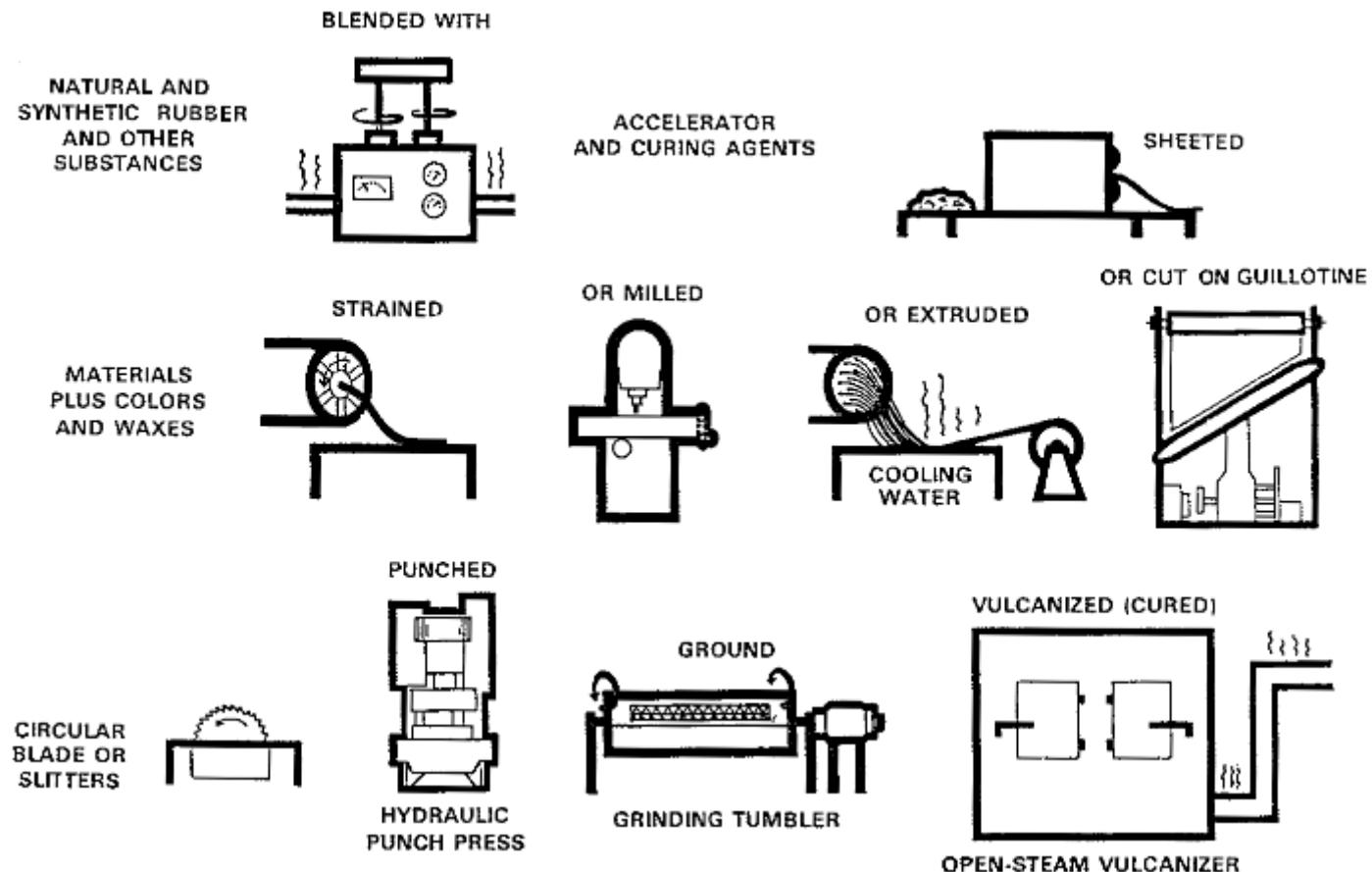


**NORTH CAROLINA DEPARTMENT OF LABOR**No. **30-3****OSH DIVISION**Date: **10/2009****OSHNC INDUSTRIAL DATA REPORT**Pages: **3**Industry: **Rubber Products**Sub-Group: **Fabricated Rubber Products**SIC: **3069**NAICS: **313320, 314911, 315299, 315999, 326192, 326299, 339113, 339920 and 339932**

PROCESS DESCRIPTION: Various ingredients are weighed, batched and mixed. These ingredients include natural and synthetic rubber polymers, carbon-black, rubber cement, calcium carbonate, magnesium carbonate, sulphur chloride, toluol, naphtha, talc, dry color and wax. Accelerator and curing agents are added and at times the material strained. Materials are then milled, frequently with colors and waxes. Extruders are also used to produce shapes that are die cut and molded. These items are often ground to remove excess rubber particles. A curing process by open steam vulcanization follows as silicones are further cured in high-temperature electric ovens. Metal inserts may be plated for insertion in some products.

PROCESS FLOW:

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Hazards Analysis

Major Hazards			Other Hazards		
Location	Item	Hazard	Location	Item	Hazard
Throughout	Mechanical power transmission apparatus	Amputations and crushed limbs	Throughout	Housekeeping	Slips, trips and falls
	Strainer, extruder, slitters, presses, grinding tumblers	Amputation and crushed limbs		Various solvents	Fire, explosion
Sheeting area	Calendar	Crushed fingers and hands		Organic vapors	Inhalation, overexposure
Blending area	Materials and chemicals	Skin and eye irritations and burns, vapor inhalation			

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
1910.94	Ventilation
1910.146	Permit required confined space entry
1910.147	Control of hazardous energy (lock-out/tag-out)
1910.1000	Air contaminants
1910.1200	Hazard Communication



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Inspection Analysis

The inspection should begin in the receiving warehouse to be sure that raw materials are stored properly and that aisles are clear. In the blending area, employees must be checked for use of personal protective equipment and flammable liquids must be kept covered and grounded. Electrical equipment and connections must be checked for hazardous location requirements. Calenders in the sheeting department with in-running nip points must be guarded. Power transmission apparatus must be guarded and fire protection must be checked throughout. Extruders and strainers involve hazards from revolving screws, cutoff knives, pinch points and hot pipes which must be guarded. In the punch press department, flywheels, belt drives, point of operation and written records on maintenance must be checked. Adequate fire protection must be available throughout. Revolving grinding tumblers must be checked for a point of operation guard. In the vulcanization area, moving parts, ventilation and personal protective equipment must be checked.

Other Pertinent Comments: IDR 30-2, Reclaimed Rubber, is closely related.