



NORTH CAROLINA DEPARTMENT OF LABOR

No. 34-6

OSH DIVISION

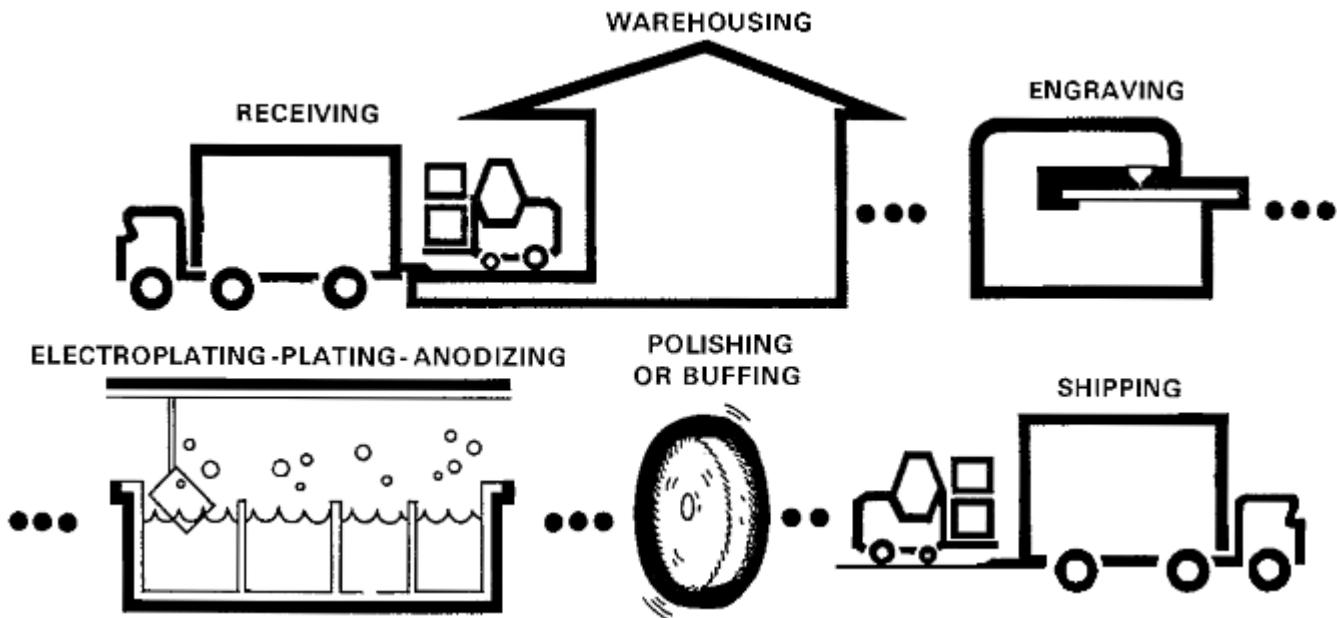
Date: 10/2009

OSHNC INDUSTRIAL DATA REPORT

Pages: 3

Industry: Fabricated Metal ProductsSub-Group: Engraving, Electroplating, Plating, Polishing, Anodizing and ColoringSIC: 3471 and 3479NAICS: 332812 and 332813

PROCESS DESCRIPTION: Engraving involves cutting a metal surface on a special machine. A pattern is used to guide the cutting operation. In the plating process, the part to be plated is cleaned and dipped into a molten bath of desired plating metal. In electroplating and anodizing, electrolysis is used to add or cause a chemical change to the surface of the metal part. The finishing process may be a polishing operation. This may involve fine sanding, fine particle blasting or buffing of the metal surface to the desired surface finish required by customer specifications.

PROCESS FLOW:**Hazards Analysis**

Major Hazards			Other Hazards		
Location	Item	Hazard	Location	Item	Hazard
Receiving and shipping area	Heavy object Forklifts	Strains, hernias and foot injuries Accident, carbon monoxide	Electroplating and anodizing area	Chemicals Acids	Inhalation of carcinogens and toxic agents Burns, inhalation

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				Electricity Floors (wet)	Electrical shock, electrocution Slips and falls
Receiving and engraving area	Metal chips Machinery noise Machinery, exposed points of operation, power transmission apparatus, rotating parts	Eye injuries, face burns, etc. Hearing loss Amputations and crushed limbs	Polishing area	Dust Machinery, exposed points of operation, power transmission apparatus, rotating parts	Silica inhalation, eye injuries and possible explosive atmosphere Amputations and crushed limbs
Plating area	Piping, machinery Caustics	Scalds and burns from molten metals Burns, inhalation	Throughout	Housekeeping	Slips, trips, fires

Key OSHNC Standards

Reference	29 CFR 1910 — General Industry Standards
Subpart D	Walking and working surfaces
Subpart E	Means of egress
Subpart I	Personal protective equipment
Subpart O	Machinery and machine guarding
Subpart S	Electrical
1910.95	Occupational noise exposure
1910.122 - .126	Dipping and coating operations
1910.147	Control of hazardous energy – (lock-out/tag-out)
1910.151	Eyewash and Emergency Showers
1910.178	Powered industrial trucks
1910.1000	Air contaminants
1910.1200	Hazard Communication

Inspection Analysis

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Parts are received from vendor or customer in bulk quantities. Inspection must cover receiving docks and material handling apparatus.

Engraving area equipment shall be inspected for point of operation, rotating parts and power transmission guarding. Personal protection equipment must be evaluated and noise levels checked.

The plating area must be inspected for proper ventilation. Personal protective equipment must be evaluated. Protective devices (enclosures) must be used to keep cyanide and acids from mixing. Ascertain whether any carcinogens are being used in electroplating and anodizing areas. Personal protective equipment and eye and body wash facilities must be provided where acids are used.

Check code requirements versus wiring provided in this area.

The polishing area presents ventilation and point of operation hazards.

Housekeeping must be considered in all areas.

Other Pertinent Comments: