

WAC 296-17A-1801 Classification 1801.

1801-01 Lead smelting, sintering, or refining; calcium carbide manufacturing

Applies to establishments primarily engaged in the smelting, sintering, or refining of lead, including the manufacturing of calcium carbide. The lead ore most commonly mined is galena which is the sulfide of lead. The ore is mixed with other metalliferous minerals, such as sphalerite, copper pyrites and iron pyrites. The smelting process consists of fusing or separating the metallic elements. After ore has been received, the process begins by crushing, washing and screening the ore. There may be various steps of milling, concentration or amalgamation (floatation) to separate the galena from the sphalerite and other minerals. The roasting or sintering process takes place in rotary kilns or other types of furnaces. In this way the material is sintered or converted into lumps (called sinter) which are mixed with coke and placed into a shaft furnace. The material is then desilverized which is achieved by adding metallic zinc and raising the temperature sufficiently to dissolve it. The molten metal is then cast into ingots. The ingots may go through further refining processes or may be considered a finished product. This classification also includes the manufacturing of calcium carbide which is a crystalline material produced by heating pulverized limestone or quicklime with carbon and used to generate acetylene gas, as a dehydrating agent, and in making graphite and hydrogen.

This classification excludes aluminum smelting operations which are to be reported separately in classification 1802; the smelting, sintering or refining of ores not covered by another classification, (N.O.C.) which is to be reported separately in classification 1801-08; the recovering, refining or reprocessing of metals which is to be reported separately in classification 1801-09; ore reduction which is to be reported separately in classification 1701; and open pit or underground mining operations which are to be reported separately in the classification applicable to the mining being performed.

1801-03 Steel or iron rolling mills; rolling mills, N.O.C.

Applies to establishments engaged in operating iron or steel rolling mills. In a rolling mill ingots and/or slabs of steel are rolled (i.e., they are passed between rollers whereby they undergo an increase in length and a corresponding reduction in depth). The rollers used by the rolling mills vary widely in size and shape, depending on the type of rolled section(s) to be produced. Depending upon the thickness of the metal to start and the desired thickness when finished, a single piece of metal may pass through the same or a different set of rollers several times.

Rolling mills for pipes may be divided into two categories - welded pipes and seamed pipes. Welded pipes are produced from a steel strip which is bent to a tubular shape and whose edges are then joined by welding. Seamed pipes are produced from cast or rolled billets at rolling temperature. There are different processes for both kinds of manufacturing. Whatever method is used the metals are somehow heated to temperatures up to 1400 degrees Fahrenheit. The equipment may include, but is not limited to, rakes, ladle, forklifts and front loaders.

This classification excludes aluminum smelting plant operations which are to be reported separately in classification 1802, and establishments engaged in the manufacture of pipe or tube from iron or

steel by drawing or bending which are to be reported separately in classification 5101.

1801-08 Ore smelting, sintering or refining, N.O.C.

Applies to establishments engaged in the smelting, sintering, or refining of ores not covered by another classification (N.O.C.). Smelting and sintering are refining processes which use different properties of heat which may or may not reduce the ore to molten form. Temperatures are usually lower than 1400 degrees Fahrenheit. Ore is received direct from the mine or in a variety of forms such as, but not limited to, pellets, particles, molds and briquettes. The process begins by crushing, washing and screening; there may be various steps of milling, concentration or amalgamation. The roasting or sintering process takes place in rotary kilns or other types of furnaces. In this way the material is sintered or converted into lumps (called sinter) which may be mixed with other materials and placed into a shaft furnace. The molten metal ore is then cast or recast into ingots. The ingots may go through further refining processes or may be considered a finished product.

This classification excludes aluminum smelting operations which are to be reported separately in classification 1802; the smelting, sintering or refining of lead which is to be reported separately in classification 1801-01; the recovering, refining or reprocessing of metals which is to be reported separately in classification 1801-09; ore reduction which is to be reported separately in classification 1701; and open pit or underground mining operations which are to be reported separately in the classification applicable to the mining being performed.

1801-09 Metal recovering, refining or reprocessing

Applies to establishments engaged in the recovering, refining, or reprocessing of metals. These establishments are considered secondary processors or reprocessors to primary metal producers. The primary producer uses ore to manufacture metal, whereas, the secondary processors or reprocessors will recover, refine, or reproduce refined metals from coarse metal. Types of metal include, but are not limited to, gold, aluminum, silver, lead, and zinc. Metal comes in various forms to include cast ingots, dross, and scrap material. The scrap material and dross are recycled to extract reusable metallic elements. Other metals are reprocessed and may include adding alloys and/or other elements, or recasting the metals into different shapes and sizes. An example may include adding magnesium to zinc as part of the recycling process in which zinc oxide is produced and sold to rubber companies for manufacturing tires and other rubber products. Metals are weighed, sorted and/or sifted through a variety of screens and includes crushing as needed. Next, the materials are placed in an oven or furnace and chemicals and/or alloys are added. At this point the metal may be placed in molds and cooled by air or water. Finished products are inspected, graded, weighed, packaged and shipped. To assist in the processing function, ladles, rakes, conveyers, scales, hoist, front end loaders and forklifts may be used. This classification also includes the incidental buying and selling of scrap metal.

This classification excludes aluminum smelting operations which are to be reported separately in classification 1802; the smelting, sintering or refining of lead which is to be reported separately in classification 1801-01; the smelting, sintering or refining ores not covered by another classification N.O.C., which is to be reported separately in classification 1801-08; ore reduction which is to be repor-

ted separately in classification 1701; scrap metal dealers which are to be reported separately in classification 0604; and establishments which compact or recycle metal containers such as aluminum or tin cans which are to be reported separately in classification 2102.

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