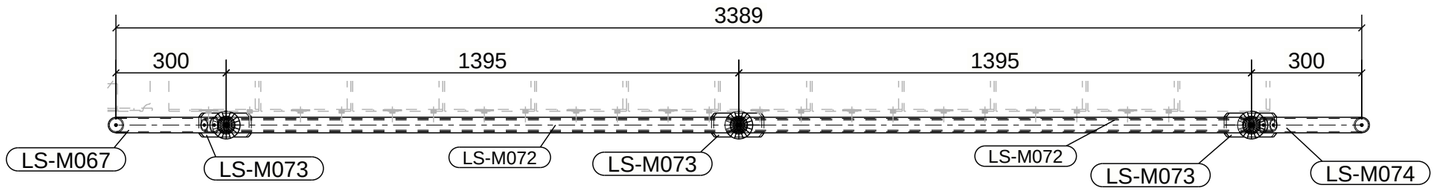
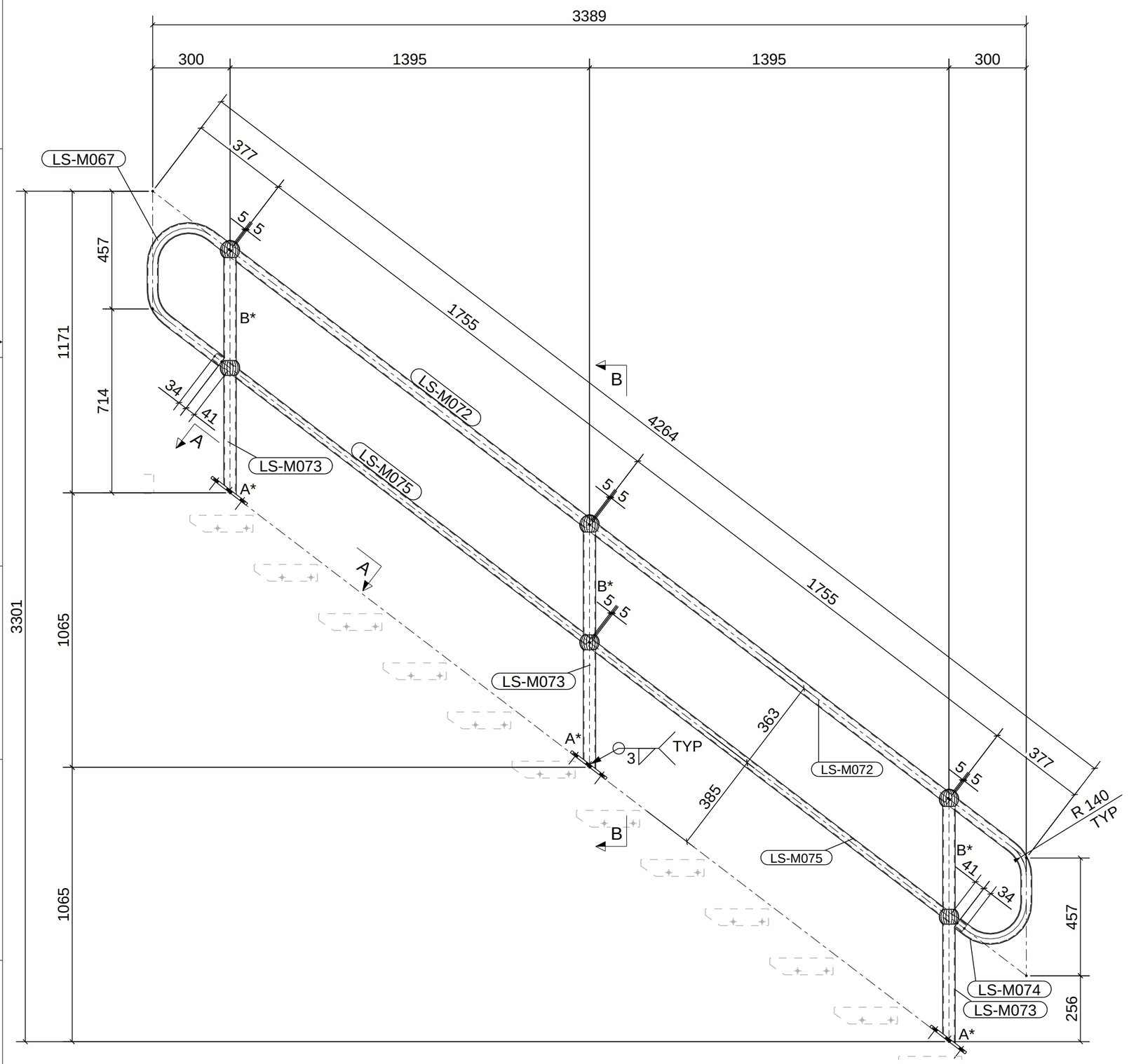
BOLT LIST FOR 1 OFF ASSEMBLY MKD : LS-HR1			
DIA	GRADE	LENGTH	QTY
M16	4.6S	50	6

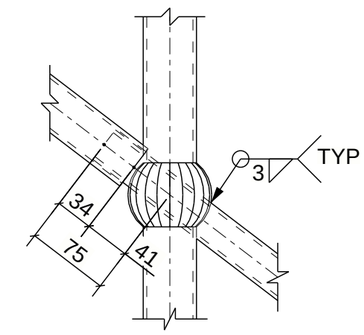
MATERIAL LIST FOR ONE ASSEMBLY MK'D - PAR061-LS-HR1

MARK	DESCRIPTION	LENGTH (mm)	THICKNESS (mm) WIDTH/O.D/Ft	Wt/Pt.	QTY	MATERIAL	SAP CODE	UNIT WT (Kg/m)/(kg/m2)	TOTAL WT (Kg)	SURFACE AREA (m^2)	WELD CAT	CONST. CAT	WT CAT	REMARK
LS-M067	CHS42.4X3.2	901	42	3	1	C250		3.09	2.79	0.12	GP	CC2	LS	ACB
LS-M072	CHS42.4X3.2	1745	42	3	2	C250		3.09	10.79	0.46	GP	CC2	LS	
LS-M073	CHS48.3X3.2	1028	48	3	3	C250 *		3.56	21.41	0.48	GP	CC2	LS	
LS-M074	CHS42.4X3.2	901	42	3	1	C250		3.09	2.79	0.12	GP	CC2	LS	ACB
LS-M075	CHS33.7X3.2	1825	34	3	2	C250		2.41	8.79	0.38	GP	CC2	LS	
							TOTAL FOR ONE ASSEMBLY		46.57	1.56				
							TOTAL FOR 1 ASSEMBLY		46.57	1.56				

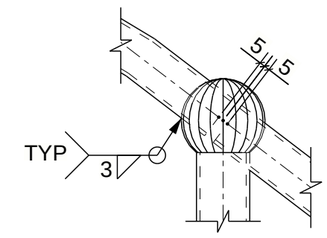
* GRADE 250 - STANCHION BALL & END PLATE
C250 - VERTICAL POST



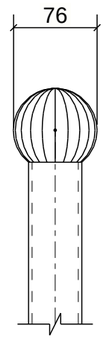




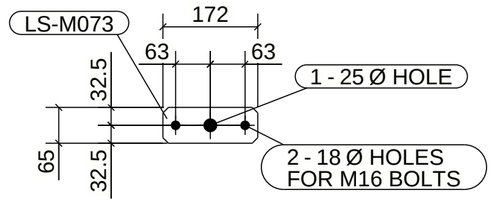
TYPICAL DETAIL FOR TOP RAIL



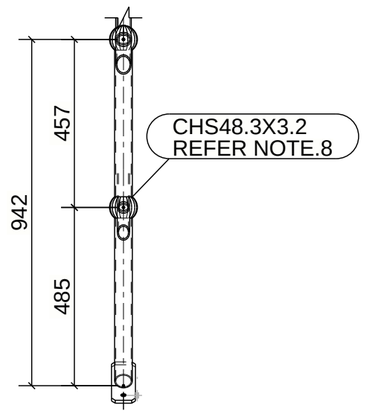
TYPICAL DETAIL FOR MID RIAL



TYPICAL DETAIL FOR BALL



SECTION A - A
SCALE - 1:10
A * AS SHOWN
AT 3 LOCATIONS



SECTION B - B
SCALE - 1:15
B * AS SHOWN
AT 3 LOCATIONS

ASSEMBLY DETAIL FOR HANDRAIL PAR061-LS-HR1
SCALE 1:5

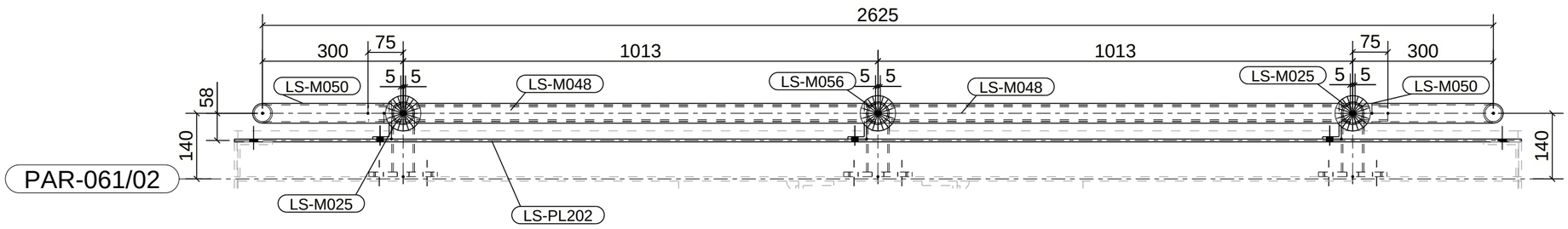
BOLT LIST FOR 1 OFF ASSEMBLY MKD : LS-HR4			
DIA	GRADE	LENGTH	QTY
M12	4.6S	35	6
M16	4.6S	45	6

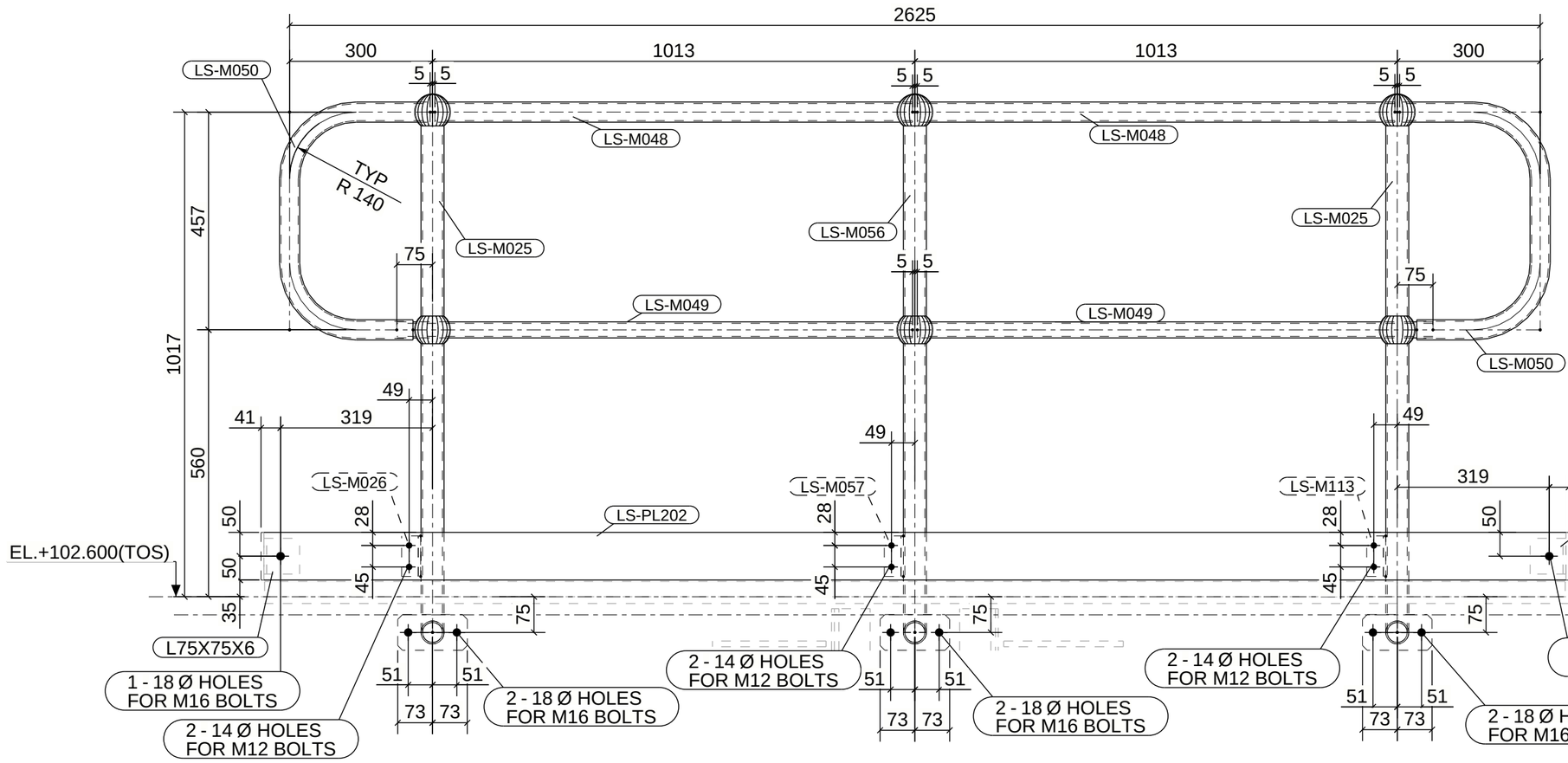
MATERIAL LIST FOR ONE ASSEMBLY MK'D - PAR061-LS-HR4

MARK	DESCRIPTION	LENGTH (mm)	THICKNESS (mm) WIDTH/O.D/Ft	Wt/Pt.	QTY	MATERIAL	SAP CODE	UNIT WT (Kg/m)/(kg/m2)	TOTAL WT (Kg)	SURFACE AREA (m²)	WELD CAT	CONST. CAT	WT CAT	REMARK
LS-M025	CHS48.3X3.2	1239	48	3	2	C250 *		3.56	15.91	0.39	GP	CC2	LS	"SO" TYPE
LS-M026	L80X40X5	85	40	5	1	GRADE 250		4.56	0.39	0.02	GP	CC2	LS	
LS-M048	CHS42.4X3.2	1003	42	3	2	C250		3.09	6.20	0.27	GP	CC2	LS	
LS-M049	CHS33.7X3.2	1083	34	3	2	C250		2.41	5.22	0.23	GP	CC2	LS	
LS-M050	CHS42.4X3.2	891	42	3	2	C250		3.09	5.51	0.24	GP	CC2	LS	HCB
LS-M056	CHS48.3X3.2	1239	48	3	1	C250 *		3.56	7.95	0.20	GP	CC2	LS	"SO" TYPE
LS-M057	L80X40X5	85	40	5	1	GRADE 250		4.56	0.39	0.02	GP	CC2	LS	
LS-M113	L80X40X5	85	40	5	1	GRADE 250		4.56	0.39	0.02	GP	CC2	LS	
LS-PL202	PL6*100	2745	100	6	1	GRADE 250	SP1138006.00ZZZZZI	47.10	12.93	0.58	GP	CC2	LS	
							TOTAL FOR ONE ASSEMBLY		54.88	1.97				
							TOTAL FOR 1 ASSEMBLY		54.88	1.97				

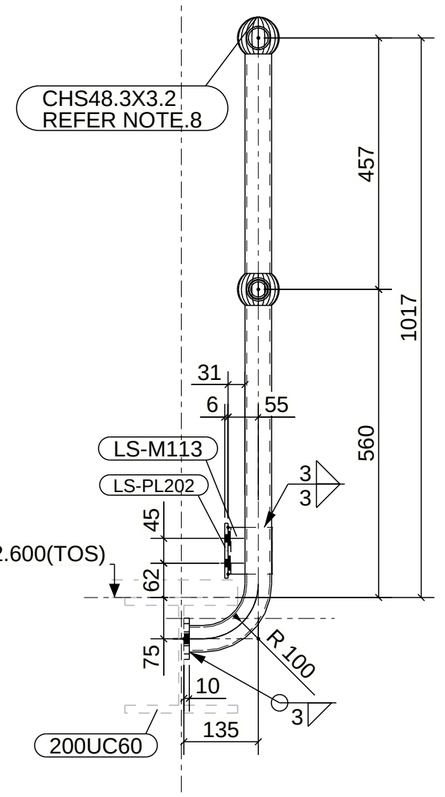
* GRADE 250 - STANCHION BALL & END PLATE
C250 - VERTICAL POST

PAR-061/02

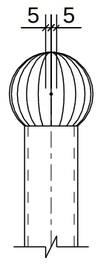




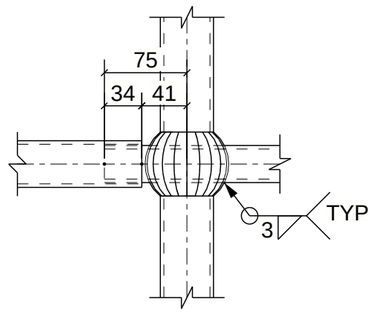
PAR-061/02



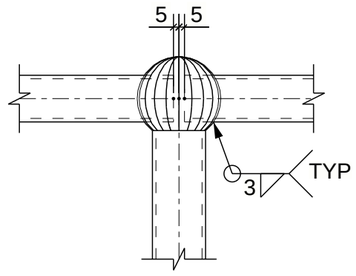
TYPICAL DETAIL FOR 'SO' TYPE STANCHION
SCALE - 1:10



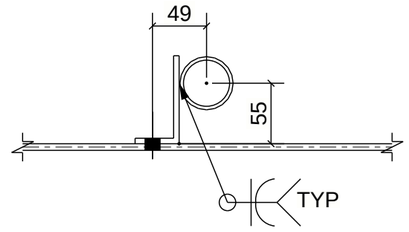
TYPICAL DETAIL FOR BALL



TYPICAL DETAIL FOR MID RAIL



TYPICAL DETAIL FOR TOP RAIL



TYPICAL DETAIL FOR TOE PLATE

ASSEMBLY DETAIL FOR HANDRAIL PAR061-LS-HR4

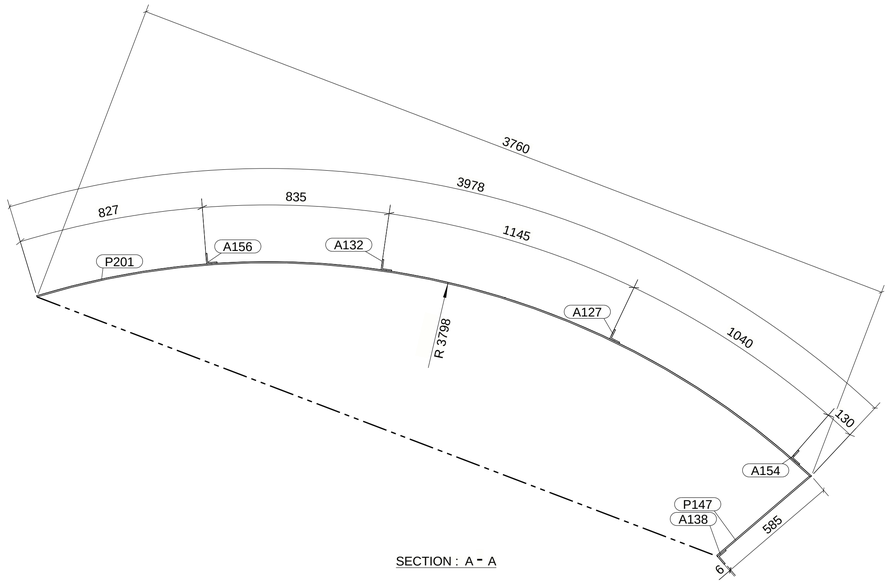
SCALE 1:5

GRID LOCATION
<203A-203A**EL. +105.600

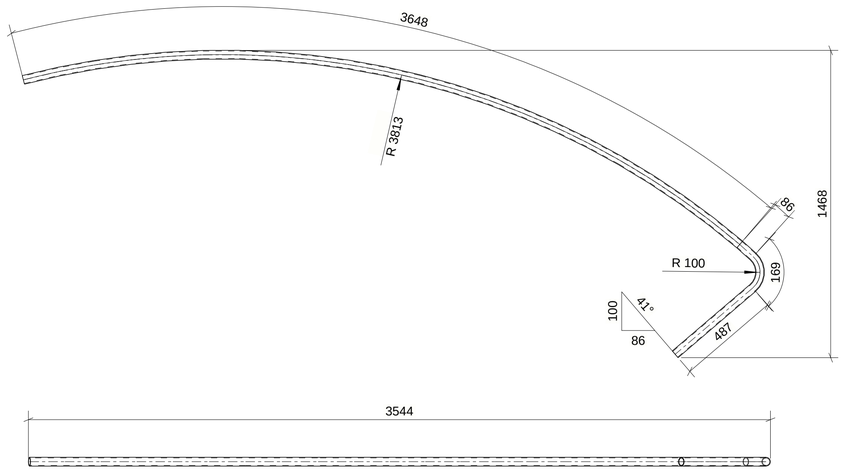
BOLT LIST FOR ONE ASSEMBLY			
Type	Size	Length	Qty
8.8XOX	M16	40	8
8.8XOX	M16	45	2

MATERIAL LIST FOR ONE ASSEMBLY MK'D 1803V203-HR110 1 NOS.Required

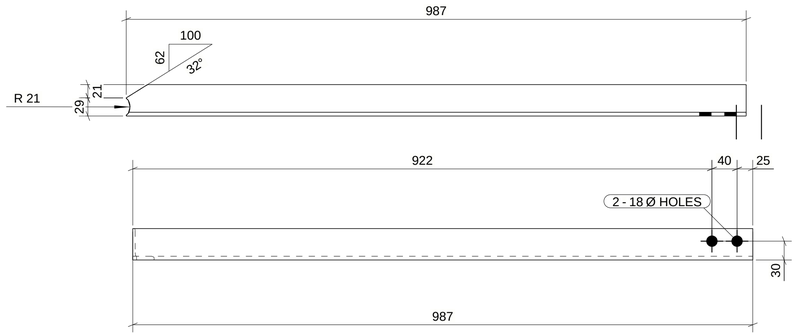
MARK	DESCRIPTION	GRADE	LENGTH	QTY.	UNIT WT (Kg)	TOTAL WT(Kg)
1803V203-HR110	32NB(M)	E250	4335	1	168.44	168.44
A127	ISA50X50X6	E250	987	1	4.40	4.40
A132	ISA50X50X6	E250	987	1	4.40	4.40
A138	ISA50X50X6	E250	987	1	4.40	4.40
A154	ISA50X50X6	E250	987	1	4.40	4.40
A156	ISA50X50X6	E250	987	1	4.40	4.40
M267	D6	E250	46	1	0.01	0.01
P143	PL6*50	E250	3971	1	9.35	9.35
P147	PL6*50	E250	585	1	1.38	1.38
P164	PL6*38	E250	38	1	0.07	0.07
P200	PL6*50	E250	585	1	1.38	1.38
P201	PL6*50	E250	3971	1	9.35	9.35
P203	25NB(M)	E250	105	1	4.08	4.08
TOTAL FOR ONE ASSEMBLY IN Kg					=	216.06
TOTAL FOR 1 ASSEMBLIES IN Kg					=	216.06



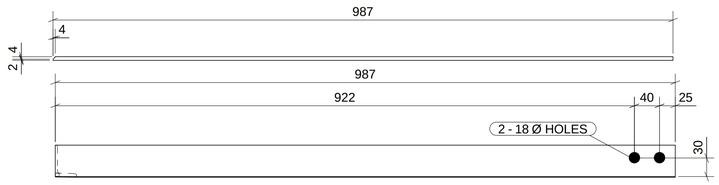
SECTION : A - A



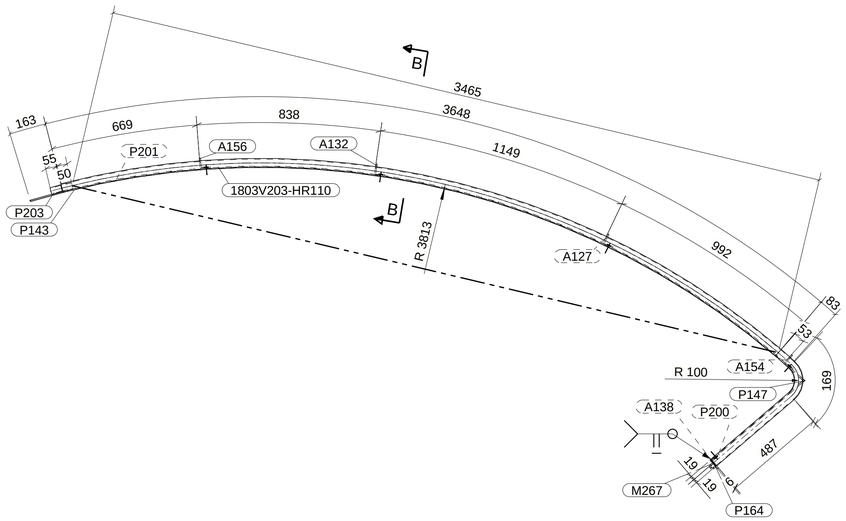
DETAIL OF - 1803V203-HR110

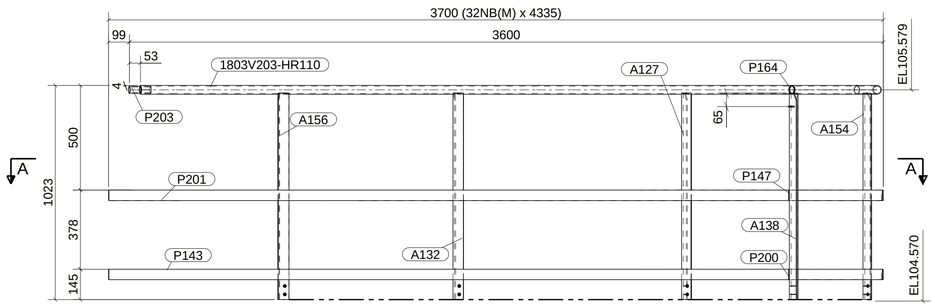


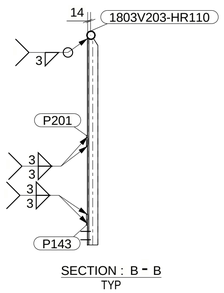
DETAIL OF - A127



DETAIL OF - A132







SECTION : B - B
TYP

PAINT: FULLY PAINTED RED-RAL 3001 REFER PAINT SPEC 077154C-000-JSD-2300-001

NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETRES & LEVELS ARE IN METRES.
2. THIS DRAWING SHOULD NOT BE SCALED ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
3. USE E250 GRADE FOR BASE PLATE AND BASE PLATE RELATED STIFFNERS. USE E250 GRADE FOR STRUCTURAL MEMBERS AND REMAINS ALL OTHER PLATES, U.O.S.
4. ▼ DENOTES SHOP MARK SHALL BE PROVIDED BY THE FABRICATOR ON FLANGE OF MEMBER/FACE OF PLATES ON EACH ASSEMBLY AS SHOWN ON SHOP DETAIL DRAWINGS SAME IS TO BE REFERRED FOR ORIENTATION, DURING ERECTION OF THE ASSEMBLY.
5. USE 8.8 GRADE BOLTS EACH BOLT WILL HAVE 2 WASHERS & 1 NUT. ALL STRUCTURAL BOLTS SHALL BE HOT DIP GALVANISED.
6. ALL SHOP WELDS ARE 6 MM (FILLET) CONTINUOUS WELDED ALLAROUND & SITE WELDS SHALL BE 8MM (FILLET) UNO.
7. FABRICATION SHALL BE DONE AS PER SPECIFICATION, CONTRACT TERMS & CONDITIONS.
8. FIRE PROOFING AROUND BOLTED CONNECTION SHALL BE DONE AT SITE AFTER ERECTION OF BOLTED CONNECTION.
9. PROVIDE FULL THICKNESS BEVEL WELD WHERE FILLET WELD ACCESS NOT AVAILABLE AND ALL BEVEL WELDS ARE FULL THICK AND CONVEX TYPE WHERE PART EXTENDED OTHERWISE FLUSH.
10. PROVIDE SUITABLE BEVEL WELD ACCESS HOLES AT BOTH SIDES OF BEVEL EDGES.

FINISH NOTES:
P – INDICATES ASSEMBLY TO BE FULLY PAINTED.
Y – INDICATES ASSEMBLY TO BE FULLY GALVANIZED.
F – INDICATES COMPLETELY ENCASED TYPE FIRE PROOFING.
H – INDICATES PARTIALLY ENCASED FIREPROOFING THAT IS BEAM WITH ONLY TOP OF TOP FLANGE PAINTED.
M – INDICATES PARTIAL FIREPROOFING FOR MARKED DIMENSION/ EXTEND AND REMAINING LENGTH TO BE FULLY PAINTED.
Z – INDICATES ASSEMBLY TO BE GALVANIZED AND PAINTED.
O.P – INDICATES ONLY PRIMER.

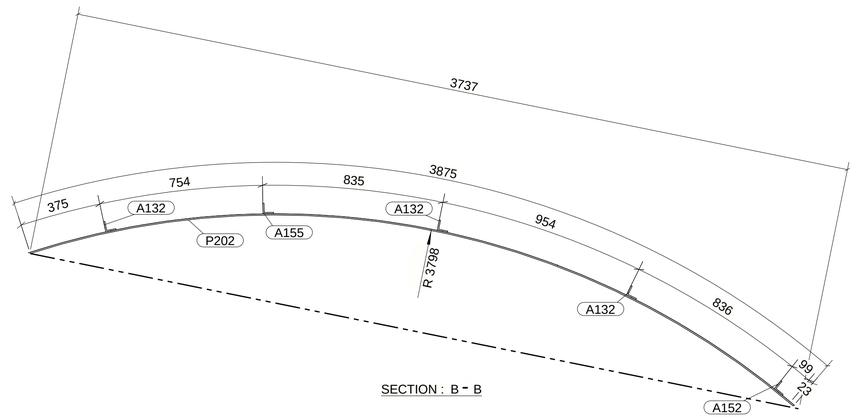
1No. HANDRAIL MARKED AS 1803V203-HR110

GRID LOCATION	
203A>/<203B	EL. +105.600

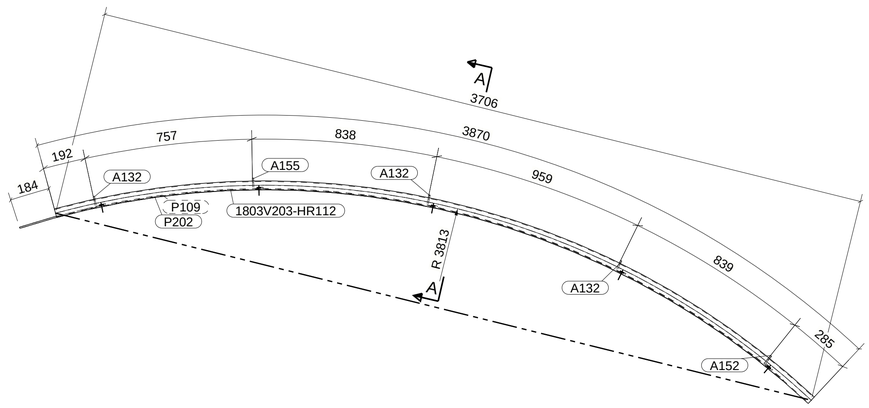
BOLT LIST FOR ONE ASSEMBLY			
Type	Size	Length	Qty
8.8XOX	M16	40	8
8.8XOX	M16	45	2

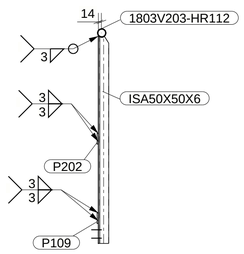
MATERIAL LIST FOR ONE ASSEMBLY MK'D 1803V203-HR112 1 NOS.Required

MARK	DESCRIPTION	GRADE	LENGTH	QTY.	UNIT WT (Kg)	TOTAL WT(Kg)
1803V203-HR112	32NB(M)	E250	3849	1	149.56	149.56
A132	ISA50X50X6	E250	987	3	4.40	13.20
A152	ISA50X50X6	E250	987	1	4.40	4.40
A155	ISA50X50X6	E250	987	1	4.40	4.40
P109	PL6*50	E250	3869	1	9.11	9.11
P202	PL6*50	E250	3869	1	9.11	9.11
TOTAL FOR ONE ASSEMBLY IN Kg					=	189.79
TOTAL FOR 1 ASSEMBLIES IN Kg					=	189.79

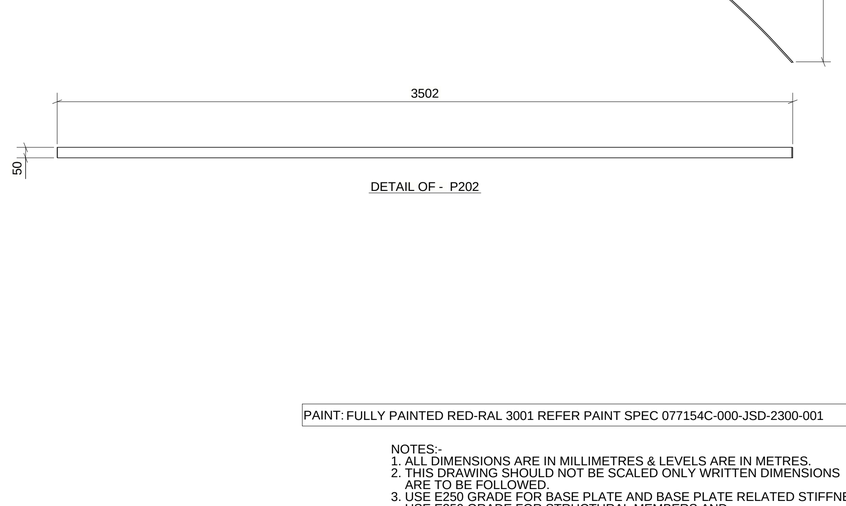


SECTION : B - B



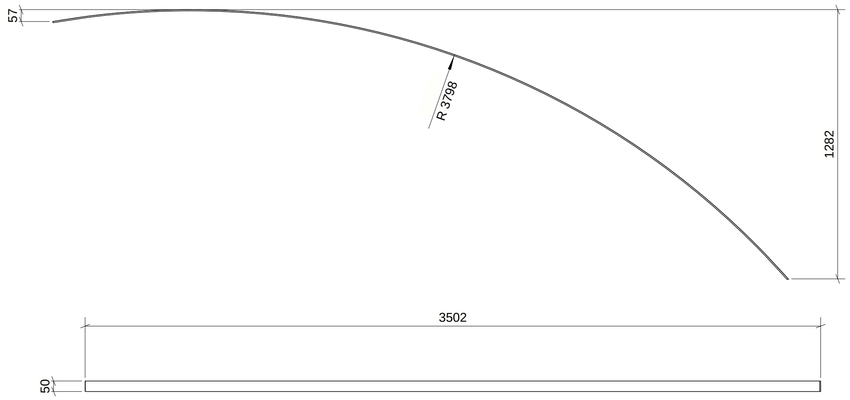


SECTION : A - A
TYP



DETAIL OF - 1803V203-HR112

DETAIL OF - P202



DETAIL OF - P109

1No. HANDRAIL MARKED AS 1803V203-HR112

PAINT: FULLY PAINTED RED-RAL 3001 REFER PAINT SPEC 077154C-000-JSD-2300-001

FINISH NOTES:
P – INDICATES ASSEMBLY TO BE FULLY PAINTED.
Y – INDICATES ASSEMBLY TO BE FULLY GALVANIZED.
F – INDICATES COMPLETELY ENCASED TYPE FIRE PROOFING.
H – INDICATES PARTIALLY ENCASED FIREPROOFING THAT IS BEAM WITH ONLY TOP OF TOP FLANGE PAINTED.
M – INDICATES PARTIAL FIREPROOFING FOR MARKED DIMENSION/ EXTEND AND REMAINING LENGTH TO BE FULLY PAINTED.
Z – INDICATES ASSEMBLY TO BE GALVANIZED AND PAINTED.
O.P – INDICATES ONLY PRIMER.

NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETRES & LEVELS ARE IN METRES.
2. THIS DRAWING SHOULD NOT BE SCALED ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
3. USE E250 GRADE FOR BASE PLATE AND BASE PLATE RELATED STIFFNERS. USE E250 GRADE FOR STRUCTURAL MEMBERS AND REMAINS ALL OTHER PLATES, U.O.S.
4. ▼ DENOTES SHOP MARK SHALL BE PROVIDED BY THE FABRICATOR ON FLANGE OF MEMBER/FACE OF PLATES ON EACH ASSEMBLY AS SHOWN. ON SHOP DETAIL DRAWINGS SAME IS TO BE REFERRED FOR ORIENTATION, DURING ERECTION OF THE ASSEMBLY.
5. USE 8.8 GRADE BOLTS EACH BOLT WILL HAVE 2 WASHERS & 1 NUT. ALL STRUCTURAL BOLTS SHALL BE HOT DIP GALVANISED.
6. ALL SHOP WELDS ARE 6 MM (FILLET) CONTINUOUS WELDED ALLAROUND & SITE WELDS SHALL BE 8MM (FILLET) UNO.
7. FABRICATION SHALL BE DONE AS PER SPECIFICATION, CONTRACT TERMS & CONDITIONS.
8. FIRE PROOFING AROUND BOLTED CONNECTION SHALL BE DONE AT SITE AFTER ERECTION OF BOLTED CONNECTION.
9. PROVIDE FULL THICKNESS BEVEL WELD WHERE FILLET WELD ACCESS NOT AVAILABLE AND ALL BEVEL WELDS ARE FULL THICK AND CONVEX TYPE WHERE PART EXTENDED OTHERWISE FLUSH.
10. PROVIDE SUITABLE BEVEL WELD ACCESS HOLES AT BOTH SIDES OF BEVEL EDGES.