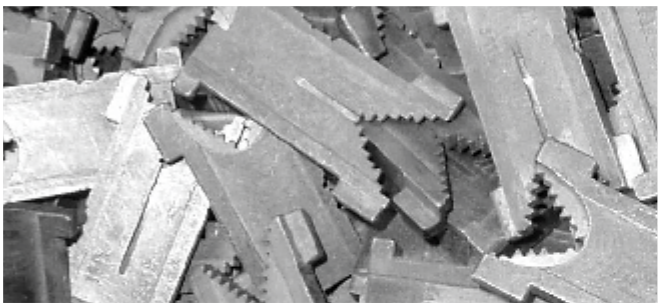
Note:
The objective is to lock in prices, to obtain protection from unwanted price volatility, which affect the balance sheet of the company. This has been achieved, through hedging on futures platform in both the scenario of rising and falling prices, by which Cool Batteries has been able to sell the finished material atthe budgeted price itself.

MAJOR LEAD IMPORTING COUNTRIES (2020)

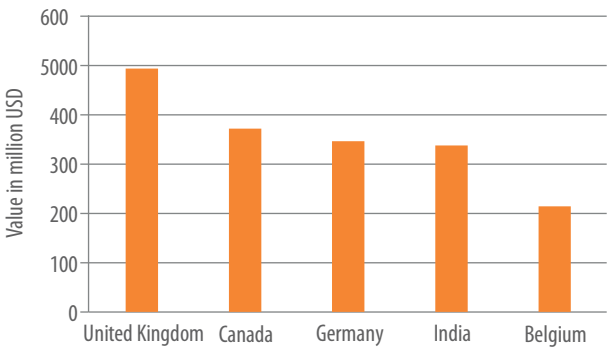


Source: UN Comtrade Database



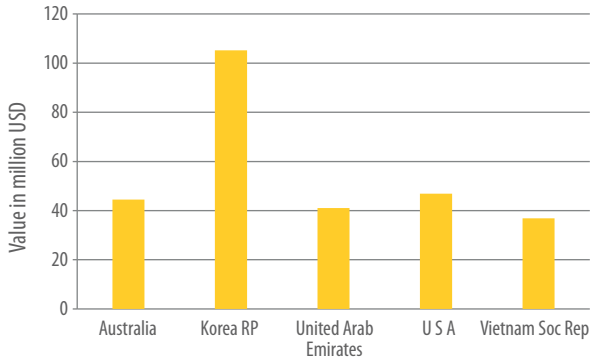


MAJOR LEAD EXPORTING COUNTRIES (2020)



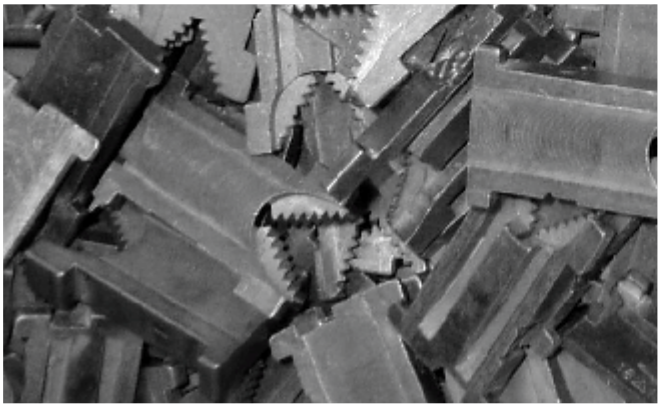
Source: UN Comtrade Database

MAJOR LEAD IMPORTING SOURCES FOR INDIA 2020-21 (APR-JAN)

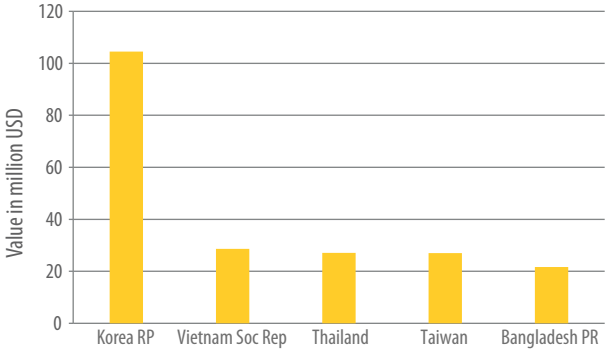


Source: Ministry of Commerce and Industry (GoI) Data Bank





MAJOR LEAD EXPORTING SOURCES FOR INDIA 2020-21 (APR-JAN)



Source: Ministry of Commerce and Industry (GoI) Data Bank

HEDGING EXPERIENCES

Siemens India Limited.

"The company uses Commodity Future Contracts to hedge against fluctuation in commodity prices."
(Source- Annual Report, 2020)

Antofagasta PLC.

Antofagasta is a Chilean copper mining group with significant by-product production and interests in transport and water distribution. "The group monitors the commodity markets closely to determine the effect of price fluctuations on earnings, capital expenditures, and cash flows. From time to time, the group uses derivative instruments to manage its exposure to commodity price fluctuations, where appropriate."
(Source: Antofagasta plc, Annual Report and Financial Statements 2020)

Aurubis

(Aurubis is a leading integrated copper group and the world's largest copper recycler, with production sites in US, Europe and an extensive service and sales system for copper products in Europe, Asia and North America).
"The Aurubis Group is exposed to commodity price risks. Non-ferrous metals futures contracts are entered into in order to mitigate price risks. For this purpose, incoming and outgoing metal quantities from underlying transactions are offset against each other each day and remaining open positions are squared by means of metal exchange transactions."
(Source: Annual report 2019-20)

BOLIDEN

New Boliden is a Swedish mining and smelting company focusing on the production of copper, zinc, lead, gold and silver.
"Boliden's policy stipulates that risks from exposure in conjunction with binding undertakings shall be hedged in full, with the exception of the smelters' process inventory. The group uses futures contracts to ensure that the sale price and exchange rate correspond to those applicable in conjunction with the signing of a sales agreement at a fixed price. "
(Source: Boliden Annual Report, 2020)

How much Volatility Risk are you Exposed to?



Lead witnessed annualized price volatility of 15% in 2020

Which means

A firm in the lead business, with an annual turnover of ₹100 crore was exposed to a price risk of ₹15 crore in 2020

Are you prepared for volatility risk?

(Adoption of a risk management practice, such as hedging on the futures platform, can help shield against the perils of price volatility)

REGULATORY BOOSTS FOR HEDGERS

1. Income tax exemptions for hedging: Commodity derivatives transactions undertaken in recognized exchanges enjoy benefits under the ambit of Section 43(5) of the Income Tax Act, 1961 and the gains/ losses from such transactions are not considered 'speculative'. This effectively means that business profits/ losses can be offset by losses profits undertaken in commodity derivatives transactions. This enhances the attractiveness of risk management on recognized commodity derivative exchanges and incentivizes hedging. Hedgers are no longer forced to undertake physical delivery of commodities in order to prove that their transactions are in the nature of hedging and not 'speculation'.

2. Limit on open position as against hedging: This enables hedgers to take positions to the extent of their exposure on the physical market and are allowed to take position over and above prescribed position limits on approval by the exchange.



SALIENT SPECIFICATIONS OF MCX LEAD FUTURES CONTRACTS

SYMBOL	**LEAD**
Description	LEADMMMYY
TRADING	
Trading period	Mondays through Fridays
Trading session	Monday to Friday: 9:00 a.m. to 11:30 p.m. / 11:55* p.m.
Trading unit	5MT
Quotation/Base value	₹ / kg
Maximum order size	100 MT
Price Quote	Ex-Warehouse at Chennai district in Tamil Nadu (excludes only GST)
Tick size (minimum)	5 paise / kg
Daily price limits	The base price limit will be 4%. Whenever the base daily price limit is breached, the relaxation will be allowed upto 6% without any cooling off period in the trade. In case the daily price limit of 6% is also breached, then after a cooling off period of 15 minutes, the daily price limit will be relaxed upto 9%. In case price movement in international markets is more than the maximum daily price limit (currently 9%), the same may be further relaxed in steps of 3% informed to Regulator immediately.
Initial margin*	Minimum 10% or based on SPAN whichever is higher
Extreme Loss Margin	1%
Additional and/or special margin	In case of additional volatility, an additional margin (on both buy-side & sell-side) and/or special margin (on either buy-side or sell-side) at such percentage, as deemed fit; will be imposed in respect of all outstanding positions.
Maximum allowable open position**	For individual clients: 3500 MT for all contracts or 5% of the market-wideopen position, whichever is higher, for all lead contracts combined together For a member collectively for all clients: 35,000 MT or not more than 20% of the market-wide open position, whichever is higher, for all lead contracts combined together
DELIVERY	
Delivery Unit	5 MT with tolerance limit of +/– 15%
Delivery period margin***	Delivery period margins shall be higher of: a. 3% + 5 day 99% VaR of spot price volatility Or b. 25%
Delivery Center(s)	Ex-Warehouse at Chennai district in Tamil Nadu
Additional Delivery Center(s)	1. Thane district in Maharashtra 2. Palwal, Haryana in National Capital region (NCR)
Quality Specifications & Shape	Lead Ingots with minimum purity of 99.97%. Only LME approved brands will be accepted. For the purpose of quality assessment, reliance shall be placed by the WSP on the Certificate of Analysis (CoA) issued by the producer.
Due Date Rate:	The Final Settlement Price (FSP) shall be arrived at by taking the simple average of the last polled spot prices of the last three trading days viz.,E0 (expiry day), E-1 and E-2. On the day of expiry the trading shall be allowed up to 5pm.
Delivery Logic	Compulsory Delivery

**The Margin Period of Risk (MPOR) shall be 2 days in accordance with SEBI Circular no. SEBI/HO/CDMRD//DRMP/CIR/P/2016/77 dated September 01, 2016 accordingly, the initial margin shall be scaled up by root 2. | **As per SEBI directive CIR/CDMRD/DRMP/01/2015 dated October 1, 2015 | ***As per SEBI directive SEBI/HO/CDMRD/DRMP/CIR/P/2016/77 dated Sep 01, 2016*

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