	NORTH CAROLINA DEPARTMENT OF LABOR	**No. 31-3**
	OSH DIVISION	**Date: 10/2009**
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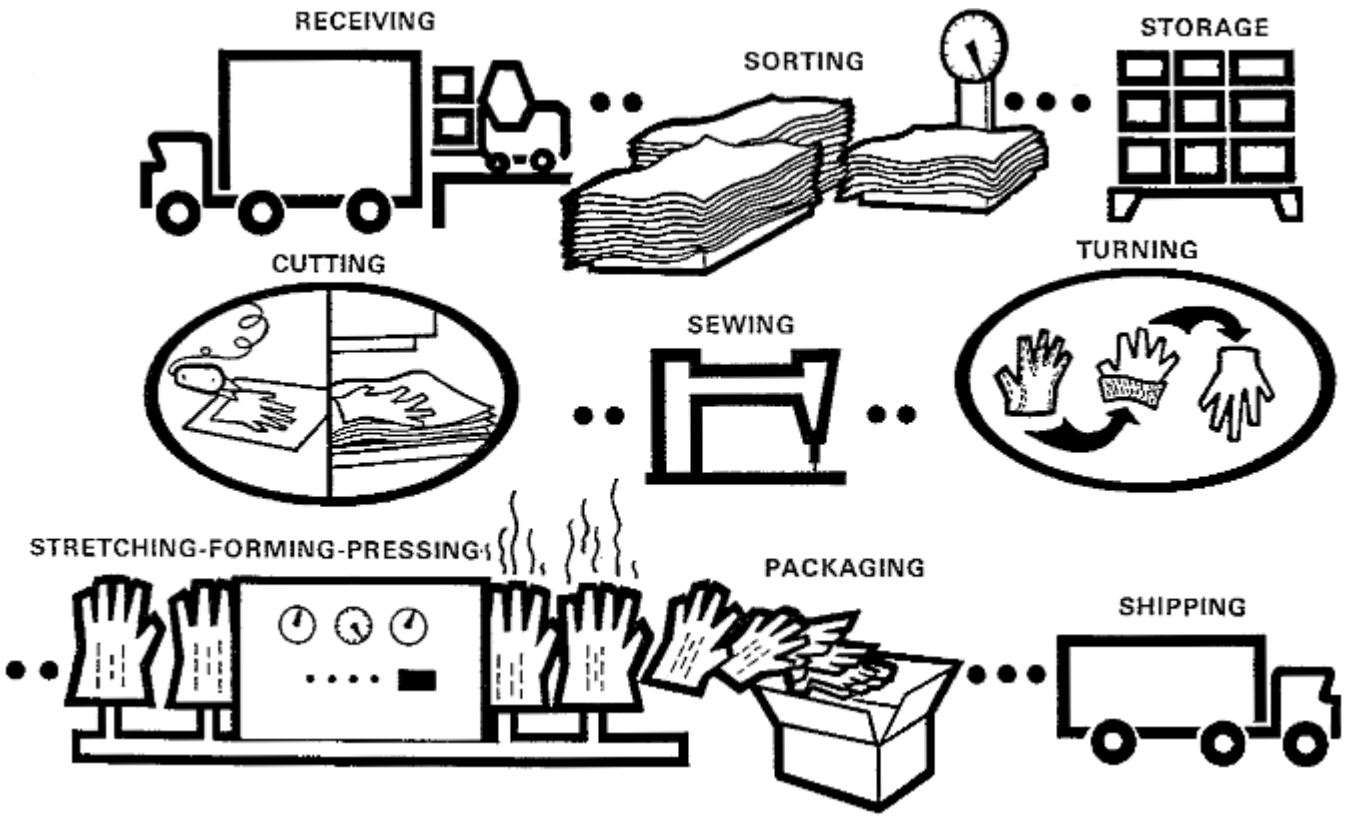
Industry: **Leather Products**	Sub-Group: **Leather Gloves and Mittens**
SIC: **3151**	NAICS: **315992, 315211 and 315212**

PROCESS DESCRIPTION: Leather gloves are normally manufactured by automated cutting processes and by hand or manual work. Operational processes therefore vary and are dependent upon the basic material (thickness and/or skin type). Generally, the steps are the following:
Receiving/Sorting – the pre-finished skins are sorted for weight, texture and color, marked with patterns and temporarily stored awaiting use,
Cutting – performed either by machines and dies or by hand,
Sewing – attaching thumbs and stitching fingers to gloves with heavy duty or specially fabricated machines,
Turning – attaching various type linings to edge and inside of gloves, and a combination stretching/forming/pressing action (either electric or steam), and
Shipping – inspecting, packaging and boxing as required by customer.

PROCESS FLOW:



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Hazards Analysis

Major Hazards			Other Hazards		
Location	**Item**	**Hazard**	**Location**	**Item**	**Hazard**
Receiving	Removal of bands on bales/rolls of skins	Eye and face lacerations or punctures	Turning and pressing	HF Thermocouple machines	Burns from heat or steam source
Throughout	Mechanical power transmission apparatus	Amputation and crushed limbs	Throughout	Housekeeping	Slips, trips or falls
Sewing	Noise	Hearing loss	Shipping	Powered Industrial trucks	Carbon Monoxide, accidents
Cutting and sewing	Points of operation such as cutting presses (clickers) trimmers, shears, slitters and sewing machines	Finger injuries, amputations, crushed limbs		Materials handling	Strains and Sprains

Key OSHNC Standards

Reference	29 CFR 1910 — General Industry Standards
ANSI B30.6	Overhead Underhung Hoists
NCGS 95-129	General Duty Clause - ergonomics
Subpart I	Personal protective equipment
Subpart O	Machinery and machine guarding
1910.95	Occupational noise exposure
1910.147	Control of hazardous energy (lock-out/tag-out)
1910.176	Materials handling
1910.178	Powered industrial trucks

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1910.1000	Air Contaminants
1910.1200	Hazard Communication

Inspection Analysis

The inspection should normally begin in the receiving and shipping area and generally be followed by sorting, cutting, sewing, turning, inspecting and packing. Initial observation must include stacking procedures, unbaling of skins and any use of mechanical material handling equipment. All areas, beginning with the sorting function, must be checked for housekeeping, especially in the cutting operation due to scrap accumulation. In the cutting area, check for properly guarded machinery (power transmission apparatus, rotating parts, points of operation, drive mechanisms and, in particular, fabricated die cutting machines). Noise levels must be surveyed. Fabricated machines for turning and pressing operations must be guarded.

Other Pertinent Comments: When firms use fur as a glove lining, check dust and exhaust systems. Static electricity is a possibility if the combination of fur, synthetic fabric and skins is encountered. Good machine maintenance, ventilation, control of smoking, and availability and maintenance of fire protection devices are important.

Respiratory illness or dermatitis of hands or face, although not normally encountered, is possible from contact with the dye from skins. Control may become necessary and can be instituted by selective purchasing by the firm and/or personal protective equipment.

The term clicker or dinker as used throughout the leather industry is simply an alternate word for a machine which uses dies for cutting in a one-step process.