



CITY OF MANTECA - FIRE DEPARTMENT

FIRE PREVENTION BUREAU

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MAGNESIUM OPERATIONAL PERMIT REQUIREMENTS

105.6.29. An operational permit is required to melt, cast, heat treat or grind more than 10 pounds (4.54 kg) of magnesium.

Magnesium. The pure metal and alloys, of which the major part is magnesium.

5906.2.1 Storage of greater than 50 cubic feet. Storage piles greater than 50 cubic foot are separated from other piles, combustibles or items in combustible containers by aisle widths equal to pile height.

5906.2.2 Storage of greater than 1,000 cubic feet. Storage greater than 1,000 cubic feet are separated into 1,000 cubic foot piles and separated by aisle widths equal to pile height. Storage piles greater than 1,000 cubic foot are not located in nonsprinklered Type III, IV or V buildings.

5906.2.3 Storage in combustible containers or within 30 feet of other combustibles. Storage in non sprinklered Type III, IV or V buildings are not in combustible containers and are separated from other combustibles by 30 feet.

5906.2.4 Storage in foundries and processing plants. Storage piles in foundries and processing plants do not exceed 1,250 cubic feet and piles are separated by aisle widths equal to ½ pile height.

5906.3.1 Indoor storage. Indoor storage of magnesium pigs, ingots and billets is less than 500,000 pounds, is located on noncombustible floors and piles are separated by aisle widths equal to ½ pile height.

5906.3.2 Outdoor storage. Outdoor storage of magnesium pigs, ingots and billets is less than 1,000,000 pounds, piles are separated by aisle widths equal to ½ pile height and piles are separated from combustibles and buildings by aisle widths equal to pile height.

5906.4.1. Separation. Magnesium fines are separated from combustibles.

5906.4.2. Storage of 50 to 1,000 cubic feet. 50-1,000 cubic foot magnesium scrap storage is separated from other occupancies by 50 feet or rated construction.

5906.4.3 Storage of greater than 2,000 cubic feet. Magnesium scrap storage in excess of 1,000 cubic feet is separated from buildings by 100 feet.

5906.5.1. Melting pots. Floors at melting pots are of noncombustible construction.

5906.5.2. Heat-Treating_Ovens Approved means shall be provided for control of magnesium fires in heat-treating ovens.

5906.5.3. Dust collection. Magnesium grinding, buffing and wire brushing operations, other than rough finishing of castings, shall be provided with suitable hoods or enclosures for dust collection which are connected to a liquid precipitation type of separator that converts dust to sludge without contact in a dry state with any high-speed moving parts.

5906.5.3.1. Dust construction. Connecting ducts or suction tubes shall be completely grounded, as short as possible, and without unnecessary bends. Ducts shall be carefully fabricated and assembled, with a smooth interior, with internal lap joints pointing in the direction of airflow and without unused capped side outlets, pockets or other dead-end spaces, which might allow an accumulation of dust.

5906.5.3.2. Independent Dust Separators Each machine shall be equipped with an individual dust separating unit. Exception: One separator is allowed to serve two-dust producing units on multi-unit machines. One separator is allowed to serve not more than four portable dust-producing units in a single enclosure or stand.

5906.5.4. Power supply interlock. Power supply to machines shall be interlocked with exhaust airflow, and liquid pressure level or flow. Interlocks shall provide for the improper functioning of the dust removal and separator system to shut down the machine it serves.

5906.5.5. Electrical equipment. Electrical wiring, fixtures and equipment in the immediate vicinity of and attached to dust-producing machines, including those used in conjunction with separator equipment, shall be of approved types and shall be approved for use in Class II, Division 1 hazardous locations in accordance with the Electrical Code.

5906.5.6. Grounding. Equipment shall be securely grounded by permanent ground wires in accordance with the Electrical Code

5906.5.7. Fire-extinguishing materials. Class D fire extinguisher is provided within 75 feet of operation or magnesium extinguishing material in container with scoop is provided within 30 feet of operation.

5906.5.8. Collection of chips, turnings and fines. Magnesium chips, turning and fine scrap is collected and kept in vented steel container.

Additional requirements may apply.