

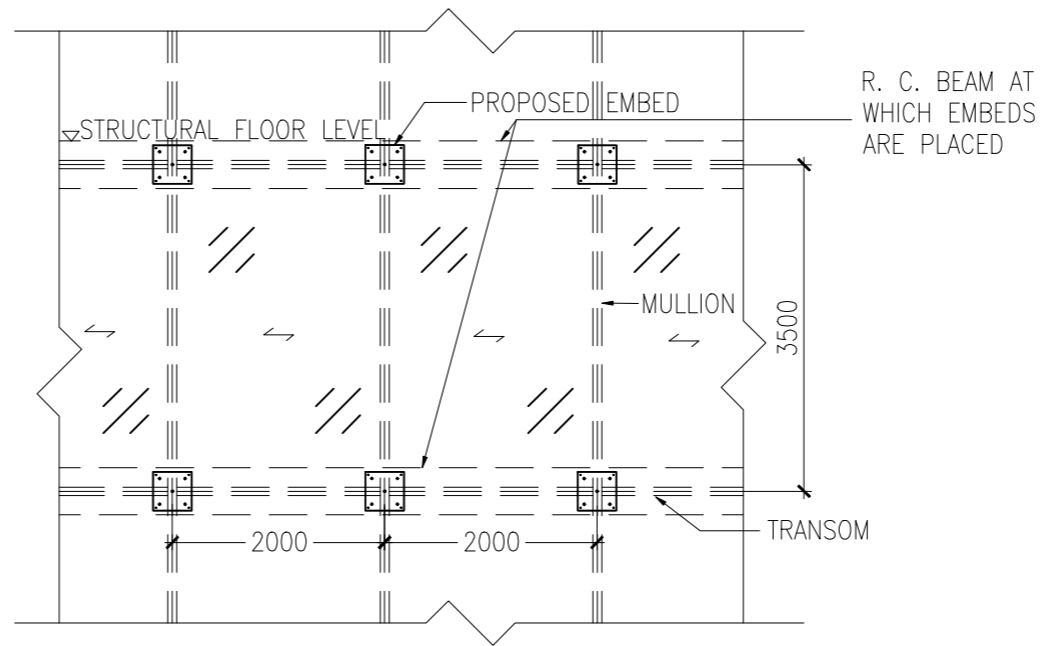
# STRUCTURAL DETAILS OF EMBED FOR CURTAIN WALL

## GENERAL NOTES

1. THE DESIGN AND CONSTRUCTION OF EMBED SHALL BE IN ACCORDANCE WITH THE FOLLOWING
    - BUILDING (CONSTRUCTION) REGULATION
    - CODE OF PRACTICE FOR THE STRUCTURAL USE OF STEEL 2011
    - CODE OF PRACTICE FOR STRUCTURAL USE OF CONCRETE 2013
    - CODE OF PRACTICE FOR DEAD AND IMPOSED LOAD 2011
    - CODE OF PRACTICE ON WIND EFFECTS IN HONG KONG 2019
  2. ALL STRUCTURAL STEEL TO BE GRADE S275 J0 AND COMPLY WITH BS EN 10025. ALL SECTIONS SHALL BE CLASS 1 AS SPECIFIED IN CLAUSE 3.1.1 OF THE CODE OF PRACTICE FOR THE STRUCTURAL USE OF STEEL 2011.
  3. ALL STRUCTURAL STEELWORKS AND CAST-IN BOLTS/DOWELS/RIBBED STEEL REINFORCING BARS(REBARS) WITH THICKNESS OR DIAMETER GREATER THAN 6mm TO BE HOT-DIP GALVANIZED IN ACCORDANCE WITH BS EN ISO 1461:2009 TO AT LEAST 85 MICRONS THICKNESS.
  4. ALL WELDING SHALL BE CARRIED OUT BY QUALIFIED WELDERS IN ACCORDANCE WITH BS EN 287-1:2011 AND BS EN 288-3:1992.
  5. DESIGN STRENGTH OF FILLET WELDS SHALL BE IN ACCORDANCE WITH BS EN 756:2004 AND BS EN 440:1995 AS SHOWN BELOW TABLE
- | GRADE OF STEEL IN BS EN STANDARDS | ELECTRODE CLASSIFICATION (EN ISO STANDARDS) (N/mm <sup>2</sup> ) |       |
|-----------------------------------|--|-------|
|                                   | 42   | 50    |
| S275                              | (220)  | (220) |
6. ALL WELDING SHALL BE 6mm FILLET WELDS, UNLESS OTHERWISE SPECIFIED.
  7. WELDING TESTS SHALL COMPLY WITH CLAUSE 14.3.6 OF THE CODE OF PRACTICE FOR THE STRUCTURAL USE OF STEEL 2011.
  8. REQUIREMENTS OF CAST-IN BOLTS/DOWELS/REBARS:
    - (a) THE MATERIAL SHOULD BE ANTI-CORROSION TYPE WITHOUT BI-METALLIC EFFECT WITH THE SUPPORTING STRUCTURE
  9. MINIMUM CONCRETE COMPRESSIVE STRENGTH OF SUPPORTING STRUCTURE TO BE 30 N/mm<sup>2</sup>
  10. ALL REACTION FORCE/BENDING MOMENT OF EMBED ARE UNDER MAXIMUM WORKING LOAD CASES
  11. LAYOUT / LOCATION OF EMBED SHOULD REFER TO CURTAIN WALL LAYOUT PLAN
  12. MATERIAL AND SPECIFICATION OF CAST-IN BOLTS/DOWELS/REBARS:
    - (i) EMBED TYPE A  
ALL REBARS TO BE CHARACTERISTICS STRENGTH OF GRADE 500B AND COMPLY WITH CS2:2012
    - (ii) EMBED TYPE B  
ALL CAST-IN DOWELS TO BE GRADE S275 J0 AND COMPLY WITH BS EN 10025

- (iii) EMBED TYPE C  
ALL CAST-IN BOLTS WITH GRADE 8.8 SHOULD COMPLY WITH BS 4190:2001 AND BS 7419:1991.
- 13. SIZE OF TYPICAL CURTAIN WALL UNIT TO BE 2.0m (WIDTH)x3.5m (HEIGHT)
- 14. WIND PRESSURE = 2.86kPa, S<sub>0</sub> = 0.85, S<sub>t</sub> = 1, S<sub>s</sub> = 1.17, C<sub>p</sub> = 1.4
- 15. DESIGN WIND PRESSURE = 4.0kPa
- 16. MINIMUM HORIZONTAL IMPOSED LOAD ON PROTECTIVE BARRIERS AS SHOWN BELOW TABLE

CATEGORY	LINE LOAD TO BE APPLIED AT A HEIGHT OF 1.1m ABOVE THE FLOOR LEVEL (kN/m)	UNIFORMLY DISTRIBUTED LOAD TO BE APPLIED ON THE INFILL BETWEEN FLOOR AND TOP RAIL (kPa)	CONCENTRATED LOAD TO BE APPLIED ON ANY PART OF THE INFILL BETWEEN FLOOR AND TOP RAIL (kN)
AREAS WHERE PEOPLE MAY CONGREGATE BUT OVERCROWDING IS NOT EXPECTED	1.5	1.5	1.5



**ELEVATION OF TYPICAL CURTAIN WALL UNIT**  
(ALL MULLIONS, TRANSOMS AND GLASS UNITS ARE UNDER SEPARATED SUBMISSION)

REV.	DATE	AMENDMENT
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PROJECT  
SAMPLE

DRAWING TITLE  
STRUCTURAL DETAILS OF  
EMBED FOR CURTAIN WALL

SCALE

DRAWING NO. REV. NO.

SORUCE

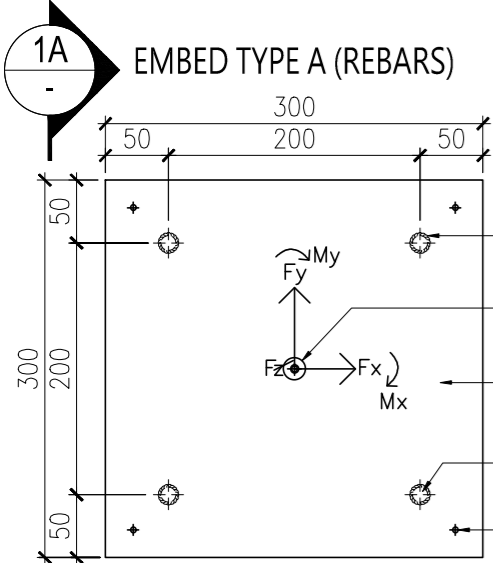
90mm(W) x 40mm(H) space  
for COMPANY LOGO

90mm(W) x 60mm(H) space  
for AP/RSE/RGE's  
signature/ and stamp chop

BD's OFFICIAL USE

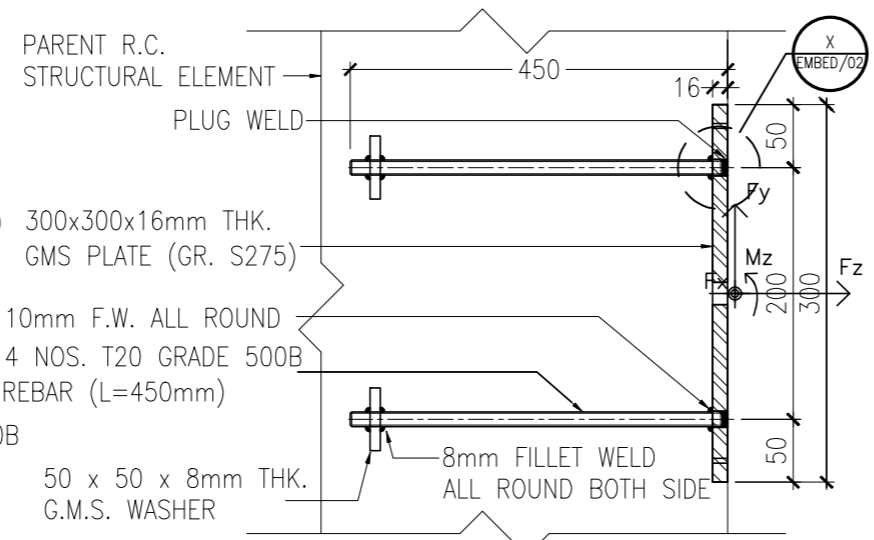
90mm(W) x 150mm(H) space  
for BD's approval stamp/  
certification of copies of  
approved plans  
(PNAP ADM-10 APP A)

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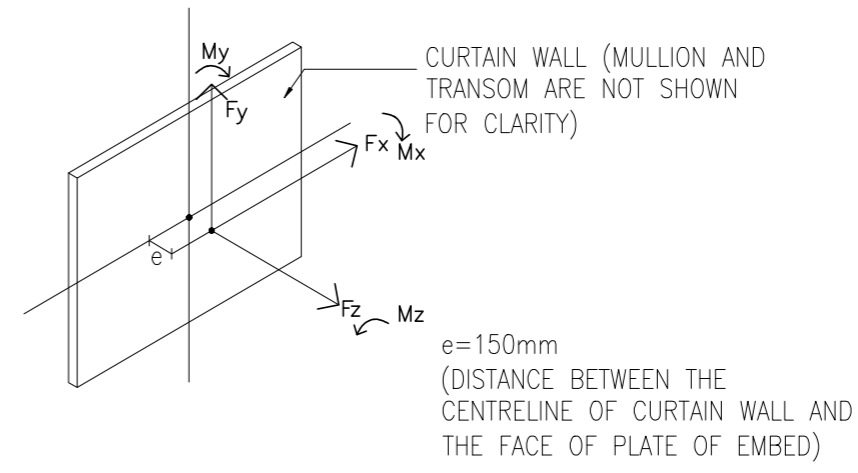


1A EMBED TYPE A (REBARS)

- 10mm F.W. ALL ROUND 300x300x16mm THK. GMS PLATE (GR. S275)
- Ø25 VENT HOLE FOR EMBED FACING UP
- 300x300x16mm THK. 4 NOS. T20 GRADE 500B GMS PLATE (GR. S275)
- 4 NOS. T20 GRADE 500B REBAR (L=450mm)
- Ø6mm HOLE

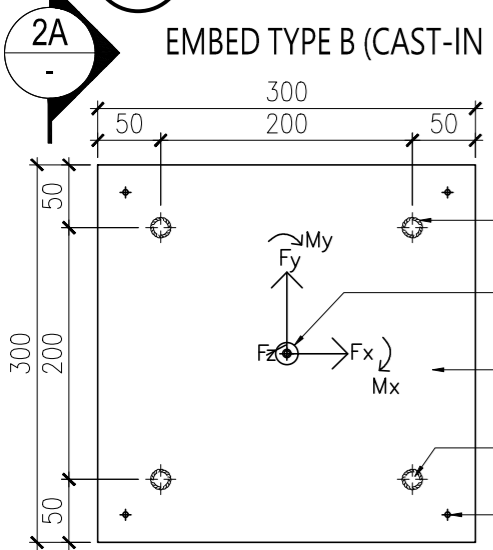


1A DETAIL OF EMBED 'A'



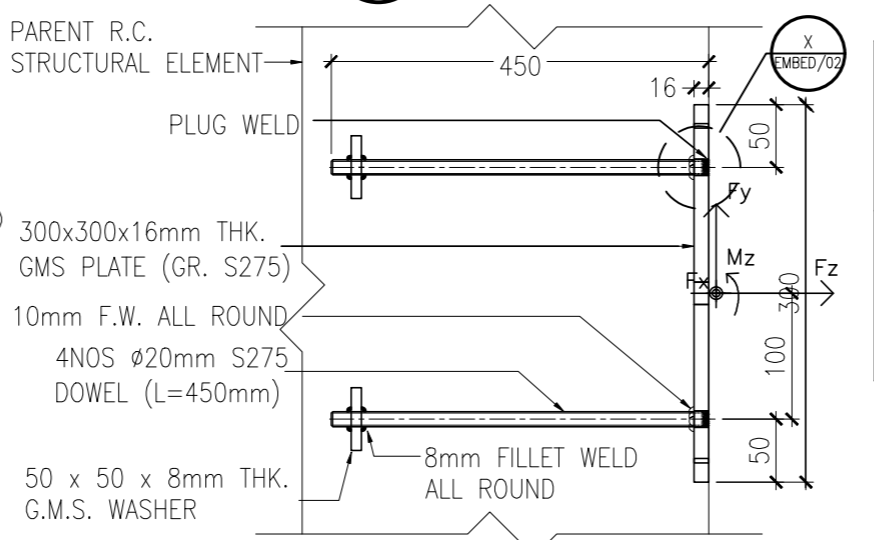
UNFACTORED LOADING ON EMBED SUMMARY TABLE  
(TYPE A, TYPE B & TYPE C)

		DL	WL	LL
FORCES	Fx (kN)	0	0	0
	Fy (kN)	-11.6	0	0
	Fz (kN)	0	±31.0	2.5
MOMENT	Mx (kNm)	8.0	0	0
	My (kNm)	0	0	0
	Mz (kNm)	0	0	0

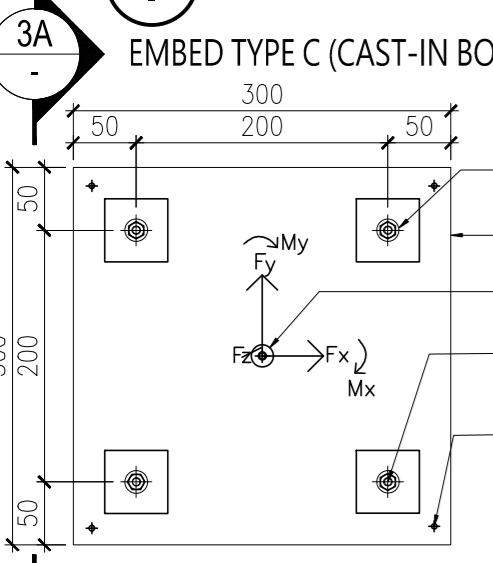


2A EMBED TYPE B (CAST-IN DOWELS)

- 10mm F.W. ALL ROUND 300x300x16mm THK. GMS PLATE (GR. S275)
- Ø25 VENT HOLE FOR EMBED FACING UP
- 300x300x16mm THK. 4NOS Ø20mm S275 GMS PLATE (GR. S275)
- 4NOS Ø20mm S275 DOWEL (L=450mm)
- Ø6mm HOLE

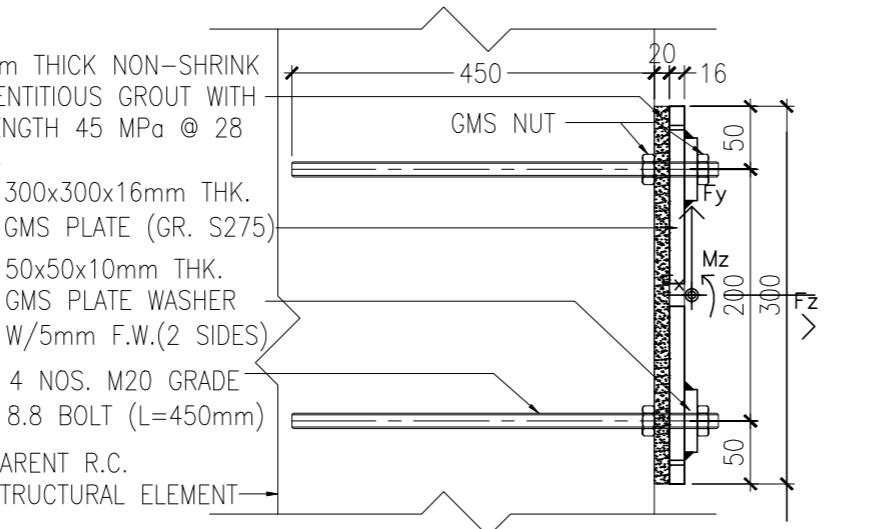


2A DETAIL OF EMBED 'B'

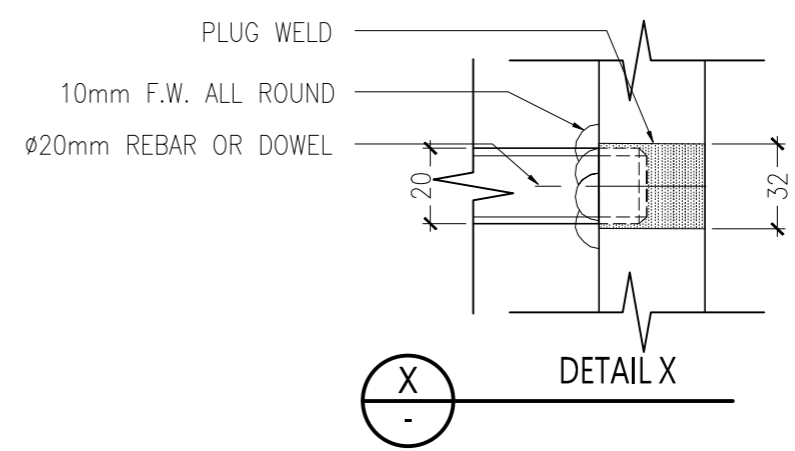


3A EMBED TYPE C (CAST-IN BOLTS)

- GMS NUT 300x300x16mm THK. GMS PLATE (GR. S275)
- Ø25 VENT HOLE FOR EMBED FACING UP
- 4 NOS. M20 GRADE 8.8 BOLT (L=450mm)
- Ø6mm HOLE
- 20mm THICK NON-SHRINK CEMENTITIOUS GROUT WITH STRENGTH 45 MPa @ 28 DAYS
- 300x300x16mm THK. GMS PLATE (GR. S275)
- 50x50x10mm THK. GMS PLATE WASHER W/5mm F.W.(2 SIDES)
- 4 NOS. M20 GRADE 8.8 BOLT (L=450mm)



3A DETAIL OF EMBED 'C'



X

BD REF  
BIM REF  
FSD REF

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