



# Excellence in Refinement, Devotion to Energy

**Red Lead ( $\text{Pb}_3\text{O}_4$ )**

**– Purity Grades from 85% to 99.9%**

## **ACM Refineries (Pvt) Ltd.** *Pioneering Red Lead and Oxide manufacturing in Pakistan*

ACM Refineries (Pvt) Ltd. proudly introducing Pakistan's First Fully Automated Red Lead Manufacturing Plant, setting a new benchmark in the non-ferrous metal refining industry. As a key subsidiary of the ACM Group of Industries, ACM Refineries has firmly established itself as the largest producer of red lead in the country, focused exclusively on producing high-purity Red Lead ( $\text{Pb}_3\text{O}_4$ ), using fully automated Barton Mill-based technology.

### **Strategic Impact**

Pakistan's largest Red Lead smelting plant, capable of meeting the entire country's demand. With an impressive annual production capacity, ACM Refineries is well-positioned to not only meet but surpass national demand, replacing imports with high-quality, locally produced alternatives.



# Your requirement. Our Solution.

## Red Lead ( $\text{Pb}_3\text{O}_4$ )



- ◆ ACM Red-85 (Industrial Grade) –  $\text{Pb}_3\text{O}_4 \geq 85\%$
- ◆ ACM Red-97 (Standard Grade) –  $\text{Pb}_3\text{O}_4 \geq 97\%$
- ◆ ACM Red-98 (Prime Grade) –  $\text{Pb}_3\text{O}_4 \geq 98\%$
- ◆ ACM Red-99 (Superior Grade) –  $\text{Pb}_3\text{O}_4 \geq 99\%$
- ◆ ACM Red-99.9 (Ultra Grade) –  $\text{Pb}_3\text{O}_4 \geq 99.97\%$
- ◆ ACM Red-C (Custom grade on demand)



## Technical Highlights

(Typical Range):

- ◆ Color: Orange-red to brick-red
- ◆ Specific Gravity: 9.1
- ◆  $\text{PbO}_2$  Content:  $\geq 33.3\%$
- ◆  $\text{Pb}_3\text{O}_4$  Content: 85% – 99.9% depending on grade
- ◆ Moisture:  $\leq 0.1\%$
- ◆ Residue (325 mesh):  $\leq 0.5\%$
- ◆ Purity: Up to 99.9%



## Applications Red Lead

- ◆ Lead-Acid Batteries: Critical for manufacturing positive plates (tubular, VRLA, automotive), improving bonding strength, conductivity, and cycle life.
- ◆ Protective Coatings: Key ingredient in heavy-duty anti-corrosive primers for bridges, pipelines, marine structures, and industrial equipment.
- ◆ Ceramics & Glass: Acts as a flux in glazes and enamels, enhancing brightness and reducing firing temperatures; also used in lead crystal and X-ray shielding glass for refractive index and radiation absorption.
- ◆ Pigments & Chemicals: Functions as a coloring agent, catalyst, and drier in paints, plastics, and chemical processes.
- ◆ Other Uses: Applied in pyrotechnics, fireworks, metallurgy, and specialized industrial chemistry.



# Litharge (PbO)



Litharge (PbO)

- ♦ AL-25 – Litharge (Purity Range: 25% PbO)
- ♦ AL-28 – Litharge (Purity Range: 28% PbO)
- ♦ AL-31 – Litharge (Purity Range: 31% PbO)
- ♦ AL-C – Litharge (Custom grade on demand)



## Technical Highlights



(Typical Range):

- ♦ Technical Name: Lead Oxide PbO
- ♦ Color: Grey to Grayish Yellow
- ♦ Apparent Density: 1.4 - 1.8 g/cc
- ♦ PbO Content: 70% - 85%
- ♦ Moisture:  $\leq 1\%$
- ♦ Acid Absorption: 160 - 190 g/kg
- ♦ Purity: Up to 85% +

## Applications Red Lead

- ♦ Lead-Acid Batteries: Used in active mass preparation, especially in paste mix for positive plates, to improve curing and charge-discharge performance.
- ♦ Ceramics & Glass: Acts as a flux in ceramic glazes and enamels; improves brightness, reduces firing temperature, and enhances thermal/radiation resistance in glass.
- ♦ Lubricants & Stabilizers: Used in greases, rubber compounding, and as a stabilizer in PVC formulations.
- ♦ Paints & Coatings: Serves as a component in rust-inhibiting paints and primers.
- ♦ Chemicals & Catalysts: Functions as an intermediate in producing other lead compounds, and as a catalyst/drier in chemical processes.

# Why Choose ACM Refineries?



## **Pioneering Facility:**

Pakistan's first fully automated red lead manufacturing plant.



## **High Capacity:**

3,600+ tonnes annual production, covering local demand and reducing imports.



## **Consistent Quality:**

Strict QC with COA (Certificate of Analysis) provided for every batch.



## **Flexible Grades:**

Full range from 85% to 99.9% purity.



## **Sustainable Practices:**

Environmentally conscious operations aligned with global standards.

## Product Packaging



- ♦ Standard: 25 kg capacity polypropylene woven bags with fine inner liner and outside printing
- ♦ Palletized and stretch-wrapped for safe handling
- ♦ Jumbo bags available on request





# ACM

GROUP OF INDUSTRIES



#### REFINERY:

Plot # 36A, Phase III,  
Industrial Estate Hattar  
District Haripur, KPK - Pakistan.

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