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	STANDARD: **OSHA 29 CFR 1910.147 (Lockout/Tagout) & ASME B20.1**	AUDIT FREQUENCY: **Monthly Audit**

Conveyor Belt Maintenance Sop Template

Operational Scope: This standard operating procedure establishes the mandatory maintenance, inspection, and verification protocols for all material handling conveyor systems within Warehousing & Logistics facilities. The primary objective is to mitigate catastrophic mechanical hazards, prevent unscheduled downtime, and ensure rigorous compliance with federal safety regulations.

MANDATORY PPE:	Safety Glasses (ANSI Z87.1), Steel-Toe Boots (ASTM F2413), Cut-Resistant Mechanics Gloves (ANSI Level 4), High-Visibility Class 2 Vest, Hearing Protection (NRR 25dB)
PREREQUISITES:	Verify zero energy state and ensure all energy sources are isolated following the facility LOTO protocol. | Secure maintenance perimeter with high-visibility warning cones and safety tape to prevent unauthorized access. | Review previous shift maintenance logs and verify all required diagnostic and hand tools are calibrated.

MECHANICAL DRIVE & POWER TRANSMISSION INSPECTION

#	COMPONENT / ITEM	VERIFICATION CRITERIA & ACCEPTANCE STANDARD	SEVERITY	STATUS
1	**Drive Motor & Gearbox Alignment**	Check motor mounting bolts for secure torque; verify zero oil seepage from gearbox housing and ensure alignment tolerance is within manufacturer limits.	**Critical (Immediate Out of Service)**	[ ] PASS [ ] FAIL [ ] N/A
2	**Drive Chain & Sprocket Assembly**	Inspect drive chain for proper sag (1-2% of span), ensure adequate lubrication, and check sprocket teeth for excessive wear or pitting.	**Warning**	[ ] PASS [ ] FAIL [ ] N/A
3	**Bearings & Pillow Blocks**	Perform infrared temperature check and manual rotation test; bearing housing temperature must not exceed ambient by more than 40°C with no abnormal vibration.	**Critical (Immediate Out of Service)**	[ ] PASS [ ] FAIL [ ] N/A
4	**V-Belts & Timing Belts**	Check belt tension, deflection under thumb pressure, and absence of fraying, cracking, or glazing on side walls.	**Standard**	[ ] PASS [ ] FAIL [ ] N/A

BELTING, ROLLERS & STRUCTURAL INTEGRITY

#	COMPONENT / ITEM	VERIFICATION CRITERIA & ACCEPTANCE STANDARD	SEVERITY	STATUS
5	**Conveyor Belt Surface & Splices**	Examine entire belt length for gouges, edge fraying, oil saturation, and ensure mechanical lace or vulcanized splice shows zero separation.	**Critical (Immediate Out of Service)**	[ ] PASS [ ] FAIL [ ] N/A
6	**Idler Rollers & Return Rollers**	Verify free rotation of all rollers without squealing or grinding noises; check for material buildup and replace rollers with more than 10% shell wear.	**Warning**	[ ] PASS [ ] FAIL [ ] N/A
7	**Belt Tracking & Take-up Mechanism**	Inspect tracking idlers and counterweight/screw take-up systems to ensure the belt runs centered within the stringers without rubbing.	**Warning**	[ ] PASS [ ] FAIL [ ] N/A
8	**Pulley Lagging & Crown**	Inspect head and tail pulleys for secure lagging adhesion, wear patterns, and absence of foreign material wedged between belt and pulley face.	**Standard**	[ ] PASS [ ] FAIL [ ] N/A

SAFETY INTERLOCKS & EMERGENCY CONTROL SYSTEMS

#	COMPONENT / ITEM	VERIFICATION CRITERIA & ACCEPTANCE STANDARD	SEVERITY	STATUS
9	**Emergency Stop (E-Stop) Pull Cords**	Test all pull-wire switches and mushroom E-stop buttons to ensure they immediately trip the control relay and halt belt motion within specified braking distance.	**Critical (Immediate Out of Service)**	[ ] PASS [ ] FAIL [ ] N/A
10	**Nip Guard & Tail Guard Enclosures**	Verify all safety guarding, protective wire mesh, and interlocked access panels are securely bolted in place with zero gaps exceeding safety reach standards.	**Critical (Immediate Out of Service)**	[ ] PASS [ ] FAIL [ ] N/A
11	**Zero-Speed Switches & Sensors**	Test rotational speed sensor functionality to ensure automatic shutoff occurs if belt slippage or stall condition is detected.	**Critical (Immediate Out of Service)**	[ ] PASS [ ] FAIL [ ] N/A

Certified Inspector / Lead Operator Signature: _____	**Date / Time:** _____	**Badge / Cert #:** _____
Site Safety Supervisor / Operations Manager Sign-off: _____	**Review Date:** _____	**Audit Status:** [ ] Approved [ ] Rectify

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