

The forerunner of the Coffeyville Leaded Zinc Oxide plant was first constructed and put in operation at West Plains, Missouri. It was later acquired by The Sherwin-Williams Company and moved to Joplin, Missouri. In March of 1905, it was decided to move the plant to Coffeyville. The principal reason for this move was the cheap industrial gas that was available at that time. Large quantities of fuel gas are used for various purposes in the manufacture of paint pigments.

Construction work on the smelter was started some time in October of 1905, and the first smelter unit was completed and in operation in March of 1906. Immediately after the starting of the smelter, it was decided to double the capacity. This work was completed and there were numerous additions to the oxide smelter up until 1926.

The smelter, as it is generally called, is not truly a smelter, but a plant for the reduction of lead and zinc ores into a co-fused paint pigment. Lead and zinc ores are used in large quantities, and these ores combined with anthracite coal and flint chat make up the furnace charges. The furnace charges are laboratory controlled so that a certain percent of lead, zinc, coal, and inerts are included in each charge to give good color and correct analysis to the leaded zinc oxide as a finished product. Anthracite coal is used as a reduction agent as it contains a high carbon content and is low in volatile matter so that it does not smoke and discolor the white pigment. The annual consumption of anthracite coal on full operations is approximately 50,000 tons per year.

Joplin chat is used in the furnace charge as a fluxing agent to keep the molten material from running together and forming a solid mass. Approximately 25,000 tons of this material is used per year. There are other raw materials used in smaller quantities such as iron ore which is shipped in from Colorado, and various other points. The lead and zinc ores are obtained from many different sources. Some of it comes from the western states, some from Mexico, and

considerable quantities from the tri-state district of Missouri, Kansas and Oklahoma.

The product of this operation is known as leaded zinc oxide pigment. It is a principal pigment for all outside paint formulations. This product is shipped in large quantities to paint factories in practically every state in the union, or exported to Canada, Mexico, and various other foreign countries. The annual output of this product is approximately 25,000 tons.

In 1926, the company decided to construct a zinc sulphate plant. This plant was put in operation in 1927 and has been in continuous operation since that time. Zinc sulphate is used in large quantities by the rayon and mining industries, agriculture and soil treatment, and in insecticides. The basic raw materials for this product are zinc ore and sulphuric acid. The zinc ore is leached with sulphuric acid and water and after the zinc is in solution, purification reagents are added to remove practically all of the impurities, such as iron, nickel, cadmium, etc. This liquor is filtered through filter presses and is then put through a large rotary kiln under intense heat to drive off the excess water and solidify the zinc sulphate. After drying, the product is pulverized and packed for shipment. This product is also shipped to practically every state in the union and also exported to various countries. We also use large quantities of the zinc sulphate liquor in the manufacture of another pigment—lithopone. Output of zinc sulphate plant is approximately 20,000 tons per year.

In 1930, the company decided to construct a plant for the manufacture of lithopone which is a white pigment used primarily for inside paint. The raw materials used in the manufacture of this product are principally barytes ore (barium sulphate), coal and zinc sulphate. A large proportion of the barytes

ore used is bought in Missouri. The annual consumption of barytes ore in the lithopone plant is 25,000 to 30,000 tons per year. The barytes ore and coal are mixed together and burned in a tube furnace at high heat, the barium sulphate being reduced to water soluble barium sulphide. The zinc sulphate liquor is then added to the barium sulphide liquor, and after passing through a filtering, drying and calcining process, the end result is a white pigment.

The Coffeyville plant is one of the most modern lithopone plants in the United States. The principal reason for building this plant at Coffeyville was due to the large amount of zinc sulphate that is used in the manufacture of lithopone, also the availability of barytes ore and natural gas for fuel purposes. The output of this plant is around 28,000 tons per year. The product is shipped to practically every state in the union and large tonnages are exported to foreign countries. This product, besides being used as a paint pigment, is used by the rubber industry, and other manufacturers.

The three plants cover approximately 53 acres of ground and in full operation will handle approximately 200,000 tons of raw material each year. The plant was completely mechanized in 1945 and all of the latest equipment for the handling of material was installed. This consists of front end loaders, fork trucks, crane, shovel, and trucks for hauling the material.

This plant has been in continuous operation since 1906, with the exception of two periods of about 90 days each when the plant was down. There are 400 to 425 employees when the plant is in full operation.

---