



NORTH CAROLINA DEPARTMENT OF LABOR

No. 25-3

OSH DIVISION

Date: 10/2009

OSHNC INDUSTRIAL DATA REPORT

Pages: 3

Industry: Furniture

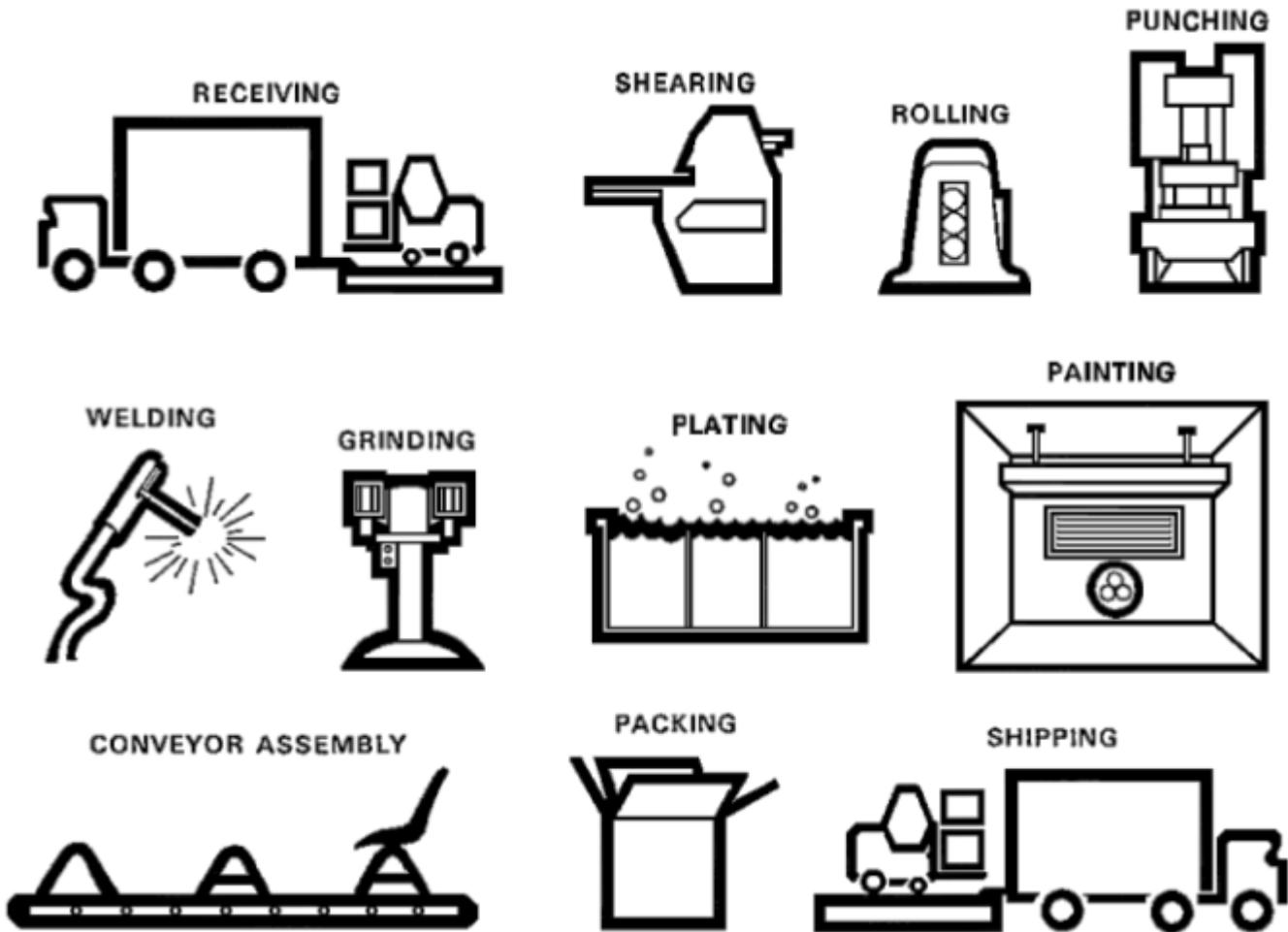
Sub-Group: Metal Furniture

SIC: 2514

NAICS: 337121, 337124 and 337215

**PROCESS DESCRIPTION:** Raw materials include steel, dye castings, stamping, high pressure laminates, plastic molded parts, wood, fabric, nuts, bolts, screws, plating chemicals, painting and finishes. Metal is sheared to size, punched, notched, stamped, formed and rolled. Succeeding steps include welding (spot welding, arc welding and projection welding), sanding and/or grinding, dip tank plating, painting or spray painting, buffing and assembling. Packaging and shipping complete the process.

#### PROCESS FLOW:





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## **Hazards Analysis**

| <b>Major Hazards</b>               |   |  | <b>Other Hazards</b>         |                                   |  |
|------------------------------------|---|--|------------------------------|-----------------------------------|--|
| <b>Location</b>                    | <b>Item</b>   | <b>Hazard</b>  | <b>Location</b>              | <b>Item</b>                       | <b>Hazard</b>                                    |
| Machine room                       | Shears, punch presses, brakes, metal rollers          | Finger and hand amputation and crushing                            | Receiving and shipping areas | Forklifts and vehicular accidents | Carbon monoxide and crushed limbs and body       |
| Plating room                       | Plating chemicals and tanks                           | Exposure to toxic air contaminants                                 | Throughout                   | Heavy materials                   | Back, foot and toe injuries; strains and sprains |
| Grinding or sanding room           | Sanders, grinders                                     | Eye, face and body injuries from flying debris; inhalation of dust |                              | Noise                             | Hearing loss                                     |
| Welding shop                       | Spot and arc welders                                  | Flash burns and welding burns; fume inhalation; welding fume fever |                              |                                   |  |
| Spray finishing and dip tank areas | Electrical, bonding and grounding, fire and explosion | Burns and smoke inhalation   |                              |                                   |  |
|                                    | Chemicals   | Exposure to toxic air contaminants                                 |                              |                                   |  |

## **Key OSHNC Standards**

| <b>Reference</b> | <b>29 CFR 1910 — General Industry Standards</b>                |
|------------------|--|
| ANSI B30.6       | Overhead/Underhung hoists                                      |
| NCGS 95-129      | General duty clause - ergonomics                               |
| Subpart D        | Walking and working surfaces                                   |
| Subpart E        | Exit Routes, Emergency Action Plans, and Fire Prevention Plans |
| Subpart I        | Personal protective equipment                                  |
| Subpart O        | Machinery and machine guarding                                 |
| Subpart Q        | Welding, cutting and brazing                                   |
| 1910.94          | Ventilation  |
| 1910.95          | Occupational noise exposure                                    |

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|                     |  |
|---------------------|--|
| 1910.106            | Flammable and combustible liquid handling and storage                        |
| 1910.107            | Spray finishing operations using flammable and combustible materials         |
| 1910.122 - 1910.126 | Dipping and coating operations   |
| 1910.146            | Permit-required confined space entry   |
| 1910.147            | Control of hazardous energy (lockout/tagout)                                 |
| 1910.151            | Medical services and first aid (esp. eye wash and emergency shower stations) |
| 1910.176            | Material handling – general requirements                                     |
| 1910.178            | Powered industrial trucks  |
| 1910.1000           | Air contaminants   |
| 1910.1200           | Hazard communication   |

**Inspection Analysis**

The inspection should follow the process flow beginning where raw goods are received and passing into the machine room, paying particular attention to the shears, presses and other machinery that may require machine guarding or point of operation guarding. Eye protection may also be needed around these machines. Generally, the welding shop is where the inspector must also look for eye protection, welding screens, frayed cables, harmful fumes and possible point of operation guards on lock down type spot welders. The sanding and grinding department is another area where eye protection and guards on sanding belts and abrasive wheels may be needed. The plating room is the next area where various types of personal protective equipment are needed and where electrical requirements exist for hazardous locations (depending upon the plating materials). In the spray paint or dip tank painting area, fixtures, lights, receptacles and wiring must be approved for that location as well as in any adjacent flammable storage area. The inspection would normally terminate in the shipping area.

**Other Pertinent Comments:**