# Zinc (Zn)

Base Year 2025

World Production

**12.5 million tonnes of zinc concentrate (contained)**

**+4.9%**

Brazil Production

**187.8 thousand tonnes of zinc concentrate (contained)**

**+1.3%**

National Highlight

**Minas Gerais (69.9% of national production)**

Trade Balance

**↓ Deficit of USD 301.1 million**

Exports

**USD 226.7 million**

**-33.7%**

Mining Royalties (CFEM)

**R$ 26.2 million**

**-1.8%**

% Change 2025 vs 2024



## What is Zinc?

Zinc (Zn) is a non-ferrous metal with atomic number 30, essential to modern industry. It occurs mainly as zinc sulfide (sphalerite), the main economic ore.

It is the fourth most consumed metal in the world, widely used for its high corrosion resistance, good castability and ability to form alloys.

## Occurrence

Zinc occurs mainly in sulfide deposits, in Sedex (sedimentary exhalative), MVT (Mississippi Valley-type), VMS (volcanogenic massive sulfide) and skarn systems.
Sphalerite (ZnS) is the main ore mineral, frequently associated with galena, pyrite and chalcopyrite.
In Brazil, there is also a zinc deposit hosted in a silicate mineral, at the Vazante mine (MG).

## Main applications

About 60% of zinc is used in steel galvanizing for corrosion protection.

It is also used in the production of brass and other alloys, die casting, zinc oxide for rubber, paints, fertilizers and chemicals.

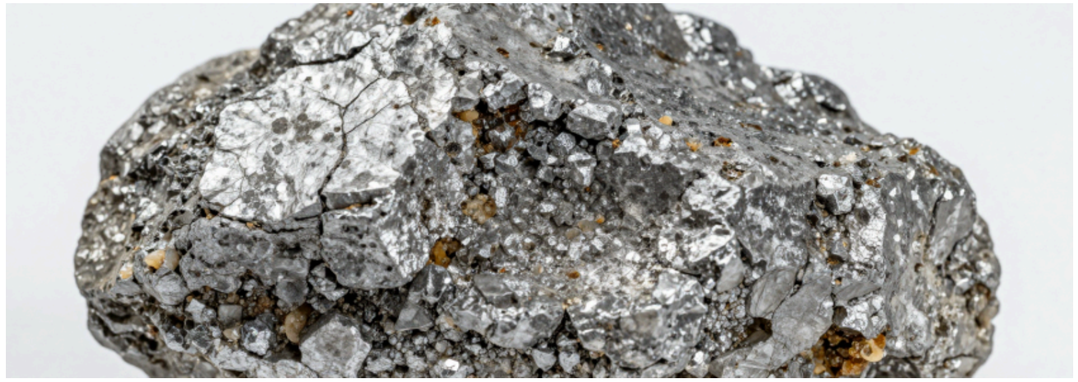
Emerging applications include zinc-based batteries for energy storage.



In 2025, zinc was not on the Brazilian list of strategic minerals; however, new technologies have been using zinc in rechargeable batteries for the energy transition.

# 1. World Supply

In 2025, according to data from the International Lead and Zinc Study Group (ILZSG), world production of zinc concentrate (in contained metal) was 12.5 Mt, an increase of 4.9% compared to 2024. Brazil's production was 187 kt, ranking it as the 14th largest world producer, with a 1.5% share of global production (table 1).



In the year, world production of primary zinc metal was 13.7 Mt and that of secondary (recycled) zinc metal was 2.0 Mt. World refined zinc consumption was 13.8 Mt. Brazil consumed 192 kt of refined zinc, equivalent to 1.4% of world consumption, ranking as the 13th largest global consumer (ILZSG, 2026).

**Table 1 – Main producing countries of Zinc Concentrate (contained metal) – 2025**

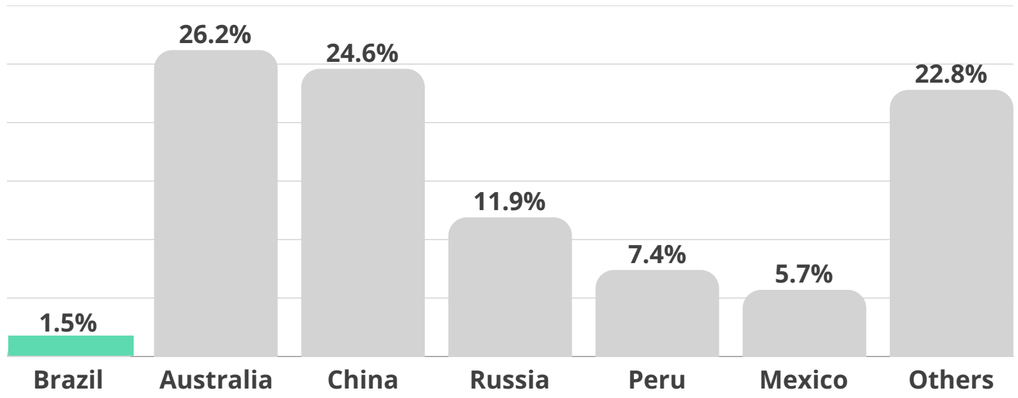
| Country | Production (kt) | Share (%) |
|---|---|---|
| Brazil | 187 | 1.5% |
| China | 4,060 | 32.4% |
| Peru | 1,506 | 12.0% |
| Australia | 1,100 | 8.8% |
| India | 874 | 7.0% |
| Mexico | 776 | 6.2% |
| Other Countries | 4,014 | 32.1% |
| **Total** | **12,517** | **100%** |

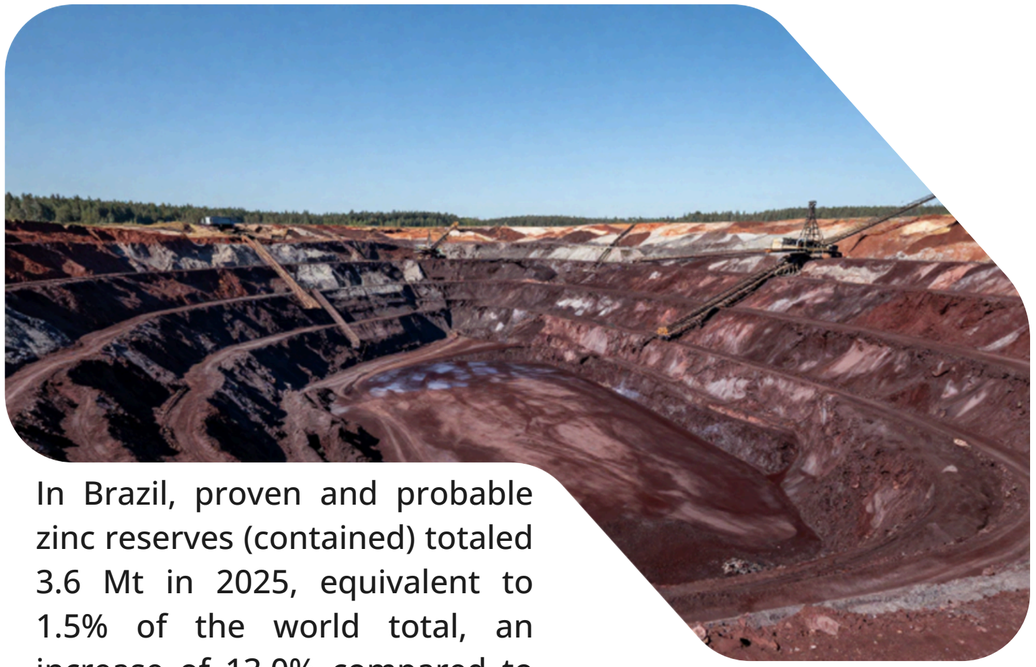
Source: ANM (Brazil) and International Lead and Zinc Study Group (ILZSG) (other countries).

# 2. Reserves

In 2025, according to the United States Geological Survey (USGS, 2026), world zinc reserves (contained) totaled 244.4 Mt.

**Main World Zinc Reserves (contained) – 2025**



In Brazil, proven and probable zinc reserves (contained) totaled 3.6 Mt in 2025, equivalent to 1.5% of the world total, an increase of 13.0% compared to 2024, according to ANM data.

Source: ANM; USGS – Mineral Commodity Summaries 2026. Photo credits: Click Petróleo e Gás.

# 3. Domestic Production

Zinc production in Brazil in 2025 came from 4 mines: Vazante (Vazante Unit), in Minas Gerais, and Aripuanã (Aripuanã Mine), in Mato Grosso, both operated by Nexa Recursos Minerais S.A.; Paracatu (Morro Agudo Mine), in Minas Gerais, operated by Morro Agudo Minerais Ltda.; and Nova Brasilândia D'Oeste (Marcos Paro Mine), in Rondônia, held by Mineração Santa Elina Indústria e Comércio S.A. These mines produced 444.2 thousand t of zinc concentrates, with 187.8 thousand t of contained metal (an increase of 1.3% compared to 2024).

**187.8 thousand t**

of contained zinc produced in Brazil in 2025

Equivalent to 444.2 thousand t of zinc concentrates, from 4 mines (MG, MT and RO)

**Brazilian Production of Zinc Concentrate (contained) (t) – last 3 years**

| Year | 2023 | 2024 | 2025 |
|---|---|---|---|
| Zinc (contained) | 194,030 | 185,462 | 187,819 |

The State of Minas Gerais remains the main production hub, with:

**131.2 thousand t produced | 69.9% of national production**

Source: ANM

# 4. Foreign Trade

Zinc foreign trade reflects a decrease in consumption in the Brazilian market. In 2025, the zinc sector recorded a trade deficit of USD FOB 301.1 million.



## Mineral Sector Exports

**Total: USD FOB 226.7 million**
Variation: -33.7%

Principal destinations:

- Argentina (35.9%)
- South Africa (32.4%)
- Turkey (9.9%)

## Mineral Sector Imports

**Total: USD FOB 527.8 million**
Variation: -11.0%

Principal origins:

- Peru (29.1%)
- Mexico (20.4%)
- Dem. Rep. of the Congo (18.0%)

Source: Open Data/Ministry of Development, Industry, Trade and Services (MDIC) and COMEXMIN/ANM

- Data include the Mineral Extractive Industry (IEM) and the Mineral Transformation Industry (ITM)

***USD FOB/t** = The seller fulfills its obligations and responsibilities when the goods, cleared for export, are delivered, stowed on board the vessel at the port of shipment, both indicated by the buyer, on the date or within the agreed period.

# Foreign trade: main products of the mineral extractive industry (IEM) in 2025

## Main exported products

| | NCM 26080090 – Other zinc ores and concentrates |
|---|---|
| **USD FOB** | 20,694,435 |
| **EXP Share (%)** | 100.0 |

## Main imported products

| | NCM 26080090 – Other zinc ores and concentrates | NCM 26080010 – Zinc ore sulfides |
|---|---|---|
| **USD FOB** | 13,275,892 | 140,008,096 |
| **IMP Share (%)** | 8.7 | 91.3 |

# Foreign trade: main products of the mineral transformation industry (ITM) in 2025

## Main exported products

| | NCM 79011111 – Unalloyed zinc, 99.99% or more zinc, electrolytic, in ingots | NCM 79011210 – Unalloyed zinc, less than 99.99% zinc, in ingots |
|---|---|---|
| **USD FOB** | 109,515,662 | 84,549,651 |
| **EXP Share (%)** | 53.2 | 41.0 |

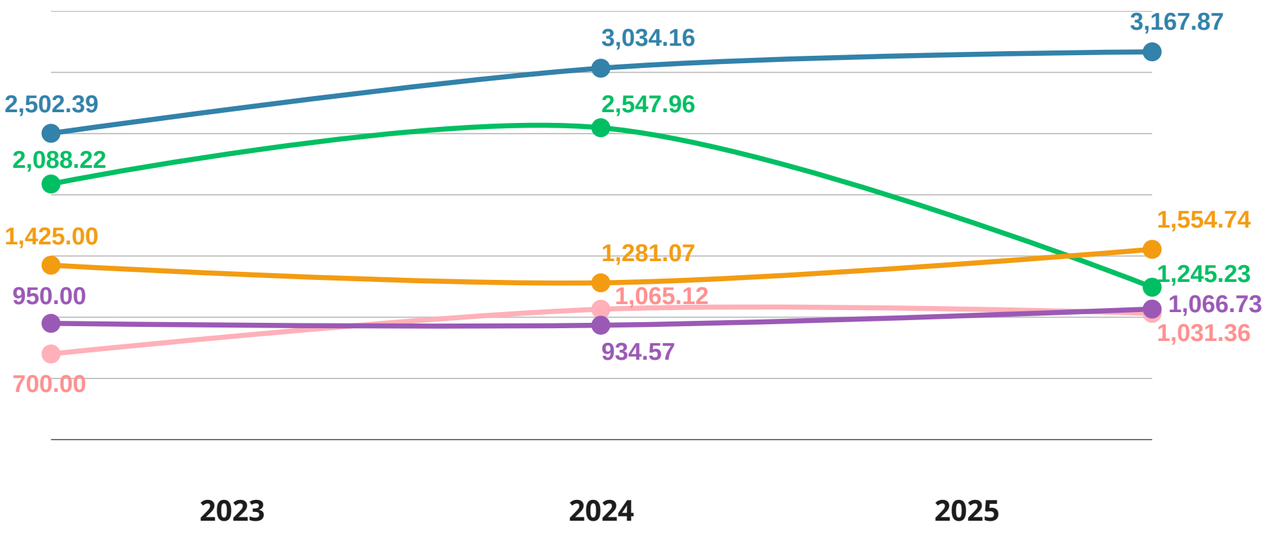
## Main imported products

| | NCM 79011111 – Unalloyed zinc, 99.99% or more zinc, electrolytic, in ingots | NCM 28332970 – Zinc sulfates |
|---|---|---|
| **USD FOB** | 204,161,945 | 51,891,421 |
| **IMP Share (%)** | 54.5 | 13.9 |

Source: Open Data/Ministry of Development, Industry, Trade and Services (MDIC) and COMEXMIN/ANM.

# 5. Prices

## Chart – Average FOB prices - USD/t - Last 3 years




Unalloyed zinc, 99.99% or more zinc, electrolytic, in ingots (exports)
NCM: 79011111

Metal(1)

Other zinc ores and concentrates (exports)

NCM: 26080090

Zinc ore sulfides (imports)
NCM: 26080010

Other zinc ores and concentrates (imports)

NCM: 26080090

Source: Open Data/Ministry of Development, Industry, Trade and Services (MDIC) and COMEXMIN/ANM.
***USD FOB/t** = The seller fulfills its obligations and responsibilities when the goods, cleared for export, are delivered, stowed on board the vessel at the port of shipment, both indicated by the buyer, on the date or within the agreed period. (1) LME prices.

# 6. Financial Compensation for the Exploitation of Mineral Resources (CFEM)

In 2025, collections of CFEM, Brazil's mining royalty, on zinc totaled R$ 26.2 million, a decrease of 1.8% compared to 2024 (R$ 26.7 million). Minas Gerais accounts for about half of the total, followed by Mato Grosso and Rondônia. The main paying companies were Nexa Recursos Minerais S.A. (79.5%), Mineração Santa Elina Ind. e Com. S.A. (19.5%) and Prometálica Mineração Ltda. (0.6%).

| State | Share (%) |
|---|---|
| Minas Gerais | 48.1 |
| Mato Grosso | 32.0 |
| Rondônia | 19.9 |
| **Total** | **100.0** |

Source: ANM

# 7. Investments and Mining Rights

Zinc mining investments are concentrated in Minas Gerais and Mato Grosso, which together account for 99.9% of the total invested in the country in 2025.

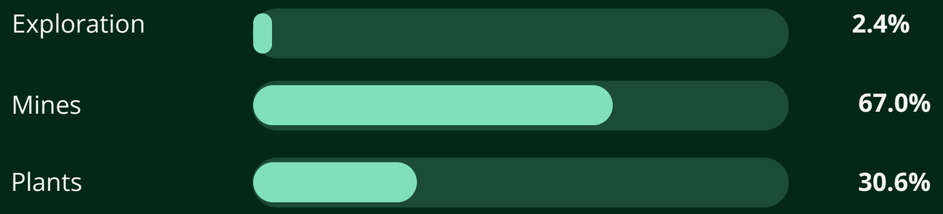
## Investments in mining

In 2025, according to data from the Mineral Exploration Investment Declaration (DIPEM) and the Annual Mining Report (RAL), investments in zinc mining amounted to R$ 614.7 million: 2.4% in mineral exploration, 67.0% in mines and 30.6% in processing plants, an increase of 88.4% compared to the previous year.

## Main States

- MG (30.1%)
- MT (69.8%)
- BA (<0.1%)

## Investment Share




## Mining Rights 2025

## Main States

- MG (8 permits)
- GO (5 permits)
- MT (5 permits)

## Mineral Exploration

- 25 new exploration permits
- -74.5% compared to 2024
- 3 approved final exploration reports published

## Mining Applications

- 2 mining applications

## Mining Concession/ PLG

- 1 mining ordinance published

Source: ANM

# 8. Relevant Factors

National production concentrated in three companies: in 2025, zinc production and processing in Brazil were concentrated in Nexa Resources S.A., the Santa Elina Group and Casa Verde Holding Ltda., with mines in Minas Gerais, Mato Grosso and Rondônia. The metal plays a relevant role in the energy transition, being used for corrosion protection of wind turbines, solar panels and structures. Nexa's production came from the Vazante Mine (Vazante/MG), an underground mine in operation since 1969, with an installed mining capacity of approximately 5.0 ktpd, and from the Aripuanã Mine (Aripuanã/MT), which consolidated its operation throughout the year. High rainfall in the first half of the year affected tailings stability and filtration, with gradual recovery from the second quarter onwards; at the end of 2025, installation of the fourth tailings filter press began.

Santa Elina and Morro Agudo Complex: Mineração Santa Elina, at the Marcos Paro Mine (Nova Brasilândia d'Oeste/RO), carried out open-pit mining and processing of zinc and lead concentrates at the Dioneia polymetallic deposit, associated with the Nova Brasilândia Group, with estimated resources of 2.4 Mt, an average grade of 23% zinc and an estimated mine life of 8 years(1). The Morro Agudo Complex (Paracatu/MG), historically operated by Nexa Resources, had its activities transferred in 2024 to Casa Verde Holding Ltda.

Projects in exploration and development: highlights include the Pedra Queimada Project (Novo Horizonte d'Oeste/RO), by Mineração Santa Elina, aimed at the extraction and production of zinc and copper concentrates, which obtained its Installation License (LI) in mid-2025, with projected investment of over R$ 200 million, expected creation of 190 to 400 direct jobs in the region and production start-up planned for the end of 2026. Also noteworthy is the Nova Redenção Project (SGB/CPRM, Bahia), with Pb-Zn-Ag-Cd mineralization in the Una Group, whose mineral resource data were updated in Mineral Resources Report No. 40: measured and indicated resources total 1.460 Mt (2.43% Pb; 0.81% Zn; 17.43 ppm Ag; 12.24 ppm Cd) and inferred resources 1.711 Mt (3% Pb; 1.51% Zn; 13.82 ppm Ag; 26.81 ppm Cd), totaling 3.172 Mt of ore, with average grades of 2.74% Pb, 1.19% Zn, 49 ppm Ag and 64 ppm Cd. Nexa Resources' Bonsucesso Project, a greenfield underground mine project located about 60 km north of the Morro Agudo Mine (MG), recorded no mineral exploration activities in the year.

(1) Source: Minera Brasil – Zinc and lead deposits in Rondônia reveal the mineral potential of the Nova Brasilândia Group.