**Minamikaze Marketing Outsourcing for SiMZONE, South Korea**
**(processor and supplier of record for Sb materials)**

# ANTIMONY CONES

***A new standard for Safe and Efficient Antimony Row Material Supply***

## *Antimony Cone*

*Cone-type product optimized for increased specific surface area and reaction zone to enhance reactivity, reaction rate, and yield.*


### *Process Advantages*

- Improved oxidation reaction activity
- Reduced burden non preheating and melting processes
- Easy process control and continuous operation
- Secured yield stability
- Enhanced operational safety and risk mitigation

### *Technical Advantages*

| 1. Conical Structure | 2. Inclined angle design | 3. Increaed specific surface area | 4. Easy handling and loading |
|---|---|---|---|
| Easy penetration into the molten metal by reducing slag interfacial resistance. | Concentrates the load along the central axis to induce a stable descent through the slag layer. | Provides more stable dissolution delivery and melting behavior after feeding. | Designed to minimize bridging and ensure a consistent supply flowability. |

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## *Cone vs Ingot*

| Category | Cone | Ingot |
|---|---|---|
| **Raw material form** | Uniform shape, small units | Large solid lumps |
| **Feeding method** | Esay to feed directly into the furnace | Requires preheating and melting before feeding |
| **Oxidation Reactivity** | High reaction surface area leads to excellent oxidation efficiency | Surface area limitations delay the start of the reaction |
| **Process Control** | Easy to ensure reaction uniformity | Localized overheating non-uniform reactions may occur |
| **Energy Consumption** | Reduced burden of preheating and melting | Increased energy consumption due to high-temperature melting |
| **Yield** | Reduced unreacted loss | Potential for unmelted and oxidized losses |
| **Operation Stability** | Advantageous for continuous operation | Relatively high process variability |
| **Safety** | Reduced safety risks by scaling down the high-temperature melting process | Safety burden due to high-temperature furnace operations |
| **Environmental Management** | Easy to manage dust and scattering | Additional melting and crushing processes required |
| **Overall Evaluation** | Optimal raw material for ATO production | Conventional raw material |