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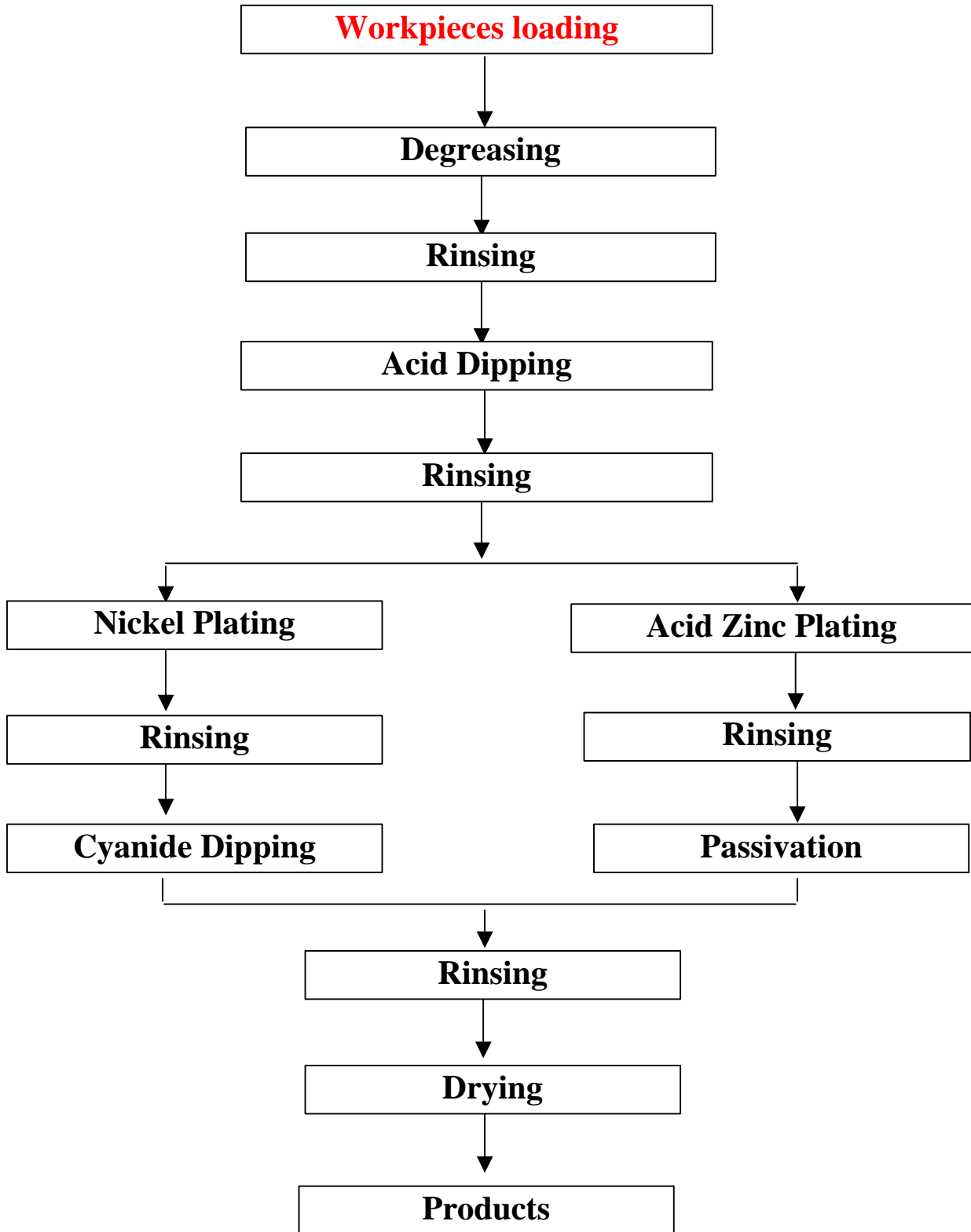
P11) Storage and handling of materials / chemicals

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Note: The environmental aspect (EA) tables are presented in the order of office activities as the first item because:

- 1) this arrangement is a well-accepted and common practice for EMS professionals to prepare the EA register
- 2) the EAs for office activities are applicable to all staff, which is important for promoting staff awareness

However, the significant EAs (SEAs) for production processes would normally be the most important area to address relevant operational controls



Ref	Environmental Aspects	Potential Environmental Impacts						Evaluation of significance						SEA	Operational Control / O&T-2006 Reference
		Resource Use	Waste Mgmt	Air Emission	Water Pollution	Noise / vibration	Land Contamination	Flora / Fauna	Legal	Hong Kong Relevant Legislation	Shenzhen Relevant Legislation	Env. Impact	Quantity		
Office Activities (Hong Kong and Shenzhen)															
OF-01	Use of Paper	x						0			0	1	-	Y	EI-01
OF-02	Use of Envelops	x						0			0	0	0	N	
OF-03	Use of Stationery and Office Equipment	x						0			0	0	0	N	
OF-04	Use of Toner Cartridges	x						0			0	1	-	Y	EI-01
OF-05	Use of Detergents at Pantry	x						1		F11	0	0	0	Y	EI-01, EI-06
OF-06	Electricity Consumption for Lighting, Air Conditioning, Office Equipment and Other Purposes	x						0		F5	0	1	-	Y	EI-01, EI-08
OF-07	Use of Water	x						0			-	-	-	Y	EI-01, EI-08
OF-08	Use of Fire Extinguishers	x		x				1	H1, H2	A5, A6, A7, F1-F4, F9, F10, F12	-	-	-	Y	EI-05, EI-09
OF-09	Use / Release of CFC Substances (e.g. refrigerants for air conditioning units)	x		x				1	H1, H2	A6, A7, F1-F4, F9, F10, F12	-	-	-	Y	EI-05, EI-08
OF-10	Generation of Ground Level Ozone (from photocopiers and laser printers)			x				0			0	0	0	N	
OF-11	Indoor Air Ventilation			x				1	H5, H6	A10	0	0	0	Y	EI-01
OF-12	Noise from Office Equipment					x		0			0	0	0	N	
OF-13	Wastewater discharge				x			1		D6	0	0	0	Y	EI-06
OF-14	Disposal of Waste (general refuse)		x					1	H3	C1, C6, C7, F1-F4, F9, F10, F12	-	-	-	Y	EI-04
OF-15	Disposal of Toner Cartridges		x					1	H3	C1, C6, C7, F1-F4, F9, F10, F12	-	-	-	Y	EI-04

Ref	Environmental Aspects	Potential Environmental Impacts							Evaluation of significance					SEA	Operational Control / O&T-2006 Reference	
		Resource Use	Waste Mgmt	Air Emission	Water Pollution	Noise / vibration	Land Contamination	Flora / Fauna	Legal	Hong Kong Relevant Legislation	Shenzhen Relevant Legislation	Env. Impact	Quantity			Corporate Concern
OF-16	Disposal of Fluorescent Tubes		x						1	H3	C1, C6, C7, F1-F4, F9, F10, F12	-	-	-	Y	EI-04
OF-17	Disposal of Batteries		x						1	H3	C1, C6, C7, F1-F4, F9, F10, F12	-	-	-	Y	EI-04
OF-18	Disposal of Recyclable Waste (paper, plastic, aluminium cans)		x						1	H3	C1, C6, C7, F1-F4, F9, F10, F12	-	-	-	Y	EI-04
OF-19	Disposal of Food Waste (pantry waste, lunch boxes)		x						1	H3	C1, C6, C7, F1-F4, F9, F10, F12	-	-	-	Y	EI-04
OF-20	Pest control - use of insecticide by subcontractor			x					0	H7		0	0	1	Y	EP-05
OF-21	Building facility maintenance, cleaning and waste collection services provided by Building Management Office (Hong Kong office)		x		x				1	H4		0	0	1	Y	EI-02
OF-22	Potential fire		x	x	x	x	x		0			1	-	-	Y	EP-05

Ref	Environmental Aspects	Potential Environmental Impacts							Evaluation of significance					SEA	Operational Control / O&T-2006 Reference	
		Resource Use	Waste Mgmt	Air Emission	Water Pollution	Noise / vibration	Land Contamination	Flora / Fauna	Legal	Hong Kong Relevant Legislation	Shenzhen Relevant Legislation	Env. Impact	Quantity			Corporate Concern
Canteen (Shenzhen Factory)																
CC-01	Use of Beverages and Food (Meat, Vegetables and Fruits)	x						0	NA		0	0	0	N		
CC-02	Use of Oil and Seasonings	x						0			0	0	0	N		
CC-03	Use of Water	x						0			0	1	-	Y	EI-01, EI-08	
CC-04	Use of Tableware (e.g. chopsticks, spoon)	x						0			0	0	0	N		
CC-05	Use of Detergents and Sanitisers	x						0			0	0	0	N		
CC-06	Use of Pesticides	x						0			0	0	0	N		
CC-07	Use and release of CFC Refrigerant from refrigerators	x		x				1			A6, A7, F1-F4, F9, F10, F12	-	-	-	Y	EI-05, EI-08
CC-08	Discharge of Wastewater				x			1			D1-D9, F1-F4, F9, F10, F12	-	-	-	Y	EI-06
CC-09	Oily Fumes Emissions			x			x	1			A11, A13, F1-F4, F9, F10, F12	-	-	-	Y	EI-05
CC-10	Disposal of Food Waste		x					1			C1, C6, C7, F1-F4, F9, F10, F12	-	-	-	Y	EI-04
CC-11	Disposal of refuse		x					1			C1, C6, C7, F1-F4, F9, F10, F12	-	-	-	Y	EI-04
CC-12	Disposal of Oil/ Grease Waste		x					1			C1, C6, C7, F1-F4, F9, F10, F12	-	-	-	Y	EI-04
Evaluation of Suppliers and Contractors (shenzhen factory)																
SC-01	On-site installation/maintenance contractors	x	x	x	x	x	x	x	0	G1-G5, G8	0	0	1	Y	EI-02	

Ref	Environmental Aspects	Potential Environmental Impacts								Evaluation of significance					SEA	Operational Control / O&T-2006 Reference
		Resource Use	Waste Mgmt	Air Emission	Water Pollution	Noise / vibration	Land Contamination	Flora / Fauna	Legal	Hong Kong Relevant Legislation	Shenzhen Relevant Legislation	Env. Impact	Quantity	Corporate Concern		
SC-02	Chemical suppliers (chemicals for production processes)	x	x	x	x	x	x	x	0	G1-G5, G8, G9, G10		0	0	1	Y	EI-02
SC-03	Material suppliers (packaging materials, food)	x	x						0	G1-G5, G8, G11, G12, G13		0	0	1	Y	EI-02
SC-04	Equipment suppliers (electrical equipment, machinery)	x		x	x	x			0	G1-G5, G8, G12		0	0	1	Y	EI-02
SC-05	Office / facility cleaning contractors	x	x	x	x	x	x	0	G1-G5, G8		0	0	1	Y	EI-02	
SC-06	Waste collectors	x	x	x	x	x	x	0	G1-G5, G8		0	0	1	Y	EI-02	

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Ref	Environmental Aspects	Potential Environmental Impacts							Evaluation of Significance					SEA	Operational Control / O&T Reference
		Resource Use	Waste Mgmt	Air Emission	Water Pollution	Noise / Vibration	Land Contamination	Flora / Fauna	Legal	Relevant Legislation	Env. Impact	Quantity	Corporate Concern		
<i>Use of Vehicles (Shenzhen factory)</i>															
V-01	Fuel consumption by vehicle	x							0		0	1	-	Y	EI-08, EI-10
V-02	Type of fuel consumed (legal)			x					1	A4, F1-F4, F9, F10, F12	-	-	-	Y	EI-10
V-03	Noise produced by vehicle					x			1	B1, B5, F1-F4, F9, F10, F12	-	-	-	Y	EI-10
V-04	Exhaust air emissions			x					1	A3, A14, F1-F4, F9, F10, F12	-	-	-	Y	EI-10

Ref	Environmental Aspects	Potential Environmental Impacts							Evaluation of Significance					Operational Control / O&T Reference	
		Resource Use	Waste Mgmt	Air Emission	Water Pollution	Noise / Vibration	Land Contamination	Flora / Fauna	Legal	Relevant Legislation	Env. Impact	Quantity	Corporate Concern		SEA
V-05	Discharge of vehicle wash water				X				1	D1-D9, F1-F4, F9, F10, F12	-	-	-	Y	EI-10
V-06	Venting of refrigerants from air conditioning unit of vehicles			X					1	A6, A7	-	-	-	Y	EI-10
V-07	Vehicle maintenance : waste generation (old parts, contaminated wastes, lubricant oil disposal)		X				X		1	C1-C7, F1-F4, F9, F10, F12	-	-	-	Y	EI-10
V-08	Traffic congestion			X					0		0	0	0	N	
V-09	Potential oil leakage		X	X	X		X		1	C1-C7, F1-F4, F9, F10, F12	1	-	-	Y	EI-10
V-10	Selection of maintenance and repair services provider	X	X	X	X	X	X	X	0		0	0	1	Y	EI-10

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Ref	Environmental Aspects	Potential Environmental Impacts							Evaluation of Significance					Operational Control / O&T Reference
		Resource Use	Waste Mgmt	Air Emission	Water Pollution	Noise / Vibration	Land Contamination	Flora / Fauna	Legal	Relevant Legislation	Env. Impact	Quantity	Corporate Concern	
1) Water pump room														
WP-01	Use of electricity for pumping water	x						0		0	1	-	Y	EI-08
WP-02	Noise from operating water pump				x			1	B1-B5, F1-F4, F9, F10, F12	-	-	-	Y	EI-07
WP-03	Potential leakage of water pipes			x				0		1	-	-	Y	EP-05
2) Ventilation system / air conditioning system														
VS-01	Use of air filters	x						0		0	0	0	N	
VS-02	Use / Release of CFC Substances (e.g. refrigerants for air conditioning units)			x				1	A6, A7, F1-F4, F9, F10, F12	-	-	-	Y	EI-05
VS-03	Noise from ventilation system				x			0		0	0	0	N	
3) Water Cooling Tower														
WC-01	Use of water	x						0		0	1	-	Y	EI-08
WC-02	Use of electricity	x						0		0	1	-	Y	EI-08
4) Air Scrubber														
AS-01	Use of water	x						0		0	0	0	N	
AS-02	Use of electricity	x						0		0	1	-	Y	EI-08
AS-03	Use of alkali solution	x						1	E1-E4, F1-F4, F9, F10, F12	-	-	-	Y	EI-08, EI-09
AS-04	Emission of treated air	x						1	A1, A2, A8, A9, A12, A13, F1-F4, F9, F10, F12	-	-	-	Y	EI-05

Ref	Environmental Aspects	Potential Environmental Impacts							Evaluation of Significance					Operational Control / O&T Reference
		Resource Use	Waste Mgmt	Air Emission	Water Pollution	Noise / Vibration	Land Contamination	Flora / Fauna	Legal	Relevant Legislation	Env. Impact	Quantity	Corporate Concern	
5) DI water generator														
DG-01	Use of chemicals (e.g. caustic soda, hydrochloric acid, ion exchange resins)	x						1	E1-E4, F1-F4, F9, F10, F12	-	-	-	Y	EI-08, EI-09
DG-02	Disposal of empty chemicals container		x					1	C1-C7, F1-F4, F9, F10, F12	-	-	-	Y	EI-04
DG-03	Wastewater discharge from regeneration			x				1	D1-D9, F1-F4, F9, F10, F12	-	-	-	Y	EI-06
DG-04	Potential spillage of chemicals (e.g. strong acid / alkaline)					x	x	0		1	-	-	Y	EP-05, EI-09
6) Emergency electricity generator														
EG-01	Use of fuel (diesel)	x						0		0	0	0	N	
EG-02	Potential fuel spillage							0		1	-	-	N	EP-05
EG-03	Air emission from operation			x				1	A1, A2, A8, A9, A12, A13, F1-F4, F9, F10, F12	0	0	0	Y	EI-05
EG-04	Noise from operation				x			1	B1-B5, F1-F4, F9, F10, F12	0	0	0	Y	EI-07
7) Greening Areas														
GA-01	Use of water	x						0		0	1	-	Y	EI-02, EI-08
GA-02	Use of fertilizer					x	x	0		1	0	-	Y	EI-02, EI-08
8) General Maintenance														

Ref	Environmental Aspects	Potential Environmental Impacts							Evaluation of Significance					Operational Control / O&T Reference	
		Resource Use	Waste Mgmt	Air Emission	Water Pollution	Noise / Vibration	Land Contamination	Flora / Fauna	Legal	Relevant Legislation	Env. Impact	Quantity	Corporate Concern		SEA
GM-01	Use of chemicals (e.g. paint , adhesives, lube oil, and organic solvent)	x							1	E1-E4, F1-F4, F9, F10, F12	-	-	-	Y	EI-08, EI-09
GM-02	Use of paint brushes	x							0		0	0	0	N	
GM-03	Use of cable	x							0		0	0	0	N	
GM-04	Use of water pipes	x							0		0	0	0	N	
GM-05	Use of ventilation duct	x							0		0	0	0	N	
GM-06	Use of spare parts	x							0		0	0	0	N	
GM-07	Use of gloves	x							0		0	0	0	N	
GM-08	Use of cleaning rags	x							0		0	0	0	N	
GM-09	Use of fire extinguishers	x		x					1	A5, A6, A7, F1-F4, F9, F10, F12	-	-	-	Y	EI-05
GM-10	Noise from maintenance operation					x			1	B1-B5, F1-F4, F9, F10, F12	-	-	-	Y	EI-07
GM-11	Discharge of wastewater (facility / floor cleaning) to Shenzhen Industrial Estate's central wastewater treatment plant				x				1	D1-D9, F1-F4, F9, F10, F12	-	-	-	Y	EI-06
GM-12	Disposal of spent lub oil, hydraulic oil, heat transfer oil and solvent		x						1	C1-C7, F1-F4, F9, F10, F12	-	-	-	Y	EI-04
GM-13	Disposal of spent rags and gloves		x						1	C1-C7, F1-F4, F9, F10, F12	-	-	-	Y	EI-04

Table 3 - Facility Maintenance

Ref	Environmental Aspects	Potential Environmental Impacts							Evaluation of Significance				SEA	Operational Control / O&T Reference
		Resource Use	Waste Mgmt	Air Emission	Water Pollution	Noise / Vibration	Land Contamination	Flora / Fauna	Legal	Relevant Legislation	Env. Impact	Quantity		

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Ref	Environmental Aspects	Potential Environmental Impacts							Evaluation of Significance					SEA	Operational Control / O&T Reference
		Resource Use	Waste Mgmt	Air Emission	Water Pollution	Noise / Vibration	Land Contamination	Flora / Fauna	Legal	Relevant Legislation	Env. Impact	Quantity	Corporate Concern		
1) Loading workpieces into plating barrel															
P1-01	Disposal of packing materials (packaging removal)		x						1	C1, C6, C7, F1-F4, F9, F10, F12	-	-	-	Y	EI-04
P1-02	Noise from the loading process					x			0		0	0	0	N	
2) Degreasing															
P2-01	Use of chemicals (e.g. degreasing agent, NaOH)	x							1	E1-E4, F1-F4, F9, F10, F12	-	-	-	Y	EI-08, EI-09
P2-02	Use of water	x							0		0	1	-	Y	EI-08
P2-03	Discharge of wastewater (spent degreasing water)				x				1	D1-D9, F1-F4, F9, F10, F12	-	-	-	Y	EI-06
P2-04	Chemical fume emission from baths			x					0		1	-	-	Y	EI-05
3) Rinsing (all rinsing activities)															
P3-01	Use of water	x							0		0	1	-	Y	EI-08
P3-02	Rinse water discharge				x				1	D1-D9, F1-F4, F9, F10, F12	-	-	-	Y	EI-06
4) Acid dipping															
P4-01	Use of chemicals (e.g. dilute HCl, sulphuric acid)	x							1	E1-E4, F1-F4, F9, F10, F12	-	-	-	Y	EI-08, EI-09
P4-02	Use of water	x							0		0	1	-	Y	EI-08

Ref	Environmental Aspects	Potential Environmental Impacts						Evaluation of Significance					Operational Control / O&T Reference		
		Resource Use	Waste Mgmt	Air Emission	Water Pollution	Noise / Vibration	Land Contamination	Flora / Fauna	Legal	Relevant Legislation	Env. Impact	Quantity		Corporate Concern	SEA
P4-03	Discharge of acidic solution				x				1	D1-D9, F1-F4, F9, F10, F12	-	-	-	Y	EI-06
5) Nickel / Acid Zinc Plating															
P5-01	Use of plating chemical (e.g. nickel sulphate, zinc chloride, zinc cyanide, etc)	x							1	E1-E4, F1-F4, F9, F10, F12, G6, G7	-	-	-	Y	EI-08, EI-09
P5-02	Use of water	x							0		0	0	0	N	
P5-03	Use of metal anodes (nickel, zinc)	x							0		0	0	0	N	
P5-04	Use of filter cartridges for bath solution filtering	x							0		0	0	0	N	
P5-05	Chemical fume emission from baths		x						0		1	-	-	Y	EI-05
P5-06	Disposal of spent plating solution, sludge		x				x		1	C1-C7, F1-F4, F9, F10, F12	-	-	-	Y	EI-04
P5-07	Disposal of spent filter		x				x		1	C1-C7, F1-F4, F9, F10, F12	-	-	-	Y	EI-04
P5-08	High temperature rise from baths			x					0		0	0	0	N	
6) Cyanide dipping															
P6-01	Use of chemicals (e.g. cyanide salt)	x							1	E1-E4, F1-F4, F9, F10, F12	-	-	-	Y	EI-08, EI-09
P6-02	Use of water	x							0		0	0	0	N	

Ref	Environmental Aspects	Potential Environmental Impacts						Evaluation of Significance					Operational Control / O&T Reference		
		Resource Use	Waste Mgmt	Air Emission	Water Pollution	Noise / Vibration	Land Contamination	Flora / Fauna	Legal	Relevant Legislation	Env. Impact	Quantity		Corporate Concern	SEA
P6-03	Discharge of bath solution				x				1	D1-D9, F1-F4, F9, F10, F12	-	-	-	Y	EI-06
7) Passivation / coating															
P7-01	Use of chemicals (e.g. Chromium (III) salts, acids)	x							1	E1-E4, F1-F4, F9, F10, F12, G7	-	-	-	Y	EI-08, EI-09
P7-02	Use of toxic chemicals (e.g. Chromium (VI) salts)	x			x				1	E1-E4, F1-F4, F9, F10, F12	-	-	-	Y	EI-08, EI-09
P7-03	Use of coating solvent (e.g. mineral oil)	x							1	E1-E4, F1-F4, F9, F10, F12	-	-	-	Y	EI-08, EI-09
P7-04	Use of water	x							0		0	0	0	N	
P7-05	Fume emission			x					1	A1, A2, A8, A9, A12, A13	-	-	-	Y	EI-05
P7-06	Discharge of bath solution				x				1	D1-D9, F1-F4, F9, F10, F12	-	-	-	Y	EI-06
8) Drying															
P8-01	Hot air from dryer			x					0		0	0	0	N	
P8-02	Vibration from centrifugal dryer					x			0		0	0	0	N	
9) Product testing															
P9-01	Use of X-ray thickness measuring machine (week radiation)			x				x	0		0	0	0	N	
P9-02	Use of sample (plated items)	x							0		0	0	0	N	

Ref	Environmental Aspects	Potential Environmental Impacts							Evaluation of Significance					Operational Control / O&T Reference	
		Resource Use	Waste Mgmt	Air Emission	Water Pollution	Noise / Vibration	Land Contamination	Flora / Fauna	Legal	Relevant Legislation	Env. Impact	Quantity	Corporate Concern		SEA
P9-03	Use of chemicals (testing reagents)	x							1	E1-E4, F1-F4, F9, F10, F12	-	-	-	Y	EI-08, EI-09
P9-04	Discharge of tested chemical solutions				x				1	D1-D9, F1-F4, F9, F10, F12	-	-	-	Y	EI-06
10) Packaging															
P10-01	Use of packing materials (paper, plastic strips, cartoon box, etc.)	x							0		0	1	-	Y	EI-08
P10-02	Disposal of packaging materials		x						0		1	-	-	Y	EI-04
11) Storage and Handling of Materials / Chemicals															
P11-01	Use of wooden pallets	x							0		0	1	-	Y	EI-08
P11-02	Use of cardboard boxes	x							0		0	1	-	Y	EI-08
P11-03	Storage of chemicals / hazardous substances		x	x			x		1	E1-E4, F1-F4, F9, F10, F12	-	-	-	Y	EI-09
P11-04	Disposal of empty chemicals container		x						1	C1-C7, F1-F4, F9, F10, F12	-	-	-	Y	EI-04
P11-05	Spillage of chemicals			x	x		x		0		1	-	-	Y	EP-05, EI-09
12) Cumulative															
P12-01	Use of electricity (equipment, instrument, facilities)	x							0		0	1	-	Y	EI-08, O&T-2
P12-02	Use of water (plating, rinsing, floor washing, etc.)	x							0		0	1	-	Y	EI-08, O&T-4
P12-03	Disposal of general wastes (refuse)		x						1	C1, C6, C7, F1-F4, F9, F10, F12	-	-	-	Y	EI-04

Ref	Environmental Aspects	Potential Environmental Impacts						Evaluation of Significance					SEA	Operational Control / O&T Reference	
		Resource Use	Waste Mgmt	Air Emission	Water Pollution	Noise / Vibration	Land Contamination	Flora / Fauna	Legal	Relevant Legislation	Env. Impact	Quantity			Corporate Concern
P12-04	Disposal of metal wastes (recycling)		X						1	C1, C6, C7, F1-F4, F9, F10, F12	-	-	-	Y	EI-04
P12-05	Disposal of reject products during production processes		X						1	C1-C7, F1-F4, F9, F10, F12	-	-	-	Y	EI-04
P12-06	Potential fire		X	X	X	X	X	X	0		1	-	-	Y	EP-05
P12-07	Spillage of chemicals			X	X		X		0		1	-	-	Y	EP-05
P12-08	Accidental release of toxic gas due to mix of chemicals			X					0		1	-	-	Y	EP-05, EI-09

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