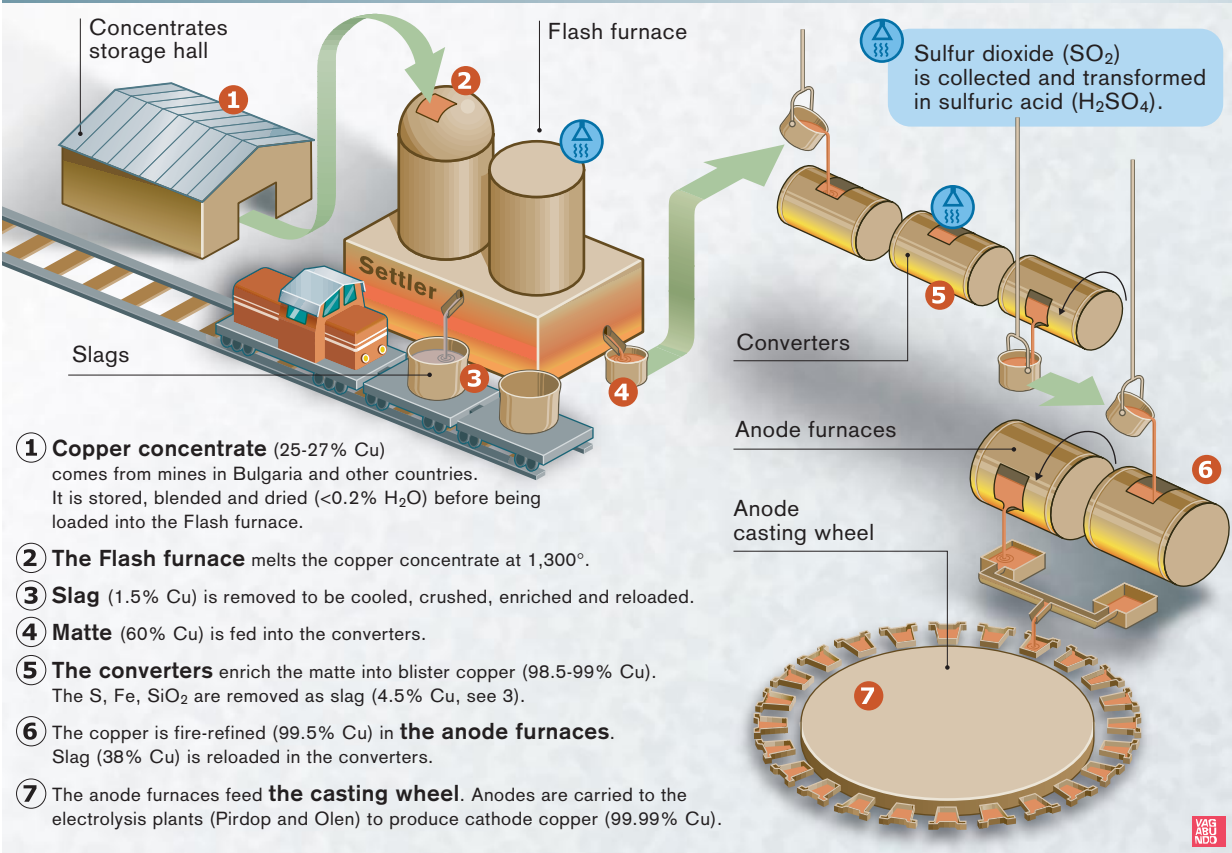
Copper smelting at Union Minière Pirdop Copper



1. **Copper concentrate** (25-27% Cu) comes from mines in Bulgaria and other countries. It is stored, blended and dried (<0.2% H_2O) before being loaded into the Flash furnace.
2. **The Flash furnace** melts the copper concentrate at 1,300°.
3. **Slag** (1.5% Cu) is removed to be cooled, crushed, enriched and reloaded.
4. **Matte** (60% Cu) is fed into the converters.
5. **The converters** enrich the matte into blister copper (98.5-99% Cu). The S, Fe, SiO_2 are removed as slag (4.5% Cu, see 3).
6. The copper is fire-refined (99.5% Cu) in **the anode furnaces**. Slag (38% Cu) is reloaded in the converters.
7. The anode furnaces feed **the casting wheel**. Anodes are carried to the electrolysis plants (Pirdop and Olen) to produce cathode copper (99.99% Cu).