



SHARING OF A SHOWCASE PROJECT USING PREFABRICATED RE-BARS (FROM CONTRACTOR'S POINT OF VIEW)

SPEAKER:

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MR. ALEX LAU

EXPERIENCE SHARING FOR USING PREFABRICATED REBAR

- i. Construction Summary
- ii. Why use Prefabricated Rebar
- iii. Difficulties in using Prefabricated Rebar
- iv. Consequence for using Prefabricated Rebar
- v. Advantage & Disadvantage for using Prefabricated Rebar

CONSTRUCTION SUMMARY

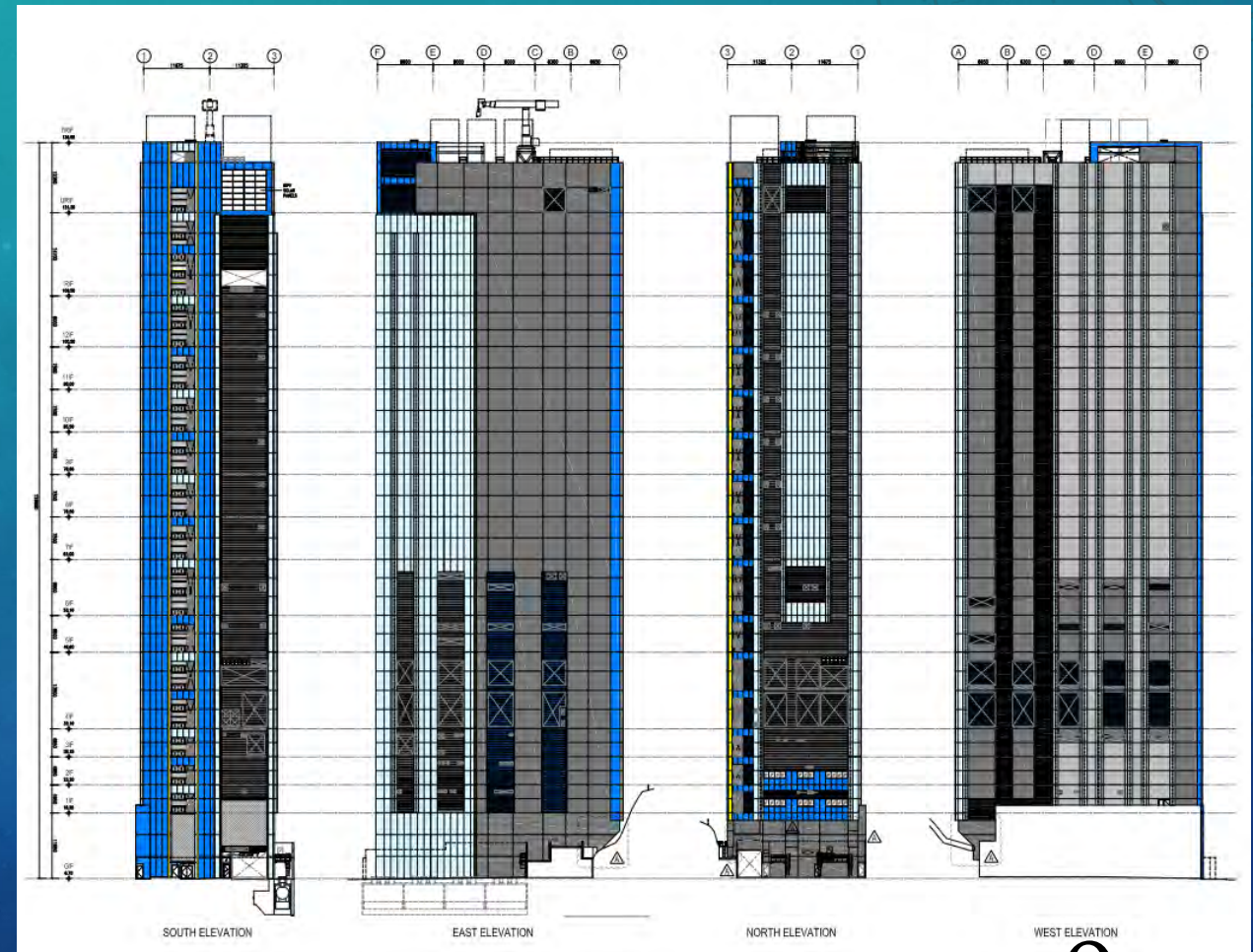
Site Location:

Kowloon

Main Construction Type :

Structural Steel, Reinforced Concrete

16-Storeys



CONSTRUCTION SUMMARY (SITE LOCATION)



WHY USE PREFABRICATED REBAR

- Congested site area -> No space for bar bending yard
- Minimize/ Reduce the wastage of Re-bar
- Application of CITF (建造業創科基金) is available
Cash Rebate: \$200/ton
Ceiling: 3M



DIFFICULTIES IN USING PREFABRICATED REBAR

- Limitation for the delivery of Rebar
 - Accuracy of the batch for the rebar using at site
 - Quantities of the rebar delivered each time
- => Small area for prefabricated rebar storage on site



- Delivery time control
 - Transportation arrangement
 - Delivery traffic problem
- => Establish small area for temporary storage of rebar



DIFFICULTIES IN USING PREFABRICATED REBAR

- Material Inspection with RSS

Mill cert, stockist cert, test report and traceability report shall be delivered with the rebar batch for each transportation trip.



- Constraint of Prefabricated rebar

- Rebar fixing subcontractor sometimes need to modify the rebar before fixing due to factory bending machine limitation
- Difficult in delivery for large and long shape pre-fabricated rebar



DIFFICULTIES IN USING PREFABRICATED REBAR

Lead time allowed for rebar pre-fabrication

- Around 5-6 days

Placing fabrication order procedure

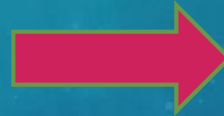
- | | |
|---|--|
| 1. Preparation of rebar bending schedule | (by Rebar Fixing Subcontractor => Main Contractor => Rebar Prefabrication Company) |
| 2. Formal BBS (Bar Bending Schedule) preparation | (by Rebar Prefabrication Company => Main Contractor/ Subcontractor) |
| 3. Reply for BBS confirmation | (by Main Contractor/ Subcontractor => Prefabrication Company) |
| 4. Arrangement for Fabrication | (by Prefabrication Company) |
| 5. Arrangement of rebar delivery to construction site | (by Main Contractor) |



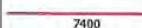

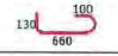
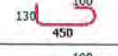
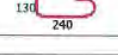
DIFFICULTIES IN USING PREFABRICATED REBAR

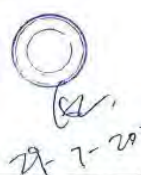
Lead time allowed for rebar pre-fabrication

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地盤開鐵表			
2/F~3/F 1區 柱牆		頁數: 1 / 1	日期: 28/07/2020
<企身> 7 號 (1250)		<拉> 7 號	
T 25	6200 78 支 ✓	T 16	7400 48 支 ✓
T 20	6000 4 支 ✓	T 16	660 24 支 ✓
	4850		100 130
		T 10	660 312 支 ✓
		T 10	450 48 支 ✓
		T 10	240 48 支 ✓



		Job site: Client: BBS: DC216a					Num. order: 6,590 Reference:	
							29/7/2020 Page: 1	
Mark	Diameter	Grade	Quantity	Shape Code	Unit length (mm)	Total length (m)	Weight (kg)	Shape
1) 2/F~3/F 1區柱牆; 7號企身								
1	25	500B	78	26	6,197	483.4	1,862.89	
2	20	500B	4	0	6,000	24.0	59.18	
2) 2/F~3/F 1區柱牆; 7號拉								
1	16	500B	48	0	7,400	355.2	560.86	
2	16	500B	24	21a	2,184	52.4	82.76	
3	10	500B	312	22c	810	252.7	155.93	
4	10	500B	48	22c	600	28.8	17.77	
5	10	500B	48	22c	390	18.7	11.55	
Diameters weight summary								
Cut & bend:								
Diameter		Material		Length (m)		Weight (kg)		
10		500B		300.24		185.25		
16		500B		407.62		643.62		
20		500B		24.00		59.18		
25		500B		483.37		1,862.89		
				1,215.22		2,750.94		



Sheet weight:	2,750.94 kg
Accumulated weight:	2,750.94 kg

Contractor's Bending Schedule

Rebar Prefabrication Company's BBS

CONSEQUENCE FOR USING PREFABRICATED REBAR

- Minimize mistake in rebar bending preparation
 - Several checking stages by parties in preparation before rebar prefabricated
- Less Wastage
- Quantities more accurate
 - Detail information in BBS worksheet
 - Clear quantities in BBS
 - Easy comparison of rebar quantities between “Construction stage vs Tender stage”

		Job site: Client: BBS: DC216a				Num. order: 6,590 Reference:		
						29/7/2020 Page: 1		
Mark	Diameter	Grade	Quantity	Shape Cycle	Unit length (mm)	Total length (m)	Weight (kg)	Shape

1) 2/F-3/F 1區柱牆: 7號吊杆

1,922.07 kg

1	25	500B	78	26	6,197	483.4	1,862.89	300 1750 4650
2	20	500B	4	0	6,000	24.0	59.18	6000

2) 2/F-3/F 1區柱牆: 7號吊杆

828.87 kg

1	16	500B	48	0	7,400	355.2	560.86	7400
2	16	500B	24	21a	2,184	52.4	82.76	890 890 890
3	10	500B	312	22c	810	252.7	155.93	110 100 900
4	10	500B	48	22c	800	28.8	17.77	110 100 450
5	10	500B	48	22c	390	18.7	11.55	110 100 240

Diameters weight summary

Cut & bend:

Diameter	Material	Length (m)	Weight (kg)
10	500B	300.24	185.25
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25	500B	483.37	1,862.89
		1,215.22	2,750.94

16

29-7-2020

Sheet weight: 2,750.94 kg
Accumulated weight: 2,750.94 kg

ADVANTAGE & DISADVANTAGE FOR USING PREFABRICATED REBAR

Disadvantage:

- Delivery time of prefabricated re-bar is difficult to control
- Coordination with delivery truck shall be well-prepared -> prevent wrong rebar lot
- Size and shape of rebar shall be considered for delivery
- Bending yard still need to be established if possible -> to solve the sudden event

ADVANTAGE & DISADVANTAGE FOR USING PREFABRICATED REBAR

Advantage:

- Less Wastage and Measurement of Re-bar quantities is more accurate
- Saving time for testing procedure before fabrication
- Suitable for congested site where no bending yard can be established
- Subletting price for rebar fixing is cheaper
- CITF would provide funding for supporting

REBAR PREFABRICATION PROMOTION

- Steel Fixer Union Such as Hong Kong Bar-Bending Contractors Association shall be invited in order to focus their attention on this technology.
- Simplify BBS preparation procedure
(direct input for BBS worksheet ??)
- Rebar prefabrication yard to reserve space for rebar fixing
(for rebar fixing/ assembly of typical structural elements before delivery to construction site ??)



Q & A

