

Identification				Evaluation			Mitigation			
Subject	Work Process / Item	Integrity Risk	Inherent Risk Level (A)	Existing Practice	Mitigating Factor (B) (if the practice meets the criteria of mitigating factor)	Residual Risk Level (C = A - B)	Proposed Control Measure(s)	Action By	Mitigating Factor (D)	Revised Risk Level (E = C-D)
Construction of Prefabricated Work ¹ outside Hong Kong	Storing materials, installations, equipment and completed prefabricated work in factory	Tampering with materials, accepted works, related installations and equipment, completed prefabricated work in factory by an unscrupulous staff	3							
	Transportation of materials, installations and equipment and completed prefabricated work	Tampering with completed prefabricated work (e.g. materials, related installations and equipment) during transportation by an unscrupulous staff	2							
	Inspection arrangement	Concealing substandard works / manipulate inspection results by an unscrupulous staff	3							
	Compliance testing (including storage and transportation of test samples, process of sampling)	Manipulating test samples by an unscrupulous staff with a view to concealing substandard works	3							
	Prefabricated work arriving on site	Concealing substandard prefabricated work arriving Hong Kong site by an unscrupulous staff	2							
	Checking payment for prefabricated work <i>(applicable to contractors only)</i>	Falsifying documents by factory operators to inflate interim payment application (e.g. applying payment for incomplete works)	3							

¹ E.g. Modular Integrated Construction (MiC) modules, precast concrete components, prefabricated steelwork, Design for Manufacturing and Assembly (DfMA), Multi-trade Integrated Mechanical, Electrical and Plumbing (MiMEP)

The integrity risks and their corresponding inherent risk levels are compiled based on the analysis of previous ICAC cases, and are by no means exhaustive and not intended to substitute any legal, regulatory or contractual requirements

Summary of Integrity Risks and Control Measures on Construction of Prefabricated Work outside Hong Kong (Contractors / Factory Operators)

Subject	Work Process/Item	Integrity Risk	Inherent Risk Level	Control Measures	Type
Construction of Prefabricated Work outside Hong Kong	Storing materials, installations, equipment and completed prefabricated work in factory	Tampering with materials, accepted works, related installations and equipment, completed prefabricated work in factory by an unscrupulous staff	3	<ul style="list-style-type: none"> • Implement quality assurance systems for key operations in factories (covering fabrication, inspection, testing, storage) • Maintain security systems (e.g. monitoring key operations in strategic locations of factories by closed-circuit televisions (CCTV)) • Adopt monitoring systems to ensure authenticity and traceability of completed prefabricated work • Adopt measures (e.g. built-in radio frequency identification (RFID) tags for traceability) to prevent / detect unauthorised alteration or replacement after inspection and acceptance of high-value and/or safety critical installations and equipment identified by project clients / consultants • Assign a unique number or code (e.g RFID tags) to each completed prefabricated work 	Preventive
				<ul style="list-style-type: none"> • Regularly reconcile quantities of materials and equipment delivered to factories, tested and approved, and used/installed in completed prefabricated work to detect and deter malpractices (e.g. use of untested materials in fabrication process) • Keep high-value and/or safety critical installations and equipment, completed/accepted prefabricated work at designated areas which are subject to CCTV surveillance • Detect suspicious activities or malpractice with the aid of digital technology (e.g. automatic alerts to contractors / factory operators for fishy activities in fabrication factories) 	Detective
	Transportation of materials, installations and equipment and completed prefabricated work	Tampering with completed prefabricated work (e.g. materials, related installations and equipment) during transportation by an unscrupulous staff	2	<ul style="list-style-type: none"> • Adopt measures (e.g. built-in RFID tags for traceability) to prevent / detect unauthorised alteration or replacement after inspection and acceptance of high-value and/or safety critical installations and equipment identified by project clients / consultants • Use designated vessels/trucks with global-positioning tracking devices to transport completed prefabricated work from factories to construction sites for monitoring and recording movement 	Preventive
				<ul style="list-style-type: none"> • Detect suspicious activities or malpractice with the aid of digital technology (e.g. sensors on installations and equipment that automatically alert contractors of fishy transportation route) 	Detective
Inspection arrangement	Concealing substandard works / manipulate inspection results by an unscrupulous staff	3	<ul style="list-style-type: none"> • Implement quality assurance systems for key operations in factories (covering fabrication, inspection, testing, storage) • Keep quality records (e.g. as to which batch of materials used and identity of workers involved in the production) and require supervisory staff concerned of contractor/factory operator to submit signed inspection reports and confirm the quality of prefabricated works • Maintain security systems (e.g. monitoring key operations in strategic locations of factories by CCTV) • Adopt monitoring systems to ensure authenticity and traceability of completed prefabricated work • Adopt measures (e.g. built-in RFID tags for traceability) to prevent / detect unauthorised alteration or replacement after inspection and acceptance of high-value and/or safety critical installations and equipment identified by project clients / consultants 	Preventive	

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Subject	Work Process/Item	Integrity Risk	Inherent Risk Level	Control Measures	Type
				<ul style="list-style-type: none"> Regularly reconcile quantities of materials and equipment delivered to factories, tested and approved, and used/installed in completed prefabricated work to detect and deter malpractices (e.g. use of untested materials) Detect suspicious activities or malpractice with the aid of digital technology (e.g. automatic alerts to contractors / factory operators when fishy activities in fabrication factories are captured in CCTV footage) 	Detective
	Compliance testing (including storage and transportation of test samples, process of sampling)	Manipulating test samples by an unscrupulous staff with a view to concealing substandard works	3	<ul style="list-style-type: none"> Implement quality assurance systems for key operations in factories (covering fabrication, inspection, testing, storage) Maintain security systems (e.g. monitoring key operations in strategic locations of factories by CCTV) Adopt monitoring systems to ensure authenticity and traceability of test samples Seal test samples with anti-tampering tapes/bags Subject compliance tests conducted outside Hong Kong to same standards and requirements of those tests conducted in Hong Kong For compliance test conducted in Hong Kong, put in place security measures to prevent test samples from being tampered with (e.g. transporting test samples under supervision of inspection staff) 	Preventive
				<ul style="list-style-type: none"> Detect suspicious activities or malpractice with the aid of digital technology (e.g. sensors on test samples that alert contractors / factory operators of fishy movement of test samples) 	Detective
	Prefabricated work arriving on site	Concealing substandard prefabricated work arriving Hong Kong site by an unscrupulous staff	2	<ul style="list-style-type: none"> Ascertain authenticity of work and high-value / safety critical installations and equipment arriving on site (e.g. checking built-in RFID tags, security labels and/or anti-tampering tapes) 	Detective
	Checking payment for prefabricated work <i>(applicable to contractors only)</i>	Falsifying documents by factory operators to inflate interim payment application (e.g. applying payment for incomplete works)	3	<ul style="list-style-type: none"> Require factory operators to submit payment applications with supporting documents (e.g. work records in factories) 	Preventive
				<ul style="list-style-type: none"> Detect anomaly in payment certification through supervisory checks and audits 	Detective

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