Information Note 26/2025 **August 2025**

Off-site Steel Reinforcing Bar Prefabrication Yards

Key Message: **The construction industry in Hong Kong is facing the challenges of high construction costs, an ageing workforce and labour shortage. The Government is committed to adopting novel technology and innovative construction methods, in a bid to enhance cost-effectiveness and productivity. One of such important initiatives is to promote the use of prefabricated steel reinforcing bar ("rebar") products produced by highly automated off-site rebar prefabrication yards.**

Introduction

The construction industry in Hong Kong is facing the challenges of high construction costs, an ageing workforce and labour shortage. With the significant level of construction activity projected in coming years, there is a pressing need for the Government to overcome such challenges. The Government is keen to adopt novel technology and innovative construction methods, in a bid to enhance cost-effectiveness and productivity. One of such important initiatives is to promote the use of prefabricated rebar products (e.g. cut and bent rebars and threaded rebars) produced by highly automated off-site yards.

The automated rebar processing in a factory-like setting helps enhance productivity, uplift built quality, improve construction safety and promote environmental friendliness. The Geotechnical Engineering Office ("GEO") plays a key role in the quality assurance of off-site prefabricated rebar products for use in local construction projects.

Advantages of Automated Off-site Rebar Processing

The use of prefabricated rebar products produced by highly automated off-site yards is a common practice among overseas industry players. The off-site rebar prefabrication yards operate in a factory-like setting, deploying advanced computer systems and highly automated machinery for production. Such a rebar processing mode has been proven effective in enhancing productivity and improving performance in the contexts of safety, quality and sustainability, etc. When compared with the conventional practice of the on-site rebar processing, the automated off-site rebar processing enjoys a number of advantages as illustrated in Table 1 below.

Table 1: Comparison between automated off-site rebar processing and conventional on-site rebar processing

	Automated Off-site Rebar Processing	***Conventional On-site Rebar Processing***
Productivity	• Efficient production with the use of advanced computer systems and highly automated machinery • Utilisation of coils to facilitate fast production	• Manual processing with lower efficiency
Safety	• Adoption of standard working procedures and highly automated machinery to provide a safer working environment	• Manual processing, as well as congested site conditions, increase injury hazards • Labour intensive
Storage	• Pre-tested products ready for use, thereby saving valuable storage spaces on site	• Rebar materials occupying valuable storage space on site while awaiting test results
Quality	• Better product quality on account of automated production and effective monitoring in a factory-like setting	• Product quality undermined by human errors and failure of close monitoring on account of congested site conditions
Environment	• Computer-monitored production with high precision and reduction in material wastage	• Manual processing with errors and high material wastage
Traceability	• Computerised product tags detailing the materials' traceability information to facilitate the management by sites	• Manual processing without computerised product tags

Quality Assurance of Off-site Prefabricated Rebar Products

In recent years, the Government has been proactively promoting the wider use of off-site prefabricated rebar products in the local construction industry. The Government has set up the "List of Approved Steel Reinforcing Bar Prefabrication Yards" ("the List"). The public works contracts shall only accept off-site prefabricated rebar products supplied by yards on the List. The Government has also promulgated the technical and quality assurance requirements for the off-site rebar prefabrication yards on the List via Development Bureau's Technical Circular.

The details of the approved yards on the List are available at Civil Engineering and Development Department's website (https://www.cedd.gov.hk).

For admission to the List, it is a prerequisite for rebar prefabrication yards to operate under an effective Quality Management System, including the establishment of a traceability system in relation to the handling of rebar materials and prefabricated rebar products. The yards concerned shall also satisfy the stipulated requirements on probity, technical and quality assurance.

GEO plays a key role in the quality assurance of off-site prefabricated rebar products for use in local construction projects. GEO is responsible for the administration of the List, including the scrutiny of applications for admission to the List, the management of the List and the regulation of the performance of the yards on the List. GEO has engaged an Independent Audit Team to carry out inspections and audits on the operation of the approved yards, with a view to ensuring the yards' compliance with the relevant technical and quality assurance requirements. GEO also monitors the performance of the approved yards and identifies areas for improvement in the yards' operation by means of site inspections, vetting of yards' submissions and regular meetings with the yards' representatives.

Geotechnical Engineering Office
Civil Engineering and Development Department
August 2025