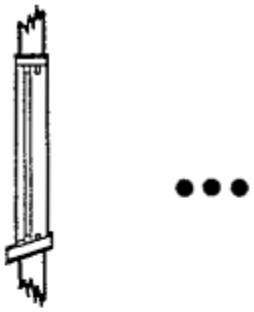
	NORTH CAROLINA DEPARTMENT OF LABOR	**No. 17-9**
	OSH DIVISION	**Date: 03/2011**
	OSHNC INDUSTRIAL DATA REPORT	**Pages: 3**

Industry: **Construction**	Sub-Group: **Glass and Glazing Contractors**
SIC: **1793**	NAICS: **238150**

PROCESS DESCRIPTION: Installations may be commercial, industrial or residential. Basic materials used in glass and glazing consist of varied types and thicknesses of glass usually ranging from 3/32" through 3/4" in most installations but not limited to these thicknesses. Wood, metal strips, wire and triangular clips are used in constructing the glass framework and in retaining glass work in permanent position. Glass is usually installed from the inside of a building but occasionally outside installations are necessary. Scaffolds are sometimes used for both inside or outside installations. In cases where large panels are installed, hoisting apparatus is sometimes used to move glass into position. Glass is fabricated in a plant, shop or warehouse before being taken to job site for final installation handling glass requires utmost caution. Ladders are used extensively in glazing operations.

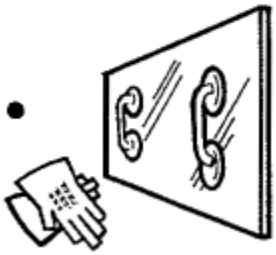
PROCESS FLOW: The frames for glass installations are first fabricated and installed in openings. These frames are usually metal strips or wood. The glass is placed on special trucks having side racks for delivery to the job site. Two employees wearing gloves should carry a glass panel when necessary, with proper carrying devices and never during high wind periods.



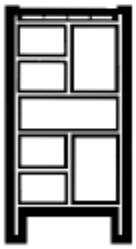
FRAMES FABRICATED AT JOB SITE

DELIVERY TO JOB SITE

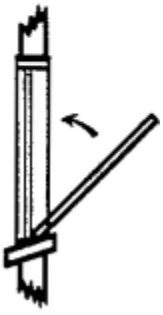
TWO EMPLOYEES SHOULD HANDLE GLASS



PROTECTIVE EQUIPMENT



ERECTING SCAFFOLDS



INSTALLATION

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Hazards Analysis

Major Hazards			Other Hazards		
Location	**Item**	**Hazard**	**Location**	**Item**	**Hazard**
Job site	Lack of gloves	Sharp edges on glass and possible breakage of material	Job site	Hand tools	Broken handles, mushroomed chisel and using tools improperly
	Lack of personal protective equipment	Operating power tools overhead or when operation presents potential injuries		Temporary lights	Electrocution and burn potential from unprotected bulbs
		Overhead hazards, possible head injuries from glazing or other crafts and power tools		Guardrails	Unprotected working surfaces on platforms, scaffolds, decks and floors
	Electrical tools	Improper grounding or no ground			
	Ladders	Broken ladders and ladders not safely secured		Personal protective equipment, safety belts	Open-sided edges not protected by guardrails where exposure is necessary
	Scaffolds	Improperly erected			
			Throughout project	Housekeeping	Unsafe working surfaces and unsafe storage of materials

Key OSHNC Standards

Reference	29 CFR 1926 — Construction Industry Standards
Subpart C and 13 NCAC 7F.0202	General Safety and Health Provisions - federal and state-specific requirements (for 1926.28)
Subpart D	Occupational Health and Environmental
Subpart E and 13 NCAC 7F.0204	Personal Protective and Lifesaving Equipment - federal and state-specific requirements (for 1926.104)
Subpart H	Materials Handling, Storage, Use, and Disposal
Subpart I	Tools - Hand and Power

Subpart K	Electrical
Subpart L	Scaffolds
Subpart M	Fall Protection
Subpart X	Stairways and Ladders
Subpart CC	Cranes and Derricks
1926.556	Aerial Lifts

Inspection Analysis

Storage areas (usually on trucks at job site) must be thoroughly checked for tools used on job site. Other tools will be found in working areas. Evaluate material handling and storage areas. Ladders and work platforms must be inspected for condition and guarding. The job site housekeeping must be evaluated. Inspect electrical tools for proper grounding and "dead man" controls. Personal protective equipment must be worn by employees exposed to hazards from falling objects (hard hats), broken glass (mesh gloves and face shields) and dropping heavy materials (safety toe footwear). Review procedures for working outside during high wind.

Other Pertinent Comments: Occasionally during glazing construction some fabrication takes place on the job site and, in such event, special precautions must be evaluated concerning handling materials, tools and personal protective equipment.