

Alumina Production Formerly IAI Form 601

Reporting Guidelines

1. An alumina refinery may produce calcined alumina (aluminium oxide – Al_2O_3) or hydrated alumina (aluminium oxide trihydrate – $\text{Al}_2\text{O}_3 \cdot 3\text{H}_2\text{O}$ – generally referred to as hydrate) or both. It is, therefore, necessary to establish a standard method of reporting the refinery's alumina production and capacity. For this purpose, all quantities are reported as nominal aluminium oxide (Al_2O_3) quantities. The conversion of quantities of hydrate to equivalent, 100%, nominal aluminium oxide quantities, takes account of the free moisture content in wet hydrate and the molecular weight ratio of 156:102 between dried hydrate and aluminium oxide. Thus 100,000 tonnes of wet hydrate with a moisture content of 10% is equivalent to 90,000 tonnes of dried hydrate and $(90,000 \times 102/156)$ 58,846 tonnes of nominal aluminium oxide.
2. Alumina production is defined as the quantity of nominal aluminium oxide produced in a defined period. It is reported under three headings:
 - a. Metallurgical Alumina Production. The production of alumina for metallurgical uses. This figure is the quantity of calcined alumina produced for the production of primary aluminium.
 - b. Chemical Alumina Production. The production of alumina for other, non-metallurgical, uses. This figure is normally the quantity of hydrate, expressed as nominal aluminium oxide, produced for the production of chemical products. It may, however, also include any quantity of calcined alumina produced specifically for the production of chemical products.
 - c. Total Alumina Production. The production of alumina for all purposes. This figure is the sum of the reported production for metallurgical uses and the reported production for other, non-metallurgical, uses.
3. Alumina production is reported monthly and to the nearest tonne (metric ton).
4. A company unable, for whatever reason, to report alumina production according to IAI definitions and rules, is expected to report consistently and as closely to those definitions and rules as is practical.