



LME Historical Market Data

LME Options Volatilities

THE LONDON METAL EXCHANGE

10 Finsbury Square, London EC2A 1AJ | Tel +44 (0)20 7113 8888

Registered in England no 2128666. Registered office as above.

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1 Description

Option pricing uses a number of parameters to determine the Premium of each option contract. One of the most important of these is known as Implied Volatility.

Volatility itself is an annualised standard deviation which gives a measure of the rate and magnitude of the change of prices of an underlying price. On the LME this underlying price is the 3rd Wednesday monthly contract price and it is the Implied Volatilities relating to these which are used for the monthly Traded Option contracts. The Implied Volatilities for the Traded Average Price Options (TAPO) are derived from the monthly levels using an averaging formula.

The closing LME (Implied) Volatilities are captured in Delta space with contributors providing the At-the-Money 50 delta outright volatility level and then the differential from this to +/- 25 and +/- 10 delta points. Then an interpolation is made to provide the At-the-Money Forward volatility level.

The options data being made available for purchase from January 2020 is an extended data set to previous years, which is a result of the LME's ability to publish a wider more complete options data set. Since January 2020 the LME publishes end of day closing prices in premiums per strike price with the corresponding volatility between the 5 to 95 delta per expiry. The Closing Prices for options incorporates a cubic spline interpolation across the delta space.

This data is available to purchase from 2009 – 2022.

2 Cost and Delivery

LME Options Volatilities data is available to purchase from the LME for \$440 per year, per contract. Data will be supplied in MS Excel (CSV) format by email once payment by bank transfer or credit card has been received.

Please refer to the [LME Market Data Services Agreement](#) for terms and conditions. Customers purchasing Licensed Data from the Historical Data Service are unauthorised to distribute the Licensed Data, or use the data for any other commercial purpose, and are not permitted to use the Licensed Data in any legal proceedings (including steps pursuant to a pre-action protocol) without the written prior consent of the LME

3 Additional Notes

- Due to a system change, there is no data available for 11th – 14th November 2019.
- Due to a failure of files not being generated, there is no data for Aluminium for the 10th of January 2022 and no data for Nickel for the 10th of March 2022.
- From 2020 onwards, all deltas have been included, there is one file per year, per metal. For copper each tab is a week, for all the other metals each tab is a month



Below is a sample of LME Primary Aluminium Options Volatilities:

Fig. 1 – Format for data for 2020 – to date

Fig. 2 – Format for data from 2018 – 2019

Fig. 3 – Format for data from 2011 - 2017

Fig. 4 – Format for data from 2009 – 2011

Fig. 1:

	DATE	TYPE	EXPIRY_DATE	COMM	DELTA	STRIKE_PRICE	VOLATILITY	CALLPREMIUM	PUTPREMIUM
0	20220104	O	20220105	AH	-0.015	2750	26.37	83.95	0.2
1	20220104	O	20220105	AH	-0.05	2770	26.37	64.55	0.8
2	20220104	O	20220105	AH	-0.063	2775	26.33	59.83	1.08
3	20220104	O	20220105	AH	-0.10	2785	26.21	50.64	1.89
4	20220104	O	20220105	AH	-0.187	2800	25.91	37.7	3.95
5	20220104	O	20220105	AH	-0.25	2808	25.7	31.37	5.62
6	20220104	O	20220105	AH	-0.405	2825	25.41	19.79	11.04
7	20220104	O	20220105	AH	*	2834	25.5	14.96	15.21
8	20220104	O	20220105	AH	0.50	2834	25.5	14.96	15.21

Fig. 2:

ReportDate	ContractType	ExpiryDate	Commodity	Delta	StrikePrice	Volatility	CallPremium	PutPremium
02/01/2018	O	03/01/2018	ZS	-0.1	3321	1.83	49.72	1.75
02/01/2018	O	03/01/2018	ZS	-0.25	3345	0.78	29.3	5.31
02/01/2018	O	03/01/2018	ZS	ATM	3369	19.48	13.7	13.7

Fig. 3:

Report Date	Contract Type	Expiry Date	Commodity	Delta	Strike Price	Volatility	Call Premium	Put Premium
20120103	O	120104	AA	-0.1	1991	2.55	37.41	1.41
20120103	O	120104	AA	-0.25	2009	1.28	22.18	4.18
20120103	O	120104	AA	ATM	2027	24.59	10.41	10.41
20120103	O	120104	AA	0.5	2027	24.59	10.41	10.41



Fig. 4:

Contract	Trading Day	Currency	Expiry Date	Prov Strike	Prov Volatility	CALL Final Strike	CALL Final Volatility	CALL Closing Premium	PUT Final Strike	PUT Final Volatility	PUT Closing Premium
Aluminium High Grade	04/01/2005	USD	31/01/2005	1800	23.13	1800	23.13	30.5	1800	23.13	21.51
Aluminium High Grade	04/01/2005	USD	28/02/2005	1800	23.22	1800	23.22	57.48	1800	23.22	48.48
Aluminium High Grade	04/01/2005	USD	31/03/2005	1800	22.58	1800	22.58	72.48	1800	22.58	64.75

