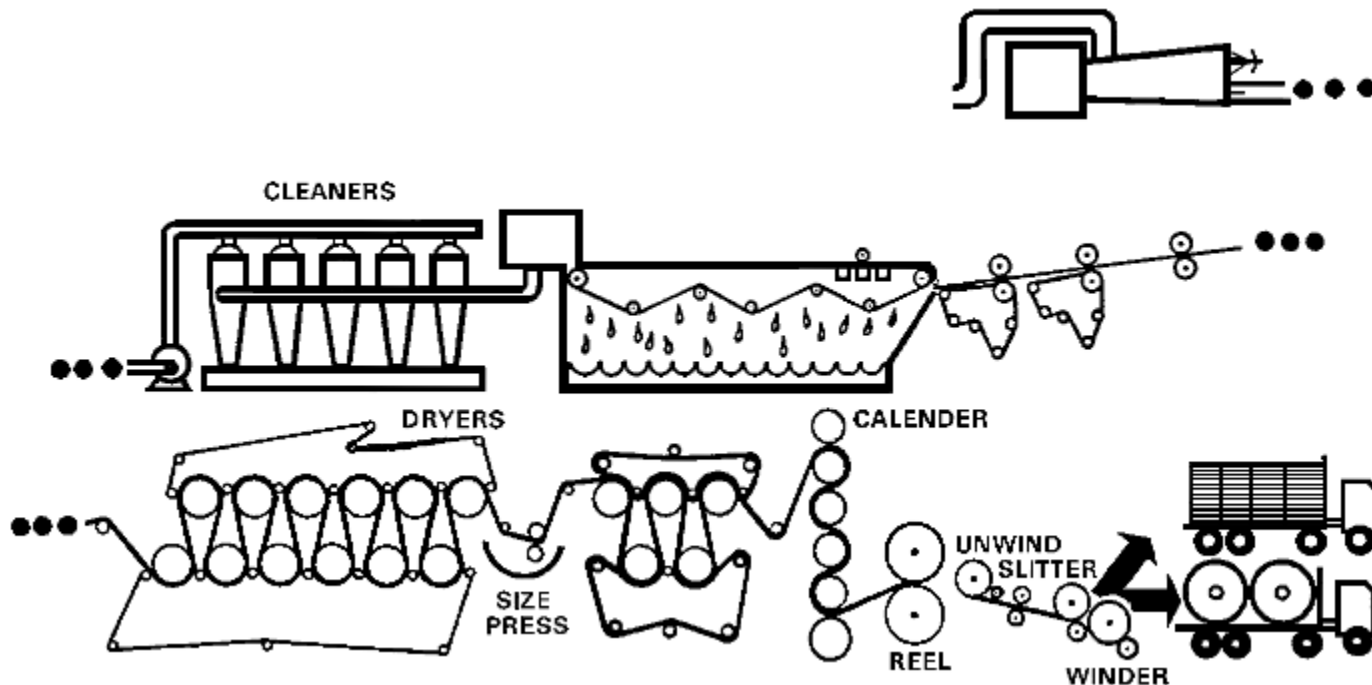
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Industry: Paper	Sub-Group: Paper and Paperboard Mills
SIC: 2621 and 2631	NAICS: 322121 and 322130


PROCESS DESCRIPTION: Pulp stock is received from the pulp mill after being washed, bleached, and blended. Stock is received in head box of paper machine after which a moving screen collects a thin layer of the stock and transfers it to belts that convey the paper through a series of rollers that remove liquor, dry and size press the material. At the dry end of the paper machine the paper is routed through a series of calendars and onto a reel. The roll of stock is then unwound, slit to desired length and rewound. Finally the paper is custom finished as to the surface and size, and transported to the storage warehouse.


PROCESS FLOW:



Hazards Analysis

Major Hazards			Other Hazards		
Location	Item	Hazard	Location	Item	Hazard
Stock prep area	Caustic soda and sulphuric acid	Severe burns; highly reactive, highly toxic	Stock prep area	Noise	Hearing loss
				Wet or cluttered walking working surfaces	Slips, trips, and falls

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Paper machine	Steam lines Nip points Chlorine gas Elevated work surfaces Revolving paper reels Maintenance Calendar Stack	Thermal burns Amputations and lacerations Inhalation, burns Falls Amputations, lacerations and burns Inadvertent starting Amputations, lacerations, static electricity	Paper machine	Noise Wet or cluttered walking working surfaces Handling paper reels Cleaning felts and rollers Floor opening and pit	Hearing loss Slips, trips, and falls Crushed toes, feet Chemical burns; amputations and lacerations Falls
Unwinder, slitter and winder (dry end)	Slitter knives	Cuts/unguarded	Unwinder, slitter and winder (dry end)	Handling paper rolls Conveyors	Faulty chain hoists/hooks; mashed toes; back strains Amputations and lacerations
Finishing department	Slitter knives Guillotine shears Revolving paper rolls	Cuts/unguarded Amputations Amputations, lacerations and burns	Finishing department	Handling paper rolls	Faulty chain hoist/hooks; mashed toes; back sprains
Warehouse	Unstable stacks Motorized equipment Steel branding straps	Crushed body or limbs from falling material Pedestrian vehicle crash Cuts on hand and face/eye injuries			
Key OSHNC Standards					
Reference		29 CFR 1910 — General Industry Standards			
Subpart D		Walking and working surfaces			
Subpart E		Exit Routes, Emergency Action Plans, and Fire Prevention Plans			

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Subpart I	Personal protective equipment – where .261 does not apply		
Subpart O	Machinery and Machine Guarding – where .261 does not apply		
1910.95	Occupational noise exposure		
1910.119	Process safety management		
1910.147	Control of hazardous energy (lockout/tagout)		
1910.176	Handling Materials - general		
1910.178	Powered Industrial Trucks		
1910.179	Overhead and Gantry Cranes		
1910.184	Slings		
1910.261	Pulp, paper and paperboard mills		
1910.1000	Air contaminants		
1910.1200	Hazard Communication		
Inspection Analysis			
Begin in the stock prep area with particular attention to the possibility of chemical and thermal burns, wet working surfaces, unguarded machinery, and noise levels. At the paper machine, look for slippery floor openings, emergency breathing apparatus, and exposed steam pipes. At the unwinder/slitter/winders, check for material handling procedures, guarded slitter knives, nip points, and unguarded turning rolls of paper. In the finishing room note guarded paper cutters, nip points, and chain hoists. In the warehouses observe stacking and material handling procedures.			
Other Pertinent Comments: Pulp mills combined with paper mills, and not separately reported, are included in this industry. Establishments primarily engaged in manufacturing converted paper products from purchased paper stock are classified in SIC codes 264 or 265. From a viewpoint of safety, there is no significant difference in the process of making paper and paperboard.			