

工程指示 / 要求簡箋(E.I.)

工程指示編號: EI6462/16.

修改版次:

工程編號 : J835

工程名稱 : 將軍澳 66D 平台

工程項目 : 提供鋁料樣板

收件人 : 生統

發件人 : Jason Yeung

日期 : 08/12/2016

要求提供 / 確認 事項 :

- | | | |
|---|-------------------------------------|-------------------------------|
| <input type="checkbox"/> 初步鋁料 B.M. | <input type="checkbox"/> 加工拆圖, 然後生產 | <input type="checkbox"/> 尺寸表 |
| <input type="checkbox"/> 正式鋁料 B.M. | <input type="checkbox"/> 技術上資料 / 指示 | <input type="checkbox"/> 報價 |
| <input type="checkbox"/> 配件 B.M. | <input type="checkbox"/> 樣辦或貨品說明書 | <input type="checkbox"/> 分判合約 |
| <input checked="" type="checkbox"/> 其他 : 請提供附頁鋁料之樣板箱. | | |

內容 :

煩請提供附頁圖紙鋁料樣板 (任何顏色, 各 1 套)

每件鋁料長度: 25mmL

1. 單元式幕牆 (curtain wall) /

2. 鋁飾板 (alum. Cladding) /

3. 鋁柵格 (alum. Grille) /

4. 鋁窗 (alum. Window) /

5. 玻璃 牆 (glass wall) /

共 5 套

請在 16-12-2016 前完成上列要求。

附有關圖紙 / 文件 :

1 + 9 頁

以上項目為:

原合約工程包

原合約工程加 / 減賬

新工程報價

原因 :-

分發東莞各部門 :

- | | | | | | | | |
|---------------------------------|------------------------------|---|---|------------------------------|------------------------------|---|---|
| <input type="checkbox"/> 生產技術總監 | <input type="checkbox"/> 連附件 | <input type="checkbox"/> 技術部 | <input type="checkbox"/> 連附件 | <input type="checkbox"/> 生產部 | <input type="checkbox"/> 連附件 | <input type="checkbox"/> 機械設計部 | <input type="checkbox"/> 連附件 |
| <input type="checkbox"/> 採購部 | <input type="checkbox"/> 連附件 | <input checked="" type="checkbox"/> 生產統籌部 | <input checked="" type="checkbox"/> 連附件 | | | | |
| <input type="checkbox"/> 質檢部 | <input type="checkbox"/> 連附件 | <input type="checkbox"/> 會計部 | <input type="checkbox"/> 連附件 | <input type="checkbox"/> 報關組 | <input type="checkbox"/> 連附件 | <input checked="" type="checkbox"/> 其他 倉庫 | <input checked="" type="checkbox"/> 連附件 |

分發香港各部門 :

- | | | | | | | | |
|------------------------------|------------------------------|-------------------------------|------------------------------|------------------------------|------------------------------|----------------------------------|------------------------------|
| <input type="checkbox"/> 行政部 | <input type="checkbox"/> 連附件 | <input type="checkbox"/> 會計部 | <input type="checkbox"/> 連附件 | <input type="checkbox"/> 統籌部 | <input type="checkbox"/> 連附件 | <input type="checkbox"/> 工程部地盤科文 | <input type="checkbox"/> 連附件 |
| <input type="checkbox"/> 採購部 | <input type="checkbox"/> 連附件 | <input type="checkbox"/> QS 部 | <input type="checkbox"/> 連附件 | <input type="checkbox"/> 維修部 | <input type="checkbox"/> 連附件 | <input type="checkbox"/> 其他 | <input type="checkbox"/> 連附件 |

傳遞編號:

HK 2905/16.

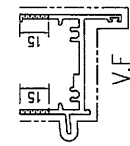
發件人簽署:

Jason Yeung

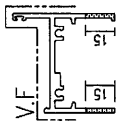
項目經理簽署:

J-835 將軍澳天晉平臺鋁料模圖

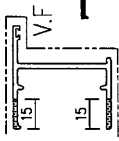
Sh Window & Louvre



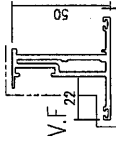
模號: X848300
名稱: 生頂橫
合金狀態: 6063-T6
重量: 1.12 KG/M
V.F.: 188 mm



模號: X848320
名稱: 生底橫
合金狀態: 6063-T6
重量: 1.066 KG/M
V.F.: 128 mm
(生窗底橫)



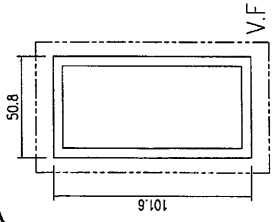
模號: X848280
名稱: 生邊企
合金狀態: 6063-T6
重量: 0.923 KG/M
V.F.: 150 mm
(生窗邊企)



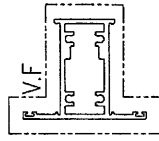
模號: X85215
名稱: 窗玉料
合金狀態: 6063-T6
重量: 1.104 KG/M
V.F.: 180 mm



模號: X84985
名稱: 拉巴
合金狀態: 6063-T6
重量: 0.141 KG/M
V.F.: 48 mm



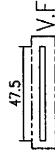
模號: T10000016
名稱: 101.6x50.8x4.75方通
合金狀態: 6063-T6
重量: 3.679 KG/M
V.F.: 304.8mm



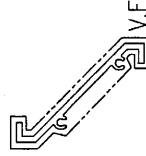
模號: X846090
名稱: 企工
合金狀態: 6063-T6
重量: 1.53 KG/M
V.F.: 260.5mm



模號: X846550
名稱: 玻璃線
合金狀態: 6063-T6
重量: 0.254 KG/M
V.F.: 44mm



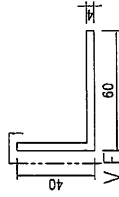
模號: ME0002318
名稱: 47.5X3MM鋁巴
合金狀態: 6063-T6
重量: 0.386KG/M
V.F.: 101mm
(百葉玉)+(生窗框限位)



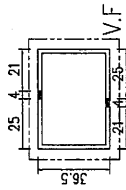
模號: X843331
名稱: 百葉片
合金狀態: 6063-T6
重量: 0.896KG/M
V.F.: 238mm



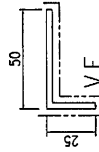
模號: PE0E10021
名稱: 20x20x3mm鋁角
合金狀態: 6063-T6
重量: 0.3 KG/M
V.F.: 80 mm
(百葉頂部擋水鋁角)



模號: ME0001891
名稱: 60x40x4鋁角
合金狀態: 6063-T6
重量: 1.04 KG/M
V.F.: 44 mm
(切成60x30x4mm鋁角使用)



模號: SE0001124
名稱: 50x36.5x2鋁通
合金狀態: 6063-T6
重量: 0.894 KG/M
V.F.: 173 mm
(梗窗, 一開二用)
(切成25x21x2mm鋁槽使用)



模號: PE0E10027
名稱: 50x25x3mm鋁角
合金狀態: 6063-T6
重量: 0.583 KG/M
V.F.: 106 mm
(百葉框-企)



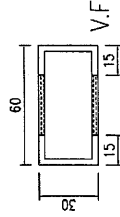
模號: X843600
名稱: 生夾企
合金狀態: 6063-T6
重量: 0.683 KG/M
V.F.: 133 mm



模號: LH0079566
名稱: 35x25x4鋁角
合金狀態: 6063-T6
重量: 0.607 KG/M
V.F.: 0 mm
(切成30x23x4mm鋁角使用)



模號: PE00E4006
名稱: 20X3MM鋁巴
合金狀態: 6063-T6
重量: 0.162KG/M
V.F.: 0 mm
(百葉玉墊巴)

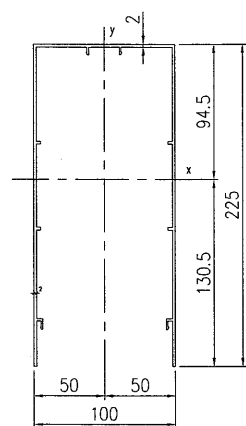


模號: UP00000919
名稱: 60X30X3mm鋁通
合金狀態: 6063-T6
重量: 1.366 KG/M
V.F.: 0 mm
(配生夾企, 一開二用)

Alum. Window

AL1H
ALUMINIUM EXTRUSION_ MARK: A1

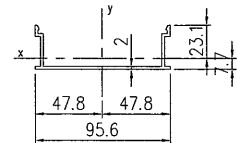
GRADE: 6063-T5



MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	1157.74
Perimeter (mm):	1183.79
Bounding Box - X (mm):	-50.00 to 50.00
Bounding Box - Y (mm):	-130.52 to 94.48
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	6181205.73
Moments of inertia - Y (mm ⁴):	2419553.24
Product of inertia - XY (mm ⁴):	0.00
Radii of gyration - X (mm):	73.07
Radii of gyration - Y (mm):	45.72
Principal moments along X-Y (mm ⁴):	2419553.24 along [0.00 -1.00]
Principal moments along Y-X (mm ⁴):	6181205.73 along [1.00 0.00]
Elastic Modulus - Zx (mm ³):	I / y-max= 47359.79
Elastic Modulus - Zy (mm ³):	J / x-max= 48391.06

ALUMINIUM EXTRUSION_ MARK: A2

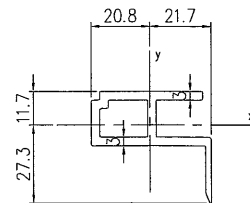
GRADE: 6063-T5



MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	323.45
Perimeter (mm):	326.70
Bounding Box - X (mm):	-47.80 to 47.80
Bounding Box - Y (mm):	-7.73 to 23.07
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	30148.89
Moments of inertia - Y (mm ⁴):	402606.93
Product of inertia - XY (mm ⁴):	0.00
Radii of gyration - X (mm):	9.65
Radii of gyration - Y (mm):	35.28
Principal moments along X-Y (mm ⁴):	30148.89 along [1.00 0.00]
Principal moments along Y-X (mm ⁴):	402606.93 along [0.00 1.00]
Elastic Modulus - Zx (mm ³):	I / y-max= 1306.65
Elastic Modulus - Zy (mm ³):	J / x-max= 8422.74

ALUMINIUM EXTRUSION_ MARK: A3

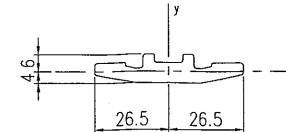
GRADE: 6063-T6



MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	361.39
Perimeter (mm):	251.52
Bounding Box - X (mm):	-20.80 to 21.70
Bounding Box - Y (mm):	-27.30 to 11.70
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	23484.59
Moments of inertia - Y (mm ⁴):	70224.92
Product of inertia - XY (mm ⁴):	0.00
Radii of gyration - X (mm):	9.00
Radii of gyration - Y (mm):	13.35
Principal moments along X-Y (mm ⁴):	23484.59 along [0.9358 -0.3525]
Principal moments along Y-X (mm ⁴):	70224.92 along [0.3525 0.9358]
Elastic Modulus - Zx (mm ³):	I / y-max= 1074.38
Elastic Modulus - Zy (mm ³):	J / x-max= 2970.75

ALUMINIUM EXTRUSION_ MARK: A4

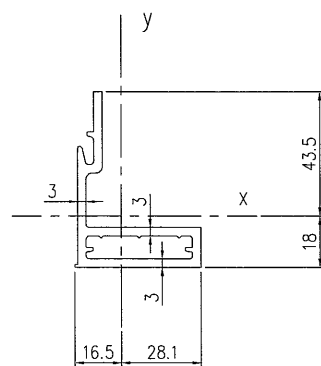
GRADE: 6063-T6



MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	328.93
Perimeter (mm):	128.49
Bounding Box - X (mm):	-26.5 to 26.5
Bounding Box - Y (mm):	-4.00 to 6.00
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	1569.72
Moments of inertia - Y (mm ⁴):	63609.75
Product of inertia - XY (mm ⁴):	0.00
Radii of gyration - X (mm):	2.19
Radii of gyration - Y (mm):	13.91
Principal moments along X-Y (mm ⁴):	1569.72 along [0.9358 -0.3525]
Principal moments along Y-X (mm ⁴):	63609.75 along [0.3525 0.9358]
Elastic Modulus - Zx (mm ³):	I / y-max= 262.55
Elastic Modulus - Zy (mm ³):	J / x-max= 2400.37

ALUMINIUM EXTRUSION_ MARK: A5

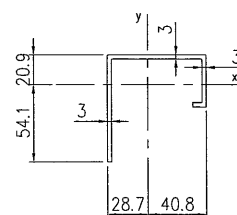
GRADE: 6063-T6



MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	498.98
Perimeter (mm):	334.99
Bounding Box - X (mm):	-16.50 to 28.10
Bounding Box - Y (mm):	-18.00 to 43.50
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	61980.9853
Moments of inertia - Y (mm ⁴):	182517.3593
Product of inertia - XY (mm ⁴):	0.00
Radii of gyration - X (mm):	16.99
Radii of gyration - Y (mm):	14.19
Principal moments along X-Y (mm ⁴):	61980.9853 along [0.5648 -0.8253]
Principal moments along Y-X (mm ⁴):	182517.3593 along [0.8253 0.5648]
Elastic Modulus - Zx (mm ³):	I / y-max= 3310.38
Elastic Modulus - Zy (mm ³):	J / x-max= 3577.69

ALUMINIUM EXTRUSION_ MARK: A6

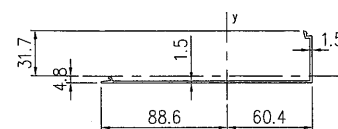
GRADE: 6063-T5



MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	544.50
Perimeter (mm):	367.71
Bounding Box - X (mm):	-28.70 to 40.80
Bounding Box - Y (mm):	-54.10 to 20.90
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	190109.32
Moments of inertia - Y (mm ⁴):	496132.06
Product of inertia - XY (mm ⁴):	0.00
Radii of gyration - X (mm):	21.69
Radii of gyration - Y (mm):	28.11
Principal moments along X-Y (mm ⁴):	190109.32 along [0.886 0.464]
Principal moments along Y-X (mm ⁴):	496132.06 along [-0.464 0.886]
Elastic Modulus - Zx (mm ³):	I / y-max= 4737.88
Elastic Modulus - Zy (mm ³):	J / x-max= 10546.96

ALUMINIUM EXTRUSION_ MARK: A7

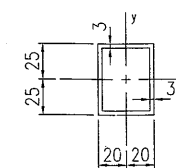
GRADE: 6063-T5



MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	285.87
Perimeter (mm):	384.07
Bounding Box - X (mm):	-88.60 to 60.40
Bounding Box - Y (mm):	-4.80 to 31.70
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	17694.66
Moments of inertia - Y (mm ⁴):	692885.27
Product of inertia - XY (mm ⁴):	0.00
Radii of gyration - X (mm):	9.23
Radii of gyration - Y (mm):	48.99
Principal moments along X-Y (mm ⁴):	17694.66 along [0.995 0.099]
Principal moments along Y-X (mm ⁴):	692885.27 along [-0.099 0.995]
Elastic Modulus - Zx (mm ³):	I / y-max= 767.88
Elastic Modulus - Zy (mm ³):	J / x-max= 7743.43

ALUMINIUM EXTRUSION_ MARK: A8

GRADE: 6063-T6



MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	504.00
Perimeter (mm):	336.00
Bounding Box - X (mm):	-20.00 to 20.00
Bounding Box - Y (mm):	-25.00 to 25.00
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	175312.00
Moments of inertia - Y (mm ⁴):	122552.00
Product of inertia - XY (mm ⁴):	0.00
Radii of gyration - X (mm):	18.65
Radii of gyration - Y (mm):	15.59
Principal moments along X-Y (mm ⁴):	175312.00 along [1.000 0.000]
Principal moments along Y-X (mm ⁴):	122552.00 along [0.000 1.000]
Elastic Modulus - Zx (mm ³):	I / y-max= 7012.48
Elastic Modulus - Zy (mm ³):	J / x-max= 6127.60

B.D. Ref.
F.P.B. Ref.

Curtain Wall

DATE/REVISION/AMENDMENTS

SUN HUNG KAI
ARCHITECTS AND ENGINEERS LTD.

SUN HUNG KAI CENTRE, WANCHAI, HONGKONG
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YEE FAI CONTRACTORS CO. LTD.

44/F SUN HUNG KAI CENTRE, WANCHAI, HONGKONG
TEL: 28278111 FAX: 28270717

美特鋁質有限公司
MIDI ALUMINIUM FABRICATOR LTD.
Units 6-8, Sunray Industrial Centre, 1/F
610 Cho Kwo Ling Road, Kowloon
Tel: 23489211-4 Fax: (852)27727666

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PROJECT
PROPOSED RESIDENTIAL
DEVELOPMENT AT
TSEUNG KWAN O
AREA 66D2, T.K.O.T.L. 118

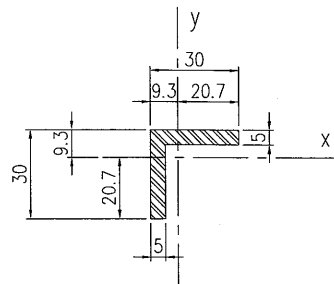
TITLE
SECTION PROPERTIES OF CURTAIN WALL
(1 OF 4)

FILE NAME
DRAWN BY
CHECKED BY
PRINTED DATE
SCALE 1:5
JOB No. DRAWING No. REV.
J-835 J835-CW-GN02 -

R.S.E.

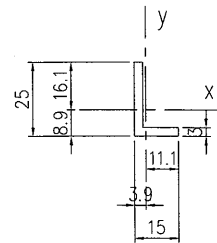
FOR B.D. APPROVAL

AIH⁺
 STEEL MARK: MARK: A9
 30x30x5mm THK. G.M.S ANGLE.
 GRADE: S275



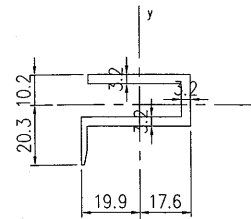
MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	275.00
Perimeter (mm):	120.00
Bounding Box - X (mm):	-9.30 to 20.70
Bounding Box - Y (mm):	-9.30 to 20.70
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	9379.76
Moments of inertia - Y (mm ⁴):	34947.94
Product of inertia - XY (mm ⁴):	0.00
Radii of gyration - X (mm):	8.98
Radii of gyration - Y (mm):	8.98
Principal moments along X-Y (mm ⁴):	9379.76 along [1.000 0.000]
Principal moments along Y-X (mm ⁴):	34947.94 along [0.000 1.000]
Elastic Modulus - Zx (mm ³):	I / y-max= 1071.66
Elastic Modulus - Zy (mm ³):	J / x-max= 1071.66

ALUMINIUM EXTRUSION_
 MARK: A10
 GRADE: 6063-T6



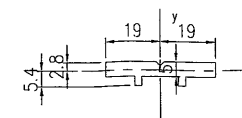
MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	111.00
Perimeter (mm):	80.00
Bounding Box - X (mm):	-3.90 to 11.10
Bounding Box - Y (mm):	-8.90 to 16.10
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	1152.91
Moments of inertia - Y (mm ⁴):	7580.08
Product of inertia - XY (mm ⁴):	0.00
Radii of gyration - X (mm):	7.87
Radii of gyration - Y (mm):	4.09
Principal moments along X-Y (mm ⁴):	1152.91 along [1.000 0.000]
Principal moments along Y-X (mm ⁴):	7580.08 along [0.000 1.000]
Elastic Modulus - Zx (mm ³):	I / y-max= 427.97
Elastic Modulus - Zy (mm ³):	J / x-max= 167.74

ALUMINIUM EXTRUSION_
 MARK: A11
 GRADE: 6063-T6



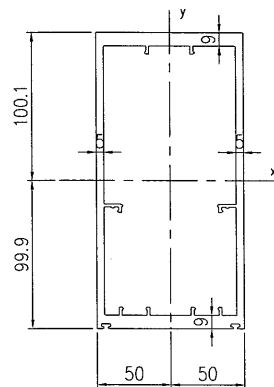
MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	289.63
Perimeter (mm):	198.83
Bounding Box - X (mm):	-19.90 to 17.60
Bounding Box - Y (mm):	-10.20 to 20.30
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	15096.71
Moments of inertia - Y (mm ⁴):	45168.79
Product of inertia - XY (mm ⁴):	0.00
Radii of gyration - X (mm):	7.69
Radii of gyration - Y (mm):	12.20
Principal moments along X-Y (mm ⁴):	15096.71 along [1.000 0.000]
Principal moments along Y-X (mm ⁴):	45168.79 along [0.000 1.000]
Elastic Modulus - Zx (mm ³):	I / y-max= 842.53
Elastic Modulus - Zy (mm ³):	J / x-max= 2171.93

ALUMINIUM EXTRUSION_
 MARK: A12
 GRADE: 6063-T6



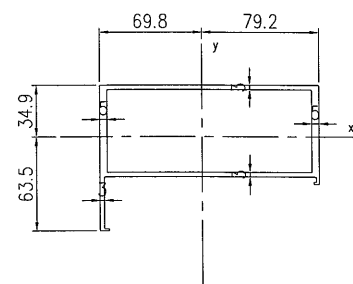
MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	203.90
Perimeter (mm):	99.89
Bounding Box - X (mm):	-19.00 to 19.00
Bounding Box - Y (mm):	-2.80 to 5.40
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	643.35
Moments of inertia - Y (mm ⁴):	23826.00
Product of inertia - XY (mm ⁴):	0.00
Radii of gyration - X (mm):	1.78
Radii of gyration - Y (mm):	10.81
Principal moments along X-Y (mm ⁴):	643.35 along [1.000 0.000]
Principal moments along Y-X (mm ⁴):	23826.00 along [0.000 1.000]
Elastic Modulus - Zx (mm ³):	I / y-max= 120.45
Elastic Modulus - Zy (mm ³):	J / x-max= 1254.00

ALUMINIUM EXTRUSION_
 MARK: M1
 GRADE: 6063-T6



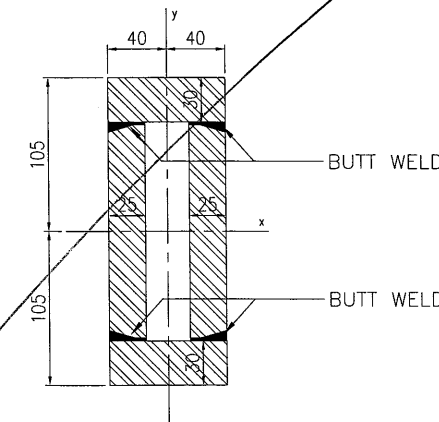
MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	3730.37
Perimeter (mm):	1299.38
Bounding Box - X (mm):	-50.00 to 50.00
Bounding Box - Y (mm):	-99.99 to 100.10
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	21737231.53
Moments of inertia - Y (mm ⁴):	5688542.00
Product of inertia - XY (mm ⁴):	0.00
Radii of gyration - X (mm):	76.34
Radii of gyration - Y (mm):	39.05
Principal moments along X-Y (mm ⁴):	5688542.00 along [1.000 0.000]
Principal moments along Y-X (mm ⁴):	21737231.53 along [0.000 1.000]
Elastic Modulus - Zx (mm ³):	I / y-max= 217194.34
Elastic Modulus - Zy (mm ³):	J / x-max= 113770.84

ALUMINIUM EXTRUSION_
 MARK: T1
 GRADE: 6063-T6



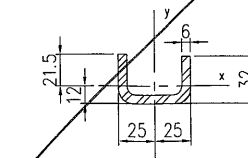
MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	1580.09
Perimeter (mm):	901.42
Bounding Box - X (mm):	-69.80 to 79.20
Bounding Box - Y (mm):	-63.50 to 34.90
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	1180524.79
Moments of inertia - Y (mm ⁴):	5225082.07
Product of inertia - XY (mm ⁴):	0.00
Radii of gyration - X (mm):	27.69
Radii of gyration - Y (mm):	57.33
Principal moments along X-Y (mm ⁴):	1180524.79 along [0.996 0.088]
Principal moments along Y-X (mm ⁴):	5225082.07 along [-0.088 0.996]
Elastic Modulus - Zx (mm ³):	I / y-max= 19067.48
Elastic Modulus - Zy (mm ³):	J / x-max= 65606.20

STEEL MARK: S1
 210x80x30x25mm THK. G.M.S.
 BUILD-UP RHS
 GRADE: S275



MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	12200.00
Perimeter (mm):	932.00
Bounding Box - X (mm):	-40.00 to 40.00
Bounding Box - Y (mm):	-104.00 to 104.00
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	51888266.67
Moments of inertia - Y (mm ⁴):	8541664.00
Product of inertia - XY (mm ⁴):	0.00
Radii of gyration - X (mm):	65.22
Radii of gyration - Y (mm):	26.46
Principal moments along X-Y (mm ⁴):	51888266.67 along [1.000 0.000]
Principal moments along Y-X (mm ⁴):	8541664.00 along [0.000 1.000]
Elastic Modulus - Zx (mm ³):	I / y-max= 498925.64
Elastic Modulus - Zy (mm ³):	J / x-max= 213541.60

STEEL MARK: S2
 50x32x6mm THK. G.M.S CHANNEL
 (CUT FROM 50x50x6mm THK. G.M.S SHS)
 GRADE: S275



MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	593.53
Perimeter (mm):	205.27
Bounding Box - X (mm):	-24.70 to 25.30
Bounding Box - Y (mm):	-12.00 to 21.50
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	57933.10
Moments of inertia - Y (mm ⁴):	201319.98
Product of inertia - XY (mm ⁴):	0.00
Radii of gyration - X (mm):	9.89
Radii of gyration - Y (mm):	18.41
Principal moments along X-Y (mm ⁴):	57933.10 along [1.000 -0.029]
Principal moments along Y-X (mm ⁴):	201319.98 along [0.029 1.000]
Elastic Modulus - Zx (mm ³):	I / y-max= 2703.82
Elastic Modulus - Zy (mm ³):	J / x-max= 7942.12

B.D. Ref.
 F.P.B. Ref.

Curtain
 Wall

DATE/REVISION/AMENDMENTS

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 ARCHITECTS AND ENGINEERS LTD.

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YEE FAI CONTRACTORS CO. LTD.
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 610 Cha Kwo Ling Road, Kowloon
 Tel: 23489211-4 Fax: (852)2727666

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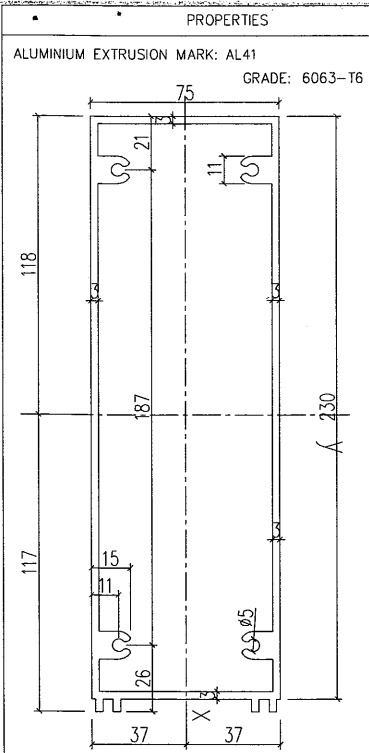
PROJECT
 PROPOSED RESIDENTIAL
 DEVELOPMENT AT
 TSEUNG KWAN O
 AREA 66D2, T.K.O.T.L. 118

TITLE
 SECTION PROPERTIES OF CURTAIN WALL
 (2 OF 4)

FILE NAME
 DRAWN BY
 CHECKED BY
 PRINTED DATE
 SCALE 1:5
 JOB No. J-835 DRAWING No. J835-CW-GN03 REV. -

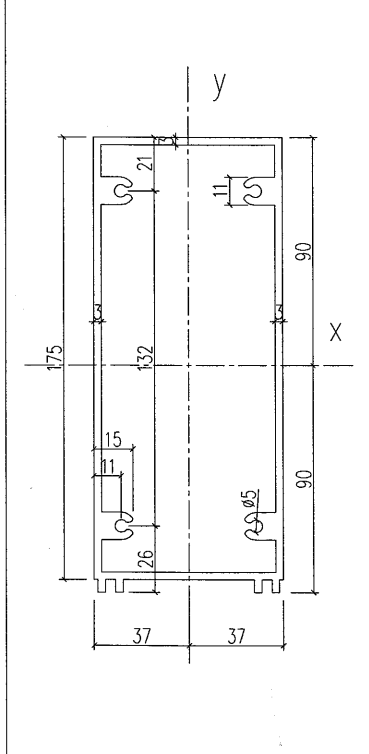
R.S.E.

FOR B.D. APPROVAL

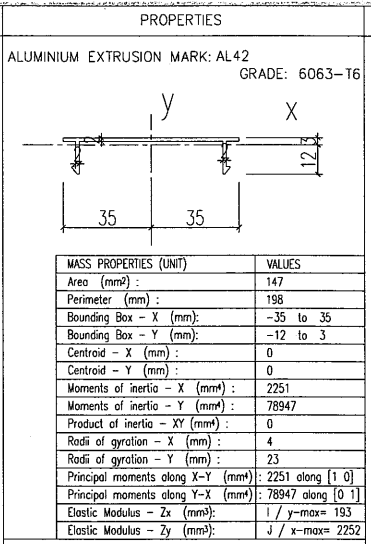


MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	2262
Perimeter (mm):	1376
Bounding Box - X (mm):	-118 to 117
Bounding Box - Y (mm):	-37 to 37
Centroid - X (mm):	0
Centroid - Y (mm):	0
Moments of inertia - X (mm ⁴):	2367575
Moments of inertia - Y (mm ⁴):	15804207
Product of inertia - XY (mm ⁴):	0
Radius of gyration - X (mm):	32
Radius of gyration - Y (mm):	84
Principal moments along X-Y (mm ⁴):	2367575 along [1 0]
Principal moments along Y-X (mm ⁴):	15804207 along [0 1]
Elastic Modulus - Zx (mm ²):	1 / y-max= 63136
Elastic Modulus - Zy (mm ²):	J / x-max= 133860

ALUMINIUM EXTRUSION MARK: AL410 GRADE: 6063-T6

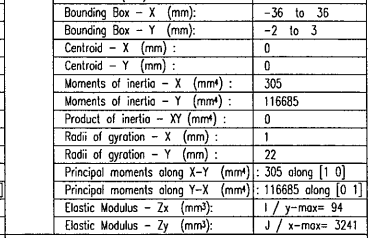


MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	1932
Perimeter (mm):	1156
Bounding Box - X (mm):	-37 to 37
Bounding Box - Y (mm):	-90 to 90
Centroid - X (mm):	0
Centroid - Y (mm):	0
Moments of inertia - X (mm ⁴):	800110
Moments of inertia - Y (mm ⁴):	1939655
Product of inertia - XY (mm ⁴):	0
Radius of gyration - X (mm):	64
Radius of gyration - Y (mm):	32
Principal moments along X-Y (mm ⁴):	1939655 along [0 -1]
Principal moments along Y-X (mm ⁴):	800110 along [0 1]
Elastic Modulus - Zx (mm ²):	1 / y-max= 88651
Elastic Modulus - Zy (mm ²):	J / x-max= 51725



MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	147
Perimeter (mm):	198
Bounding Box - X (mm):	-35 to 35
Bounding Box - Y (mm):	-12 to 12
Centroid - X (mm):	0
Centroid - Y (mm):	0
Moments of inertia - X (mm ⁴):	2251
Moments of inertia - Y (mm ⁴):	78947
Product of inertia - XY (mm ⁴):	0
Radius of gyration - X (mm):	4
Radius of gyration - Y (mm):	23
Principal moments along X-Y (mm ⁴):	2251 along [1 0]
Principal moments along Y-X (mm ⁴):	78947 along [0 1]
Elastic Modulus - Zx (mm ²):	1 / y-max= 193
Elastic Modulus - Zy (mm ²):	J / x-max= 2252

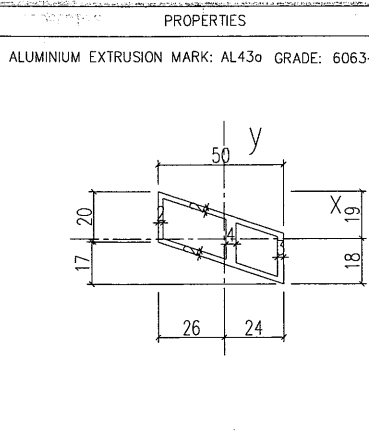
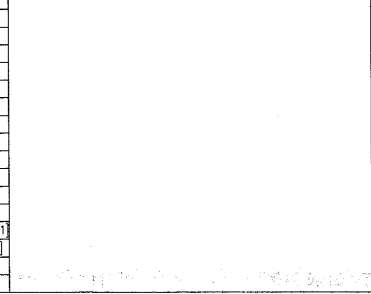
ALUMINIUM EXTRUSION MARK: AL420 GRADE: 6063-T6



MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	240
Perimeter (mm):	166
Bounding Box - X (mm):	-36 to 36
Bounding Box - Y (mm):	-2 to 3
Centroid - X (mm):	0
Centroid - Y (mm):	0
Moments of inertia - X (mm ⁴):	305
Moments of inertia - Y (mm ⁴):	116685
Product of inertia - XY (mm ⁴):	0
Radius of gyration - X (mm):	1
Radius of gyration - Y (mm):	22
Principal moments along X-Y (mm ⁴):	305 along [1 0]
Principal moments along Y-X (mm ⁴):	116685 along [0 1]
Elastic Modulus - Zx (mm ²):	1 / y-max= 94
Elastic Modulus - Zy (mm ²):	J / x-max= 3241

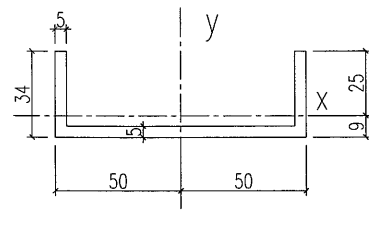
MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	521
Perimeter (mm):	423
Bounding Box - X (mm):	-39 to 36
Bounding Box - Y (mm):	-22 to 23
Centroid - X (mm):	0
Centroid - Y (mm):	0
Moments of inertia - X (mm ⁴):	61432
Moments of inertia - Y (mm ⁴):	305329
Product of inertia - XY (mm ⁴):	-98380
Radius of gyration - X (mm):	11
Radius of gyration - Y (mm):	24
Principal moments along X-Y (mm ⁴):	26696 along [1 0]
Principal moments along Y-X (mm ⁴):	340065 along [0 1]
Elastic Modulus - Zx (mm ²):	1 / y-max= 2722
Elastic Modulus - Zy (mm ²):	J / x-max= 7846

ALUMINIUM EXTRUSION MARK: AL430 GRADE: 6063-T6



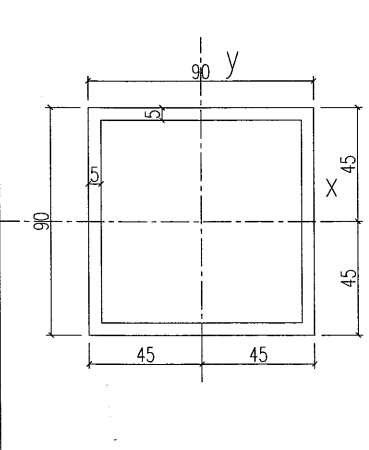
MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	345
Perimeter (mm):	296
Bounding Box - X (mm):	-26 to 24
Bounding Box - Y (mm):	-18 to 19
Centroid - X (mm):	0
Centroid - Y (mm):	0
Moments of inertia - X (mm ⁴):	29173
Moments of inertia - Y (mm ⁴):	84945
Product of inertia - XY (mm ⁴):	-28315
Radius of gyration - X (mm):	9
Radius of gyration - Y (mm):	16
Principal moments along X-Y (mm ⁴):	17318 along [1 0]
Principal moments along Y-X (mm ⁴):	945818 along [0 1]
Elastic Modulus - Zx (mm ²):	1 / y-max= 1556
Elastic Modulus - Zy (mm ²):	J / x-max= 3236

ALUMINIUM EXTRUSION MARK: AL440 GRADE: 6063-T6

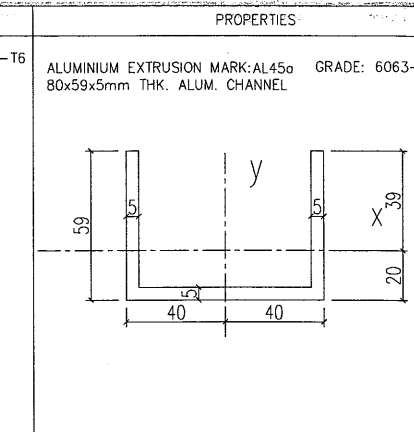


MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	716
Perimeter (mm):	327
Bounding Box - X (mm):	-50 to 50
Bounding Box - Y (mm):	-9 to 25
Centroid - X (mm):	0
Centroid - Y (mm):	0
Moments of inertia - X (mm ⁴):	68271
Moments of inertia - Y (mm ⁴):	980805
Product of inertia - XY (mm ⁴):	0
Radius of gyration - X (mm):	10
Radius of gyration - Y (mm):	37
Principal moments along X-Y (mm ⁴):	68271 along [1 0]
Principal moments along Y-X (mm ⁴):	980805 along [0 1]
Elastic Modulus - Zx (mm ²):	1 / y-max= 2683
Elastic Modulus - Zy (mm ²):	J / x-max= 19616

ALUMINIUM EXTRUSION MARK: AL450 GRADE: 6063-T6

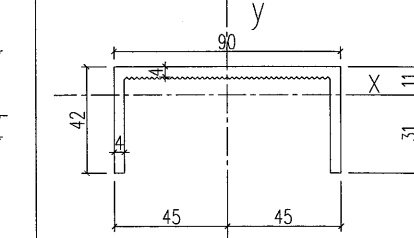


MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	1700
Perimeter (mm):	680
Bounding Box - X (mm):	-45 to 45
Bounding Box - Y (mm):	-45 to 45
Centroid - X (mm):	0
Centroid - Y (mm):	0
Moments of inertia - X (mm ⁴):	2054167
Moments of inertia - Y (mm ⁴):	2054167
Product of inertia - XY (mm ⁴):	0
Radius of gyration - X (mm):	35
Radius of gyration - Y (mm):	35
Principal moments along X-Y (mm ⁴):	2054167 along [1 0]
Principal moments along Y-X (mm ⁴):	2054167 along [0 1]
Elastic Modulus - Zx (mm ²):	1 / y-max= 45648
Elastic Modulus - Zy (mm ²):	J / x-max= 45648



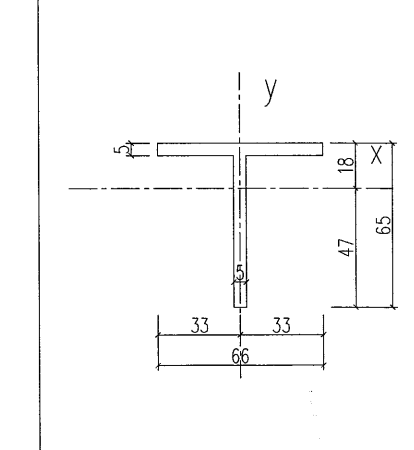
MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	935
Perimeter (mm):	384
Bounding Box - X (mm):	-40 to 40
Bounding Box - Y (mm):	-20 to 20
Centroid - X (mm):	0
Centroid - Y (mm):	0
Moments of inertia - X (mm ⁴):	330572
Moments of inertia - Y (mm ⁴):	945818
Product of inertia - XY (mm ⁴):	0
Radius of gyration - X (mm):	19
Radius of gyration - Y (mm):	32
Principal moments along X-Y (mm ⁴):	330572 along [1 0]
Principal moments along Y-X (mm ⁴):	945818 along [0 1]
Elastic Modulus - Zx (mm ²):	1 / y-max= 8377
Elastic Modulus - Zy (mm ²):	J / x-max= 23945

ALUMINIUM EXTRUSION MARK: AL460 GRADE: 6063-T6

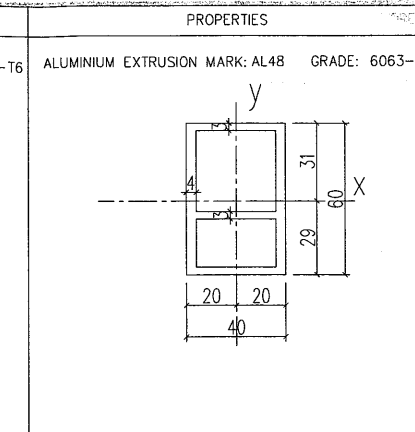


MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	705
Perimeter (mm):	372
Bounding Box - X (mm):	-45 to 45
Bounding Box - Y (mm):	-31 to 11
Centroid - X (mm):	0
Centroid - Y (mm):	0
Moments of inertia - X (mm ⁴):	111796
Moments of inertia - Y (mm ⁴):	828482
Product of inertia - XY (mm ⁴):	0
Radius of gyration - X (mm):	13
Radius of gyration - Y (mm):	34
Principal moments along X-Y (mm ⁴):	111796 along [1 0]
Principal moments along Y-X (mm ⁴):	828482 along [0 1]
Elastic Modulus - Zx (mm ²):	1 / y-max= 3629
Elastic Modulus - Zy (mm ²):	J / x-max= 18411

ALUMINIUM EXTRUSION MARK: AL470 GRADE: 6063-T6

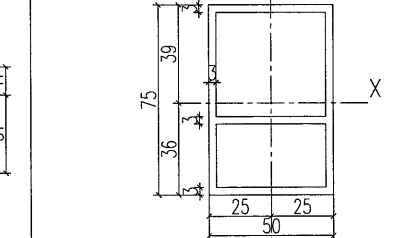


MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	629
Perimeter (mm):	262
Bounding Box - X (mm):	-33 to 33
Bounding Box - Y (mm):	-47 to 18
Centroid - X (mm):	0
Centroid - Y (mm):	0
Moments of inertia - X (mm ⁴):	255346
Moments of inertia - Y (mm ⁴):	120414
Product of inertia - XY (mm ⁴):	0
Radius of gyration - X (mm):	20
Radius of gyration - Y (mm):	14
Principal moments along X-Y (mm ⁴):	120414 along [0 -1]
Principal moments along Y-X (mm ⁴):	255346 along [0 1]
Elastic Modulus - Zx (mm ²):	1 / y-max= 5439
Elastic Modulus - Zy (mm ²):	J / x-max= 3649



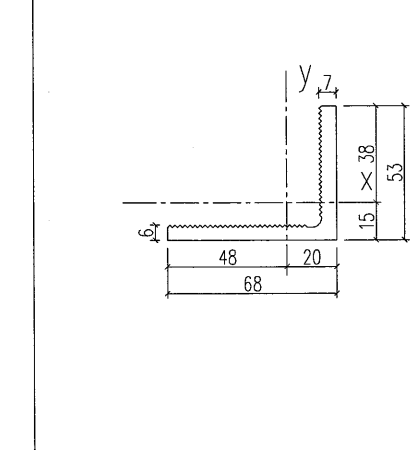
MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	768
Perimeter (mm):	430
Bounding Box - X (mm):	-20 to 20
Bounding Box - Y (mm):	-29 to 31
Centroid - X (mm):	0
Centroid - Y (mm):	0
Moments of inertia - X (mm ⁴):	303717
Moments of inertia - Y (mm ⁴):	180736
Product of inertia - XY (mm ⁴):	0
Radius of gyration - X (mm):	20
Radius of gyration - Y (mm):	15
Principal moments along X-Y (mm ⁴):	180736 along [0 -1]
Principal moments along Y-X (mm ⁴):	303717 along [1 0]
Elastic Modulus - Zx (mm ²):	1 / y-max= 9857
Elastic Modulus - Zy (mm ²):	J / x-max= 9037

ALUMINIUM EXTRUSION MARK: AL480 GRADE: 6063-T6

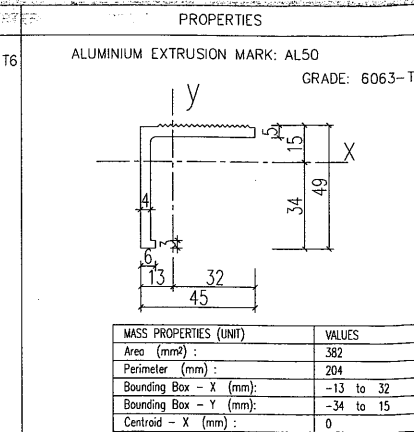


MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	848
Perimeter (mm):	559
Bounding Box - X (mm):	-39 to 36
Bounding Box - Y (mm):	-25 to 25
Centroid - X (mm):	0
Centroid - Y (mm):	0
Moments of inertia - X (mm ⁴):	316195
Moments of inertia - Y (mm ⁴):	562338
Product of inertia - XY (mm ⁴):	0
Radius of gyration - X (mm):	19
Radius of gyration - Y (mm):	34
Principal moments along X-Y (mm ⁴):	316195 along [1 0]
Principal moments along Y-X (mm ⁴):	562338 along [0 1]
Elastic Modulus - Zx (mm ²):	1 / y-max= 12590
Elastic Modulus - Zy (mm ²):	J / x-max= 14511

ALUMINIUM EXTRUSION MARK: AL490 GRADE: 6061-T6

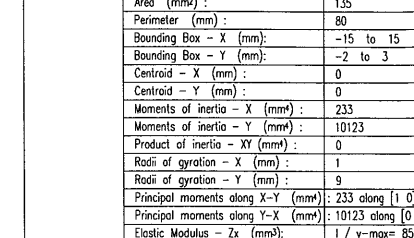


MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	681
Perimeter (mm):	282
Bounding Box - X (mm):	-48 to 20
Bounding Box - Y (mm):	-15 to 38
Centroid - X (mm):	0
Centroid - Y (mm):	0
Moments of inertia - X (mm ⁴):	177329
Moments of inertia - Y (mm ⁴):	304897
Product of inertia - XY (mm ⁴):	137711
Radius of gyration - X (mm):	16
Radius of gyration - Y (mm):	21
Principal moments along X-Y (mm ⁴):	89348 along [1 1]
Principal moments along Y-X (mm ⁴):	392878 along [-1 1]
Elastic Modulus - Zx (mm ²):	1 / y-max= 4639
Elastic Modulus - Zy (mm ²):	J / x-max= 6368



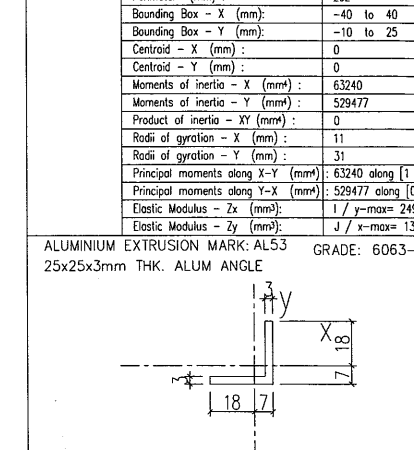
MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	382
Perimeter (mm):	204
Bounding Box - X (mm):	-13 to 32
Bounding Box - Y (mm):	-34 to 15
Centroid - X (mm):	0
Centroid - Y (mm):	0
Moments of inertia - X (mm ⁴):	90296
Moments of inertia - Y (mm ⁴):	73216
Product of inertia - XY (mm ⁴):	48475
Radius of gyration - X (mm):	15
Radius of gyration - Y (mm):	14
Principal moments along X-Y (mm ⁴):	32534 along [1 1]
Principal moments along Y-X (mm ⁴):	130978 along [-1 1]
Elastic Modulus - Zx (mm ²):	1 / y-max= 2634
Elastic Modulus - Zy (mm ²):	J / x-max= 2274

ALUMINIUM EXTRUSION MARK: AL510 GRADE: 6063-T6

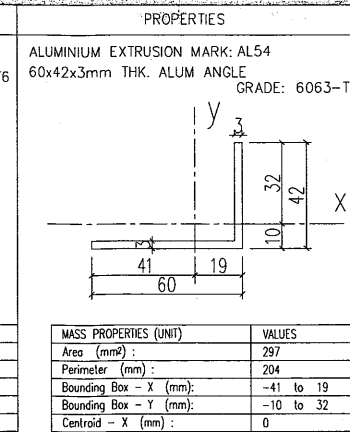


MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	135
Perimeter (mm):	80
Bounding Box - X (mm):	-15 to 15
Bounding Box - Y (mm):	-2 to 3
Centroid - X (mm):	0
Centroid - Y (mm):	0
Moments of inertia - X (mm ⁴):	233
Moments of inertia - Y (mm ⁴):	10123
Product of inertia - XY (mm ⁴):	0
Radius of gyration - X (mm):	1
Radius of gyration - Y (mm):	9
Principal moments along X-Y (mm ⁴):	233 along [1 0]
Principal moments along Y-X (mm ⁴):	10123 along [0 1]
Elastic Modulus - Zx (mm ²):	1 / y-max= 85
Elastic Modulus - Zy (mm ²):	J / x-max= 675

ALUMINIUM EXTRUSION MARK: AL520 GRADE: 6063-T6

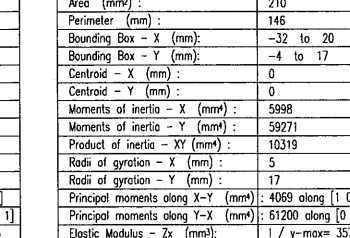


MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	568
Perimeter (mm):	292
Bounding Box - X (mm):	-40 to 40
Bounding Box - Y (mm):	-10 to 25
Centroid - X (mm):	0
Centroid - Y (mm):	0
Moments of inertia - X (mm ⁴):	63240
Moments of inertia - Y (mm ⁴):	529477
Product of inertia - XY (mm ⁴):	0
Radius of gyration - X (mm):	11
Radius of gyration - Y (mm):	31
Principal moments along X-Y (mm ⁴):	63240 along [1 0]
Principal moments along Y-X (mm ⁴):	529477 along [0 1]
Elastic Modulus - Zx (mm ²):	1 / y-max= 2492
Elastic Modulus - Zy (mm ²):	J / x-max= 13237



MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	297
Perimeter (mm):	204
Bounding Box - X (mm):	-41 to 19
Bounding Box - Y (mm):	-10 to 32
Centroid - X (mm):	0
Centroid - Y (mm):	0
Moments of inertia - X (mm ⁴):	46236
Moments of inertia - Y (mm ⁴):	111684
Product of inertia - XY (mm ⁴):	42439
Radius of gyration - X (mm):	12
Radius of gyration - Y (mm):	19
Principal moments along X-Y (mm ⁴):	25369 along [1 0]
Principal moments along Y-X (mm ⁴):	132560 along [0 1]
Elastic Modulus - Zx (mm ²):	1 / y-max= 1435
Elastic Modulus - Zy (mm ²):	J / x-max= 2709

ALUMINIUM EXTRUSION MARK: AL550 GRADE: 6063-T6



MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	210
Perimeter (mm):	146
Bounding Box - X (mm):	-32 to 20
Bounding Box - Y (mm):	-4 to 17
Centroid - X (mm):	0
Centroid - Y (mm):	0
Moments of inertia - X (mm ⁴):	5998
Moments of inertia - Y (mm ⁴):	59271
Product of inertia - XY (mm ⁴):	10319
Radius of gyration - X (mm):	5
Radius of gyration - Y (mm):	17
Principal moments along X-Y	

PROPERTIES

ALUMINIUM EXTRUSION MARK: AL58
110x30x3mm THK. ALUM ANGLE
GRADE: 6063-T6

MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	411
Perimeter (mm):	280
Bounding Box - X (mm):	-66 to 44
Bounding Box - Y (mm):	-4 to 26
Centroid - X (mm):	0
Centroid - Y (mm):	0
Moments of inertia - X (mm ⁴):	19801
Moments of inertia - Y (mm ⁴):	518961
Product of inertia - XY (mm ⁴):	52192
Radii of gyration - X (mm):	7
Radii of gyration - Y (mm):	36
Principal moments along X-Y (mm ⁴):	14403 along [1 0]
Principal moments along Y-X (mm ⁴):	524360 along [0 1]
Elastic Modulus - Zx (mm ²):	1 / y-max= 775
Elastic Modulus - Zy (mm ²):	J / x-max= 7918

PROPERTIES

ALUMINIUM EXTRUSION MARK: AL59
65x45x3mm THK. ALUM ANGLE
GRADE: 6063-T6

MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	321
Perimeter (mm):	220
Bounding Box - X (mm):	-45 to 20
Bounding Box - Y (mm):	-10 to 35
Centroid - X (mm):	0
Centroid - Y (mm):	0
Moments of inertia - X (mm ⁴):	57418
Moments of inertia - Y (mm ⁴):	142308
Product of inertia - XY (mm ⁴):	53388
Radii of gyration - X (mm):	13
Radii of gyration - Y (mm):	21
Principal moments along X-Y (mm ⁴):	31658 along [1 0]
Principal moments along Y-X (mm ⁴):	168067 along [0 1]
Elastic Modulus - Zx (mm ²):	1 / y-max= 1656
Elastic Modulus - Zy (mm ²):	J / x-max= 3186

Grille

B.D. Ref.
F.P.B. Ref.

DATE/REVISION/AMENDMENTS

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PROJECT
PROPOSED RESIDENTIAL
DEVELOPMENT AT
TSEUNG KWAN O
AREA 66D2, T.K.O.T.L. 118

TITLE
SECTION PROPERTIES

FILE NAME
DRAWN BY
CHECKED BY
PRINTED DATE
SCALE 1:25
JOB No. J-835 DRAWING No. J835-GR-0004 REV. -

R.S.E.
Lam Kwok Leung
BS(Eng) CE(Eng) MS(Struct)
MEMBER RSE RPE
FOR B.D. APPROVAL

PROPERTIES

100x100x5mm THK. G.M.S. SHS
STEEL MARK: S1 GRADE: S275

MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	1892
Perimeter (mm):	755
Bounding Box - X (mm):	-50 to 50
Bounding Box - Y (mm):	-50 to 50
Centroid - X (mm):	0
Centroid - Y (mm):	0
Moments of inertia - X (mm ⁴):	2847031
Moments of inertia - Y (mm ⁴):	2847031
Product of inertia - XY (mm ⁴):	0
Radii of gyration - X (mm):	39
Radii of gyration - Y (mm):	39
Principal moments along X-Y (mm ⁴):	2847031 along [1 0]
Principal moments along Y-X (mm ⁴):	2847031 along [0 1]
Elastic Modulus - Zx (mm ²):	1 / y-max= 56941
Elastic Modulus - Zy (mm ²):	J / x-max= 56941

PROPERTIES

120x60x4mm THK. G.M.S. RHS
STEEL MARK: S2 GRADE: S275

MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	1376
Perimeter (mm):	688
Bounding Box - X (mm):	-60 to 60
Bounding Box - Y (mm):	-30 to 30
Centroid - X (mm):	0
Centroid - Y (mm):	0
Moments of inertia - X (mm ⁴):	847659
Moments of inertia - Y (mm ⁴):	2551979
Product of inertia - XY (mm ⁴):	0
Radii of gyration - X (mm):	25
Radii of gyration - Y (mm):	43
Principal moments along X-Y (mm ⁴):	847659 along [1 0]
Principal moments along Y-X (mm ⁴):	2551979 along [0 1]
Elastic Modulus - Zx (mm ²):	1 / y-max= 28255
Elastic Modulus - Zy (mm ²):	J / x-max= 42933

PROPERTIES

175x35x5mm THK. G.M.S. ANGLE
STEEL MARK: S3 GRADE: S275

MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	1224
Perimeter (mm):	420
Bounding Box - X (mm):	-5 to 30
Bounding Box - Y (mm):	-30 to 100
Centroid - X (mm):	0
Centroid - Y (mm):	0
Moments of inertia - X (mm ⁴):	3745997
Moments of inertia - Y (mm ⁴):	61057
Product of inertia - XY (mm ⁴):	-220725
Radii of gyration - X (mm):	55
Radii of gyration - Y (mm):	7
Principal moments along X-Y (mm ⁴):	47883 along [0 -1]
Principal moments along Y-X (mm ⁴):	3759171 along [1 0]
Elastic Modulus - Zx (mm ²):	1 / y-max= 37644
Elastic Modulus - Zy (mm ²):	J / x-max= 34733

PROPERTIES

100x50x5mm THK. G.M.S. RHS
STEEL MARK: S4 GRADE: S275

MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	1400
Perimeter (mm):	560
Bounding Box - X (mm):	-50 to 50
Bounding Box - Y (mm):	-25 to 25
Centroid - X (mm):	0
Centroid - Y (mm):	0
Moments of inertia - X (mm ⁴):	561667
Moments of inertia - Y (mm ⁴):	1736667
Product of inertia - XY (mm ⁴):	0
Radii of gyration - X (mm):	20
Radii of gyration - Y (mm):	35
Principal moments along X-Y (mm ⁴):	561667 along [1 0]
Principal moments along Y-X (mm ⁴):	1736667 along [0 1]
Elastic Modulus - Zx (mm ²):	1 / y-max= 22467
Elastic Modulus - Zy (mm ²):	J / x-max= 12923

PROPERTIES

80x80x8mm THK. G.M.S. ANGLE
STEEL MARK: S5 GRADE: S275

MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	1216
Perimeter (mm):	320
Bounding Box - X (mm):	-23 to 57
Bounding Box - Y (mm):	-23 to 57
Centroid - X (mm):	0
Centroid - Y (mm):	0
Moments of inertia - X (mm ⁴):	737298
Moments of inertia - Y (mm ⁴):	737298
Product of inertia - XY (mm ⁴):	-436547
Radii of gyration - X (mm):	25
Radii of gyration - Y (mm):	25
Principal moments along X-Y (mm ⁴):	300751 along [1 -1]
Principal moments along Y-X (mm ⁴):	1173845 along [1 1]
Elastic Modulus - Zx (mm ²):	1 / y-max= 12923
Elastic Modulus - Zy (mm ²):	J / x-max= 34787

PROPERTIES

80x80x5mm THK. G.M.S. SHS
STEEL MARK: S6 GRADE: S275

MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	1486
Perimeter (mm):	593
Bounding Box - X (mm):	-40 to 40
Bounding Box - Y (mm):	-40 to 40
Centroid - X (mm):	0
Centroid - Y (mm):	0
Moments of inertia - X (mm ⁴):	1391488
Moments of inertia - Y (mm ⁴):	1391488
Product of inertia - XY (mm ⁴):	0
Radii of gyration - X (mm):	31
Radii of gyration - Y (mm):	31
Principal moments along X-Y (mm ⁴):	1391488 along [1 0]
Principal moments along Y-X (mm ⁴):	1391488 along [0 1]
Elastic Modulus - Zx (mm ²):	1 / y-max= 34787
Elastic Modulus - Zy (mm ²):	J / x-max= 34787

GENERAL NOTES

B.D. Ref. 3/9243/12

F.P.B. Ref.

I. SCOPE OF DESIGN:

ALL DIMENSIONS TO BE CHECKED AND VERIFIED ON SITE

II. MAIN MATERIALS AND MECHANICAL PROPERTIES:

1. ALUMINIUM EXTRUSION TO BE ALLOY 6063-T5 TO BS EN755-2:1997 AND DESIGN TO BS 8118	
0.2% PROOF STRESS	Rp0.2= 110 MPa
MINIMUM TENSILE STRENGTH	Rm= 150 MPa
BENDING STRENGTH	po= 110 MPa
SHEAR STRENGTH	pv= 65 MPa
MODULUS OF ELASTICITY	Ea= 70000 MPa
MIN. ELONGATION	A=8%

2. STRUCTURAL STEEL TO BE GRADE S275 TO BS EN 10025: 2004 FOR STEEL PLATE A SECTIONS

YIELD STRENGTH	Ys= 275 MPa
TENSILE STRENGTH	Us= 430 MPa
DESIGN STRENGTH	py= 275 MPa
MODULUS OF ELASTICITY	Es= 205000 MPa

3. STAINLESS STEEL BOLT, THROUGH BOLT, SCREW AND NUT TO BS EN ISO 3506:1998 AND DESIGN TO SCI PUBLICATION P291

GRADE	A2-50	A2-70
YIELD STRENGTH (0.2% PROOF STRENGTH)	Yb= 210 MPa	Yb= 450 MPa
MINIMUM TENSILE STRENGTH	Ub= 500 MPa	Ub= 700 MPa
DESIGN TENSILE STRENGTH	pt= 210 MPa	pt= 450 MPa
DESIGN SHEAR STRENGTH	ps= 145 MPa	ps= 311 MPa

4. ALUMINIUM NON-HEAT TREATABLE ALLOYS TO BS EN485-2 : 2004

GRADE	3003-H14
MIN. TENSILE STRENGTH	Rm = 145MPa
0.2% PROOF STRENGTH	R0.2 = 125MPa

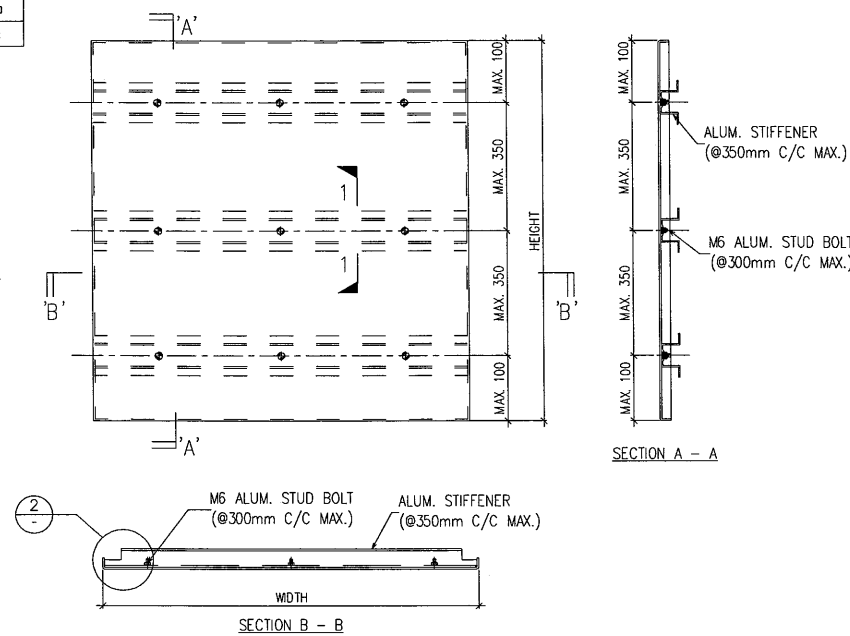
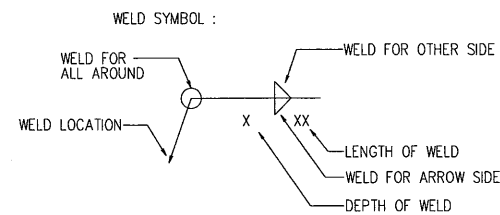
SPACING OF STIFFENER (S) = 350mm (MAX.)

5. STAINLESS STEEL LIGHTING FEATURE

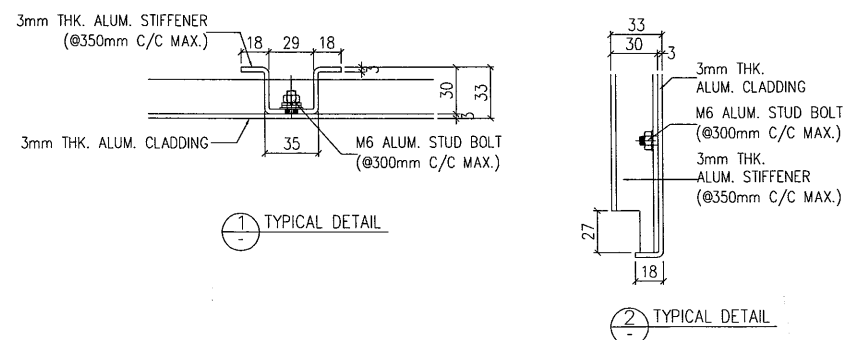
- 100MM THK OVERALL LED VINYL SIGNAGE BANNER BOX COMPLETED WITH 3mm THK STAINLESS STEEL CLADDING
- STAINLESS STEEL GENERALLY GRADE 316

V. FABRICATION & INSTALLATION

1. ALL DIMENSIONS SHOWN ON SHOP DRAWING TO BE READ IN MILLIMETER (mm), EXCEPT THE FLOOR LEVEL MARK TO BE READ IN METER (m)
2. CORROSION PROTECTION / PREVENTION FOR BIMETALLIC EFFECTS BITUMINOUS PAINT FOR CONTACTED SURFACES BETWEEN ALUMINIUM & R.C. STRUCTURE OR GALVANIZED STEEL
3. WELDING FOR STRUCTURAL STEEL:
 - a.) ALL WELDING SHALL COMPLY WITH BS EN 1011
 - b.) SITE WELD SURFACES TO BE PROTECTED BY ZINC CHROMATE
 - c.) DESIGN WELD STRENGTH: pw=220 MPa
 - d.) ALL WELDING SHOULD BE 4mm FILLET WELD UNLESS OTHERWISE NOTED



TYPICAL ALUM. CLADDING UNIT DETAIL



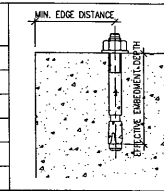
4). PROTECTIVE TREATMENT:

ALL STRUCTURAL MILD STEEL WORKS TO BE HOT DIP GALVANIZED OF ZINC TO BS EN ISO 1461:1999 WITH MIN. THK. OF 85mm

5). HILTI ANCHOR BOLT:

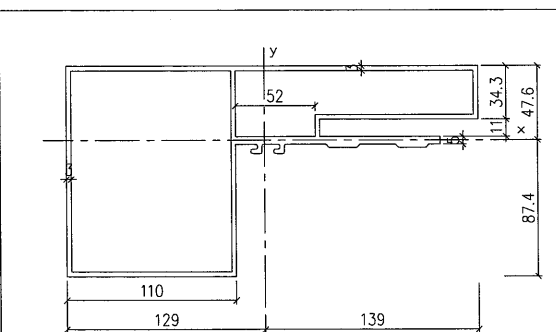
INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS

ANCHOR BOLT	M8x75 HILTI HST3-R	M10x90 HILTI HST3-R
EFFECTIVE EMBEDMENT DEPTH (mm)	47	60
MAX. WORKING TENSILE LOAD (kN)	1.7	3
MAX. WORKING SHEAR LOAD (kN)	4.3	6.7
TENSILE TEST LOAD (kN)	2.55	4.5
MIN. EDGE DISTANCE (mm)	45	50
MIN. BOLT SPACING	40	55



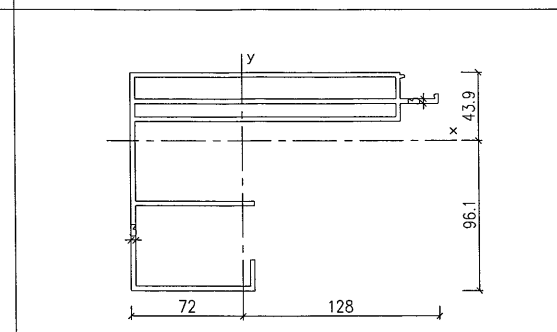
Cladding

MEMBER LIST

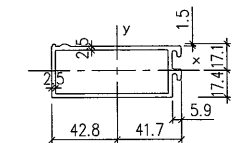


MEMBER MARK : M1	ALUM. TRANSOM
AREA (mm ²)	3145.8
Ixx (mm ⁴)	5,685,847.9
Iyy (mm ⁴)	4,163,358.9
Zxx (mm ³)	65,036
Zyy (mm ³)	148,744
REMARK	GR.: 6063-T6

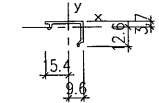
MEMBER LIST



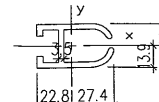
MEMBER MARK : M3	ALUM. TRANSOM
AREA (mm ²)	2637.0
Ixx (mm ⁴)	5262146.1
Iyy (mm ⁴)	8897618.8
Zxx (mm ³)	54746.7
Zyy (mm ³)	69516.9
REMARK	GR.: 6063-T6



MEMBER MARK : M2	ALUM. ADAPTER
AREA (mm ²)	601.8
Ixx (mm ⁴)	109,044.8
Iyy (mm ⁴)	515,499
Zxx (mm ³)	6265
Zyy (mm ³)	12,035
REMARK	GR.: 6063-T6



MEMBER MARK : M4	ALUM. COVER
AREA (mm ²)	66.6
Ixx (mm ⁴)	1326.5
Iyy (mm ⁴)	4870.3
Zxx (mm ³)	105.7
Zyy (mm ³)	315.9
REMARK	GR.: 6063-T6



MEMBER MARK : M5	ALUM. EXTRUSION
AREA (mm ²)	473.4
Ixx (mm ⁴)	53980.8
Iyy (mm ⁴)	100637.3
Zxx (mm ³)	3837
Zyy (mm ³)	3679
REMARK	GR.: 6063-T5

DATE/REVISION/AMENDMENTS

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PROJECT
PROPOSED RESIDENTIAL
DEVELOPMENT AT
TSEUNG KWAN O
AREA 66D2, T.K.O.T.L. 118

TITLE
GENERAL NOTES FOR PODIUM
ALUM. CLADDING,
ALUM. FEATURE &
LIGHTING FEATURE

FILE NAME

DRAWN BY

CHECKED BY

PRINTED DATE

SCALE

JOB No.	DRAWING No.	REV.
	J835-GN01	-

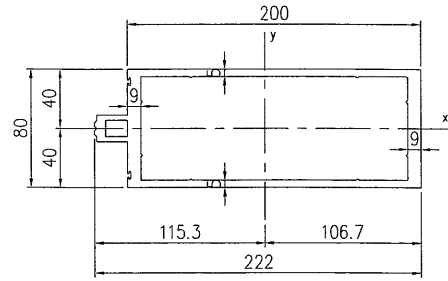
R.S.E.

Lam Kwok Leung
BSCEng CEng MStructE
MHKIE RSE RPE

FOR B.D. APPROVAL

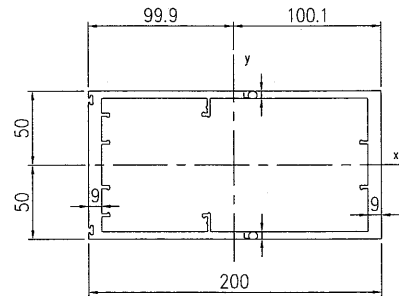
REMARK GR.: 6063-T5

ALUMINIUM EXTRUSION_ MARK: M1 GRADE: 6063-T6



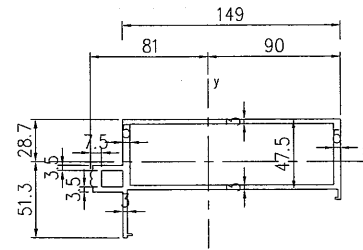
MASS PROPERTIES (UNIT)	VALUES
Area (mm²):	3472.88
Perimeter (mm):	1179.85
Bounding Box - X (mm):	-115.27 to 106.73
Bounding Box - Y (mm):	-40.0 to 40.0
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm⁴):	3328412.17
Moments of inertia - Y (mm⁴):	20729011.35
Product of inertia - XY (mm⁴):	0.00
Radii of gyration - X (mm):	30.96
Radii of gyration - Y (mm):	77.26
Principal moments along X-Y (mm⁴):	3328412.17 along [1.0000 0.0000]
Principal moments along Y-X (mm⁴):	20729011.35 along [0.0000 1.0000]
Elastic Modulus - Zx (mm²):	1 / y-max= 83210
Elastic Modulus - Zy (mm²):	J / x-max= 179831

ALUMINIUM EXTRUSION_ MARK: M2 GRADE: 6063-T6



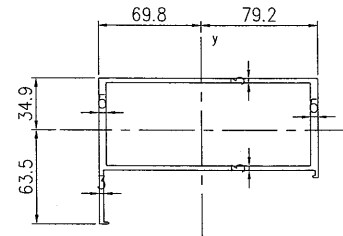
MASS PROPERTIES (UNIT)	VALUES
Area (mm²):	3730.37
Perimeter (mm):	1299.38
Bounding Box - X (mm):	-50.00 to 50.00
Bounding Box - Y (mm):	-99.99 to 100.10
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm⁴):	21737231.53
Moments of inertia - Y (mm⁴):	5688542.00
Product of inertia - XY (mm⁴):	0.00
Radii of gyration - X (mm):	76.34
Radii of gyration - Y (mm):	39.05
Principal moments along X-Y (mm⁴):	5688542.00 along [1.000 0.000]
Principal moments along Y-X (mm⁴):	21737231.53 along [0.000 1.000]
Elastic Modulus - Zx (mm²):	1 / y-max= 217194.34
Elastic Modulus - Zy (mm²):	J / x-max= 113770.84

ALUMINIUM EXTRUSION_ MARK: T1 GRADE: 6063-T6



MASS PROPERTIES (UNIT)	VALUES
Area (mm²):	1653.95
Perimeter (mm):	933.71
Bounding Box - X (mm):	-81.00 to 90.00
Bounding Box - Y (mm):	-28.7 to 51.3
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm⁴):	680795.29
Moments of inertia - Y (mm⁴):	402606.93
Product of inertia - XY (mm⁴):	0.00
Radii of gyration - X (mm):	20.89
Radii of gyration - Y (mm):	58.99
Principal moments along X-Y (mm⁴):	680795.29 along [0.996 0.0893]
Principal moments along Y-X (mm⁴):	402606.93 along [-0.0893 0.9960]
Elastic Modulus - Zx (mm²):	1 / y-max= 140734.04
Elastic Modulus - Zy (mm²):	J / x-max= 63969.14

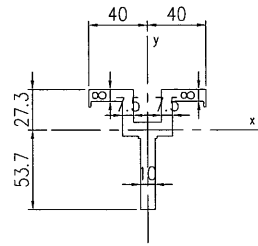
ALUMINIUM EXTRUSION_ MARK: T2 GRADE: 6063-T6



MASS PROPERTIES (UNIT)	VALUES
Area (mm²):	1580.09
Perimeter (mm):	901.42
Bounding Box - X (mm):	-69.80 to 79.20
Bounding Box - Y (mm):	-63.50 to 34.90
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm⁴):	1180524.79
Moments of inertia - Y (mm⁴):	5225082.07
Product of inertia - XY (mm⁴):	0.00
Radii of gyration - X (mm):	27.69
Radii of gyration - Y (mm):	57.33
Principal moments along X-Y (mm⁴):	1180524.79 along [0.996 0.088]
Principal moments along Y-X (mm⁴):	5225082.07 along [-0.088 0.996]
Elastic Modulus - Zx (mm²):	1 / y-max= 19067.48
Elastic Modulus - Zy (mm²):	J / x-max= 65606.20

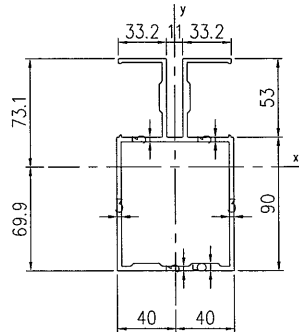
Glass wall

ALUMINIUM EXTRUSION_ MARK: A1 GRADE: 6061-T6



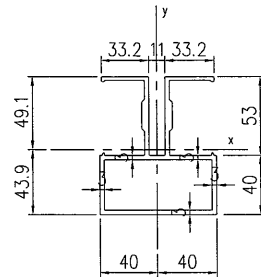
MASS PROPERTIES (UNIT)	VALUES
Area (mm²):	1527.85
Perimeter (mm):	378.11
Bounding Box - X (mm):	-40.00 to 40.00
Bounding Box - Y (mm):	-27.30 to 53.7
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm⁴):	824365.45
Moments of inertia - Y (mm⁴):	428012.00
Product of inertia - XY (mm⁴):	0.00
Radii of gyration - X (mm):	23.23
Radii of gyration - Y (mm):	16.74
Principal moments along X-Y (mm⁴):	824365.45 along [1.0000 0.0000]
Principal moments along Y-X (mm⁴):	428012.00 along [0.0000 1.0000]
Elastic Modulus - Zx (mm²):	1 / y-max= 15356.88
Elastic Modulus - Zy (mm²):	J / x-max= 10700.30

ALUMINIUM EXTRUSION_ MARK: A2 GRADE: 6063-T6



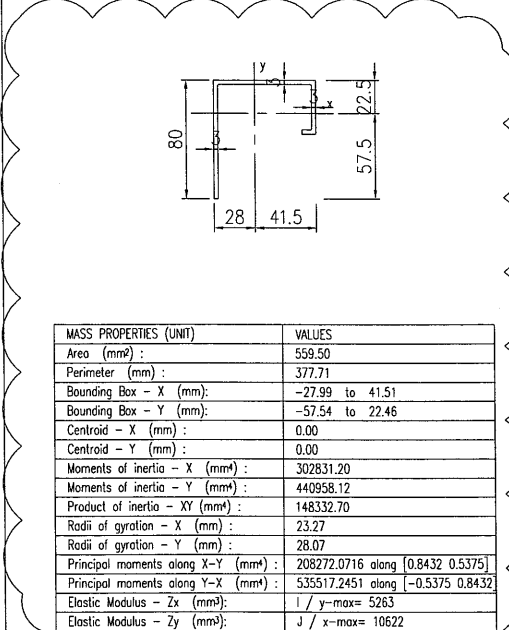
MASS PROPERTIES (UNIT)	VALUES
Area (mm²):	1618.48
Perimeter (mm):	998.16
Bounding Box - X (mm):	-40.00 to 40.00
Bounding Box - Y (mm):	-73.10 to 69.90
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm⁴):	3897689.29
Moments of inertia - Y (mm⁴):	1166421.00
Product of inertia - XY (mm⁴):	0.00
Radii of gyration - X (mm):	49.07
Radii of gyration - Y (mm):	26.85
Principal moments along X-Y (mm⁴):	3897689.29 along [1.0000 0.0000]
Principal moments along Y-X (mm⁴):	1166421.00 along [0.0000 1.0000]
Elastic Modulus - Zx (mm²):	1 / y-max= 53317.51
Elastic Modulus - Zy (mm²):	J / x-max= 29160.53

ALUMINIUM EXTRUSION_ MARK: A3 GRADE: 6063-T6



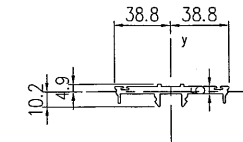
MASS PROPERTIES (UNIT)	VALUES
Area (mm²):	1239.55
Perimeter (mm):	794.73
Bounding Box - X (mm):	-40.00 to 40.00
Bounding Box - Y (mm):	-49.10 to 43.90
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm⁴):	1209019.46
Moments of inertia - Y (mm⁴):	687367.50
Product of inertia - XY (mm⁴):	0.00
Radii of gyration - X (mm):	31.23
Radii of gyration - Y (mm):	23.55
Principal moments along X-Y (mm⁴):	1209019.46 along [1.000 0.000]
Principal moments along Y-X (mm⁴):	687367.50 along [0.000 1.000]
Elastic Modulus - Zx (mm²):	1 / y-max= 24631.14
Elastic Modulus - Zy (mm²):	J / x-max= 17184.19

ALUMINIUM EXTRUSION_ MARK: A4 GRADE: 6063-T6



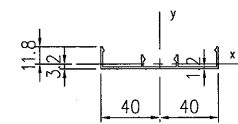
MASS PROPERTIES (UNIT)	VALUES
Area (mm²):	559.50
Perimeter (mm):	377.71
Bounding Box - X (mm):	-27.99 to 41.51
Bounding Box - Y (mm):	-57.54 to 22.46
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm⁴):	302831.20
Moments of inertia - Y (mm⁴):	440958.12
Product of inertia - XY (mm⁴):	148332.70
Radii of gyration - X (mm):	23.27
Radii of gyration - Y (mm):	28.07
Principal moments along X-Y (mm⁴):	208272.0716 along [0.8432 0.5375]
Principal moments along Y-X (mm⁴):	535517.2451 along [-0.5375 0.8432]
Elastic Modulus - Zx (mm²):	1 / y-max= 5263
Elastic Modulus - Zy (mm²):	J / x-max= 10622

ALUMINIUM EXTRUSION_ MARK: A5 GRADE: 6063-T6



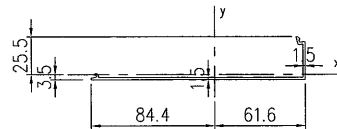
MASS PROPERTIES (UNIT)	VALUES
Area (mm²):	439.78
Perimeter (mm):	246.30
Bounding Box - X (mm):	-38.80 to 38.80
Bounding Box - Y (mm):	-4.90 to 10.20
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm⁴):	3303.13
Moments of inertia - Y (mm⁴):	196673.00
Product of inertia - XY (mm⁴):	0.00
Radii of gyration - X (mm):	2.74
Radii of gyration - Y (mm):	21.15
Principal moments along X-Y (mm⁴):	3303.13 along [1.0000 0.0000]
Principal moments along Y-X (mm⁴):	196673.00 along [0.0000 1.0000]
Elastic Modulus - Zx (mm²):	1 / y-max= 324.62
Elastic Modulus - Zy (mm²):	J / x-max= 5068.89

ALUMINIUM EXTRUSION_ MARK: A6 GRADE: 6063-T6



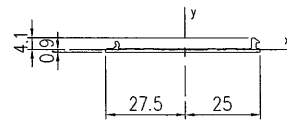
MASS PROPERTIES (UNIT)	VALUES
Area (mm²):	155.78
Perimeter (mm):	254.62
Bounding Box - X (mm):	-40.00 to 40.00
Bounding Box - Y (mm):	-11.80 to 3.20
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm⁴):	2536.87
Moments of inertia - Y (mm⁴):	111134.87
Product of inertia - XY (mm⁴):	0.00
Radii of gyration - X (mm):	4.04
Radii of gyration - Y (mm):	26.71
Principal moments along X-Y (mm⁴):	2536.87 along [0.996 0.088]
Principal moments along Y-X (mm⁴):	111134.87 along [-0.088 0.996]
Elastic Modulus - Zx (mm²):	1 / y-max= 215.16
Elastic Modulus - Zy (mm²):	J / x-max= 2778.37

ALUMINIUM EXTRUSION_ MARK: A7 GRADE: 6063-T6



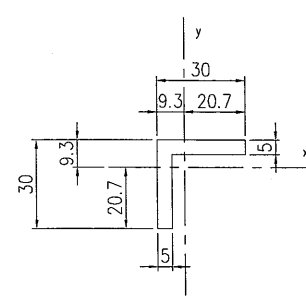
MASS PROPERTIES (UNIT)	VALUES
Area (mm²):	270.66
Perimeter (mm):	363.16
Bounding Box - X (mm):	-84.40 to 61.60
Bounding Box - Y (mm):	-25.50 to 3.50
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm⁴):	9697.55
Moments of inertia - Y (mm⁴):	19369.99
Product of inertia - XY (mm⁴):	0.00
Radii of gyration - X (mm):	6.89
Radii of gyration - Y (mm):	47.70
Principal moments along X-Y (mm⁴):	9697.55 along [0.997, 0.072]
Principal moments along Y-X (mm⁴):	19369.99 along [-0.072, 0.997]
Elastic Modulus - Zx (mm²):	1 / y-max= 503.92
Elastic Modulus - Zy (mm²):	J / x-max= 7294.94

ALUMINIUM EXTRUSION_ MARK: A8 GRADE: 6063-T6



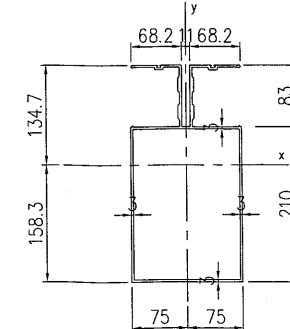
MASS PROPERTIES (UNIT)	VALUES
Area (mm²):	72.50
Perimeter (mm):	119.99
Bounding Box - X (mm):	-27.50 to 25.00
Bounding Box - Y (mm):	-4.10 to 0.90
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm⁴):	57.29
Moments of inertia - Y (mm⁴):	19736.25
Product of inertia - XY (mm⁴):	0.00
Radii of gyration - X (mm):	0.91
Radii of gyration - Y (mm):	16.50
Principal moments along X-Y (mm⁴):	57.29 along [1.000 0.013]
Principal moments along Y-X (mm⁴):	19736.25 along [-0.013 1.000]
Elastic Modulus - Zx (mm²):	1 / y-max= 14.92
Elastic Modulus - Zy (mm²):	J / x-max= 796.81

ALUMINIUM EXTRUSION_ MARK: A9 GRADE: 6063-T6



MASS PROPERTIES (UNIT)	VALUES
Area (mm²):	120.00
Perimeter (mm):	120.00
Bounding Box - X (mm):	-9.30 to 20.70
Bounding Box - Y (mm):	-9.30 to 20.70
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm⁴):	9379.76
Moments of inertia - Y (mm⁴):	34947.94
Product of inertia - XY (mm⁴):	0.00
Radii of gyration - X (mm):	8.98
Radii of gyration - Y (mm):	8.98
Principal moments along X-Y (mm⁴):	9379.76 along [1.000 0.000]
Principal moments along Y-X (mm⁴):	34947.94 along [0.000 1.000]
Elastic Modulus - Zx (mm²):	1 / y-max= 1071.66
Elastic Modulus - Zy (mm²):	J / x-max= 1071.66

ALUMINIUM EXTRUSION_ MARK: A10 GRADE: 6063-T6



MASS PROPERTIES (UNIT)	VALUES
Area (mm²):	3178.85
Perimeter (mm):	2055.11
Bounding Box - X (mm):	-27.50 to 25.00
Bounding Box - Y (mm):	-4.10 to 0.90
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm⁴):	9121380.22
Moments of inertia - Y (mm⁴):	32845469.73
Product of inertia - XY (mm⁴):	0.00
Radii of gyration - X (mm):	101.65
Radii of gyration - Y (mm):	53.57
Principal moments along X-Y (mm⁴):	9121380.22 along [0.0023 1.0000]
Principal moments along Y-X (mm⁴):	32845469.73 along [-1.0000 0.0023]
Elastic Modulus - Zx (mm²):	1 / y-max= 207459.32
Elastic Modulus - Zy (mm²):	J / x-max= 121404.73

B.D. Ref.
F.P.B. Ref.

DATE/REVISION/AMENDMENTS
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ARCHITECTS AND ENGINEERS LTD.

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PROJECT
PROPOSED RESIDENTIAL DEVELOPMENT AT TSEUNG KWAN O AREA 66D2, T.K.O.T.L. 118

TITLE
SECTION PROPERTIES OF GLASS WALL AND GLASS CANOPY

FILE NAME

DRAWN BY

CHECKED BY

PRINTED DATE

SCALE

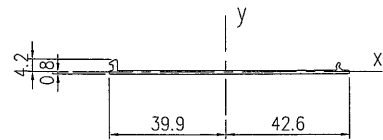
JOB No. | DRAWING No. | REV.

J-835 | J835-GW-GN02 | -

R.S.E.

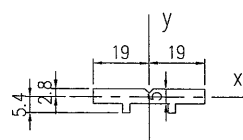
FOR B.D. APPROVAL

ALUMINIUM EXTRUSION_ MARK: A11 GRADE: 6063-T5



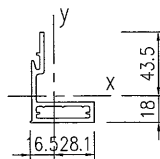
MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	108.49
Perimeter (mm):	179.99
Bounding Box - X (mm):	-39.90 to 42.60
Bounding Box - Y (mm):	-4.20 to 0.80
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	64.61
Moments of inertia - Y (mm ⁴):	70251.63
Product of inertia - XY (mm ⁴):	0.00
Radius of gyration - X (mm):	0.79
Radius of gyration - Y (mm):	25.45
Principal moments along X-Y (mm ⁴):	64.61 along [1.000 -0.006]
Principal moments along Y-X (mm ⁴):	70251.63 along [0.006 1.000]
Elastic Modulus - Zx (mm ²):	1 / y-max= 16.12
Elastic Modulus - Zy (mm ²):	1 / x-max= 1649.20

ALUMINIUM EXTRUSION_ MARK: A12 GRADE: 6063-T6



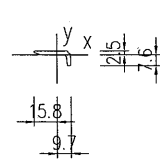
MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	203.90
Perimeter (mm):	99.89
Bounding Box - X (mm):	-19.00 to 19.00
Bounding Box - Y (mm):	-2.80 to 5.40
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	643.35
Moments of inertia - Y (mm ⁴):	23826.00
Product of inertia - XY (mm ⁴):	0.00
Radius of gyration - X (mm):	1.78
Radius of gyration - Y (mm):	10.81
Principal moments along X-Y (mm ⁴):	643.35 along [1.000 0.000]
Principal moments along Y-X (mm ⁴):	23826.00 along [0.000 1.000]
Elastic Modulus - Zx (mm ²):	1 / y-max= 120.45
Elastic Modulus - Zy (mm ²):	1 / x-max= 1254.00

ALUMINIUM EXTRUSION_ MARK: A13 GRADE: 6063-T6



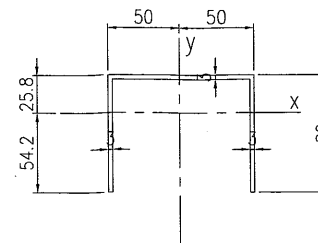
MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	498.98
Perimeter (mm):	335.00
Bounding Box - X (mm):	-16.53 to 28.07
Bounding Box - Y (mm):	-17.98 to 43.52
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	144072.1
Moments of inertia - Y (mm ⁴):	100426.2
Product of inertia - XY (mm ⁴):	-56178.42
Radius of gyration - X (mm):	16.99
Radius of gyration - Y (mm):	14.19
Principal moments along X-Y (mm ⁴):	61980.9469 along [0.5648 -0.8253]
Principal moments along Y-X (mm ⁴):	182517.3412 along [0.8253 0.5648]
Elastic Modulus - Zx (mm ²):	1 / y-max= 3310
Elastic Modulus - Zy (mm ²):	1 / x-max= 3578

ALUMINIUM EXTRUSION_ MARK: A14 GRADE: 6063-T6



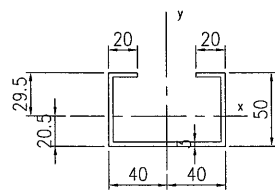
MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	77.15
Perimeter (mm):	66.54
Bounding Box - X (mm):	-15.77 to 9.72
Bounding Box - Y (mm):	-7.59 to 2.51
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	474.81
Moments of inertia - Y (mm ⁴):	4389.89
Product of inertia - XY (mm ⁴):	-884.49
Radius of gyration - X (mm):	2.48
Radius of gyration - Y (mm):	7.54
Principal moments along X-Y (mm ⁴):	292.4182 along [0.9785 -0.2064]
Principal moments along Y-X (mm ⁴):	4572.2762 along [0.2064 0.9785]
Elastic Modulus - Zx (mm ²):	1 / y-max= 63
Elastic Modulus - Zy (mm ²):	1 / x-max= 278

ALUMINIUM EXTRUSION_ MARK: A15 GRADE: 6063-T5



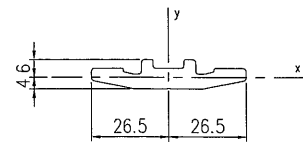
MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	782.00
Perimeter (mm):	514.00
Bounding Box - X (mm):	-50.00 to 50.00
Bounding Box - Y (mm):	-25.80 to 54.20
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	519515.12
Moments of inertia - Y (mm ⁴):	1337086.00
Product of inertia - XY (mm ⁴):	0.00
Radius of gyration - X (mm):	26.11
Radius of gyration - Y (mm):	41.89
Principal moments along X-Y (mm ⁴):	519515.12 along [1.000 0.000]
Principal moments along Y-X (mm ⁴):	1337086.00 along [0.000 1.000]
Elastic Modulus - Zx (mm ²):	1 / y-max= 9576.66
Elastic Modulus - Zy (mm ²):	1 / x-max= 26741.72

ALUMINIUM EXTRUSION_ MARK: A16 GRADE: 6063-T5



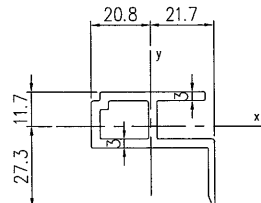
MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	624.00
Perimeter (mm):	422.00
Bounding Box - X (mm):	-40.00 to 40.00
Bounding Box - Y (mm):	-29.50 to 20.50
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	228927.77
Moments of inertia - Y (mm ⁴):	631512.00
Product of inertia - XY (mm ⁴):	0.00
Radius of gyration - X (mm):	19.16
Radius of gyration - Y (mm):	31.81
Principal moments along X-Y (mm ⁴):	228927.77 along [1.000 0.000]
Principal moments along Y-X (mm ⁴):	631512.00 along [0.000 1.000]
Elastic Modulus - Zx (mm ²):	1 / y-max= 7755.21
Elastic Modulus - Zy (mm ²):	1 / x-max= 15787.80

ALUMINIUM EXTRUSION_ MARK: A17 GRADE: 6063-T6



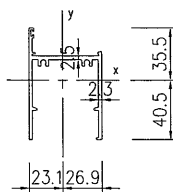
MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	328.93
Perimeter (mm):	128.49
Bounding Box - X (mm):	-26.50 to 26.50
Bounding Box - Y (mm):	-4.00 to 6.00
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	1569.72
Moments of inertia - Y (mm ⁴):	63609.75
Product of inertia - XY (mm ⁴):	0.00
Radius of gyration - X (mm):	2.19
Radius of gyration - Y (mm):	13.91
Principal moments along X-Y (mm ⁴):	2289.72 along [0.9358 -0.3525]
Principal moments along Y-X (mm ⁴):	63609.75 along [0.3525 0.9358]
Elastic Modulus - Zx (mm ²):	1 / y-max= 262.55
Elastic Modulus - Zy (mm ²):	1 / x-max= 2400.37

ALUMINIUM EXTRUSION_ MARK: A18 GRADE: 6063-T6



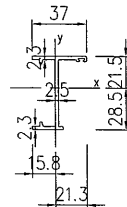
MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	361.39
Perimeter (mm):	251.52
Bounding Box - X (mm):	-20.80 to 21.70
Bounding Box - Y (mm):	-27.30 to 11.70
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	23484.59
Moments of inertia - Y (mm ⁴):	70224.92
Product of inertia - XY (mm ⁴):	0.00
Radius of gyration - X (mm):	9.00
Radius of gyration - Y (mm):	13.35
Principal moments along X-Y (mm ⁴):	23484.59 along [0.9358 -0.3525]
Principal moments along Y-X (mm ⁴):	70224.92 along [0.3525 0.9358]
Elastic Modulus - Zx (mm ²):	1 / y-max= 1074.38
Elastic Modulus - Zy (mm ²):	1 / x-max= 2970.75

ALUMINIUM EXTRUSION_ MARK: AL1 GRADE: 6063-T5



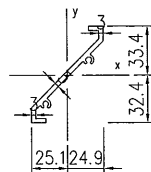
MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	477.34
Perimeter (mm):	422.73
Bounding Box - X (mm):	-23.10 to 26.90
Bounding Box - Y (mm):	-40.54 to 35.46
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	182772.09
Moments of inertia - Y (mm ⁴):	211241.35
Product of inertia - XY (mm ⁴):	-27769.41
Radius of gyration - X (mm):	19.41
Radius of gyration - Y (mm):	21.04
Principal moments along X-Y (mm ⁴):	16380.64 along [0.85 -0.52]
Principal moments along Y-X (mm ⁴):	228211.92 along [0.52 0.85]
Elastic Modulus - Zx (mm ²):	1 / y-max= 4509
Elastic Modulus - Zy (mm ²):	1 / x-max= 7854

ALUMINIUM EXTRUSION_ MARK: AL5 GRADE: 6063-T5



MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	259.19
Perimeter (mm):	229.70
Bounding Box - X (mm):	-15.70 to 21.25
Bounding Box - Y (mm):	-28.50 to 21.50
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	97631.16
Moments of inertia - Y (mm ⁴):	15103.79
Product of inertia - XY (mm ⁴):	12020.32
Radius of gyration - X (mm):	19.41
Radius of gyration - Y (mm):	7.63
Principal moments along X-Y (mm ⁴):	13388.64 along [0.14 0.99]
Principal moments along Y-X (mm ⁴):	99346.30 along [-0.99 0.14]
Elastic Modulus - Zx (mm ²):	1 / y-max= 3426
Elastic Modulus - Zy (mm ²):	1 / x-max= 711

ALUMINIUM EXTRUSION_ MARK: AL7 GRADE: 6063-T5



MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	330.84
Perimeter (mm):	238.46
Bounding Box - X (mm):	-25.08 to 24.92
Bounding Box - Y (mm):	-32.40 to 33.36
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	131492.97
Moments of inertia - Y (mm ⁴):	90239.64
Product of inertia - XY (mm ⁴):	105727.93
Radius of gyration - X (mm):	19.94
Radius of gyration - Y (mm):	16.52
Principal moments along X-Y (mm ⁴):	3145.12 along [0.64 0.77]
Principal moments along Y-X (mm ⁴):	218587.49 along [-0.77 0.64]
Elastic Modulus - Zx (mm ²):	1 / y-max= 3942
Elastic Modulus - Zy (mm ²):	1 / x-max= 3598

B.D. Ref.
F.P.B. Ref.

DATE/REVISION/AMENDMENTS

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PROJECT
PROPOSED RESIDENTIAL
DEVELOPMENT AT
TSEUNG KWAN O
AREA 66D2, T.K.O.T.L. 118

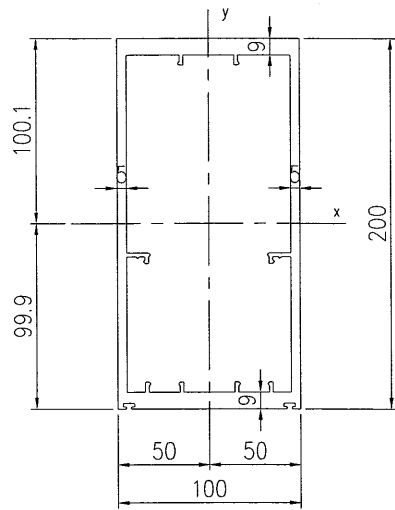
TITLE
SECTION PROPERTIES OF GLASS WALL
AND GLASS CANOPY

FILE NAME
DRAWN BY
CHECKED BY
PRINTED DATE
SCALE
JOB No. DRAWING No. REV.
J-835 J835-GW-GN03 -
R.S.E.

Glass
Wall

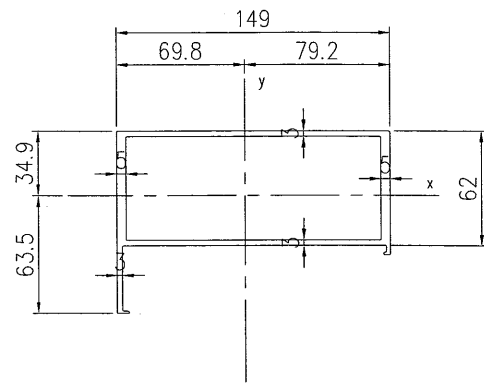
FOR B.D. APPROVAL

AL11
ALUMINIUM EXTRUSION_ MARK: M2 GRADE: 6063-T6



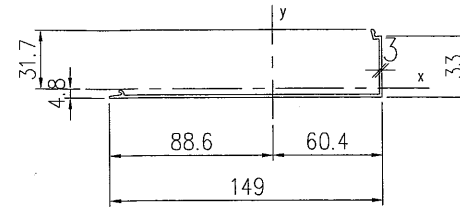
MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	3730.37
Perimeter (mm):	1299.38
Bounding Box - X (mm):	-50.00 to 50.00
Bounding Box - Y (mm):	-99.99 to 100.10
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	21737231.53
Moments of inertia - Y (mm ⁴):	5688542.00
Product of inertia - XY (mm ⁴):	0.00
Radii of gyration - X (mm):	76.34
Radii of gyration - Y (mm):	39.05
Principal moments along X-Y (mm ⁴):	5688542.00 along [1.000 0.000]
Principal moments along Y-X (mm ⁴):	21737231.53 along [0.000 1.000]
Elastic Modulus - Zx (mm ³):	I / y-max= 217194.34
Elastic Modulus - Zy (mm ³):	J / x-max= 113770.84

ALUMINIUM EXTRUSION_ MARK: T2 GRADE: 6063-T6



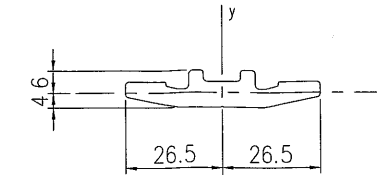
MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	1580.09
Perimeter (mm):	901.42
Bounding Box - X (mm):	-69.80 to 79.20
Bounding Box - Y (mm):	-63.50 to 34.90
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	1180524.79
Moments of inertia - Y (mm ⁴):	5225082.07
Product of inertia - XY (mm ⁴):	0.00
Radii of gyration - X (mm):	27.69
Radii of gyration - Y (mm):	57.33
Principal moments along X-Y (mm ⁴):	1180524.79 along [0.996 0.088]
Principal moments along Y-X (mm ⁴):	5225082.07 along [-0.088 0.996]
Elastic Modulus - Zx (mm ³):	I / y-max= 19067.48
Elastic Modulus - Zy (mm ³):	J / x-max= 65606.20

ALUMINIUM EXTRUSION_ MARK: A7 GRADE: 6063-T5



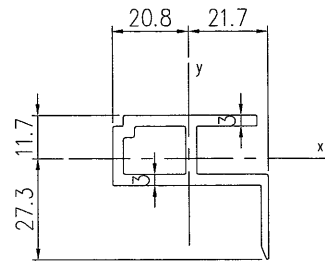
MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	285.87
Perimeter (mm):	384.07
Bounding Box - X (mm):	-88.60 to 60.40
Bounding Box - Y (mm):	-4.80 to 31.70
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	17694.66
Moments of inertia - Y (mm ⁴):	692885.27
Product of inertia - XY (mm ⁴):	0.00
Radii of gyration - X (mm):	9.23
Radii of gyration - Y (mm):	48.99
Principal moments along X-Y (mm ⁴):	17694.66 along [0.995 0.099]
Principal moments along Y-X (mm ⁴):	692885.27 along [-0.099 0.995]
Elastic Modulus - Zx (mm ³):	I / y-max= 767.88
Elastic Modulus - Zy (mm ³):	J / x-max= 7743.43

ALUMINIUM EXTRUSION_ MARK: A17 GRADE: 6063-T6



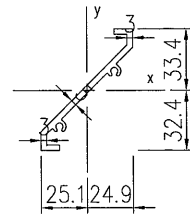
MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	328.93
Perimeter (mm):	128.49
Bounding Box - X (mm):	-26.5 to 26.5
Bounding Box - Y (mm):	-4.00 to 6.00
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	1569.72
Moments of inertia - Y (mm ⁴):	63609.75
Product of inertia - XY (mm ⁴):	0.00
Radii of gyration - X (mm):	2.19
Radii of gyration - Y (mm):	13.91
Principal moments along X-Y (mm ⁴):	1569.72 along [0.9358 -0.3525]
Principal moments along Y-X (mm ⁴):	63609.75 along [0.3525 0.9358]
Elastic Modulus - Zx (mm ³):	I / y-max= 262.55
Elastic Modulus - Zy (mm ³):	J / x-max= 2400.37

ALUMINIUM EXTRUSION_ MARK: A18 GRADE: 6063-T6



MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	361.39
Perimeter (mm):	251.52
Bounding Box - X (mm):	-20.80 to 21.70
Bounding Box - Y (mm):	-27.30 to 11.70
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	23484.59
Moments of inertia - Y (mm ⁴):	70224.92
Product of inertia - XY (mm ⁴):	0.00
Radii of gyration - X (mm):	9.00
Radii of gyration - Y (mm):	13.35
Principal moments along X-Y (mm ⁴):	23484.59 along [0.9358 -0.3525]
Principal moments along Y-X (mm ⁴):	70224.92 along [0.3525 0.9358]
Elastic Modulus - Zx (mm ³):	I / y-max= 1074.38
Elastic Modulus - Zy (mm ³):	J / x-max= 2970.75

ALUMINIUM EXTRUSION_ MARK: AL7 GRADE: 6063-T5



MASS PROPERTIES (UNIT)	VALUES
Area (mm ²):	330.84
Perimeter (mm):	238.46
Bounding Box - X (mm):	-25.08 to 24.92
Bounding Box - Y (mm):	-32.40 to 33.36
Centroid - X (mm):	0.00
Centroid - Y (mm):	0.00
Moments of inertia - X (mm ⁴):	131492.97
Moments of inertia - Y (mm ⁴):	90239.64
Product of inertia - XY (mm ⁴):	105727.93
Radii of gyration - X (mm):	19.94
Radii of gyration - Y (mm):	16.52
Principal moments along X-Y (mm ⁴):	3145.12 along [0.64 0.77]
Principal moments along Y-X (mm ⁴):	218587.49 along [-0.77 0.64]
Elastic Modulus - Zx (mm ³):	I / y-max= 3942
Elastic Modulus - Zy (mm ³):	J / x-max= 3598

B.D. Ref. 3/9243/12
F.P.B. Ref.

DATE/REVISION/AMENDMENTS

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PROJECT
PROPOSED RESIDENTIAL
DEVELOPMENT AT
TSEUNG KWAN O
AREA 66D2, T.K.O.T.L. 118

TITLE
SECTION PROPERTIES OF
CLUBHOUSE GLASS WALL

FILE NAME
DRAWN BY
CHECKED BY
PRINTED DATE
SCALE
JOB No. DRAWING No. REV.
J-835 J835/GW-GN02 -

R.S.E.

Lam Kwok Leung
REGISTERED CIVIL ENGINEER
MEMBER NO. 1095

FOR B.D. APPROVAL