

Risk Assessment Report

Job Name:	Plastic Tote Palletizer
Job Number:	232590
Participants:	Dan M, Chris Q, Andrew N, Matt VE, Pat G
Date:	1/31/2018

Description:	<p>Cells process/palletize Amazon's Orbis and Monoflow plastic totes.</p> <p>Process:</p> <ul style="list-style-type: none"> • Totes enter cell • Barcode read • Unreadable barcode, tote is rejected to jackpot conveyance • EOAT engages tote, performs height check • Height check fails, tote is rejected to jackpot conveyance • Height check passes, tote is placed on one of eight pallets <p>If a pallet is unavailable, tote is cross transferred onto recirculation conveyor to be reprocessed at a later time</p>
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Tasks:	<p>Normal Equipment Operations:</p> <ul style="list-style-type: none"> -Associate addresses totes in incoming conveyor transition area, gross height check area -Associate re-sorts tote contents in jackpot area -Associate removes full pallets -Associate loads empty pallets 	
	Equipment Maintenance	
	Robot / EOAT Maintenance	
	Conveyor Maintenance	
	Teaching Robot/Camera calibration	

Hazards		Struck by Equipment Transfer	
	Crushing		Release of Stored Energy
		Struck by Propelled Objects	
	Electrical Shock / Grounding	Struck by Robot	
	Entanglement / Drawing-In / Trapping	Excessive Exertion	Unexpected Motion
		Lifting / Bending / Twisting	Unexpected Start Up
	Pinch Point Between Operator Un/Load	Posture	
	Pinch Point Between the Robot	Reaching	
	Pinch Point Between Transfer System	Repetition / Personnel Fatigue	
		High Pressure Air / Fluids	
	Slip / Fall From Same Level		
	Stationary Sharp Edges		
	Struck by Customer Part Transfer		

Pre-safeguarding risk levels	
9	Very High
37	High

Post-safeguarding risk levels	
0	Very High
0	High

21	Medium
7	Low
16	Negligible

0	Medium
67	Low
23	Negligible

(All ratings are made per RIA TR R15.306-2014)

Overview	
Hazards <ul style="list-style-type: none"> • Struck by robot • Pinch point between robot • Crushing • Entanglement / Drawing in / Trapping • Pinch points in tote transfer system • Struck by propelled objects • High pressure air • Release of stored energy • Electrical shock, grounding • Unexpected motion • Unexpected startup • Slip and fall from same level • Posture • Reaching • Repetition / Personal fatigue 	Solutions <ul style="list-style-type: none"> • 24V, low torque MDR conveyance system • Dual Channel Safety • Deadman switch • Hard guarding • Light curtains • Lock out tag out • Trapped key • Minimize tripping hazards • PO check valve, cam locking clamps • Wire per NFPA 70 • 500mm work zone clearance • Slow speed teach (<250mm/s) • Ergonomic standards followed • Proper PPE • Warning labels
<p>JR Automation Technologies, LLC (JR) has performed this risk assessment to the best of its abilities using the information provided by the customer in order to minimize the risks associated with the normal, intended use of the equipment, along with any reasonably foreseeable misuse by the operator. It was not intended to predict or guard against intentional abuse of the equipment, which is the customer's responsibility to prevent.</p> <p>The tools used to perform this risk assessment have been developed by and are proprietary to JR, and follow the latest established RIA methods to ensure reliable results. The information contained in this report that was produced with these tools is confidential to JR and to you, the customer, and it may not be disclosed to any third party without JR's express written permission.</p> <p>Per RIA TR R15.306-2016, Low and Negligible risk levels are sufficiently addressed by awareness means, administrative controls, and personal protective equipment, all of which are the end user's responsibility. For other hazards, safeguarding, elimination, and/or substitution of the hazard must accompany those means. Unless otherwise mentioned, safeguarding is in place for such risk levels.</p>	

Customer Signature	
Customer Signature	
Date Signed	

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