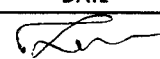
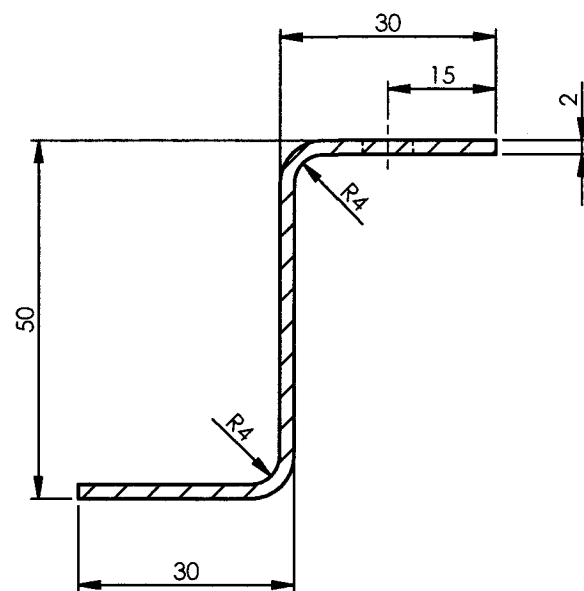
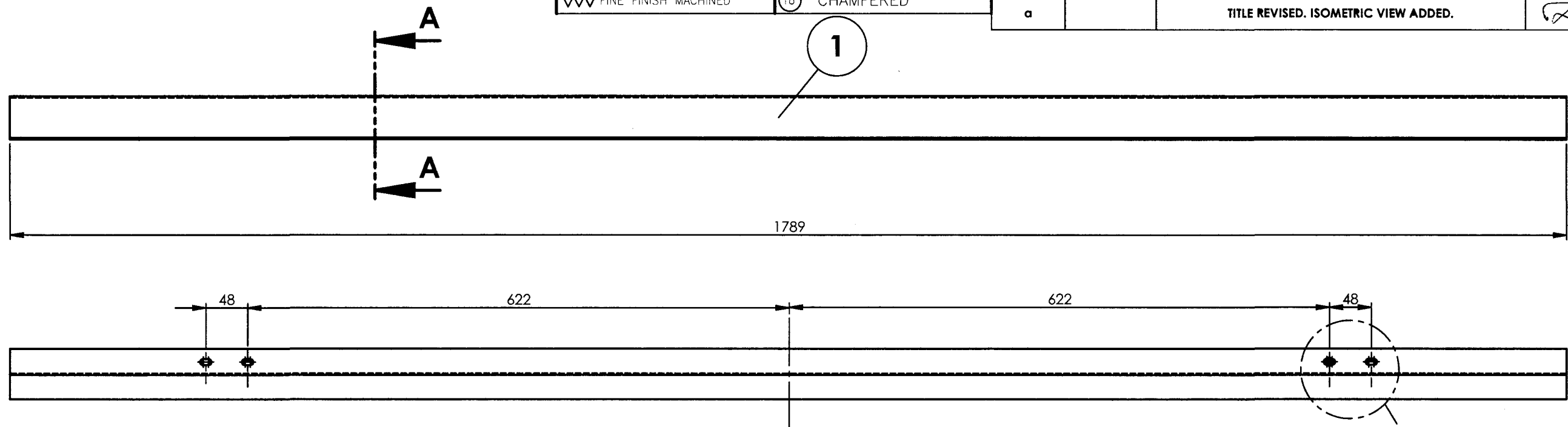
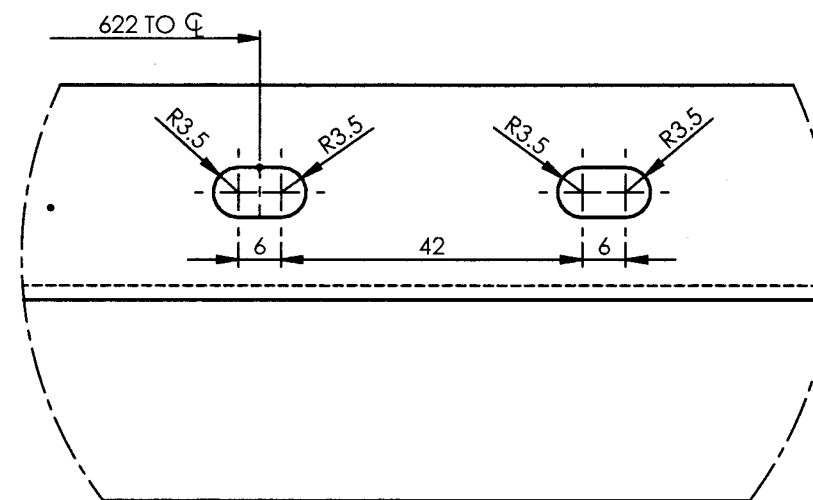
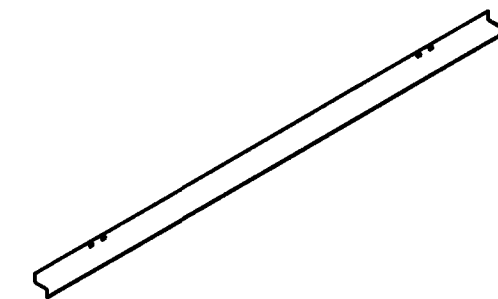


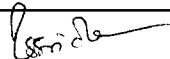
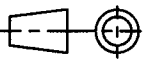
AAB16325

▽ ROUGH MACHINED	① ROUGH CLEANED
▽▽ FINISH MACHINED	①b BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	①8 CHAMFERED

REVISIONS			
ALT.	ZONE	DESCRIPTION	APPROVED & DATE
a		TITLE REVISED. ISOMETRIC VIEW ADDED.	


SECTION A-A
SCALE 1 : 1DETAIL C
SCALE 1 : 1

ISOMETRIC VIEW

1	Z- MEMBER	2x101x1789	1		RDSO/SPEC C-K201 X2CrNi12	2.91	
Default	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 ROOF		SURFACE AREA IN Sq.m.:			WT/ASSY IN Kgs:		
Z-MEMBER FOR CROSS BRACE					SCALE 1:10	SSE/D	
						CHD	
					ALT. a	ALTD	AMAL GEORGE
						DRN	S.Bala V.subramani.
INDIAN RAILWAY STANDARDS INTEGRAL COACH FACTORY, CHENNAI - 600038				SHEET 1 OF 1			
					AAB16325		A3

ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD-9-0-001.
ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER IS: 813-1986.
WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY

REF.DRG.NO.LE16106 alt-a

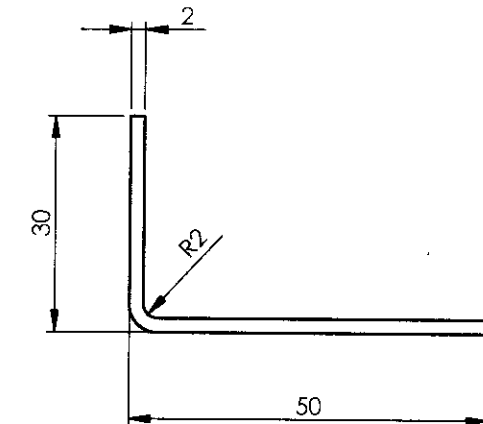
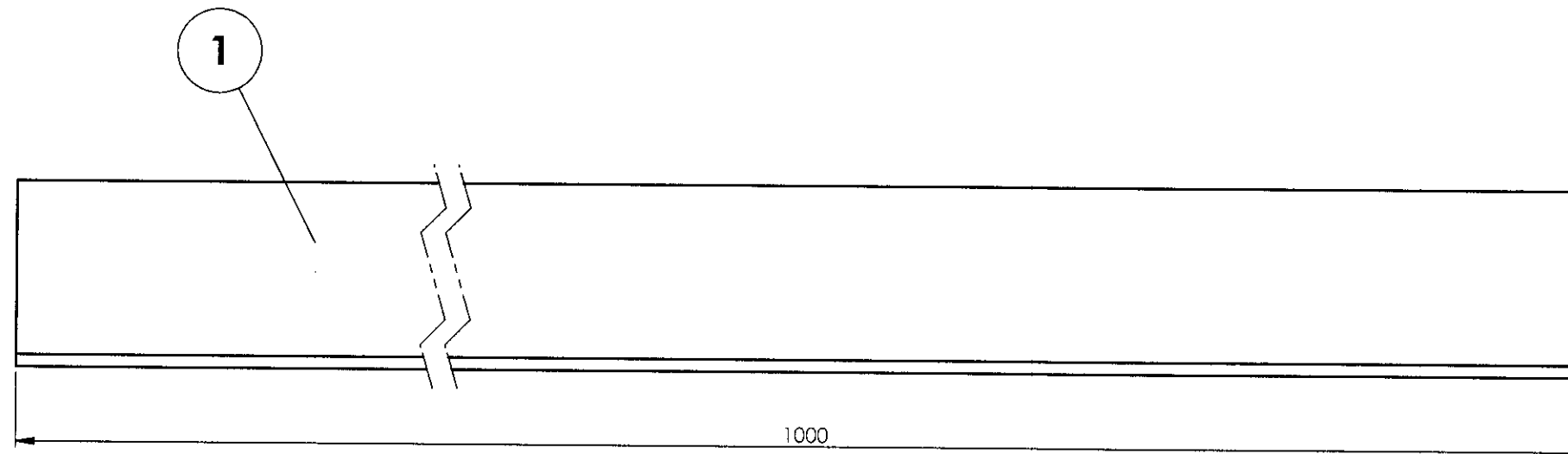
14-09-2021	19-09-2020	
DATE OF LATEST ALT.	DATE OF FIRST ISSUE	AME/SME

AAB16326

▽ ROUGH MACHINED	① ROUGH CLEANED
▽▽ FINISH MACHINED	② BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	③ CHAMFERED

REVISIONS

ALT.	ZONE	DESCRIPTION	APPROVED & DATE
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ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD-9-0-001.
ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER IS: 813:1986.
WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY

REF.DRG.NO.LE16104 alt-a

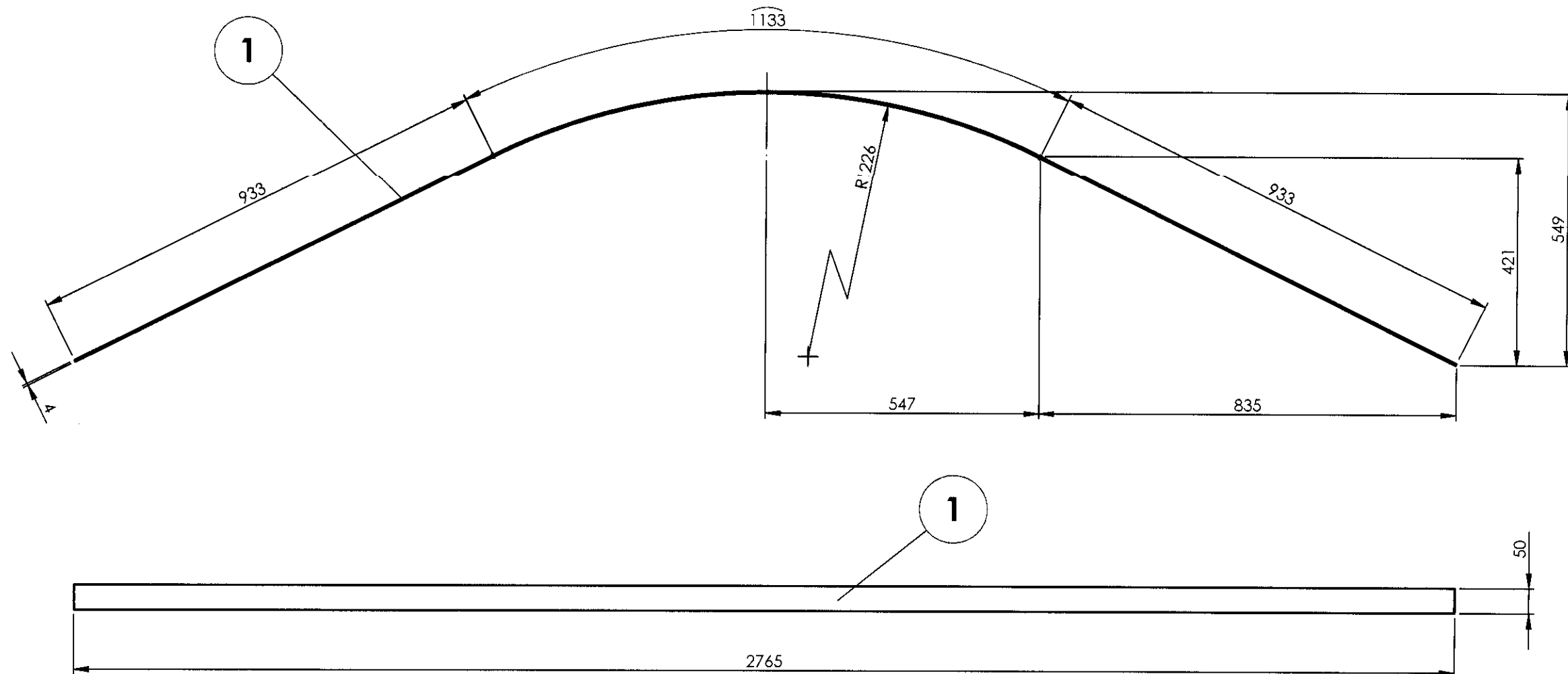
	19-09-2020	
DATE OF LATEST ALT.	DATE OF FIRST ISSUE	AME/SME

1	ANGLE	2x76x1000	1		RDSO/SPEC C-K201 X2CrNi12	1.23	
QTY	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 ROOF		SURFACE AREA IN Sq.m.:			WT/ASSY IN Kgs:		
ANGLE					SCALE	SSE/D	
					1:5	CHD	
					ALT.	ALTD	
						DRN	S.Bala V.subramani.
INDIAN RAILWAY STANDARDS INTEGRAL COACH FACTORY, CHENNAI - 600038				SHEET 1 OF 1			
					AAB16326		A3

AAB16333

▽ ROUGH MACHINED	① ROUGH CLEANED
▽▽ FINISH MACHINED	② BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	③ CHAMFERED

REVISIONS			
ALT.	ZONE	DESCRIPTION	APPROVED & DATE



1	FLANGE FOR FINAL ROOF ARCH.	4x50x3000	1		RDSO/SPEC C-K201 X5 Cr Ni 18 10	4.80	
Default	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 Roof Construction				SURFACE AREA IN Sq.m.:		WT/ASSY IN Kgs:	
FLANGE FOR FINAL ROOF ARCH.					SCALE	SSE/D	
					1:20	CHD	
					ALT.	ALTD	
						DRN	B.Suresh
INDIAN RAILWAY STANDARDS					SHEET 1 OF 1		
INTEGRAL COACH FACTORY, CHENNAI - 600038					AAB16333		
					A3		

ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD-9-4-001.
ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER IS: 813-1986.
WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY

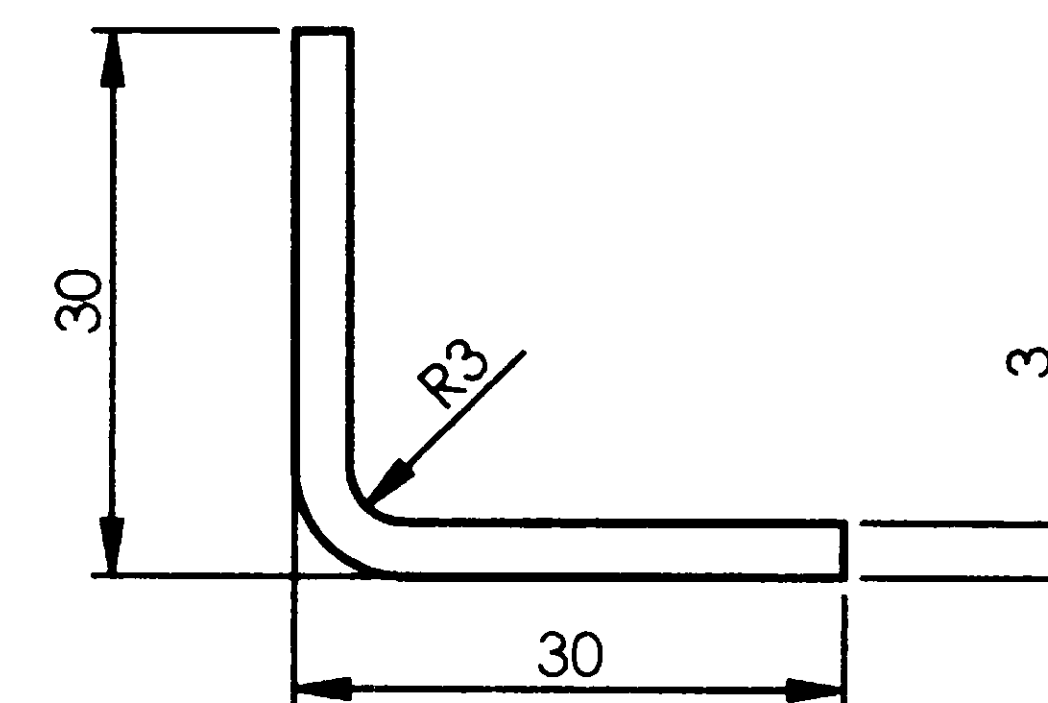
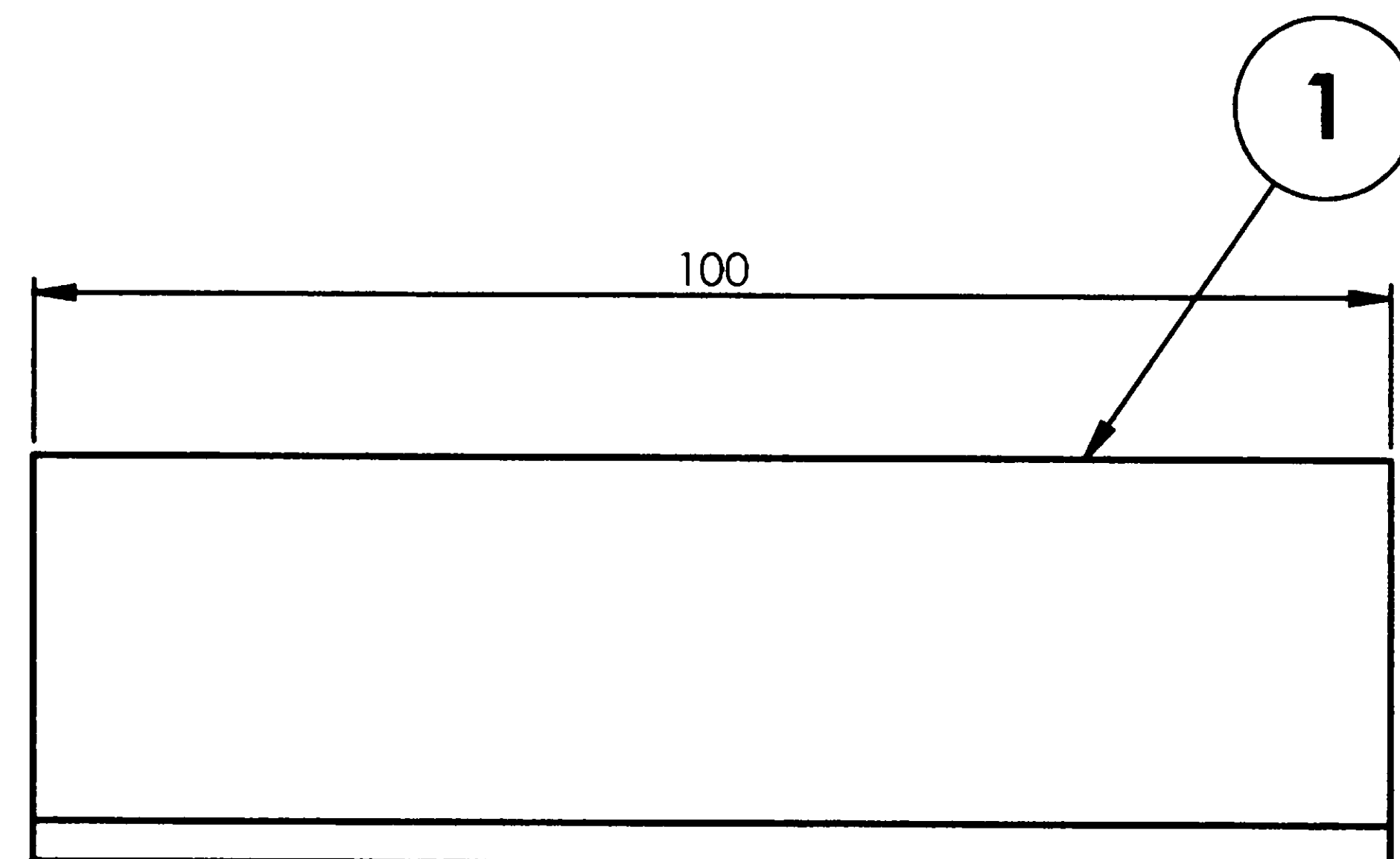
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-	19-09-2020	
DATE OF LATEST ALT.	DATE OF FIRST ISSUE	AME/SME

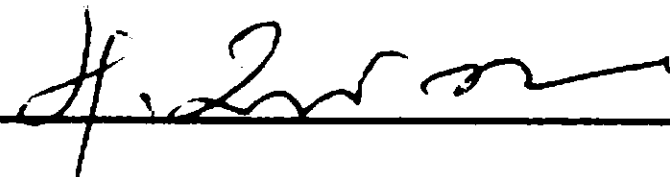
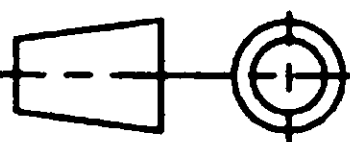
AAB16338

▽ ROUGH MACHINED	01 ROUGH CLEANED
▽▽ FINISH MACHINED	01b BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	18 CHAMFERED

REVISIONS			
ALT.	ZONE	DESCRIPTION	APPROVED & DATE



ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD-9-0-001.
ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER IS: 813-1986.
WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY

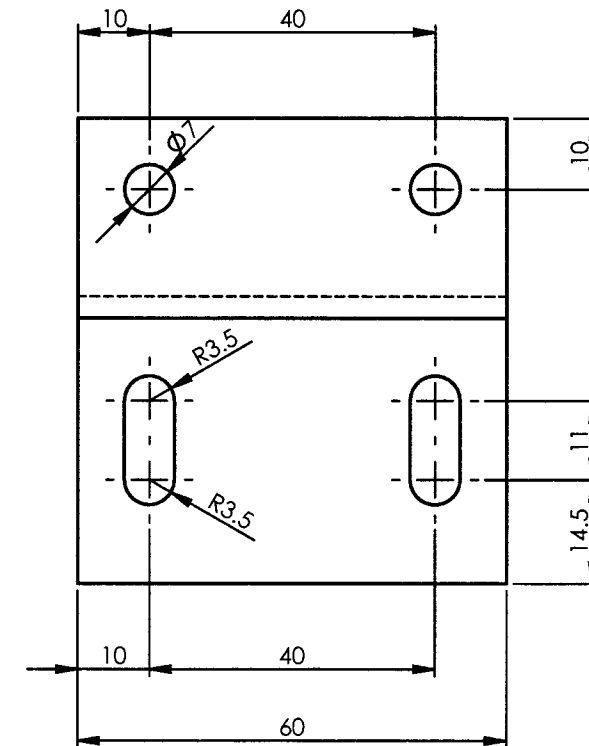
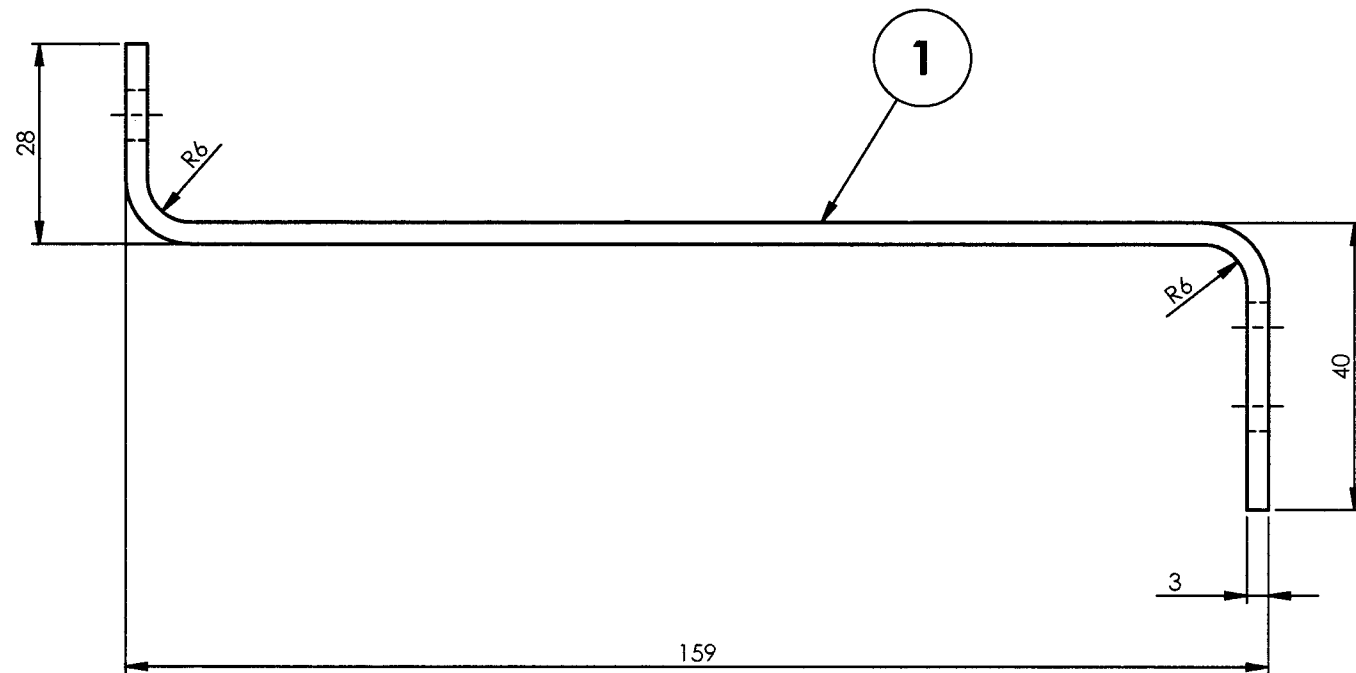
1	ANGLE	3 X 54 X 100	1		RDSO/SPEC C- K201 X2CrNi12	0.13	
Default	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 Roof Construction		SURFACE AREA IN Sq.m.:			WT/ASSY IN Kgs:		
ANGLE					SCALE	SSE/D	
					1:1	CHD	
					ALT.	ALTD	
						DRN	DINAKAR G.P
INDIAN RAILWAY STANDARDS INTEGRAL COACH FACTORY, CHENNAI - 600038				SHEET 1 OF 1			
					AAB16338		A3

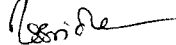
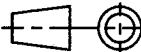
1		2		3		4		5		6		7		8																																																																																											
AAB16344				▽ ROUGH MACHINED		① ROUGH CLEANED		REVISIONS																																																																																																	
				▽▽ FINISH MACHINED		①b BURRS REMOVED		ALT.		ZONE		DESCRIPTION																																																																																													
				▽▽▽ FINE FINISH MACHINED		⑱ CHAMFERED						APPROVED & DATE																																																																																													
<div><div>1</div><div><div><div>3</div><div>159</div><div>40</div><div>R6</div></div><div><div><div>R3.5</div><div>R3.5</div><div>10</div><div>40</div><div>60</div><div>11</div><div>14.5</div></div></div></div></div>															<div><div>1</div><div>BRACKET COMPLETE</div><div>3 x 60 x 215</div><div>1</div><div></div><div>RDSO/SPEC C-K201 X2 Cr Ni 12</div><div>0.315</div><div></div></div> <table><tr><td>Default</td><td>DESCRIPTION</td><td>DIMENSIONS</td><td>ITEM NO.</td><td>REF. DRGS</td><td>MATL.SPEC.</td><td>WT/UNIT IN KGS</td><td>REMARKS</td></tr><tr><td colspan="5">GROUP: 1-6 Roof Construction</td><td colspan="2">SURFACE AREA IN Sq.m.:0.029</td><td>WT/ASSY IN Kgs:0.315</td></tr><tr><td colspan="7" rowspan="4">BRACKET COMPLETE</td><td>SCALE 1:1</td><td>SSE/D</td><td></td></tr><tr><td></td><td>CHD</td><td></td></tr><tr><td>ALT.</td><td>ALTD</td><td></td></tr><tr><td></td><td>DRN</td><td>Amal George</td></tr><tr><td colspan="7">INDIAN RAILWAY STANDARDS</td><td colspan="2">SHEET 1 OF 1</td><td colspan="2">AAB16344</td><td colspan="2">A3</td></tr><tr><td colspan="7">INTEGRAL COACH FACTORY, CHENNAI - 600038</td><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td></tr><tr><td colspan="2">REF.DRG.NO.2 10113.0.76.095.009</td><td colspan="2">DATE OF LATEST ALT.</td><td colspan="2">DATE OF FIRST ISSUE</td><td colspan="2">AME/SME</td><td colspan="7"></td></tr></table>															Default	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS	GROUP: 1-6 Roof Construction					SURFACE AREA IN Sq.m.:0.029		WT/ASSY IN Kgs:0.315	BRACKET COMPLETE							SCALE 1:1	SSE/D			CHD		ALT.	ALTD			DRN	Amal George	INDIAN RAILWAY STANDARDS							SHEET 1 OF 1		AAB16344		A3		INTEGRAL COACH FACTORY, CHENNAI - 600038													REF.DRG.NO.2 10113.0.76.095.009		DATE OF LATEST ALT.		DATE OF FIRST ISSUE		AME/SME								
Default	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS																																																																																																		
GROUP: 1-6 Roof Construction					SURFACE AREA IN Sq.m.:0.029		WT/ASSY IN Kgs:0.315																																																																																																		
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INTEGRAL COACH FACTORY, CHENNAI - 600038																																																																																																									
REF.DRG.NO.2 10113.0.76.095.009		DATE OF LATEST ALT.		DATE OF FIRST ISSUE		AME/SME																																																																																																			
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A		B		C		D		E		F		A		B																																																																																											

AAB16353

▽ ROUGH MACHINED	01 ROUGH CLEANED
▽▽ FINISH MACHINED	01b BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	18 CHAMFERED

REVISIONS			
ALT.	ZONE	DESCRIPTION	APPROVED & DATE



1	BRACKET	3 x 60 x 203	1		RDSO/SPEC C-K201 X2 Cr Ni 12	0.302	
Default	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 ROOF ASSEMBLY		SURFACE AREA IN Sq.m.:0.027			WT/ASSY IN Kgs:0.302		
BRACKET					SCALE	SSE/D	
					1:1	CHD	
					ALT.	ALTD	3D:S.BALA V SUBRAMANI 2D:AMAL
					-	DRN	
INDIAN RAILWAY STANDARDS INTEGRAL COACH FACTORY, CHENNAI · 600038							
					SHEET 1 OF 1		
					AAB16353		A3

ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD-9-0-001. ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER IS: 813-1986.

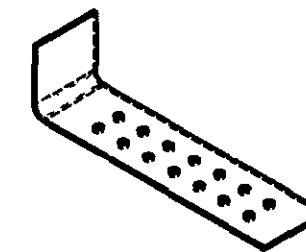
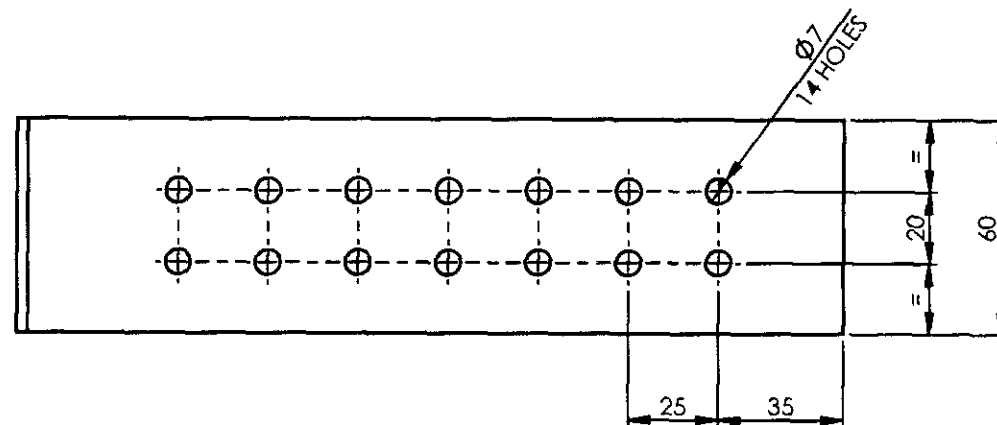
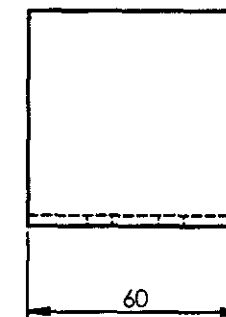
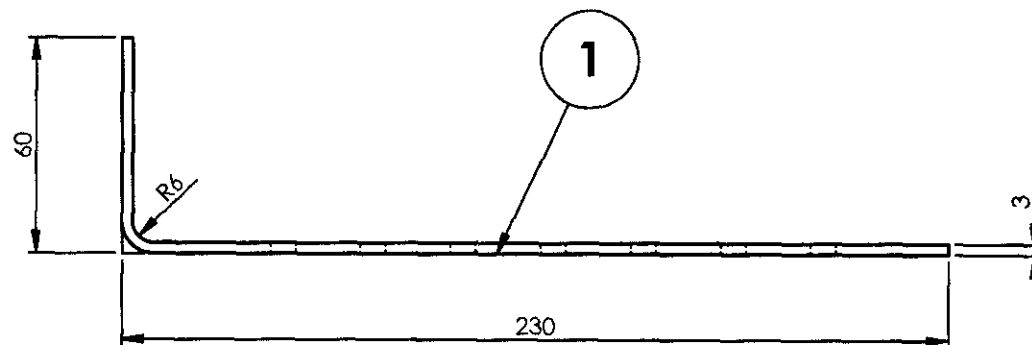
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AAB16354				▽ ROUGH MACHINED		① ROUGH CLEANED		REVISIONS							
				▽▽ FINISH MACHINED		①b BURRS REMOVED		ALT.		ZONE		DESCRIPTION			
				▽▽▽ FINE FINISH MACHINED		①8 CHAMFERED						APPROVED & DATE			
<div>ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD-9-0-001. ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER IS: 813-1986. WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY</div> <div><div><div>66</div><div>11</div><div>11</div></div><div>1</div></div> <div><div>85</div><div>70</div><div>3</div><div>38</div><div>20.1</div><div>30</div><div>23.25</div><div>RA</div><div>6.4°</div><div>RA</div><div>Ø 10</div></div> <div>ISOMETRIC VIEW</div>															

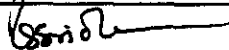

AAE16518

▽ ROUGH MACHINED	① ROUGH CLEANED
▽▽ FINISH MACHINED	② BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	③ CHAMFERED

REVISIONS				APPROVED & DATE	
ALT.	ZONE	DESCRIPTION			



ISOMETRIC VIEW


1	ANGLE	3 x 60 x 284	1		RDSO/SPEC C- K201 X2 Cr Ni 12	0.396	
Default	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 Roof Construction		SURFACE AREA IN Sq.m.:0.036			WT/ASSY IN Kgs:0.396		
ANGLE					SCALE	SSE/D	
					1:2	CHD	
					ALT.	ALTD	
						DRN	Amal George
INDIAN RAILWAY STANDARDS				SHEET 1 OF 1			
INTEGRAL COACH FACTORY, CHENNAI - 600038						AAE16518	
						A3	

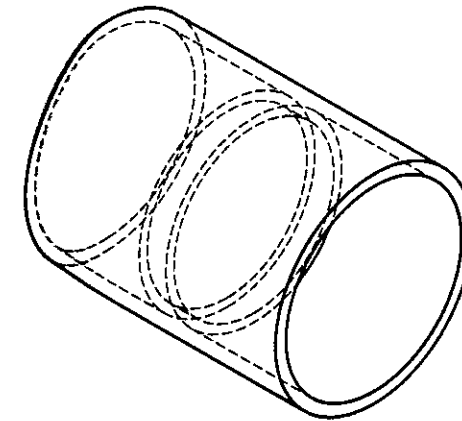
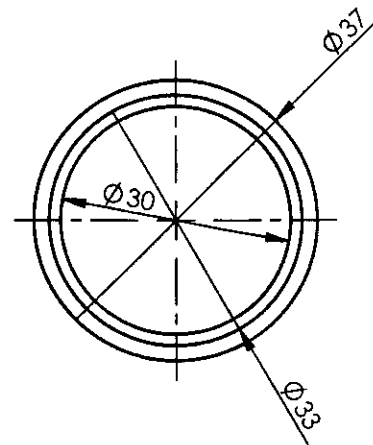
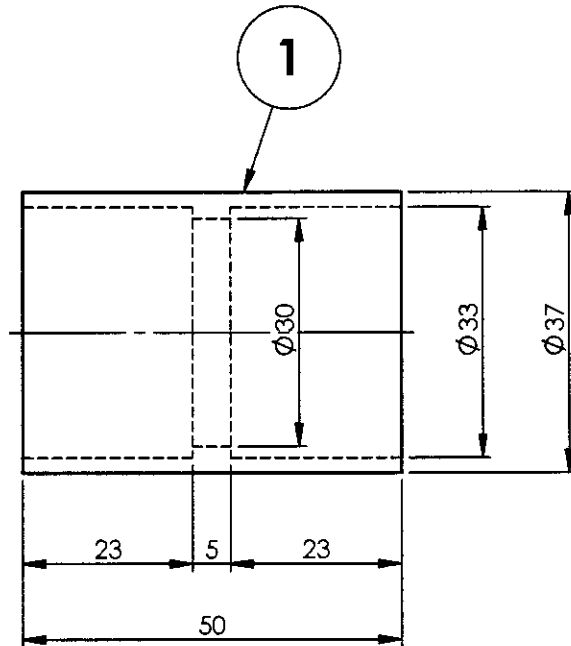
ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD-9-0-001.
ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER IS: 813-1986.

REF.DRG.NO.3.10113.0.20.095.130

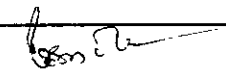
AAE16764


▽ ROUGH MACHINED	① ROUGH CLEANED
▽▽ FINISH MACHINED	①b BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	①8 CHAMFERED

REVISIONS			
ALT.	ZONE	DESCRIPTION	APPROVED & DATE
a		DIAMETER ALTD FROM Ø27 TO Ø30. VIEWS UPDATED.	



ISOMETRIC VIEW

1	COUPLER FOR CONDUITS	50 x 50	1		AISI-304	0.09	
Default	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 Roof Construction				SURFACE AREA IN Sq.m.:0.01		WT/ASSY IN Kgs:	
COUPLER FOR CONDUITS					SCALE 1:1	SSE/D CHD	
					ALT. a	ALTD DRN	AMAL GEORGE 3D: Amal George 2D: Kunti Thakur
INDIAN RAILWAY STANDARDS				SHEET 1 OF 1		AAE16764	
INTEGRAL COACH FACTORY CHENNAI - 600038						A3	

15-10-2024	18-07-2023	
DATE OF LATEST ALT.	DATE OF FIRST ISSUE	AME/SME

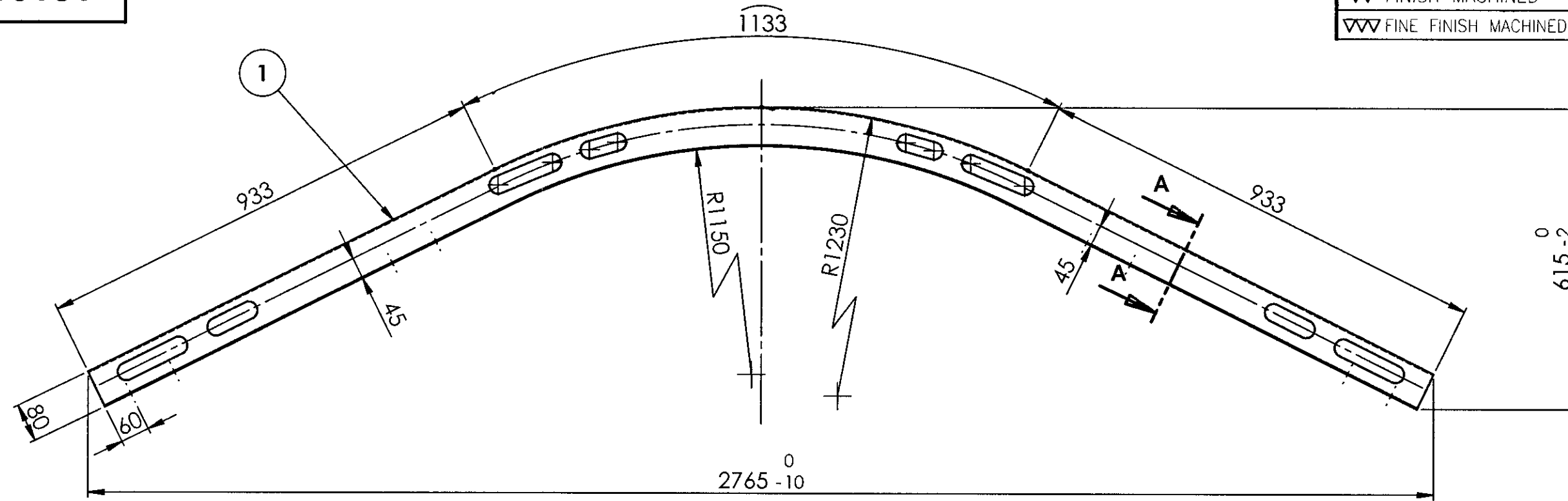
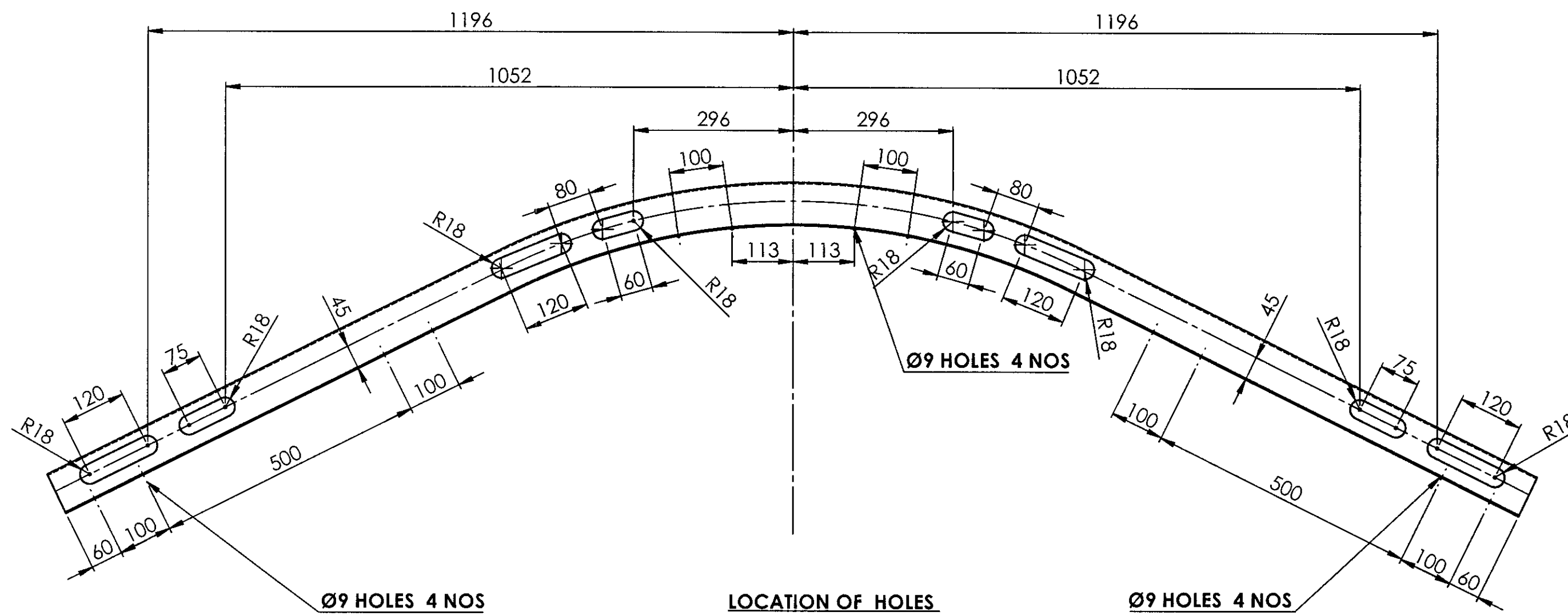
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ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD-9-0-001. ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER EN ISO 2553. WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY

AA16101

▽ ROUGH MACHINED	⊖1 ROUGH CLEANED
▽▽ FINISH MACHINED	⊖1b BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	⊖1c CHAMFERED

REVISIONS			
ALT.	ZONE	DESCRIPTION	APPROVED & DATE

SECTION A-A
SCALE 1 : 2

Ø9 HOLES 4 NOS

LOCATION OF HOLES

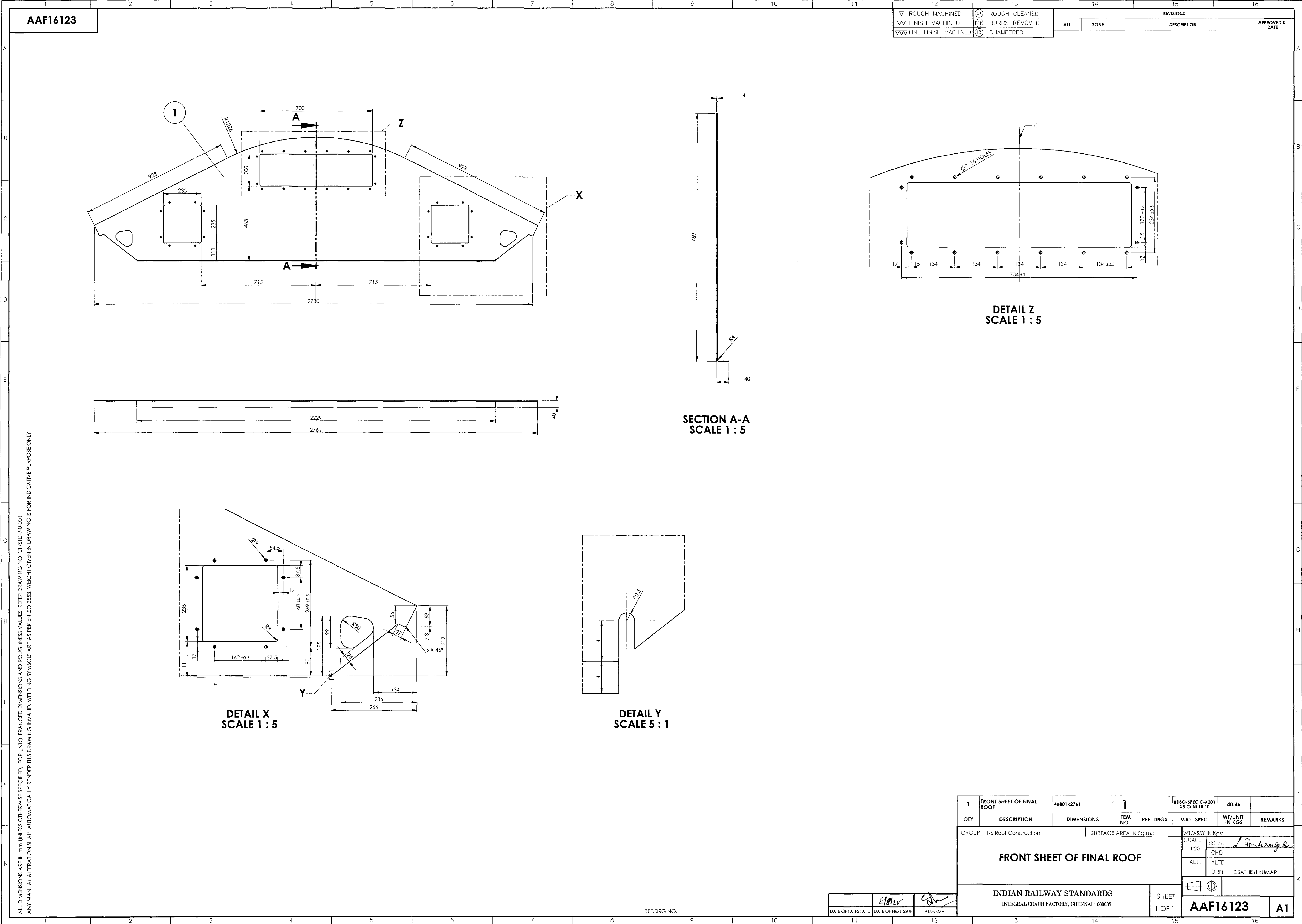
Ø9 HOLES 4 NOS

ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO. ICF/STD-9-0-001. ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER EN ISO 2553. WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY.

1	ROOF ARCH COMPLETE	2.5x664x2765	1		RDSO/SPEC C-K201 X2CrNi12	7.09	
QTY	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 Roof Construction				SURFACE AREA IN Sq.m.: 0.73		WT/ASSY IN Kgs: 7.09	
ROOF ARCH COMPLETE					SCALE 1:20	SSE/D	CHD
					ALT	ALTD	-
					DRN	DRN	Amal George
INDIAN RAILWAY STANDARDS				SHEET 1 OF 1		AA16101	
INTEGRAL COACH FACTORY, CHENNAI - 600038						A2	

REF.DRG.NO.LE16101

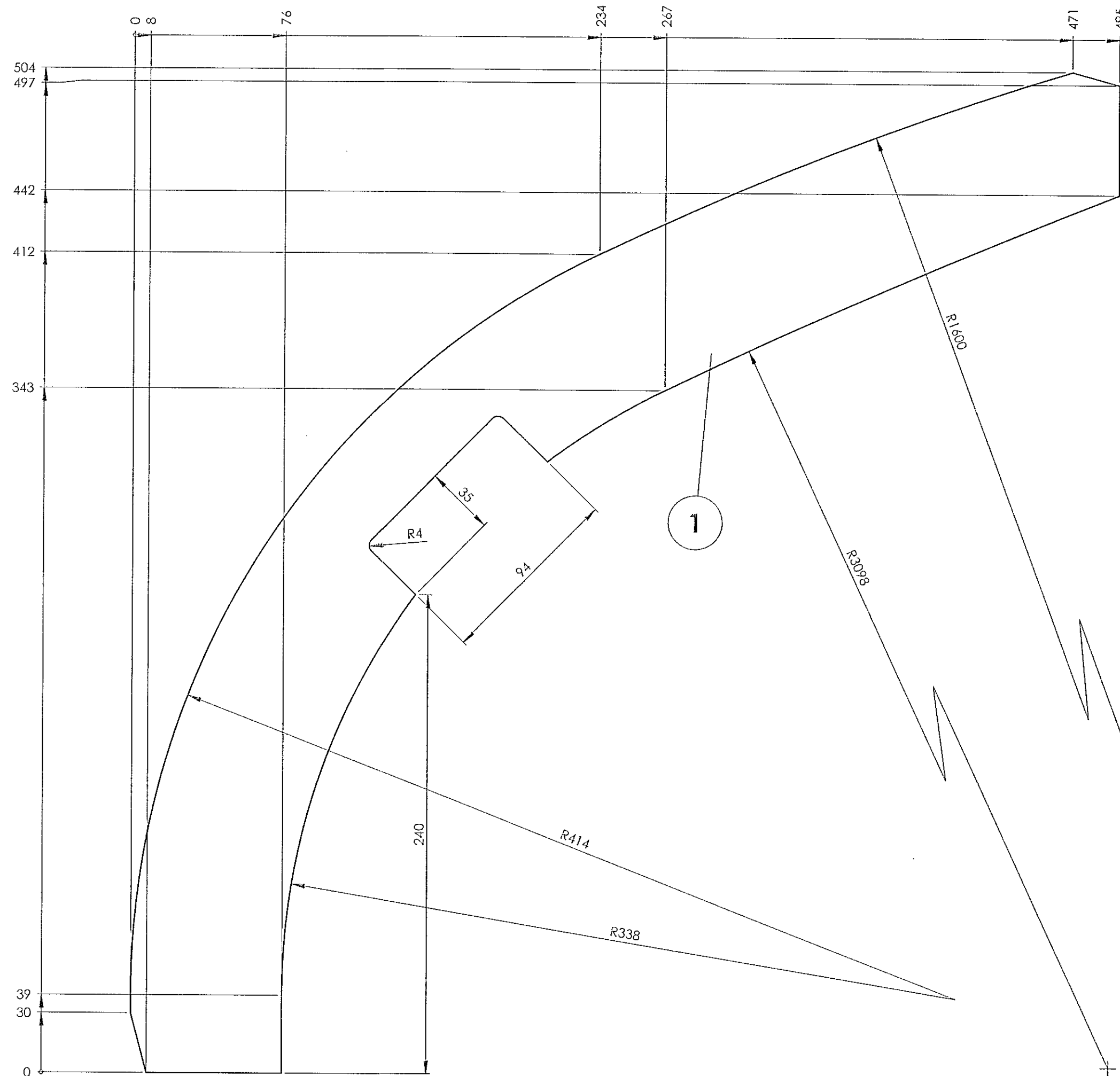
DATE OF LATEST ALT.	15-07-2025	AME/SME
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AAF16158

▽ ROUGH MACHINED	① ROUGH CLEANED
▽▽ FINISH MACHINED	①② BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	①③ CHAMFERED

REVISIONS				APPROVED & DATE	
ALT.	ZONE	DESCRIPTION			



ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO. ICF/STD-9-0-001. ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER IS:813-1986.

REF.DRG.NO.2 10113.0.20.210.103

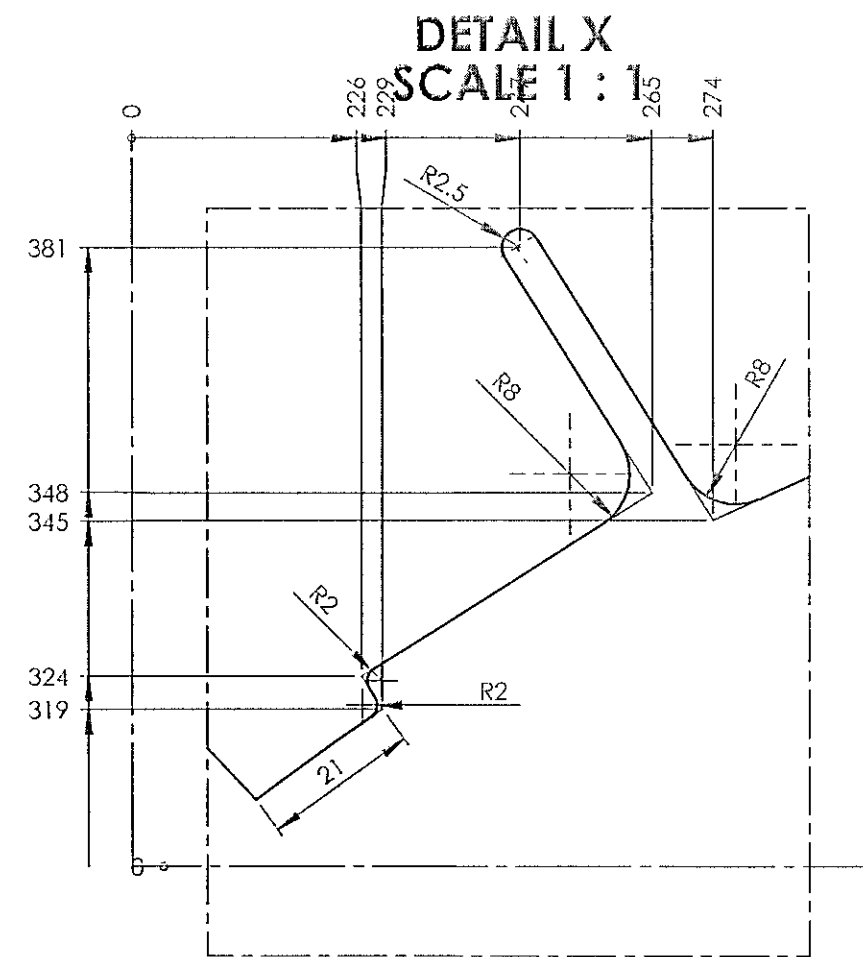
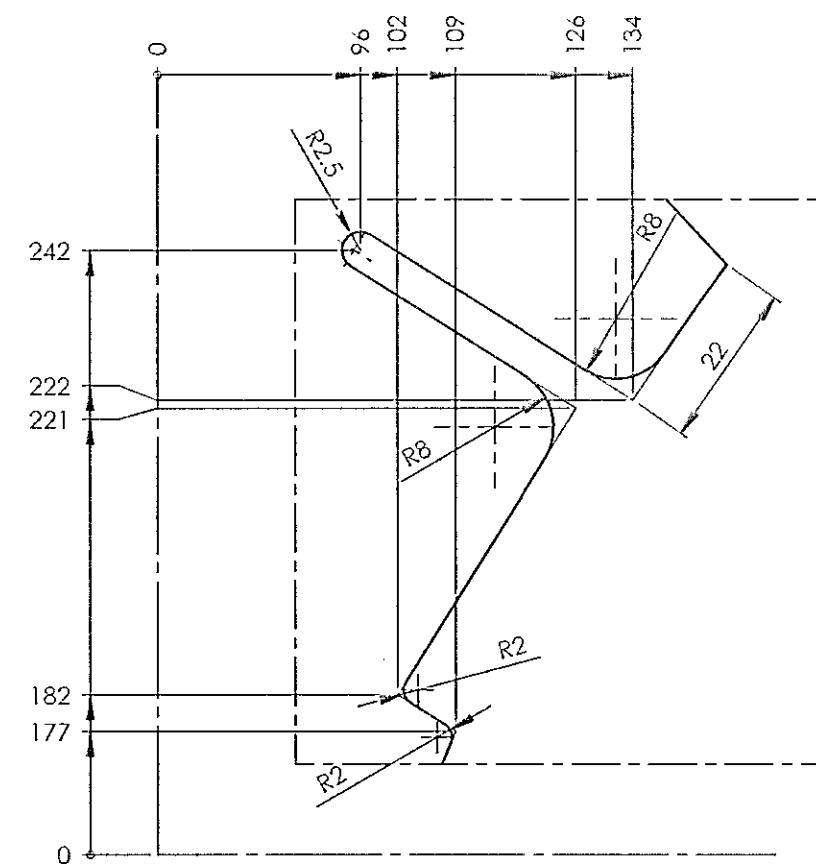
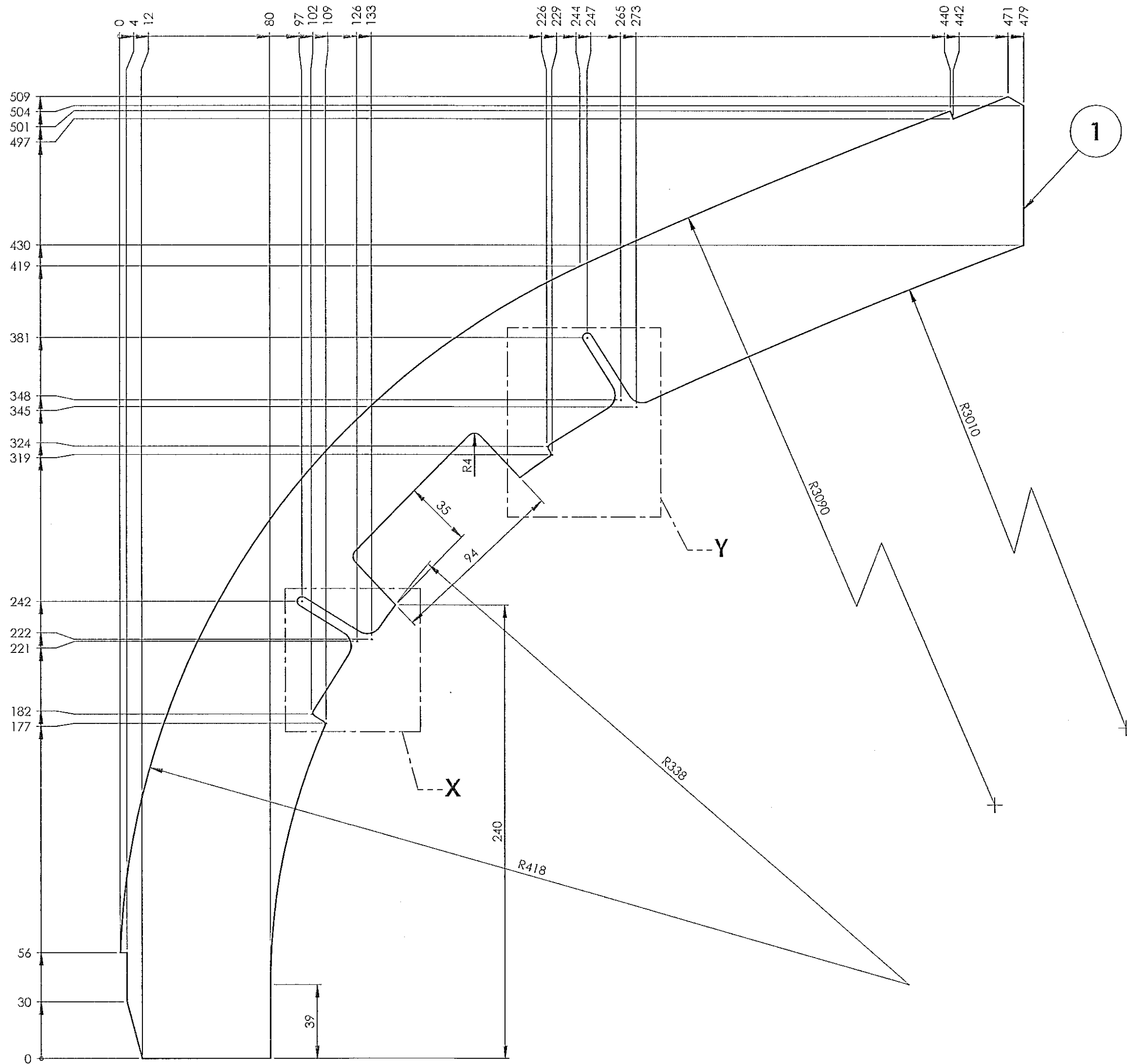
DATE OF LATEST ALT.	04/09/25	AME/SME
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1	ROOF ARCH	4 x 495 x 505	1		RDSO/SPEC C-K201 X2CrNi12	1.623	
QTY	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 Roof Construction				SURFACE AREA IN Sq.m.: 0.108		WT/ASSY IN Kgs: 1.623	
ROOF ARCH					SCALE 1:2	SSE/D CHD	E.SATHISH KUMAR
					ALT	ALTD	
						DRN	
INDIAN RAILWAY STANDARDS					SHEET 1 OF 1		
INTEGRAL COACH FACTORY, CHENNAI - 600038					AAF16158		A2

AAF16159

▽ ROUGH MACHINED	01 ROUGH CLEANED
▽▽ FINISH MACHINED	01a BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	01b CHAMFERED


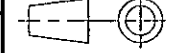
REVISIONS			
ALT.	ZONE	DESCRIPTION	APPROVED & DATE



ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD-9-0-001. ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER EN ISO 2553. WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY.

REF.DRG.NO.2 10113.0.20.210.112

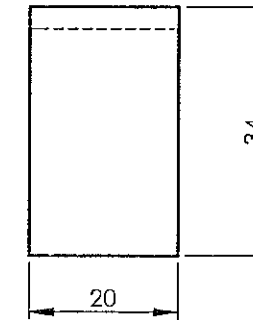
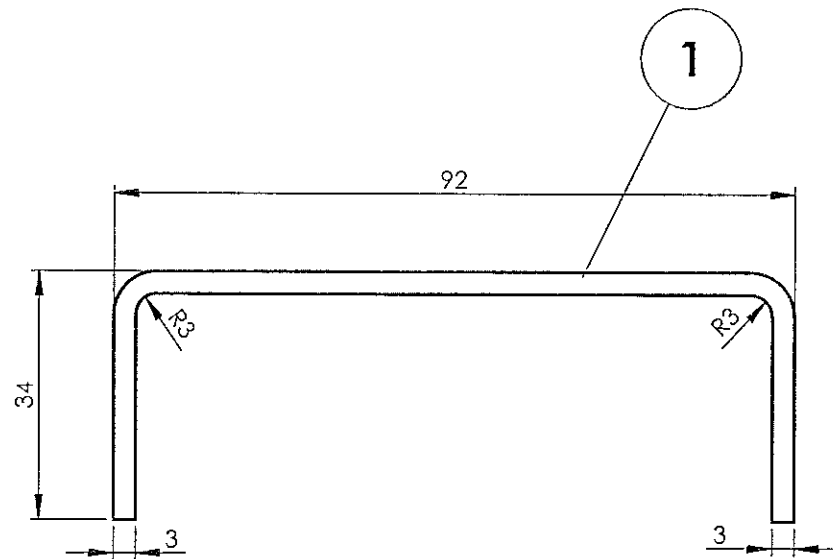
DATE OF LATEST ALT.	04/09/25	AME/SME
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1	ROOF ARCH	4 x 479 x 508.5	1		RDSO/SPEC C-K201 X2CrNi12	1.660	
QTY	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 Roof Construction			SURFACE AREA IN Sq.m.: 0.111		WT/ASSY IN Kgs:		
ROOF ARCH					SCALE 1:2	SSE/D	
						CHD	
					ALT'	ALTD	
						DRN	E.SATHISH KUMAR
INDIAN RAILWAY STANDARDS INTEGRAL COACH FACTORY, CHENNAI - 600038				SHEET 1 OF 1			
					AAF16159		
					A2		

AAAF16161

▽ ROUGH MACHINED	① ROUGH CLEANED
▽▽ FINISH MACHINED	①b BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	①8 CHAMFERED

REVISIONS				APPROVED & DATE	
ALT.	ZONE	DESCRIPTION			



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ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER EN ISO 2553.
WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY

REF.DRG.NO.-

-	04/09/25	<i>[Signature]</i>
DATE OF LATEST ALT.	DATE OF FIRST ISSUE	AME/SME

1	BACK PIECE	3x20x148	1		RDSO SPEC C-K201 X2 Cr NI 12	0.07	
QTY	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 Roof Construction				SURFACE AREA IN Sq.m.:		WT/ASSY IN Kgs:	
BACK PIECE					SCALE 1:1	SSE/D CHD	<i>[Signature]</i>
					ALT.	ALTD	
						DRN	VIJAYAKUMAR R
INDIAN RAILWAY STANDARDS					SHEET 1 OF 1		
INTEGRAL COACH FACTORY, CHENNAI - 600038					AAAF16161		A3

1		2		3		4		5		6		7		8		
AAF16194				▽ ROUGH MACHINED		① ROUGH CLEANED		REVISIONS								
				▽▽ FINISH MACHINED		①b BURRS REMOVED		ALT.		ZONE		DESCRIPTION			APPROVED & DATE	
				▽▽▽ FINE FINISH MACHINED		①c CHAMFERED										
<div><div>ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD-9-Q-001. ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER EN ISO 2553. WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY</div><div><div><div><div><div><div>1</div><div>5</div><div>5</div><div>22</div><div>47</div><div>10</div><div>10</div><div>73</div></div><div><div>5</div><div>10</div><div>10</div><div>73</div><div>5</div></div></div><div><div>INDIAN RAILWAY STANDARDS</div><div>INTEGRAL COACH FACTORY, CHENNAI - 600038</div></div><div><div>15-07-2025</div><div>DATE OF FIRST ISSUE</div><div>AME/SME</div></div><div><div>1</div><div>RIB</div><div>5 x 47 x 73</div><div>1</div><div>REF. DRGS</div><div>RDSO SPEC C-K201 X2 Cr Ni 12</div><div>0.10</div><div>REMARKS</div></div><div><div>GROUP: 1-6 Roof Construction</div><div>SURFACE AREA IN Sq.m.:0.01</div><div>WT/ASSY IN Kgs:</div></div><div><div>SCALE 1:1</div><div>SSE/D CHD</div><div>ALT. ALT.D</div><div>DRN Amal George</div></div><div><div>INDIAN RAILWAY STANDARDS</div><div>INTEGRAL COACH FACTORY, CHENNAI - 600038</div></div><div><div>SHEET 1 OF 1</div><div>AAF16194</div><div>A3</div></div></div></div></div></div>																
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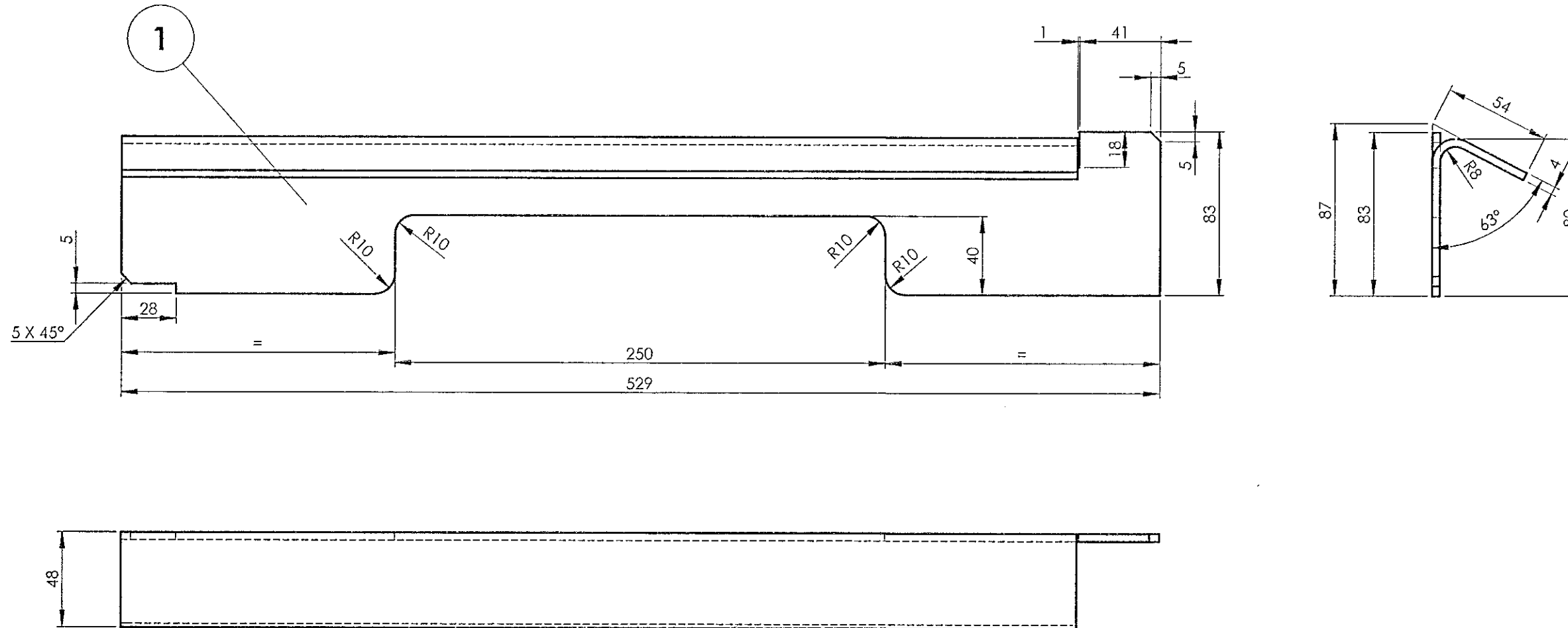
1		2		3		4		5		6		7		8																																																										
AAf16195				▽ ROUGH MACHINED		① ROUGH CLEANED		REVISIONS																																																																
				▽ FINISH MACHINED		①b BURRS REMOVED		ALT.		ZONE		DESCRIPTION			APPROVED & DATE																																																									
				▽▽ FINE FINISH MACHINED		①8 CHAMFERED																																																																		
<div>ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD-9-0-001. ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER EN ISO 2553. WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY</div> <div><p>1</p></div>																																																																								
<table><tr><td>1</td><td>PLATE</td><td>5x130x200</td><td>1</td><td></td><td>RDSO/SPEC C-K201 X2 Cr Ti 12</td><td>0.96</td><td></td></tr><tr><td>QTY</td><td>DESCRIPTION</td><td>DIMENSIONS</td><td>ITEM NO.</td><td>REF. DRGS</td><td>MATL.SPEC.</td><td>WT/UNIT IN KGS</td><td>REMARKS</td></tr><tr><td colspan="5">GROUP: 1-6 Roof Construction</td><td colspan="2">SURFACE AREA IN Sq.m.:0.05</td><td>WT/ASSY IN Kgs:</td></tr><tr><td colspan="5" rowspan="3">PLATE</td><td>SCALE</td><td>SSE/D</td><td rowspan="2"></td></tr><tr><td>1:5</td><td>CHD</td></tr><tr><td>ALT.</td><td>ALTD</td><td></td></tr><tr><td colspan="5" rowspan="2">INDIAN RAILWAY STANDARDS</td><td colspan="2">DRN</td><td>Amal George</td></tr><tr><td colspan="2"></td><td></td></tr><tr><td colspan="5">INTEGRAL COACH FACTORY, CHENNAI - 600038</td><td colspan="2">SHEET 1 OF 1</td><td>AAf16195</td><td>A3</td></tr></table>																1	PLATE	5x130x200	1		RDSO/SPEC C-K201 X2 Cr Ti 12	0.96		QTY	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS	GROUP: 1-6 Roof Construction					SURFACE AREA IN Sq.m.:0.05		WT/ASSY IN Kgs:	PLATE					SCALE	SSE/D		1:5	CHD	ALT.	ALTD		INDIAN RAILWAY STANDARDS					DRN		Amal George				INTEGRAL COACH FACTORY, CHENNAI - 600038					SHEET 1 OF 1		AAf16195	A3
1	PLATE	5x130x200	1		RDSO/SPEC C-K201 X2 Cr Ti 12	0.96																																																																		
QTY	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS																																																																	
GROUP: 1-6 Roof Construction					SURFACE AREA IN Sq.m.:0.05		WT/ASSY IN Kgs:																																																																	
PLATE					SCALE	SSE/D																																																																		
					1:5	CHD																																																																		
					ALT.	ALTD																																																																		
INDIAN RAILWAY STANDARDS					DRN		Amal George																																																																	
INTEGRAL COACH FACTORY, CHENNAI - 600038					SHEET 1 OF 1		AAf16195	A3																																																																
REF.DRG.NO.LS10172,Alt-f /ITEM-19		15-07-2025																																																																						
DATE OF LATEST ALT.		DATE OF FIRST ISSUE		AME/SME																																																																				

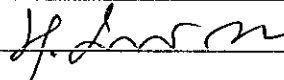
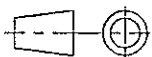
AAAF16251

▽ ROUGH MACHINED	① ROUGH CLEANED
▽▽ FINISH MACHINED	①b BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	①8 CHAMFERED

REVISIONS

ALT.	ZONE	DESCRIPTION	APPROVED & DATE
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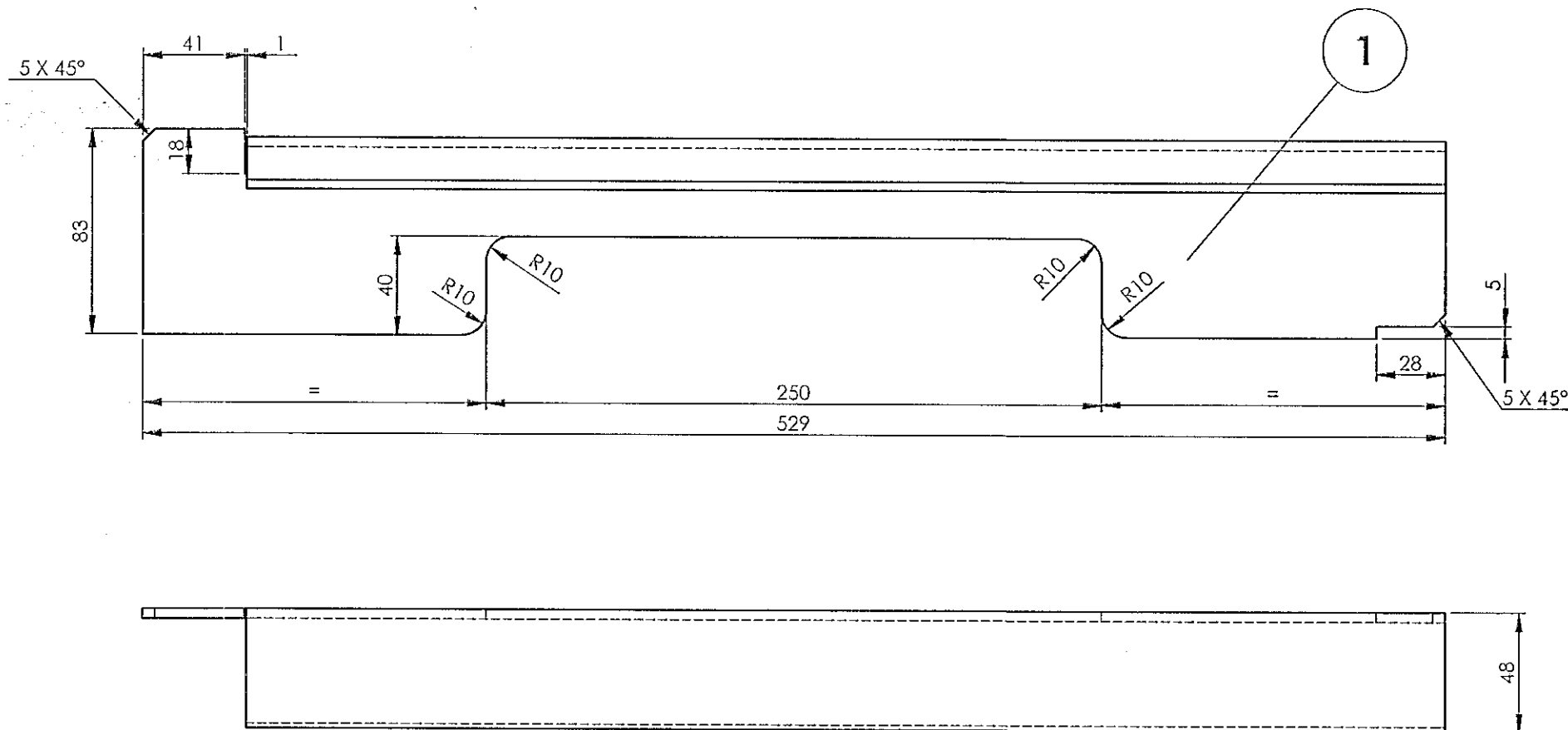


1	STIFFENING ANGLE	4 x 123 x 529	1		RDSO/SPEC C- K201 X2 Cr Ni 12	1.703	
QTY	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 Roof Construction		SURFACE AREA IN Sq.m.:0.112			WT/ASSY IN Kgs:		
STIFFENING ANGLE					SCALE	SSE/D	
					1:5	CHD	
					ALT.	ALTD	
						DRN	E.SATHISH KUMAR
INDIAN RAILWAY STANDARDS INTEGRAL COACH FACTORY, CHENNAI - 600038				SHEET 1 OF 1			
					AAF16251		A3

AA16252

▽ ROUGH MACHINED	① ROUGH CLEANED
▽▽ FINISH MACHINED	①b BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	①8 CHAMFERED

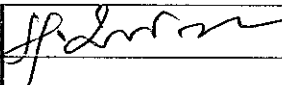

REVISIONS			
ALT.	ZONE	DESCRIPTION	APPROVED & DATE



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WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY

REF.DRG.NO.

DATE OF LATEST ALT.	04/09/25	AME/SME
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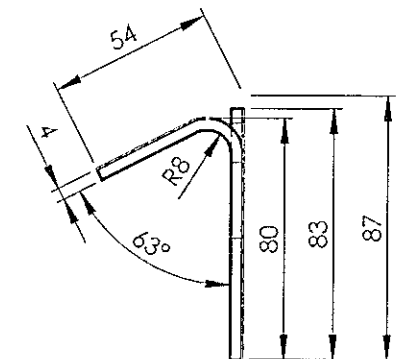
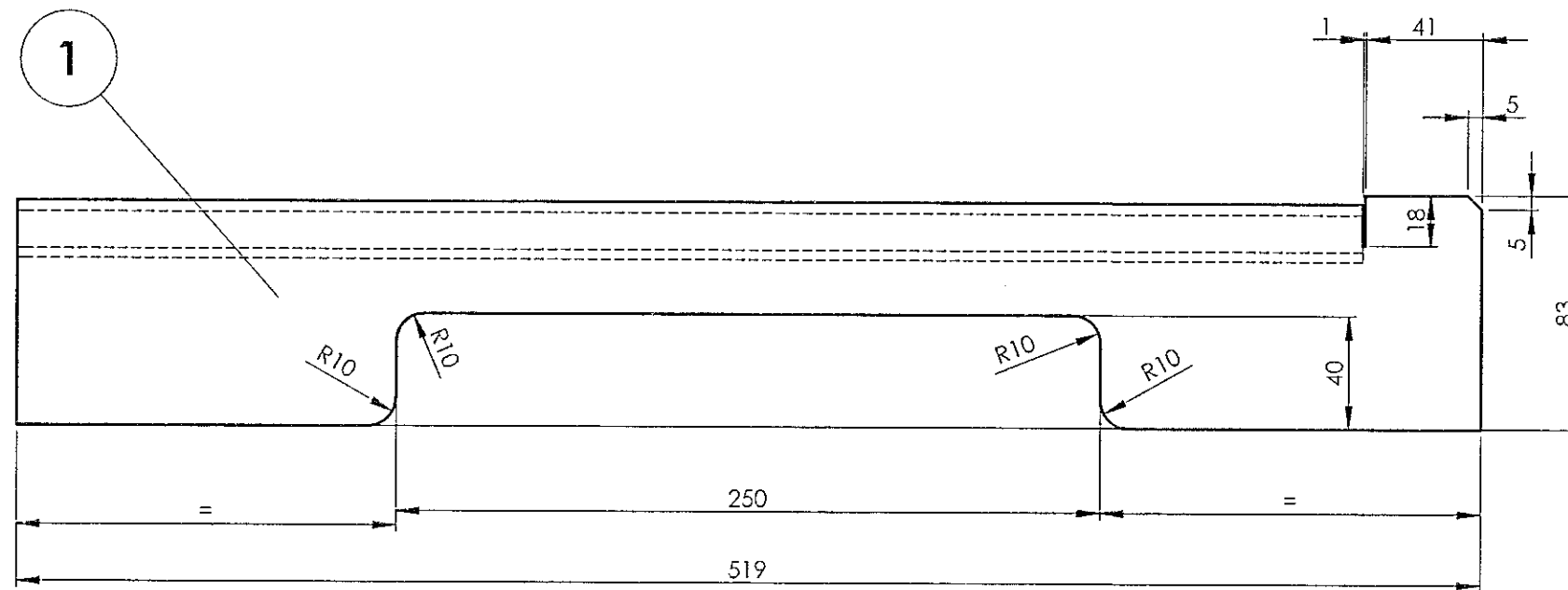
1	STIFFENING ANGLE	4 x 123 x 529	1		RDSO/SPEC C- K201 X2 Cr Ni 12	1.703	
QTY	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 Roof Construction		SURFACE AREA IN Sq.m.:0.112			WT/ASSY IN Kgs:		
STIFFENING ANGLE					SCALE	SSE/D	
					1:5	CHD	
					ALT.	ALTD	
						DRN	E.SATHISH KUMAR
INDIAN RAILWAY STANDARDS INTEGRAL COACH FACTORY, CHENNAI - 600038				SHEET 1 OF 1			
					AAF16252		A3

AAAF16253

▽ ROUGH MACHINED	① ROUGH CLEANED
▽▽ FINISH MACHINED	①b BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	①8 CHAMFERED

REVISIONS

ALT.	ZONE	DESCRIPTION	APPROVED & DATE
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REF.DRG.NO.

DATE OF LATEST ALT.	04/09/25	A. H. K.
DATE OF FIRST ISSUE		
AME/SME		

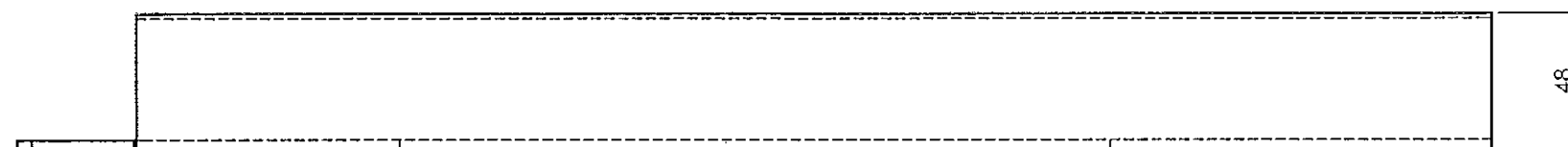
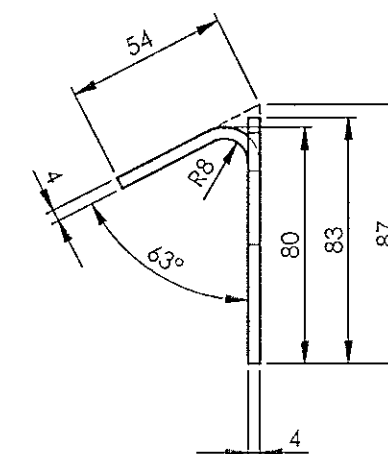
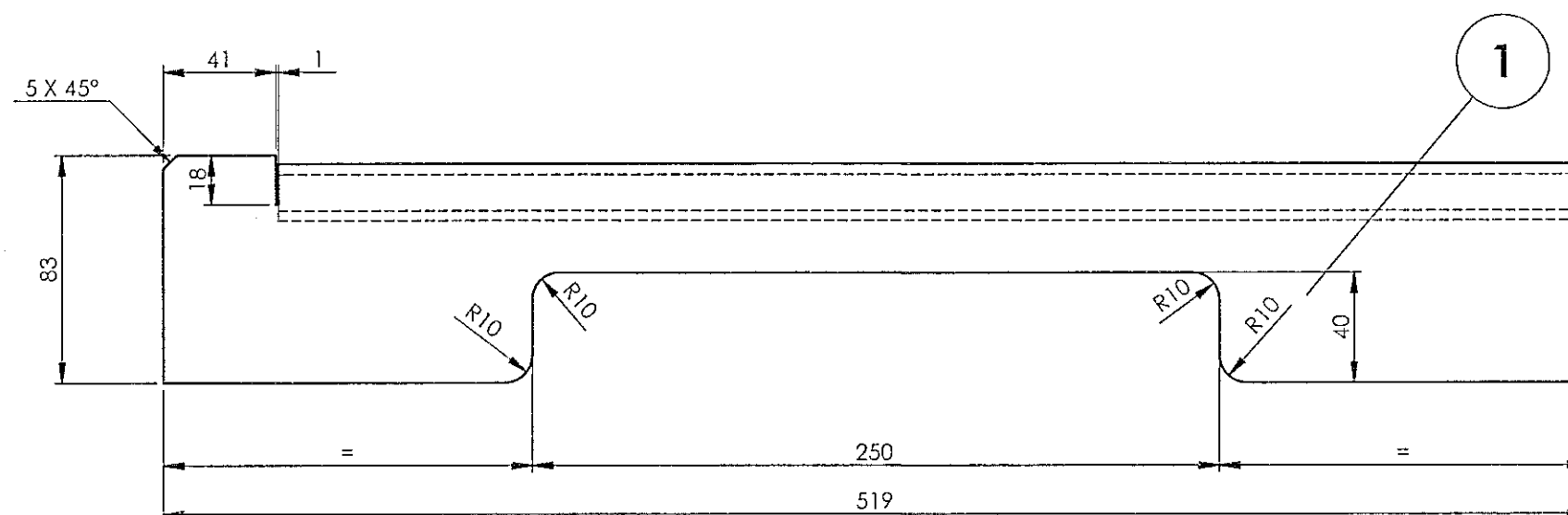
1	STIFFENING ANGLE	4 x 123 x 519	1		RDSO/SPEC C-K201 X2 Cr Ni 12	1.668	
QTY	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 Roof Construction				SURFACE AREA IN Sq.m.:0.110		WT/ASSY IN Kgs:	
STIFFENING ANGLE					SCALE	SSE/D	A. H. K.
					1:5	CHD	
					ALT.	ALTD	E.SATHISH KUMAR
						DRN	
INDIAN RAILWAY STANDARDS					SHEET 1 OF 1		
INTEGRAL COACH FACTORY, CHENNAI - 600038					AAAF16253		A3

AAF16254

▽ ROUGH MACHINED	① ROUGH CLEANED
▽▽ FINISH MACHINED	①b BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	①8 CHAMFERED

REVISIONS

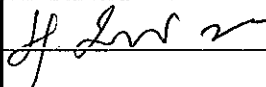

ALT.	ZONE	DESCRIPTION	APPROVED & DATE
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REF.DRG.NO.

DATE OF LATEST ALT.	04/01/25	AME/SME
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1	STIFFENING ANGLE	4 x 123 x 519	1		RDSO/SPEC C-K201 X2 Cr NI 12	1.668	
QTY	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 Roof Construction		SURFACE AREA IN Sq.m.:0.110			WT/ASSY IN Kgs:		
STIFFENING ANGLE					SCALE	SSE/D	
					1:2.5	CHD	
					ALT.	ALTD	
						DRN	E.SATHISH KUMAR
INDIAN RAILWAY STANDARDS INTEGRAL COACH FACTORY, CHENNAI - 600038				SHEET 1 OF 1			
					AAF16254		A3

1		2		3		4		5		6		7		8																																																																																																																																														
AAF16292				▽ ROUGH MACHINED		① ROUGH CLEANED		REVISIONS																																																																																																																																																				
				▽▽ FINISH MACHINED		①b BURRS REMOVED		ALT.		ZONE		DESCRIPTION			APPROVED & DATE																																																																																																																																													
				▽▽▽ FINE FINISH MACHINED		①8 CHAMFERED																																																																																																																																																						
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ISOMETRIC VIEW																																																																																																																																																												
<table><tr><td colspan="2">1</td><td colspan="2">Z MEMBER</td><td colspan="2">2 x 102 x 352</td><td colspan="2">1</td><td colspan="2">RDSO/SPEC C-K201 X2CrNi12</td><td colspan="2">0.57</td><td colspan="2"></td></tr><tr><td colspan="2">QTY</td><td colspan="2">DESCRIPTION</td><td colspan="2">DIMENSIONS</td><td colspan="2">ITEM NO.</td><td colspan="2">REF. DRGS</td><td colspan="2">MATL.SPEC.</td><td colspan="2">WT/UNIT IN KGS</td><td colspan="2">REMARKS</td></tr><tr><td colspan="15">GROUP: 1-6 Roof Construction</td><td colspan="2">SURFACE AREA IN Sq.m.:0.07</td><td colspan="2">WT/ASSY IN Kgs:</td></tr><tr><td colspan="15" rowspan="3">Z MEMBER (LH)</td><td colspan="2">SCALE 1:2</td><td colspan="2">SSE/D CHD</td><td colspan="2">Amal George</td></tr><tr><td colspan="2">ALT.</td><td colspan="2">ALTD</td><td colspan="2"></td></tr><tr><td colspan="2">DRN</td><td colspan="2"></td><td colspan="2"></td></tr><tr><td colspan="15">INDIAN RAILWAY STANDARDS</td><td colspan="2">SHEET 1 OF 1</td><td colspan="2">AAF16292</td><td colspan="2">A3</td></tr><tr><td colspan="15">INTEGRAL COACH FACTORY, CHENNAI - 600038</td><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td></tr><tr><td colspan="2">DATE OF LATEST ALT.</td><td colspan="2">10-11-2025</td><td colspan="2">AME/SME</td><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td></tr></table>															1		Z MEMBER		2 x 102 x 352		1		RDSO/SPEC C-K201 X2CrNi12		0.57				QTY		DESCRIPTION		DIMENSIONS		ITEM NO.		REF. DRGS		MATL.SPEC.		WT/UNIT IN KGS		REMARKS		GROUP: 1-6 Roof Construction															SURFACE AREA IN Sq.m.:0.07		WT/ASSY IN Kgs:		Z MEMBER (LH)															SCALE 1:2		SSE/D CHD		Amal George		ALT.		ALTD				DRN						INDIAN RAILWAY STANDARDS															SHEET 1 OF 1		AAF16292		A3		INTEGRAL COACH FACTORY, CHENNAI - 600038																					DATE OF LATEST ALT.		10-11-2025		AME/SME													
1		Z MEMBER		2 x 102 x 352		1		RDSO/SPEC C-K201 X2CrNi12		0.57																																																																																																																																																		
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DATE OF LATEST ALT.		10-11-2025		AME/SME																																																																																																																																																								
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AA16293

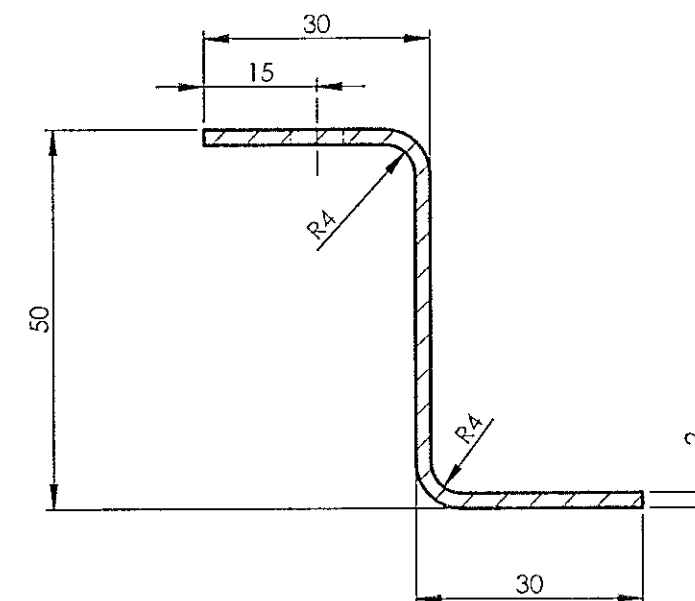
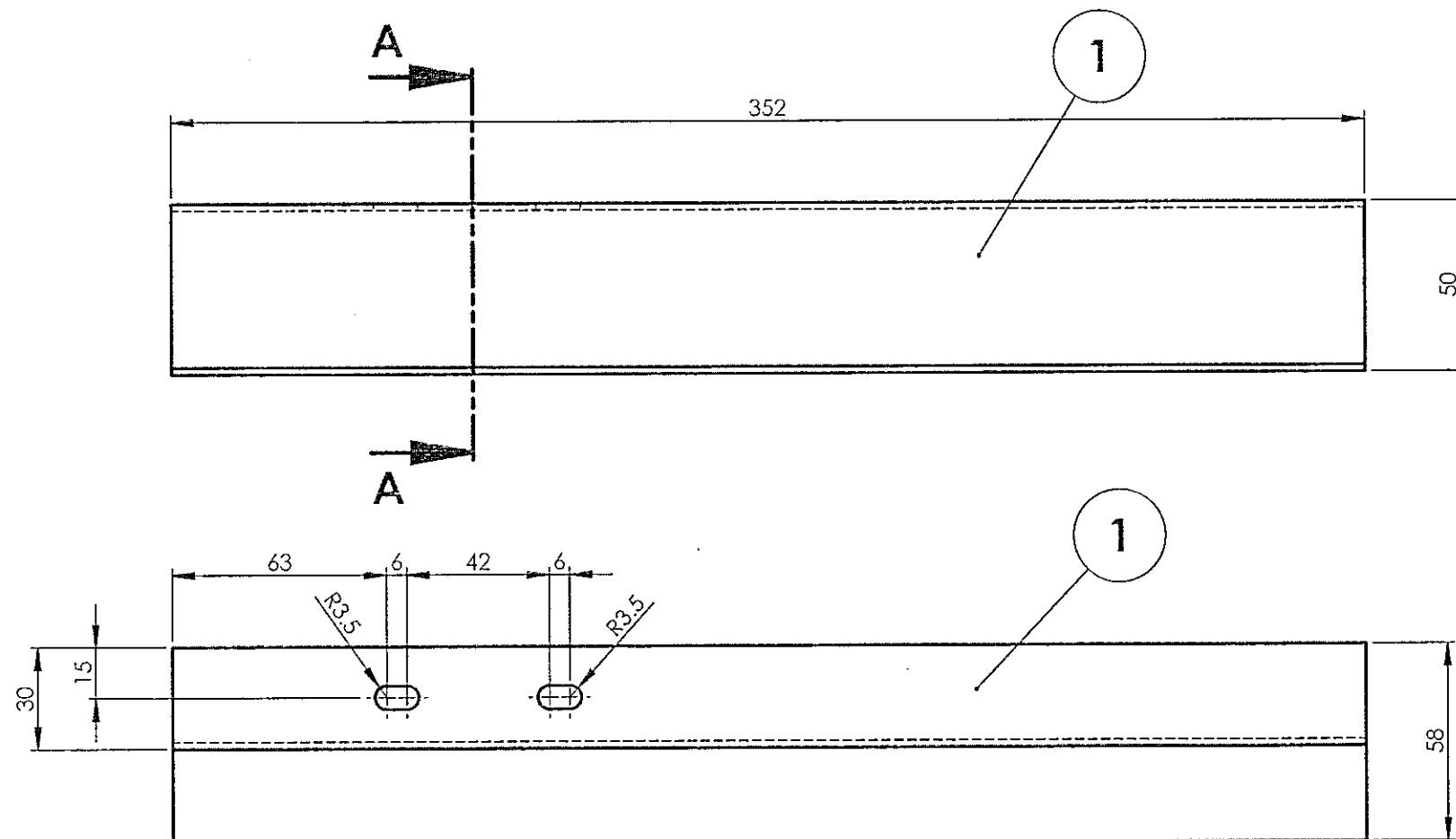
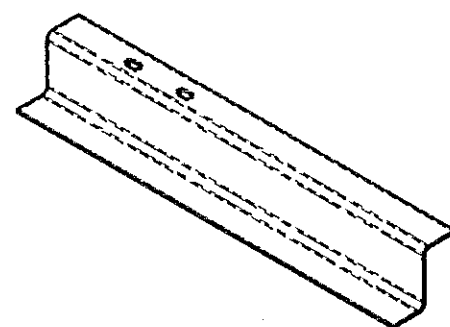
▽ ROUGH MACHINED	① ROUGH CLEANED
▽▽ FINISH MACHINED	①b BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	①8 CHAMFERED

REVISIONS

ALT.

ZONE

DESCRIPTION

APPROVED &
DATESECTION A-A
SCALE 1 : 1

ISOMETRIC VIEW

1	Z MEMBER	2 x 102 x 352	1		RDSO/SPEC C-K201 X2CrNi12	0.57	
QTY	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 Roof Construction				SURFACE AREA IN Sq.m.:0.07		WT/ASSY IN Kgs:	
Z- MEMBER (RH)					SCALE	SSE/D	10-11-2025
					1:2	CHD	
					ALT.	ALTD	
						DRN	Amal George
INDIAN RAILWAY STANDARDS					SHEET 1 OF 1		
INTEGRAL COACH FACTORY, CHENNAI - 600038					AA16293		
					A3		

ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD-9-0-001.
ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER EN ISO 2553.
WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY

REF.DRG.NO.LE16106 alt-a

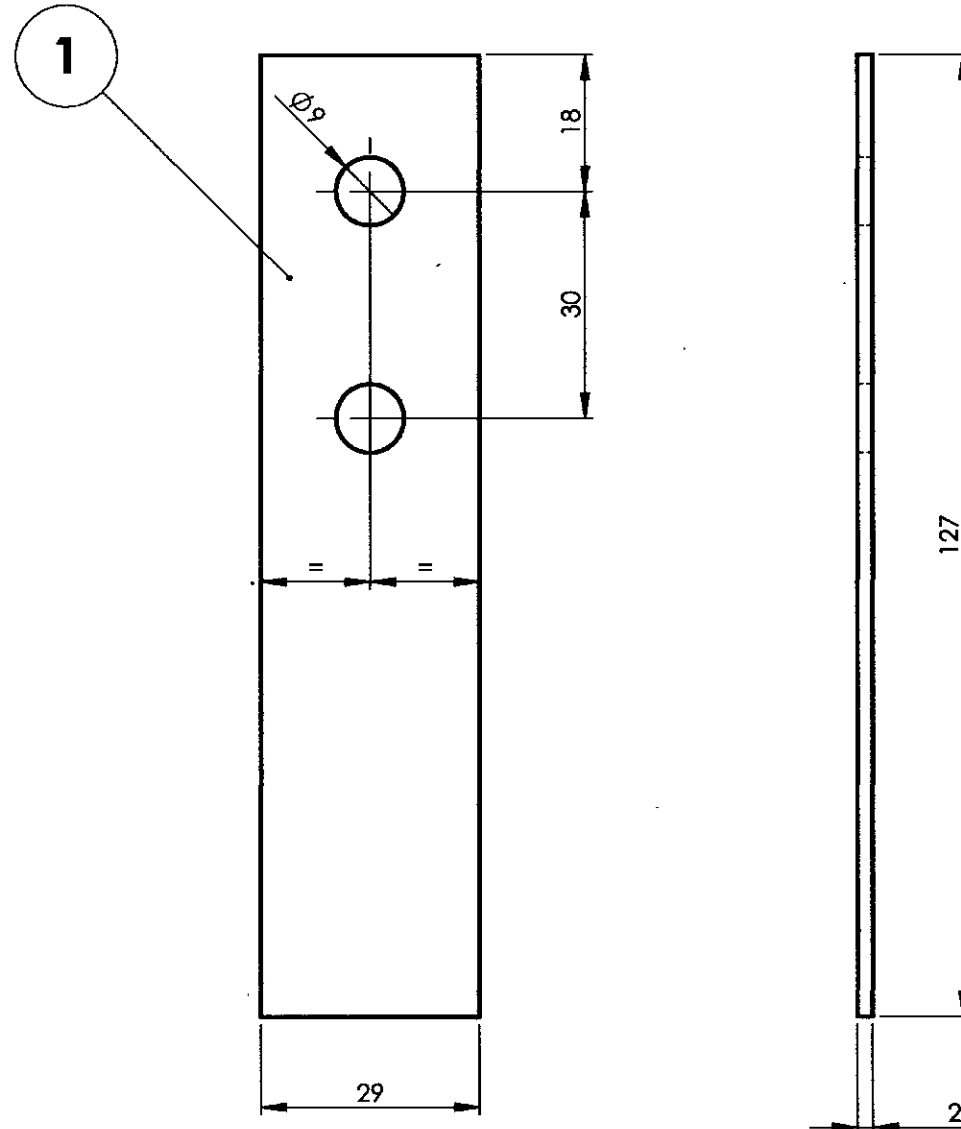
	10-11-2025	
DATE OF LATEST ALT.	DATE OF FIRST ISSUE	AME/SME

AAf16523

▽ ROUGH MACHINED	① ROUGH CLEANED
▽▽ FINISH MACHINED	①b BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	①8 CHAMFERED

REVISIONS

ALT.	ZONE	DESCRIPTION	APPROVED & DATE
------	------	-------------	-----------------



ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD-9-0-001.
ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER EN ISO 2553.
WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY

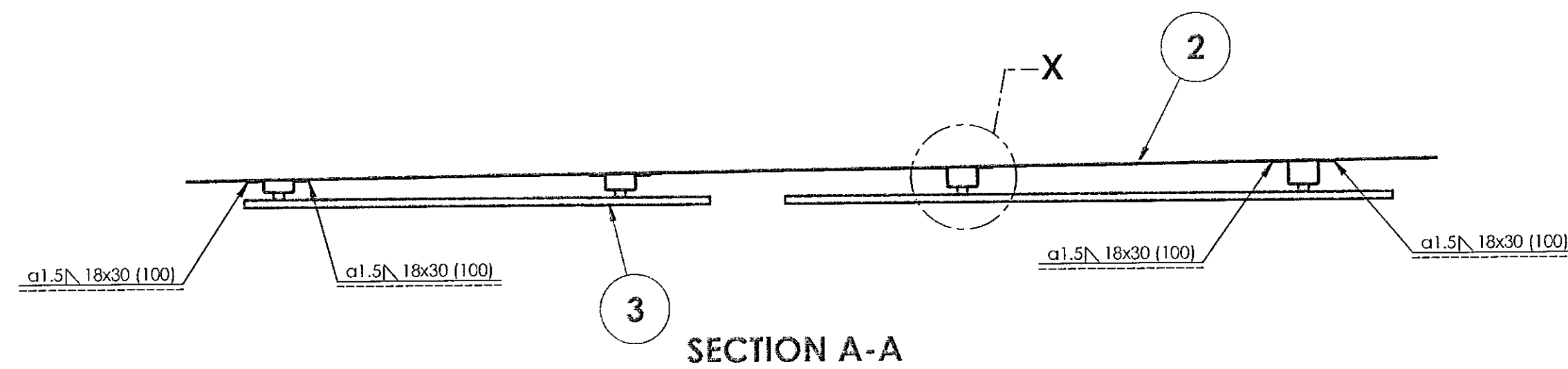
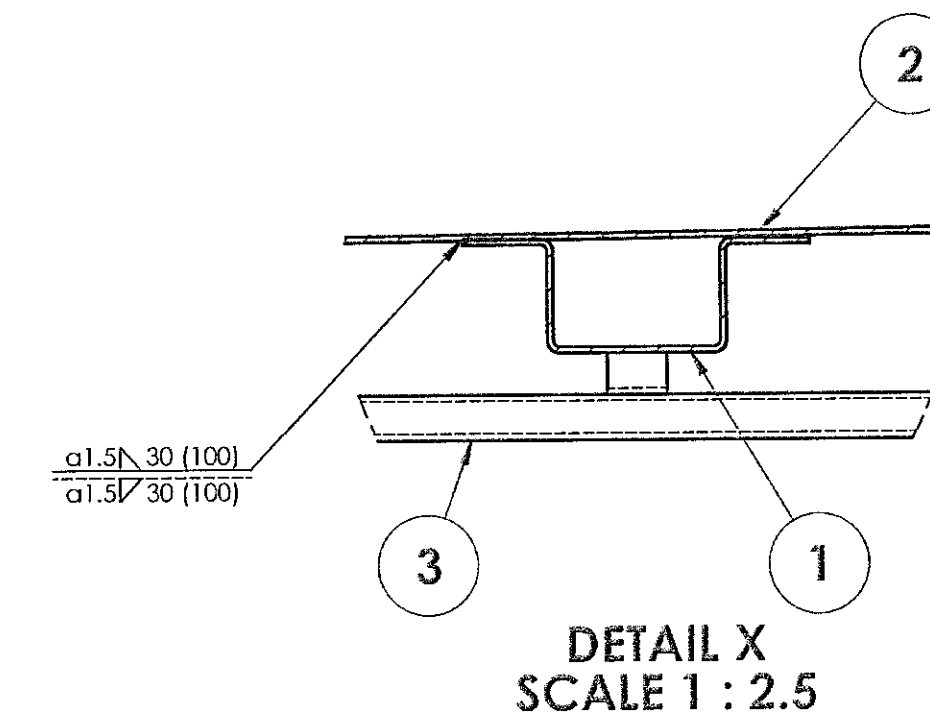
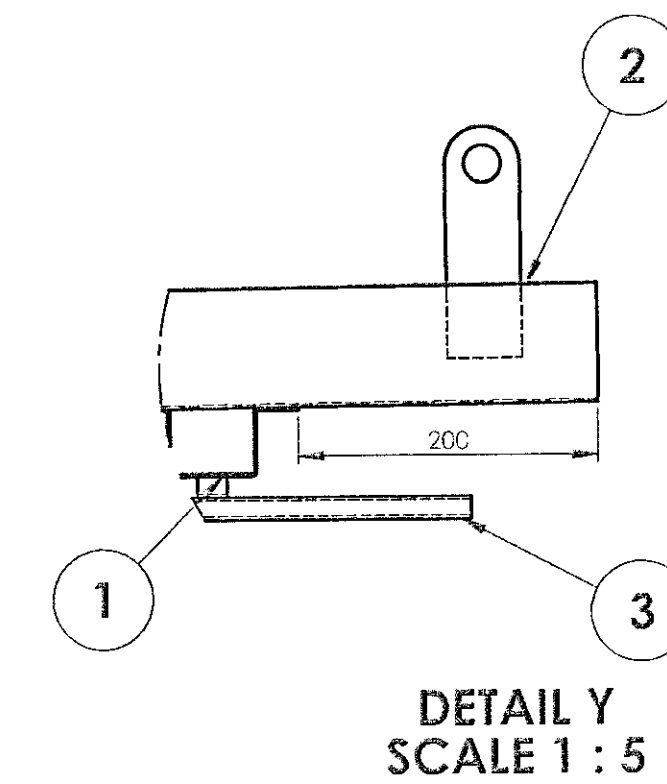
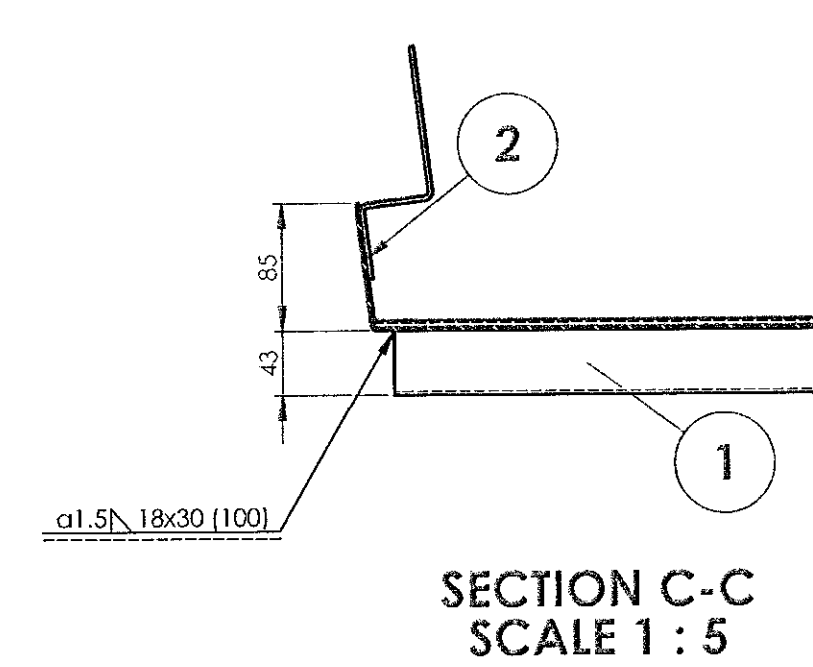
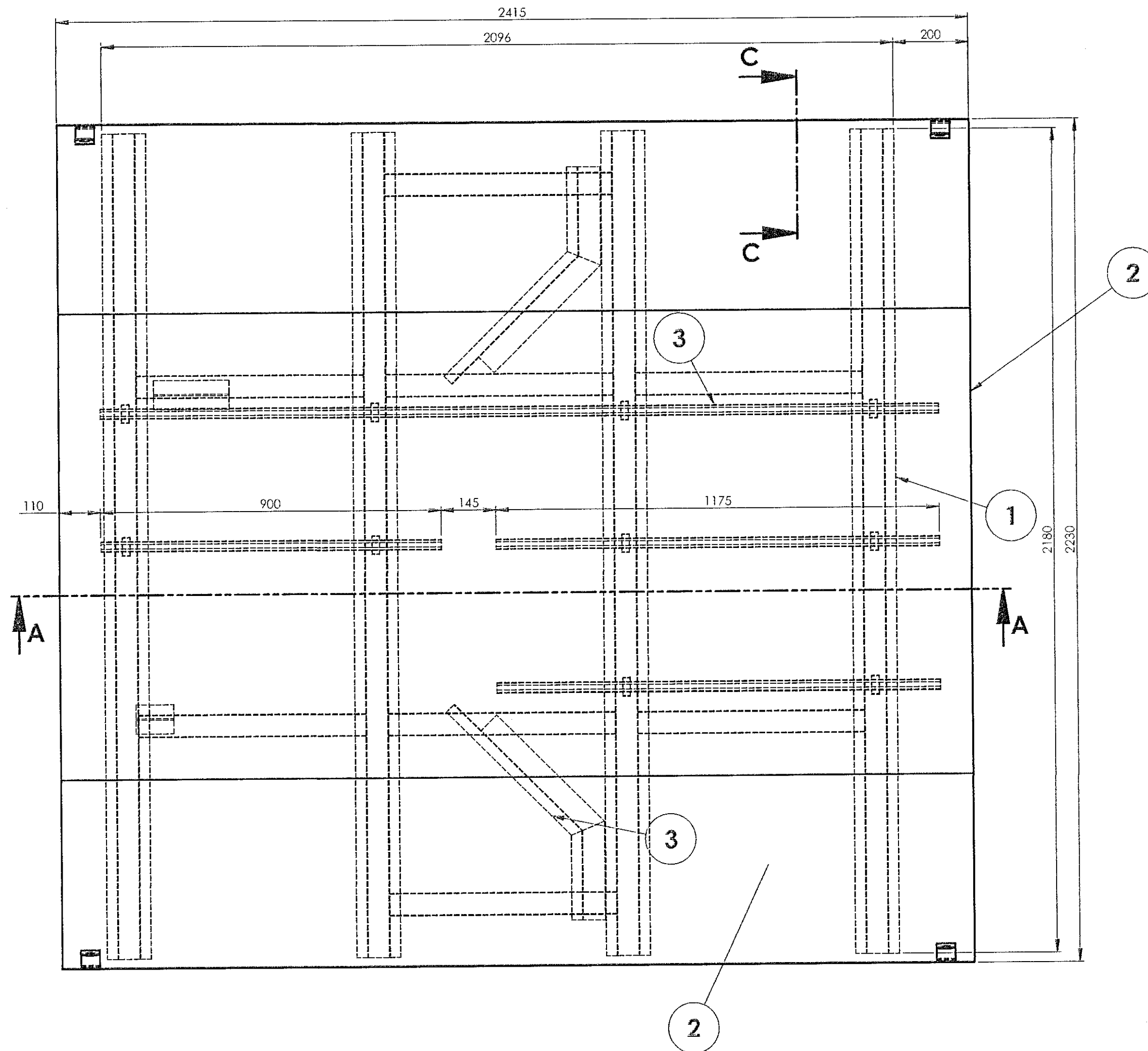
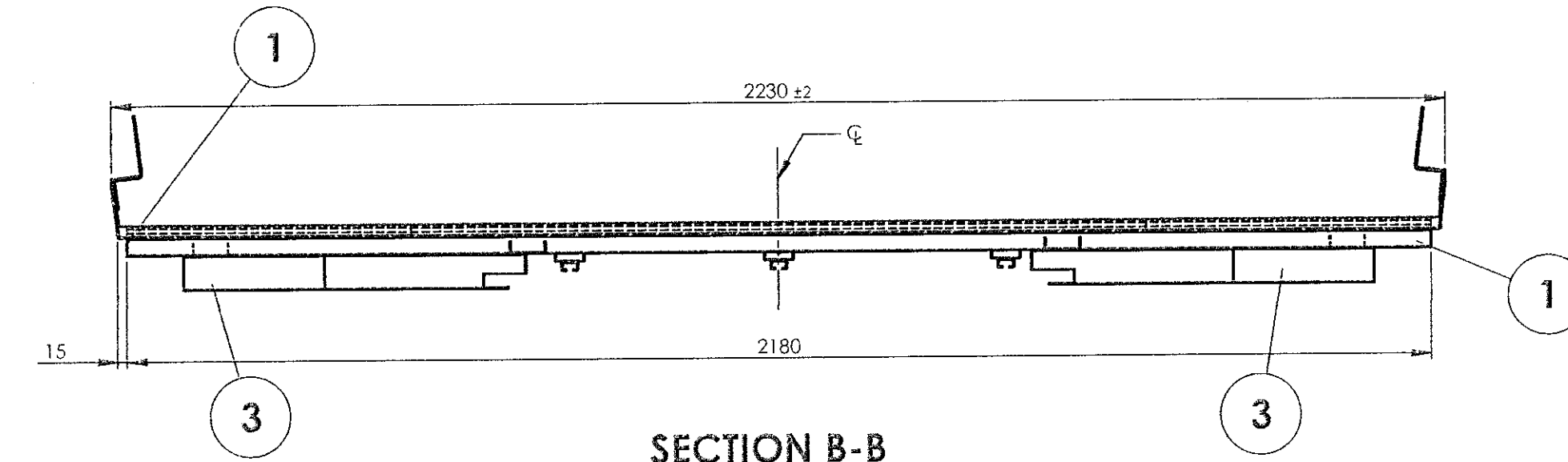
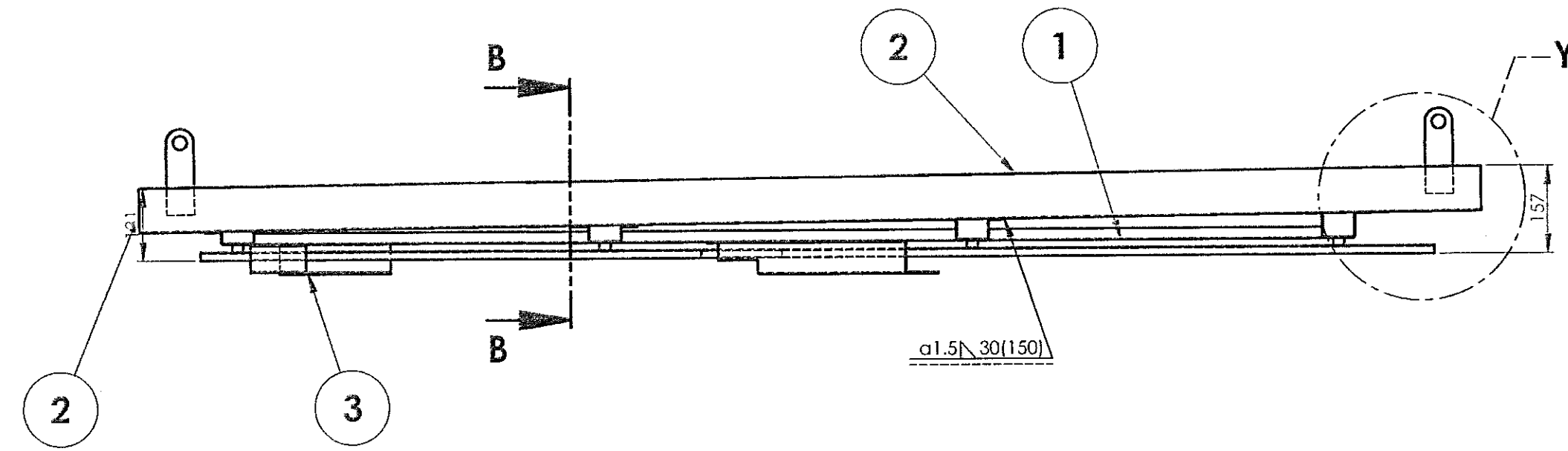
REF.DRG.NO.-

	22-4-26	<i>[Signature]</i>
DATE OF LATEST ALT.	DATE OF FIRST ISSUE	AME/SME

1	FLAT	2x29x127	1		RDSO SPEC C-K201 X2 Cr Ni 12	0.06	
QTY.	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 Roof Construction				SURFACE AREA IN Sq.m.:		WT/ASSY IN Kgs:	
FLAT					SCALE	SSE/D	<i>[Signature]</i>
					1:1	CHD	
					ALT.	ALTD	
						DRN	E.SATHISH KUMAR
INDIAN RAILWAY STANDARDS				SHEET 1 OF 1			
INTEGRAL COACH FACTORY, CHENNAI - 600038						AAf16523	
						A3	

82716005

12	13	14	15	16
▽ ROUGH MACHINED	① ROUGH CLEANED	REVISIONS		
▽▽ FINISH MACHINED	② BURRS REMOVED	ALT.	ZONE	APPROVED & DATE
▽▽▽ FINE FINISH MACHINED	③ CHAMFERED	a		ITEM-2 & 3 REVISED AND VIEWS UPDATED.



NOTE :

1. STAINLESS STEEL ELECTRODE OF SAME COMPOSITION AS PER TABLE-3 OF RDSO/SPEC. CK-201 SHALL BE USED FOR WELDING.
2. ALL WELDING SHALL BE OF TIG UNLESS OTHERWISE SPECIFIED.
3. FOR WELD TESTING PREFERENCES REFER DRG. No. ICF/STD-9-0-998.
4. FOR WELD PROCEDURE SPECIFICATION REFER DRG. No. ICF/STD-9-0-999.
5. ALL WELDED JOINTS SPATTERS SHALL BE GROUND.
6. ALL WELDED JOINTS SHALL BE PICKLED AND PASSIVATED BEFORE SURFACE TREATMENT.
7. ALL SHARP CORNERS SHALL BE ROUNDED OFF.
8. ALTERNATIVELY MATERIAL SPEC. ASTM A240 TYPE-304 ALSO ACCEPTABLE IN PLACE OF IS: 6911 X04C19Ni9.

1	WELDING PARTS		3	82716007		9.43	
1	ROOF SHEET ASSY		2	82716006		92.27	
1	FRAME WORK FOR FLAT ROOF ASSEMBLY		1	82716008		31.64	
QTY.	DESCRIPTION	DIMENSIONS	ITEM NO.	REF.DRGS.	MATL	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 Roof Construction			SURFACE AREA IN Sq.m.: 16737627.4		WT/ASSY IN Kgs:		
FLAT ROOF ASSEMBLY					SCALE	SSE/JO	
					1:10	CHD	
					ALT.	ALTD	E.SATHISH KUMAR
					a	DRN	E.SATHISH KUMAR
					INDIAN RAILWAY STANDARDS		
INTEGRAL COACH FACTORY, CHENNAI - 600038			82716005	A1			

23/01/26	08/03/25	AME/SHE
DATE OF LATEST ALT	DATE OF FIRST ISSUE	AME/SHE

REF.DRG.NO.:-

82716006

▽ ROUGH MACHINED
▽▽ FINISH MACHINED
▽▽▽ FINE FINISH MACHINED

(01) ROUGH CLEANED
(01b) BURRS REMOVED
(18) CHAMFERED

REVISIONS

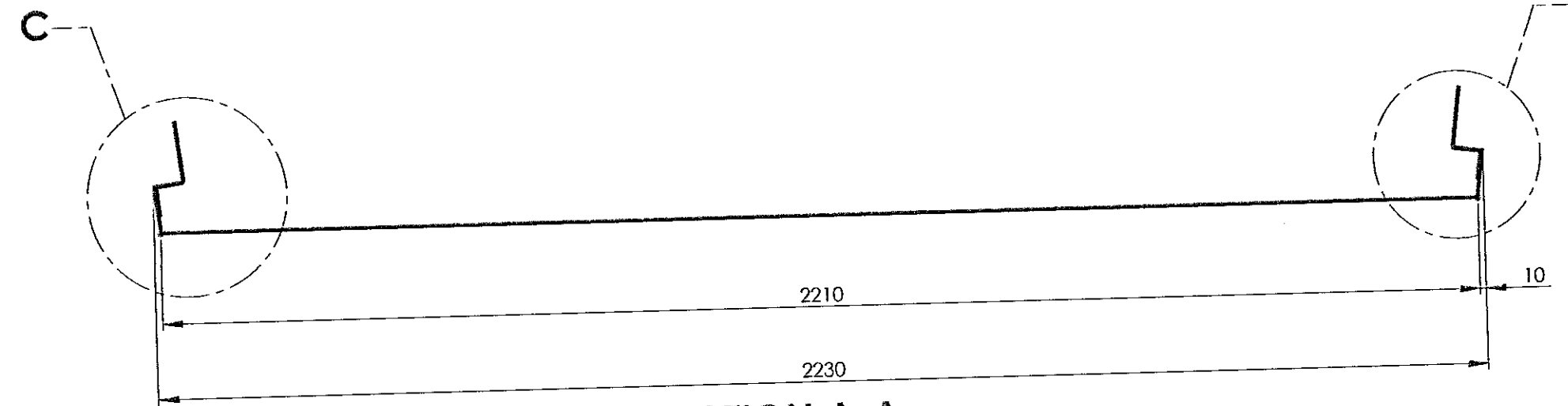
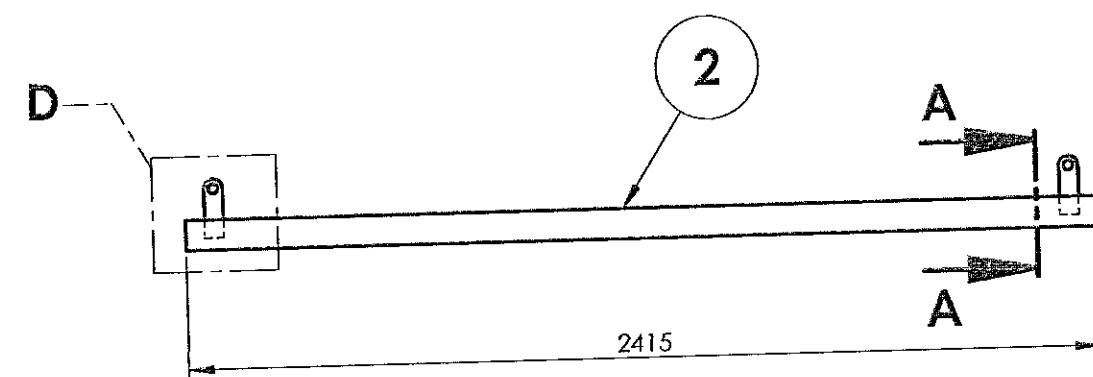
ALT.

ZONE

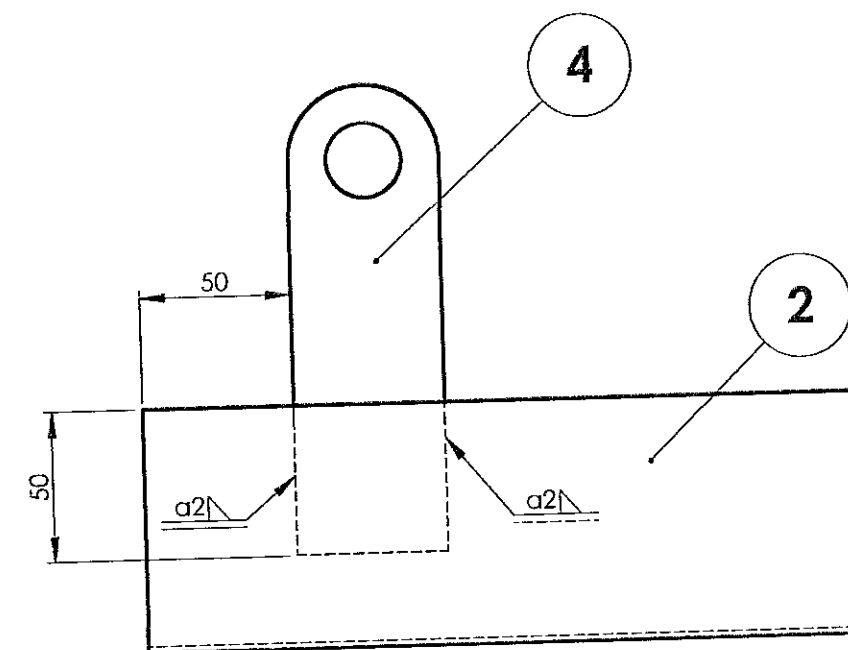
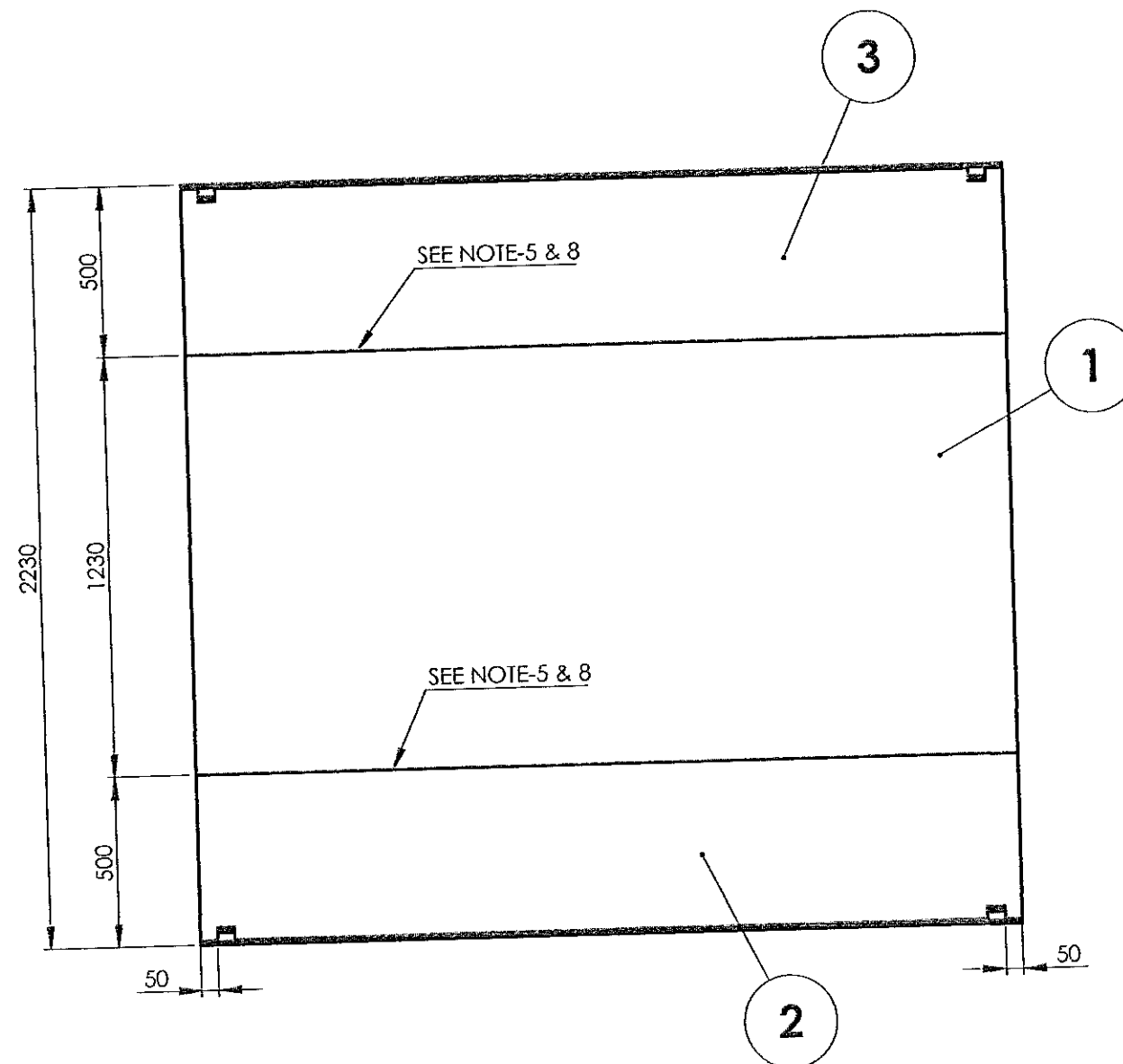
DESCRIPTION

APPROVED &
DATE

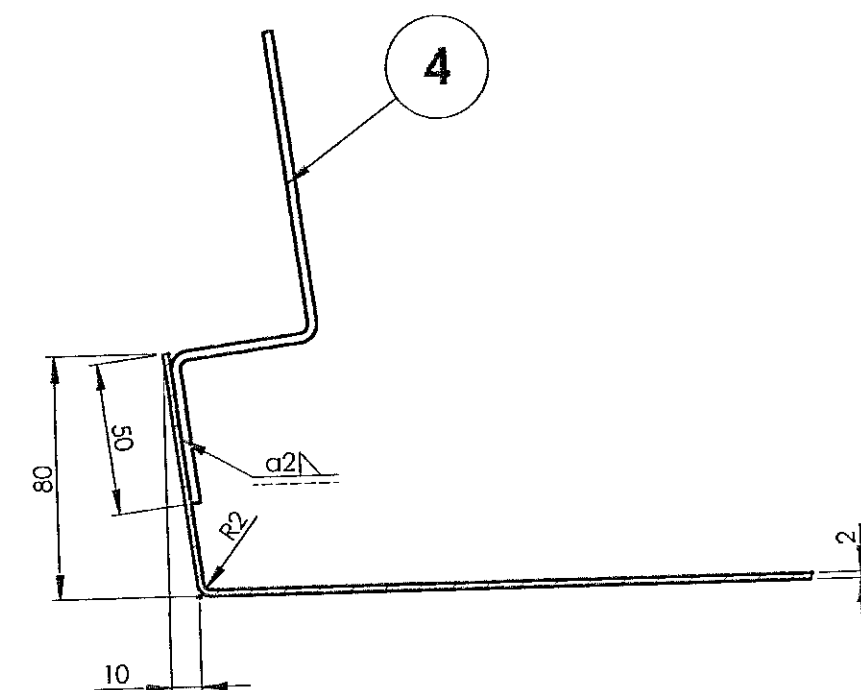
ITEM-4 ADDED AND VIEWS UPDATED.



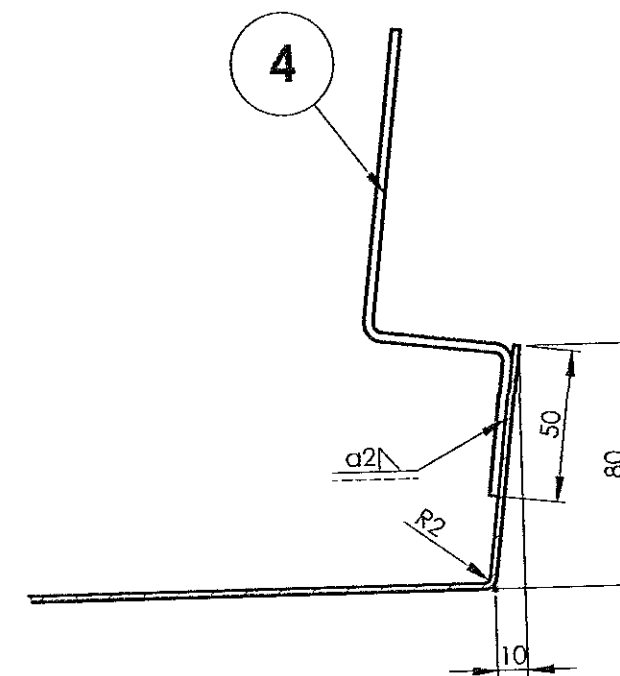
SECTION A-A
SCALE 1 : 10



DETAIL D
SCALE 1 : 2.5



DETAIL C
SCALE 1 : 2.5



DETAIL B
SCALE 1 : 2.5

NOTE:

1. STAINLESS STEEL ELECTRODE OF SAME COMPOSITION AS PER TABLE-3 OF RDSO/SPEC C-K201 SHALL BE USED FOR WELDING.
2. ALL WELD SPATTERS SHALL BE GROUND.
3. ALL WELDED JOINTS SHALL BE PICKLED AND PASSIVATED BEFORE SURFACE TREATMENT.
4. ALL SHARP CORNERS SHALL BE ROUNDED OFF.
5. WELDING OF SHEET JOINT SHALL BE OF LEAK PROOF BUTT JOINT AND SHALL BE MADE THROUGH TIG/LASER/RESISTANCE SEAM WELD PROCESS.
6. FOR WELD TESTING PREFERENCES REFER DRG.NO.ICF/STD-9-0-998.
7. FOR WELD PROCEDURE SPECIFICATION REFER DRG.NO.ICF/STD-9-0-999.
8. ROOF SHEET ASSY WITH SINGLE JOINT CAN ALSO BE ACCEPTABLE.

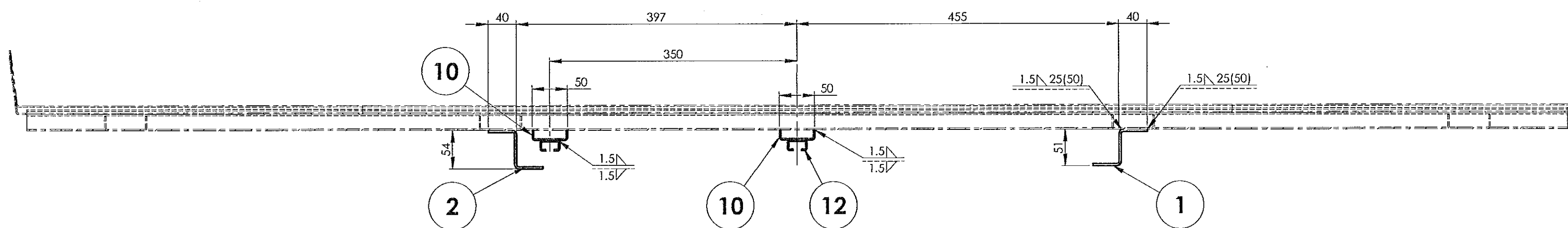
4	LIFTING HOOK		4	AAF16435		0.21	
1	ROOF SHEET		3	AAF16106		21.94	
1	ROOF SHEET		2	AAF16105		21.94	
1	ROOF SHEET	2 x 1230 x 2415	1		RDSO SPEC C-K201 X5 Cr Ni 18 10	47.53	
QTY.	DESCRIPTION	DIMENSIONS	ITEM NO.	REF.DRGS.	MATL	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 Roof Construction				SURFACE AREA IN Sq.m.: 11542955.86		WT/ASSY IN Kgs:	
ROOF SHEET ASSY				SCALE 1:20	SSE/D CHD	E.SATHISH KUMAR E. SATHISH KUMAR	
				ALT a	ALTD DRN		
INDIAN RAILWAY STANDARDS				SHEET 1 OF 1		LWFAC/PP2	
INTEGRAL COACH FACTORY, CHENNAI - 600038				82716006		A2	

21/01/26 08/08/25
DATE OF LATEST ALT. DATE OF FIRST ISSUE ABE/SME

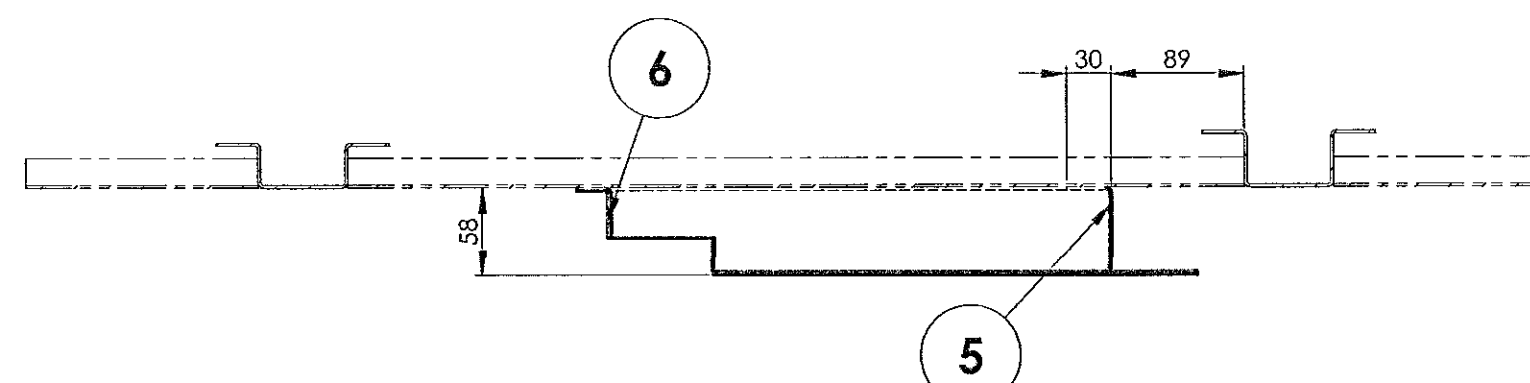
REF.DRG.NO.-

ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD-9-0-001. ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER IS:813-1986. WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY

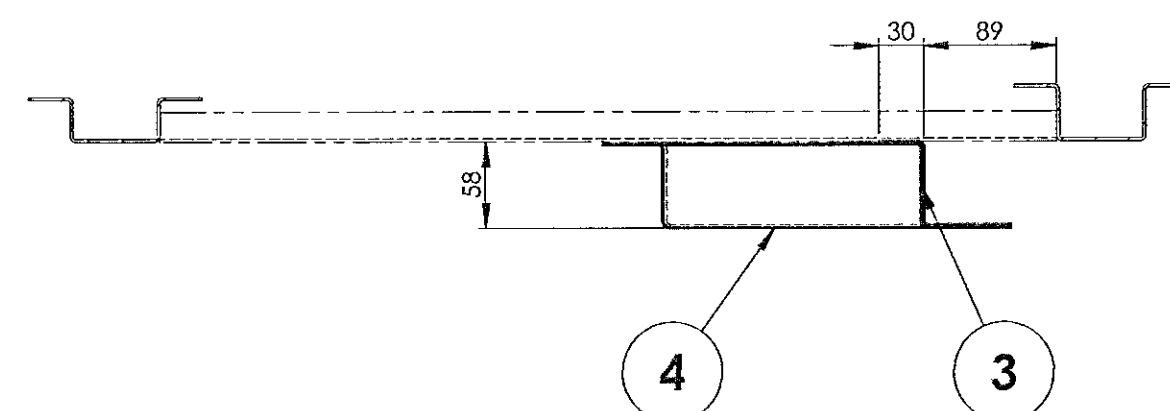
12		13		14		15		16	
▽ ROUGH MACHINED		(01) ROUGH CLEANED		REVISONS					
▽▽ FINISH MACHINED		(01b) BURRS REMOVED		ALT.	ZONE	DESCRIPTION			APPROVED & DATE
▽▽▽ FINE FINISH MACHINED		(1b) CHAMFERED		a		ITEMS-11 & 12 ADDED. ITEMS- 7& 9 DELETED. VIEWS UPDATED.			1.4



SECTION B-B
SCALE 1 : 5




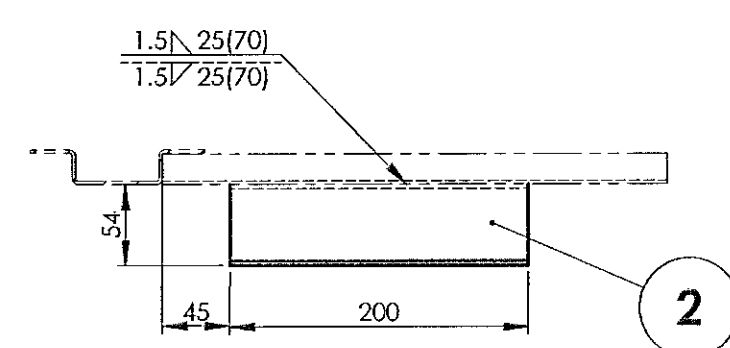
SECTION D-D
SCALE 1 : 5



1. ALL WELDING SHALL BE OF TIG UNLESS OTHERWISE SPECIFIED.
2. STAINLESS STEEL ELECTRODE OF SAME COMPOSITION AS PER TABLE-3 OF RDSO/SPEC. CK-201 SHALL BE USED FOR WELDING.
3. ALL WELDED JOINTS SPATTERS SHALL BE GROUND.
4. ALL SHARP CORNERS SHALL BE ROUNDED OFF.
5. ALL WELDED JOINTS SHALL BE PICKLED AND PASSIVATED BEFORE SURFACE TREATMENT.
6. FOR WELD TESTING PREFERENCES REFER DRG. No. ICF/STD-9-0-998.
7. FOR WELD PROCEDURE SPECIFICATION REFER DRG. No. ICF/STD-9-0-999.

1	C-BAR	L = 900	12	AAB16185		0.88	
1	C-BAR	L = 2220	11	AAB16185		2.16	
10	CHANNEL		10	AAE16292		0.02	
1	C-BAR	L = 980	9	AAB16185		0.95	
2	C-BAR	L = 1175	8	AAB16185		1.14	
1	C-BAR	L = 2300	7	AAB16185		2.24	
1	Z - STIFFENER		6	AAE16333		0.95	
1	Z - STIFFENER		5	AAE16332		0.54	
1	Z - STIFFENER		4	AAE16331		0.95	
1	Z - STIFFENER		3	AAE16330		0.54	
1	Z - STIFFENER		2	AAE16329		0.60	
1	Z - STIFFENER		1	AAE16328		0.29	

GROUP: 1-6 Roof Construction		SURFACE AREA IN Sq.m.: 1673/82716007		QUANTITY IN Kgs.	
<h1 style="text-align: center;">WELDING PARTS</h1>				SCALE	SSE/D
				1:20	CHD
				ALT.	E.SATHISH KUMAR
				DRN	E.SATHISH KUMAR
<h2 style="text-align: center;">INDIAN RAILWAY STANDARDS</h2> <p style="text-align: center;">INTEGRAL COACH FACTORY, CHENNAI - 600038</p>					<h2 style="text-align: center;">LWFAC/PP2</h2>
<h3 style="text-align: center;">SHEET</h3> <p style="text-align: center;">1 OF 1</p>				<h1 style="text-align: center;">82716007</h1>	
				<h1 style="text-align: center;">A1</h1>	



SECTION F-F
SCALE 1 : 5

ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO CF STD-9-0-001.
ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER S813-1986. WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY.

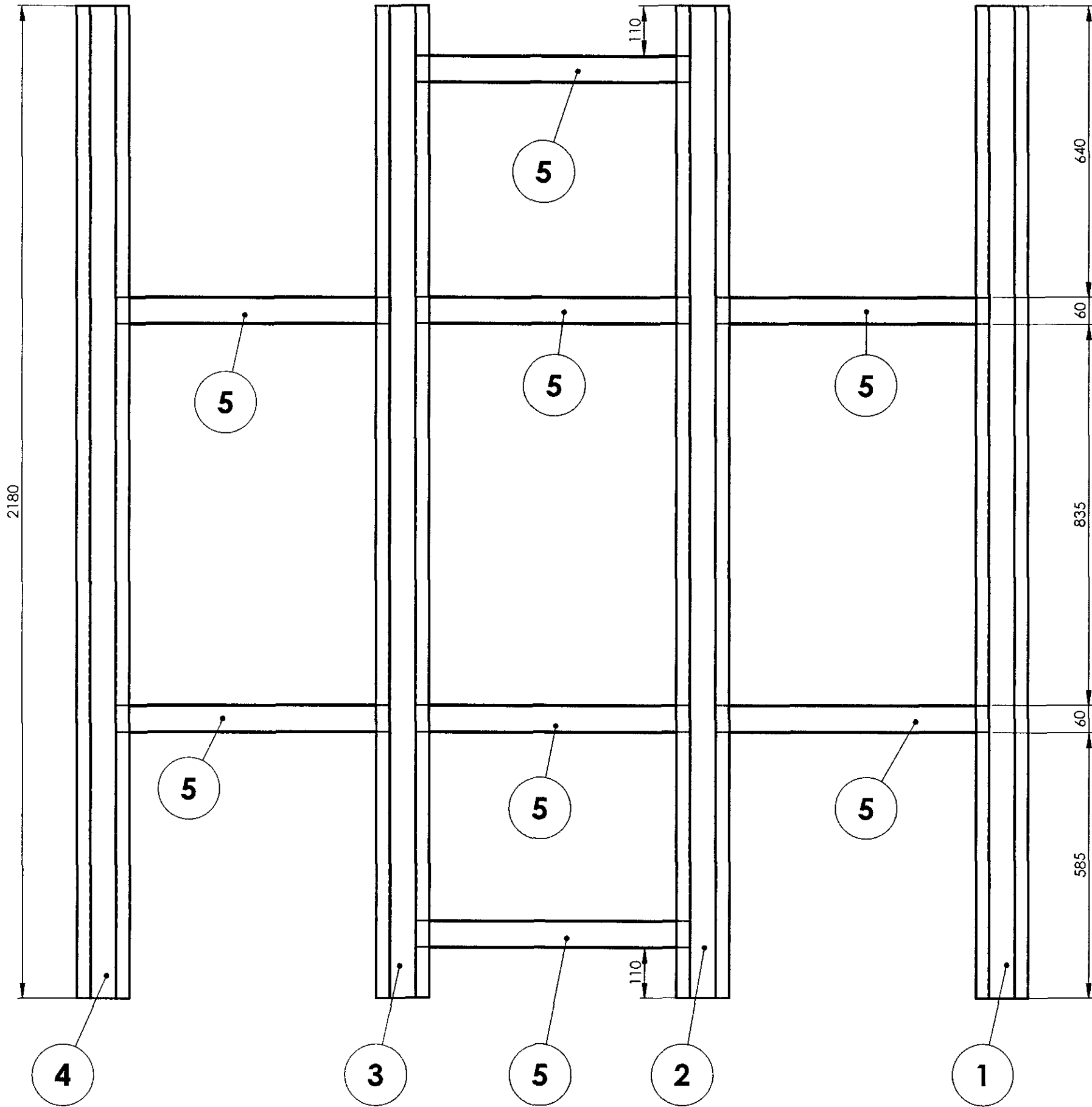
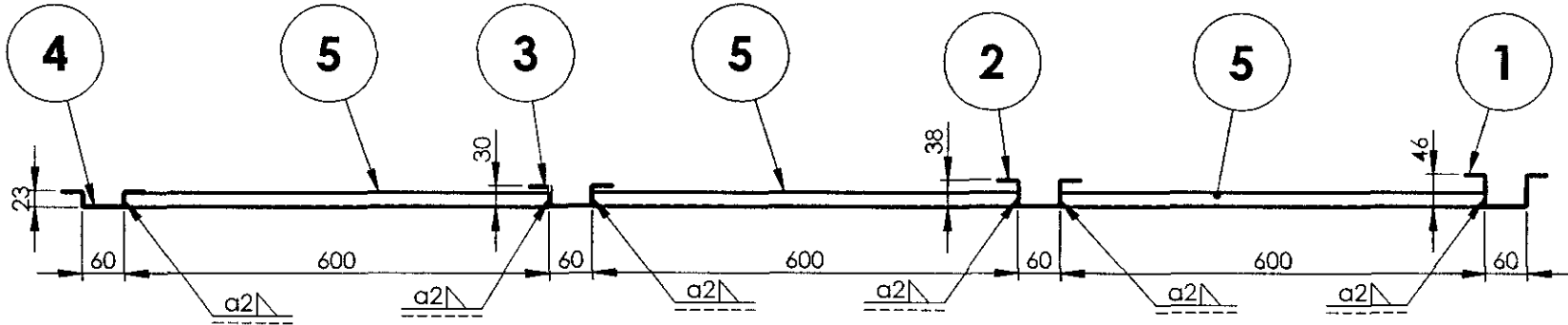
REF.DRG.NO.-

27/01/20	08/08/25	<i>He</i>
DATE OF LATEST ALT.	DATE OF FIRST ISSUE	AME/SM

82716008

▽ ROUGH MACHINED	01 ROUGH CLEANED
▽▽ FINISH MACHINED	01b BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	01c CHAMFERED

REVISIONS			
ALT.	ZONE	DESCRIPTION	APPROVED & DATE



NOTE:

1. ALL WELDING SHALL BE OF TIG UNLESS OTHERWISE SPECIFIED.
2. STAINLESS STEEL ELECTRODE OF SAME COMPOSITION AS PER TABLE-3 OF RDSO/SPEC. CK-201 SHALL BE USED FOR WELDING.
3. ALL WELDED JOINTS SPATTERS SHALL BE GROUND.
4. ALL SHARP CORNERS SHALL BE ROUNDED OFF.
5. ALL WELDED JOINTS SHALL BE PICKLED AND PASSIVATED BEFORE SURFACE TREATMENT.
6. FOR WELD TESTING PREFERANCES REFER DRG. No. ICF/STD-9-0-998.
7. FOR WELD PROCEDURE SPECIFICATION REFER DRG. No. ICF/STD-9-0-999.

8	STIFFENER		5	AAF16113		0.9	
1	STIFFENER		4	AAF16111		5.33	
1	STIFFENER		3	AAF16110		5.82	
1	STIFFENER		2	AAF16109		6.38	
1	STIFFENER		1	AAF16108		6.94	
QTY.	DESCRIPTION	DIMENSIONS	ITEM NO.	REF.DRGS.	MATL	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 Roof Construction				SURFACE AREA IN Sq.m.: 4014849.31		WT/ASSY IN Kgs:	
FRAME WORK FOR FLAT ROOF ASSEMBLY					SCALE 1:20	SSE/D	L. Panduranga
					ALT	CHD	
					ALT	ALTD	
					DRN	DRN	E.SATHISH KUMAR
INDIAN RAILWAY STANDARDS					LWFAC/PP2		
INTEGRAL COACH FACTORY, CHENNAI - 600038					82716008		
SHEET 1 OF 1					A2		

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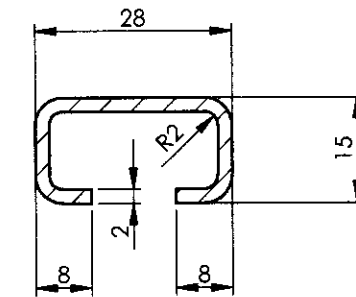
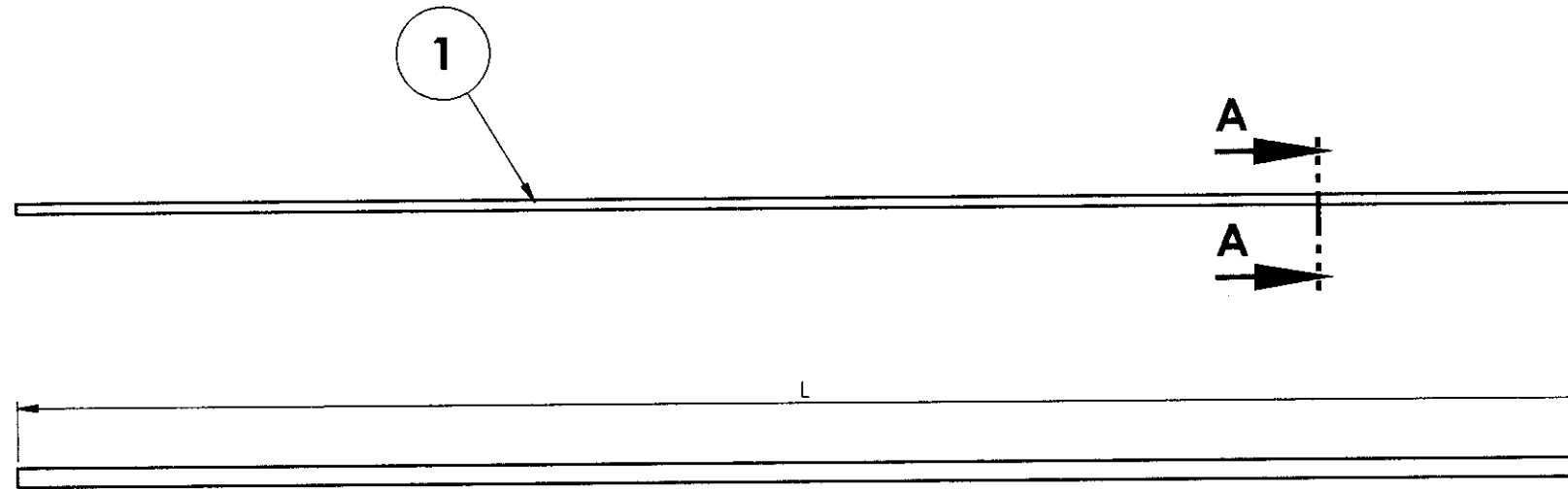
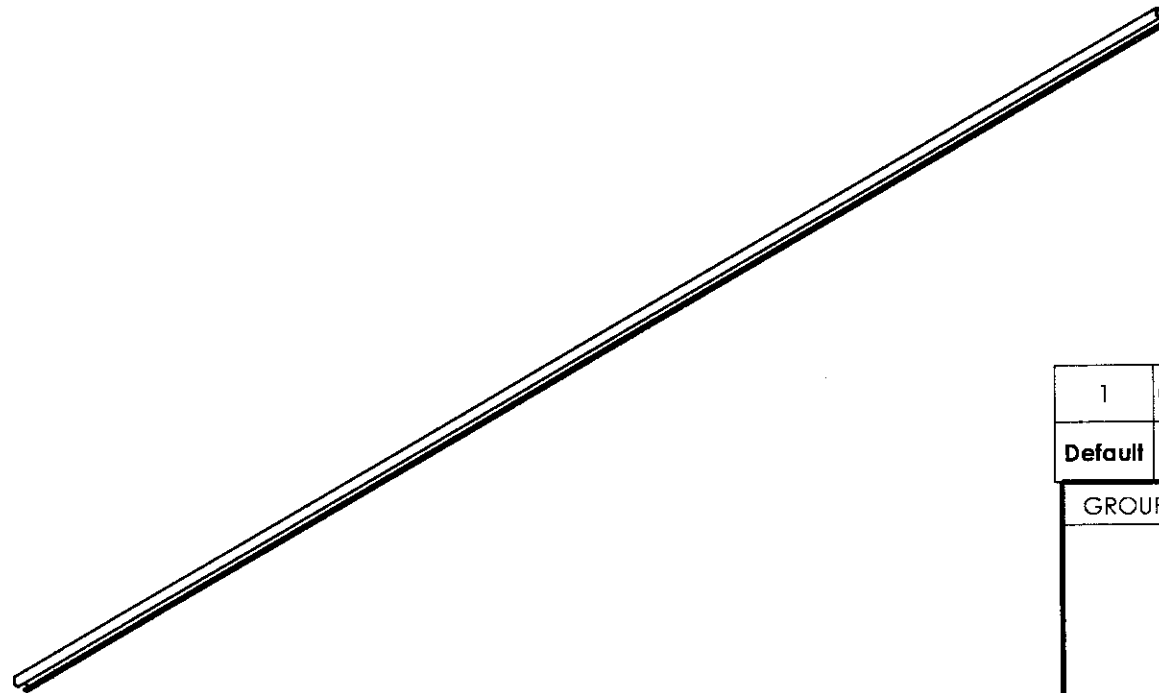
REF.DRG.NO.-


DATE OF LATEST ALT.	DATE OF FIRST ISSUE	AME/SME
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AAB16185

▽ ROUGH MACHINED	① ROUGH CLEANED
▽▽ FINISH MACHINED	② BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	③ CHAMFERED

REVISIONS				APPROVED & DATE
ALT.	ZONE	DESCRIPTION		
a		LENGTH OF ITEM - 1 MENTIONED AS "L"		

SECTION A-A
SCALE 1:1

1	C-BAR	2 x 15 x 28 x L	1		IS:6911-'92; X04Cr19Ni9	2.24	
Default	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS
GROUP: 1-6		SURFACE AREA IN Sq.m.:			WT/ASSY IN Kgs:		
C-BAR					SCALE	SSE/D	L. Panduranga Rao
					1:20	CHD	
					ALT.	ALTD	S.K.MUTHUKUMAR
					a	DRN	S.K.MUTHUKUMAR
INDIAN RAILWAY STANDARDS							
INTEGRAL COACH FACTORY, CHENNAI - 600038					SHEET 1 OF 1		AAB16185
							A3

REF.DRG.NO.-

ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD-9-0-001.
ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER IS: 813:1986.
WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY

1		2		3		4		5		6		7		8	
AAE16292				▽ ROUGH MACHINED		⑧1 ROUGH CLEANED		REVISIONS							
				▽▽ FIN.SH MACHINED		⑧ BURRS REMOVED		ALT.		ZONE		DESCRIPTION		APPROVED & DATE	
				▽▽▽ FINE FIN.SH MACHINED		⑧ CHAMFERED									
A															
B															
C															
D															
E															
F															
ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD-9-0-001. ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER IS 813:1986. WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY															
REF.DRG.NO.															
1															
2															
3															
4															
5															
6															
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8															

1

20

2

R2

50

14

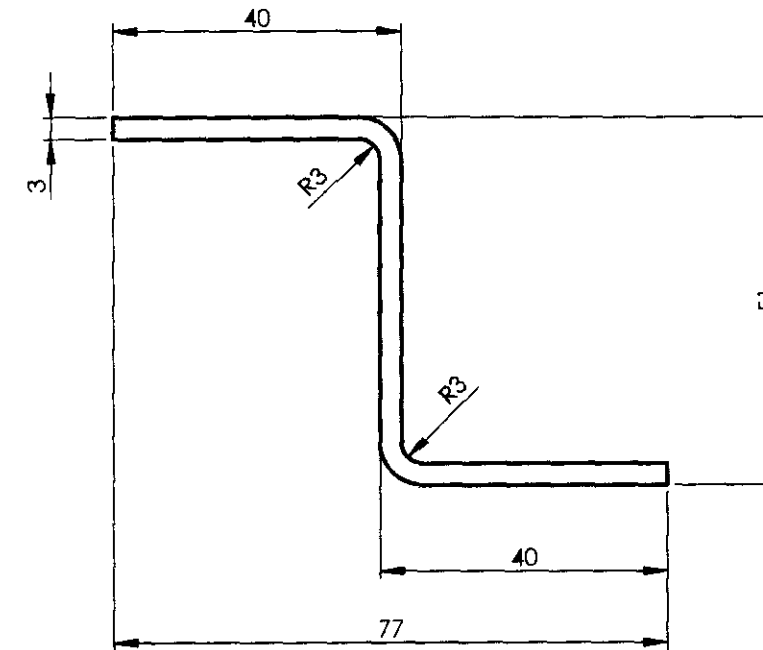
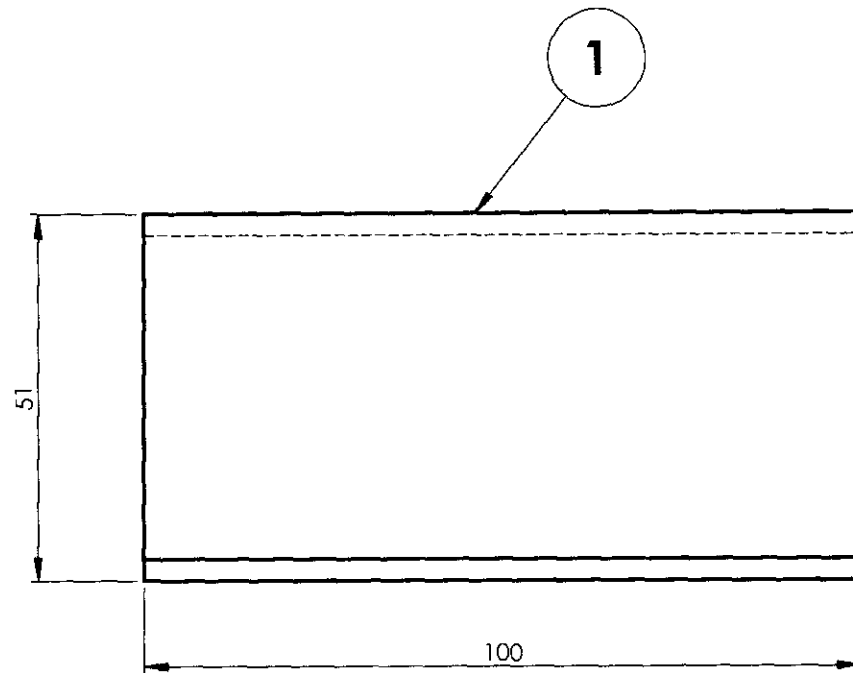
1	CHANNEL	2 x 20 x 70	1		IS:6911 X04Cr19Ni9	0.02	
QTY	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 Roof Construction					SURFACE AREA IN Sq.m.:		WT/ASSY IN Kgs:
CHANNEL					SCALE 2:1	SSE/D CHD	L. Pandurangam
					ALT.	ALTD	
						DRN	S K MUTHUKUMAR/RAVI
INDIAN RAILWAY STANDARDS					SHEET 1 OF 1		
INTEGRAL COACH FACTORY, CHENNAI - 600038					AAE16292		A3

	27.8.22	
DATE OF LATEST ALT.	DATE OF FIRST ISSUE	AME/SME

AAE16328

▽ ROUGH MACHINED	① ROUGH CLEANED
▽▽ FINISH MACHINED	② BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	③ CHAMFERED

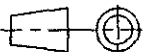
REVISIONS			
ALT.	ZONE	DESCRIPTION	APPROVED & DATE



ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD-9-0-001.
ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER IS: 813-1986.
WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY

REF.DRG.NO.

DATE OF LATEST ALT.	27-8-22	AME/SME
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1	Z - STIFFENER	3 x 100 x 119	1		IS:6911 X04Cr19Ni9	0.29	
QTY	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 Roof Construction		SURFACE AREA IN Sq.m.:			WT/ASSY IN Kgs:		
Z - STIFFENER					SCALE	SSE/D	<i>P. Panduranga Rao</i>
					1:1	CHD	
					ALT.	ALTD	
						DRN	S K MUTHUKUMAR/RAVI
INDIAN RAILWAY STANDARDS				SHEET 1 OF 1			
INTEGRAL COACH FACTORY, CHENNAI - 600038							AAE16328

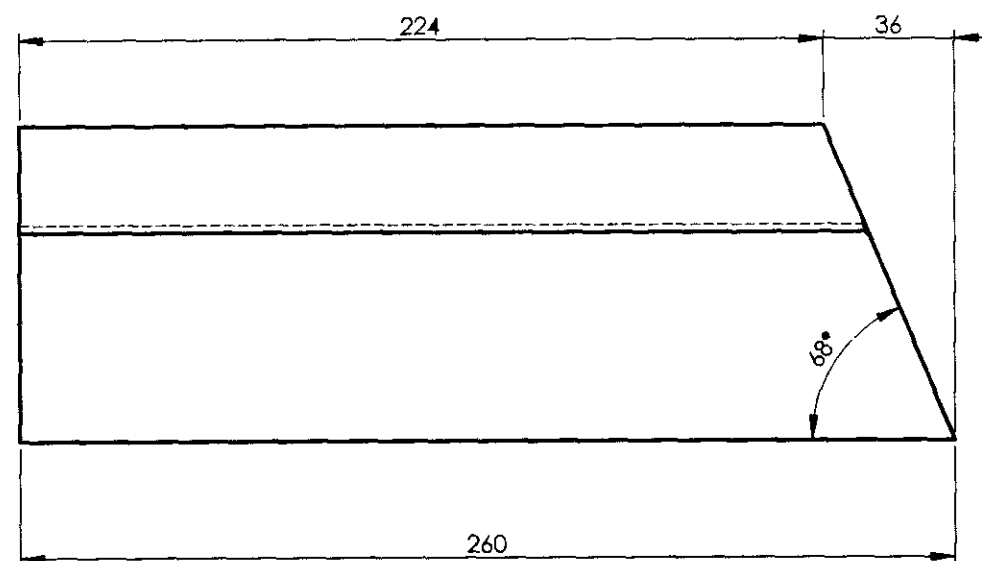
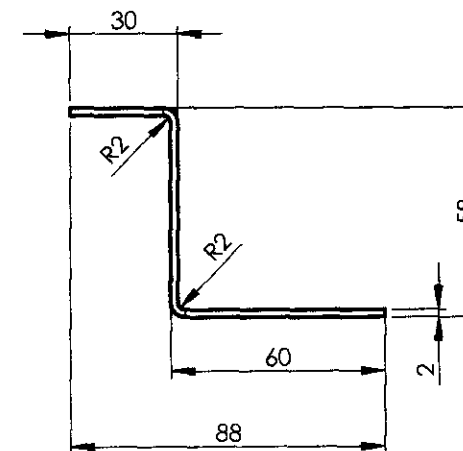
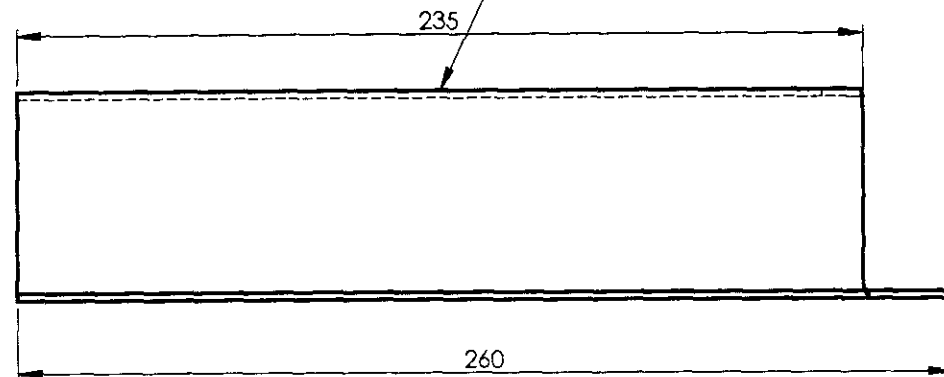
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AAE16329				▽ ROUGH MACHINED		① ROUGH CLEANED		REVISIONS																																																																																																																							
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				▽▽▽ FINE FINISH MACHINED		③ CHAMFERED																																																																																																																									
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ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD-9-0-001. ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER IS: 813:1986. WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY																																																																																																																															
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DATE OF LATEST ALT.		27-8-22		DATE OF FIRST ISSUE		AME/SME		INDIAN RAILWAY STANDARDS		SHEET 1 OF 1		AAE16329		A3																																																																																																																	
								INTEGRAL COACH FACTORY, CHENNAI - 600038																																																																																																																							
<table><tr><td colspan="2">1</td><td colspan="2">Z - STIFFENER</td><td colspan="2">3 x 122 x 200</td><td colspan="2">1</td><td colspan="2">REF. DRGS</td><td colspan="2">IS:6911 X04Cr19Ni9</td><td colspan="2">0.60</td><td colspan="2"></td></tr><tr><td colspan="2">QTY</td><td colspan="2">DESCRIPTION</td><td colspan="2">DIMENSIONS</td><td colspan="2">ITEM NO.</td><td colspan="2">REF. DRGS</td><td colspan="2">MATL.SPEC.</td><td colspan="2">WT/UNIT IN KGS</td><td colspan="2">REMARKS</td></tr><tr><td colspan="10">GROUP: 1-6 Roof Construction</td><td colspan="2">SURFACE AREA IN Sq.m.:</td><td colspan="4">WT/ASSY IN Kgs:</td></tr><tr><td colspan="10">Z - STIFFENER</td><td colspan="2"></td><td colspan="2">SCALE 1:2</td><td colspan="2">SSE/D CHD</td></tr><tr><td colspan="10"></td><td colspan="2"></td><td colspan="2">ALT.</td><td colspan="2">ALTD</td></tr><tr><td colspan="10"></td><td colspan="2"></td><td colspan="2">DRN</td><td colspan="2">S K MUTHUKUMAR/RAVI</td></tr><tr><td colspan="10"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td></tr></table>																1		Z - STIFFENER		3 x 122 x 200		1		REF. DRGS		IS:6911 X04Cr19Ni9		0.60				QTY		DESCRIPTION		DIMENSIONS		ITEM NO.		REF. DRGS		MATL.SPEC.		WT/UNIT IN KGS		REMARKS		GROUP: 1-6 Roof Construction										SURFACE AREA IN Sq.m.:		WT/ASSY IN Kgs:				Z - STIFFENER												SCALE 1:2		SSE/D CHD														ALT.		ALTD														DRN		S K MUTHUKUMAR/RAVI																	
1		Z - STIFFENER		3 x 122 x 200		1		REF. DRGS		IS:6911 X04Cr19Ni9		0.60																																																																																																																			
QTY		DESCRIPTION		DIMENSIONS		ITEM NO.		REF. DRGS		MATL.SPEC.		WT/UNIT IN KGS		REMARKS																																																																																																																	
GROUP: 1-6 Roof Construction										SURFACE AREA IN Sq.m.:		WT/ASSY IN Kgs:																																																																																																																			
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												ALT.		ALTD																																																																																																																	
												DRN		S K MUTHUKUMAR/RAVI																																																																																																																	

AAE16330

▽ ROUGH MACHINED	⊖ ROUGH CLEANED
▽▽ FINISH MACHINED	⊖ BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	⊖ CHAMFERED

REVISIONS

ALT.	ZONE	DESCRIPTION	APPROVED & DATE
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1	Z - STIFFENER	2 x 140 x 240	1		IS:6911 X04Cr19Ni9	0.54	
QTY	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 Roof Construction				SURFACE AREA IN Sq.m.:		WT/ASSY IN Kgs:	
Z - STIFFENER					SCALE	SSE/D	L. Panduranga Rao
					1:2	CHD	
					ALT.	ALTD	
INDIAN RAILWAY STANDARDS						DRN	S K MUTHUKUMAR
					SHEET 1 OF 1		
INTEGRAL COACH FACTORY, CHENNAI - 600038					AAE16330		A3

ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD 9-0-001.
ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER IS: 813-1986.
WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY

REF.DRG.NO.

	27-8-22	
DATE OF LATEST ALT.	DATE OF FIRST ISSUE	AME/SME

AAE16331

▽ ROUGH MACHINED	⊙ ROUGH CLEANED
▽▽ FINISH MACHINED	⊙ BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	⊙ CHAMFERED

REVISIONS

ALT.

ZONE

DESCRIPTION

APPROVED &
DATE

1

475

25

100

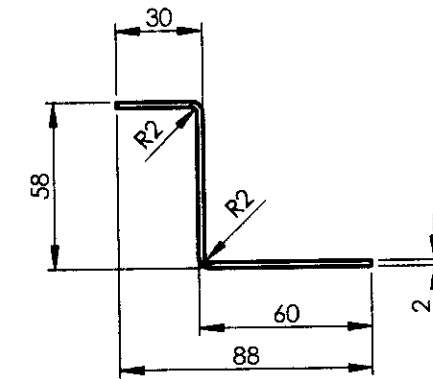
500


464

36

88°

400



1	Z - STIFFENER	2 x 140 x 500	1		IS:4911 X04Cr19Ni9	0.95	
QTY	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 Roof Construction			SURFACE AREA IN Sq.m.:		WT/ASSY IN Kgs:		
Z - STIFFENER					SCALE	SSE/D	<i>[Signature]</i>
					1:5	CHD	
					ALT.	ALTD	S K MUTHUKUMAR/RAVI
					-	DRN	
INDIAN RAILWAY STANDARDS INTEGRAL COACH FACTORY, CHENNAI - 600034				SHEET 1 OF 1			
					AAE16331		A3

REF.DRG.NO.

ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD 9 0 001.
ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER IS: 813-1986.
WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY

1		2		3		4		5		6		7		8	
AAE16332				▽ ROUGH MACHINED		① ROUGH CLEANED		REVISIONS							
				▽▽ FINISH MACHINED		② BURRS REMOVED		ALT.		ZONE		DESCRIPTION		APPROVED & DATE	
				▽▽▽ FINE FINISH MACHINED		③ CHAMFERED									
<div><div><div>1</div><div>235</div><div>260</div></div><div><div>36</div><div>224</div><div>260</div><div>88°</div></div><div><div>30</div><div>58</div><div>60</div><div>88</div><div>2</div><div>R2</div><div>R2</div></div></div>															
<div><div><div>1</div><div>Z - STIFFENER</div><div>2 x 140 x 260</div><div>1</div><div></div><div>IS:6911 X04Cr19Ni9</div><div>0.54</div><div></div></div><div><div>QTY</div><div>DESCRIPTION</div><div>DIMENSIONS</div><div>ITEM NO.</div><div>REF. DRGS</div><div>MATL.SPEC.</div><div>WT/UNIT IN KGS</div><div>REMARKS</div></div><div><div>GROUP: 1-6 Roof Construction</div><div>SURFACE AREA IN Sq.m.:</div><div>WT/ASSY IN Kgs:</div></div><div><div>Z - STIFFENER</div><div>SCALE 1:2</div><div>SSE/D CHD</div><div>ALT.</div><div>ALTD</div><div>DRN</div><div>S K MUTHUKUMAR/RAVI</div></div><div><div>INDIAN RAILWAY STANDARDS</div><div>INTEGRAL COACH FACTORY, CHENNAI - 600038</div><div>SHEET 1 OF 1</div><div>AAE16332</div><div>A3</div></div></div>															
REF.DRG.NO.-		DATE OF LATEST ALT.		DATE OF FIRST ISSUE		AME/SME									
1		2		3		4		5		6		7		8	

ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD-9-0 001.
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WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY

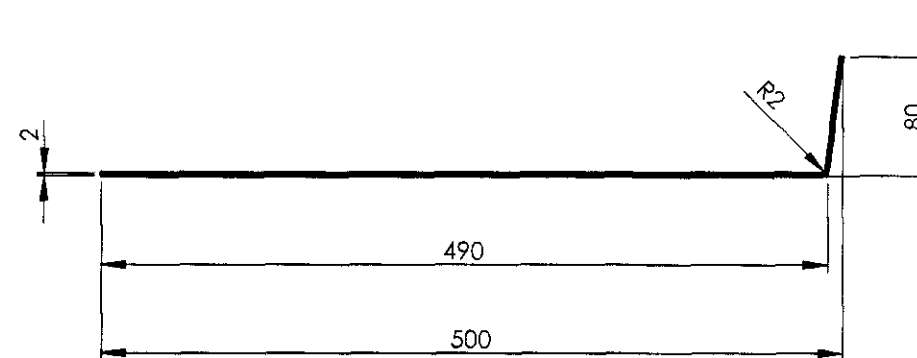
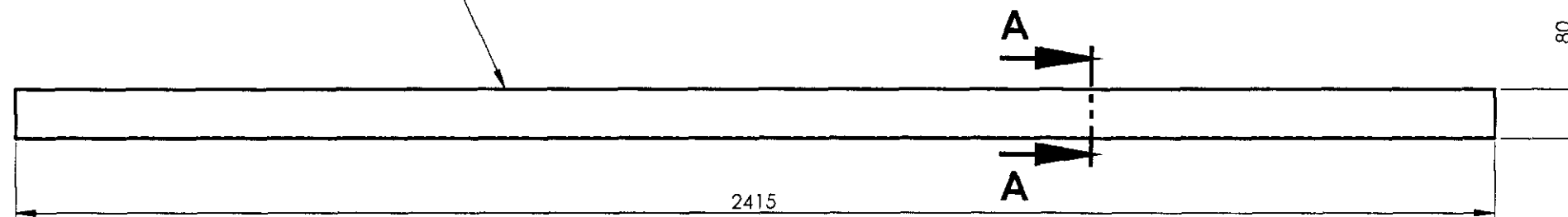
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AAE16333				▽ ROUGH MACHINED		⊖ ROUGH CLEANED		REVISIONS							
				▽▽ FINISH MACHINED		⊖⊖ BURRS REMOVED		ALT.		ZONE		DESCRIPTION		APPROVED & DATE	
				▽▽▽ FINE FINISH MACHINED		⊖⊖⊖ CHAMFERED									
<div><div><div>1</div><div><div><div>25</div><div>100</div></div><div><div>500</div></div></div></div><div><div><div>464</div><div>36</div></div><div><div>400</div><div>68°</div></div></div><div><div><div>30</div><div>R2</div><div>58</div><div>60</div><div>2</div><div>88</div></div></div></div>															
<div><div><div>1</div><div>Z - STIFFENER</div><div>2 x 140 x 500</div><div>1</div><div></div><div>IS:6911 X04Cr19Ni9</div><div>0.95</div><div></div></div><div><div>QTY</div><div>DESCRIPTION</div><div>DIMENSIONS</div><div>ITEM NO.</div><div>REF. DRGS</div><div>MATL.SPEC.</div><div>WT/UNIT IN KGS</div><div>REMARKS</div></div><div><div>GROUP: 1-6 Roof Construction</div><div>SURFACE AREA IN Sq.m.:</div><div>WT/ASSY IN Kgs:</div></div><div><div>Z - STIFFENER</div><div>SCALE 1:5</div><div>SSE/D CHD</div><div>ALT.</div><div>ALTD</div><div>DRN</div><div>S K MUTHUKUMAR</div></div><div><div>INDIAN RAILWAY STANDARDS</div><div>INTEGRAL COACH FACTORY, CHENNAI - 600038</div><div>SHEET 1 OF 1</div><div>AAE16333</div><div>A3</div></div></div>															
REF.DRG.NO.-		DATE OF LATEST ALT		DATE OF FIRST ISSUE		AME/SME									
1		2		3		4		5		6		7		8	

ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD-9-0-001.
ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER IS: 813: 1986.
WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY

AA16105

▽ ROUGH MACHINED	① ROUGH CLEANED
▽▽ FINISH MACHINED	①b BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	①8 CHAMFERED

REVISIONS			
ALT.	ZONE	DESCRIPTION	APPROVED & DATE

SECTION A-A
SCALE 1 : 5

ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD-9-0-001.
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WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY

REF.DRG.NO.-

	8/8/25	
DATE OF LATEST ALT	DATE OF FIRST ISSUE	AME/SME

1	ROOF SHEET	2x568x2415	1		RDSO SPEC C-K201 X5 Cr NI 18 10	21.94	
QTY	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 Roof Construction				SURFACE AREA IN Sq.m.:		WT/ASSY IN Kgs:	
ROOF SHEET					SCALE	SSE/D	L. Panduranga Rao
					1:20	CHD	
					ALT.	ALTD	
INDIAN RAILWAY STANDARDS						DRN	E.SATHISH KUMAR
					SHEET 1 OF 1		
INTEGRAL COACH FACTORY, CHENNAI - 600038					AA16105		A3

1	2	3	4	5	6	7	8		
AAF16106			<div>▽ ROUGH MACHINED ▽▽ FINISH MACHINED ▽▽▽ FINE FINISH MACHINED</div>		<div>① ROUGH CLEANED ①b BURRS REMOVED ①8 CHAMFERED</div>			REVISIONS	
					ALT.	ZONE	DESCRIPTION	APPROVED & DATE	
A					B				
B					C				
C					D				
D					E				
E					F				
F									

1

2415

80

A

A

80

R2

490

500

2

SECTION A-A
SCALE 1 : 5

1

ROOF SHEET

2x568x2415

1

RDSO SPEC C-K201 X5 Cr NI 18 10

21.94

QTY	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS		
GROUP: 1-6 Roof Construction				SURFACE AREA IN Sq.m.:		WT/ASSY IN Kgs:			
ROOF SHEET						SCALE 1:20	SSE/D CHD	L. Pandurangala	
						ALT.	ALTD		
						DRN		E.SATHISH KUMAR	

INDIAN RAILWAY STANDARDS

INTEGRAL COACH FACTORY, CHENNAI - 600038

SHEET 1 OF 1

AAF16106

A3

REF.DRG.NO.-

DATE OF LATEST ALT.

8/8/25

DATE OF FIRST ISSUE

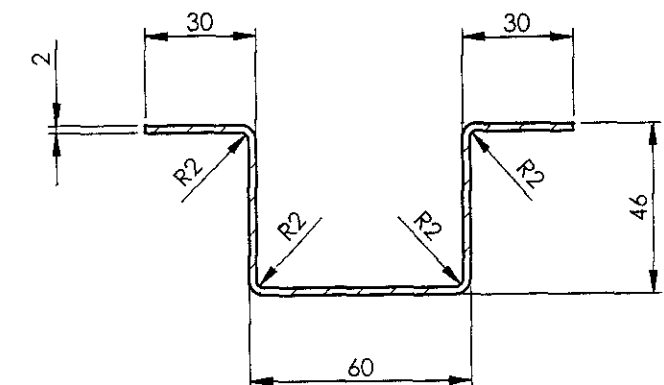
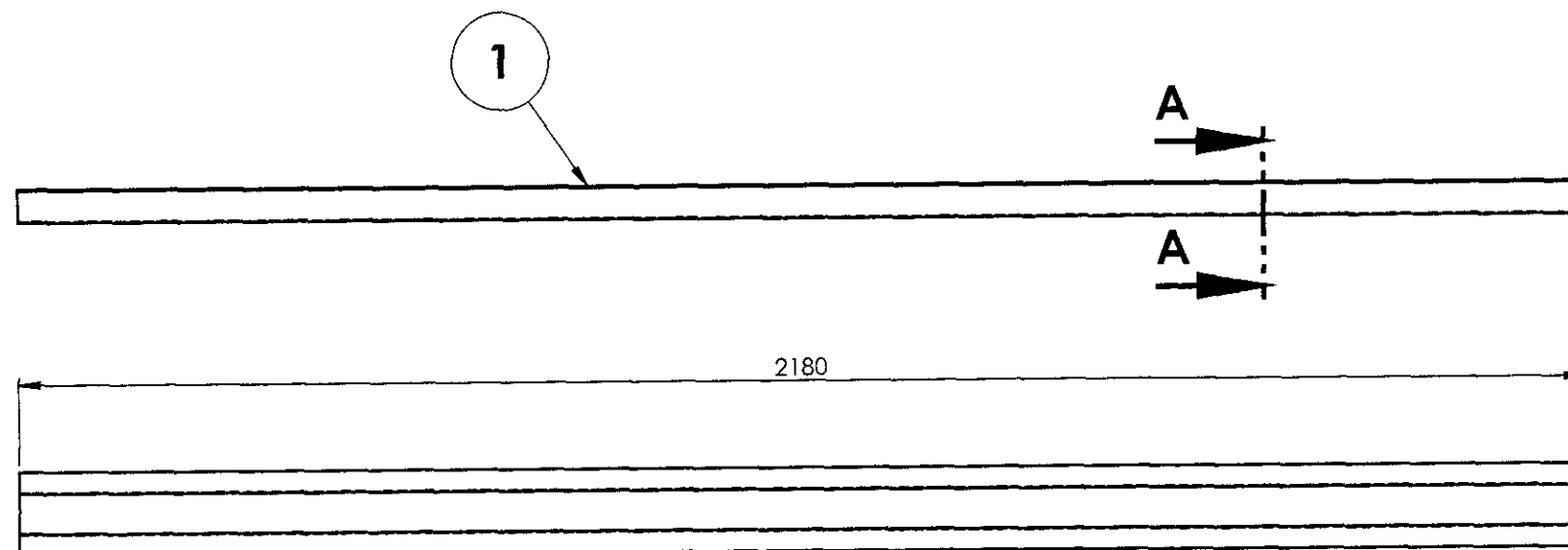
AME/SME

ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD-9-0-001. ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER IS: 813-1986. WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY

AA16108

▽ ROUGH MACHINED	① ROUGH CLEANED
▽▽ FINISH MACHINED	①b BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	①8 CHAMFERED

REVISIONS				APPROVED & DATE	
ALT.	ZONE	DESCRIPTION			

SECTION A-A
SCALE 1 : 2

1	STIFFENER	2x196x2180	1		IS:6911 X04Cr19Ni9	6.94	
QTY	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 Roof Construction		SURFACE AREA IN Sq.m.:			WT/ASSY IN Kgs:		
STIFFENER					SCALE	SSE/D	L. Panduranga R.
					1:1	CHD	
					ALT.	ALTD	
					DRN	E.SATHISH KUMAR	
					INDIAN RAILWAY STANDARDS		
INTEGRAL COACH FACTORY, CHENNAI - 600038							
					AAF16108		A3

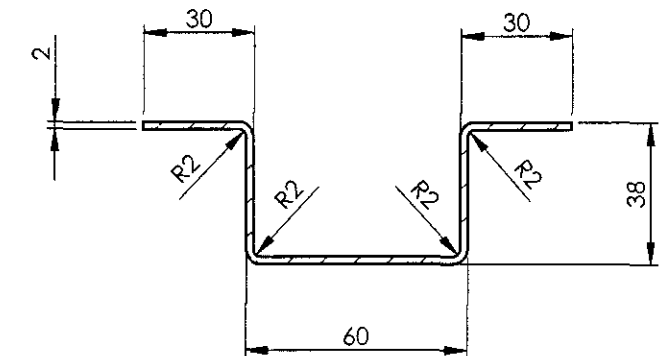
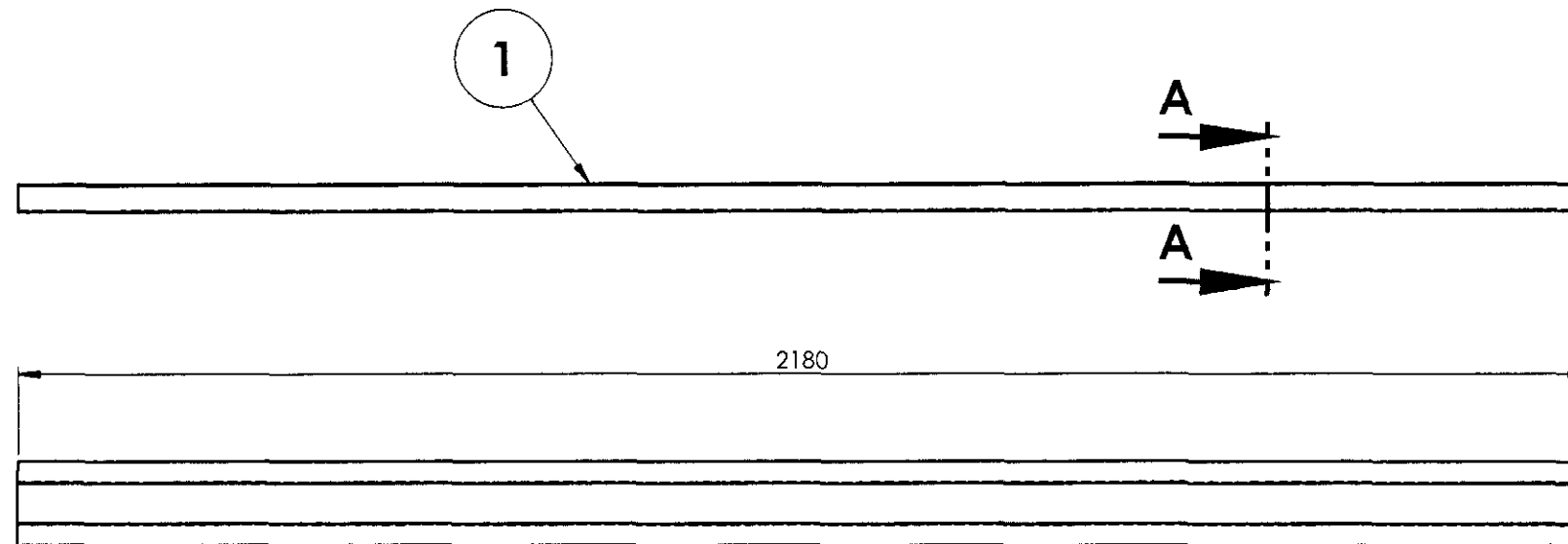
ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD-9.0.001.
ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER IS: 813-1986.
WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY

REF.DRG.NO.-

AA16109

▽ ROUGH MACHINED	① ROUGH CLEANED
▽▽ FINISH MACHINED	① BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	① CHAMFERED

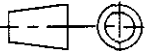
REVISIONS			
ALT.	ZONE	DESCRIPTION	APPROVED & DATE

SECTION A-A
SCALE 1 : 2

ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD-9-0-001.
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WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY

REF.DRG.NO.-

-	25/12/25	Sh
DATE OF LATEST ALT	DATE OF FIRST ISSUE	AME/SME

1	STIFFENER	2x180x2180	1		IS:6911 X04Cr19Ni9	6.38	
QTY	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 Roof Construction		SURFACE AREA IN Sq.m.:			WT/ASSY IN Kgs:		
STIFFENER					SCALE	SSE/D	L. Panduranga Rao
					1:1	CHD	
					ALT.	ALTD	E.SATHISH KUMAR
						DRN	
INDIAN RAILWAY STANDARDS INTEGRAL COACH FACTORY, CHENNAI - 600038				SHEET 1 OF 1			
					AA16109		
					A3		

AA16110

▽ ROUGH MACHINED	① ROUGH CLEANED
▽▽ FINISH MACHINED	①b BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	①B CHAMFERED

REVISIONS

ALT.

ZONE

DESCRIPTION

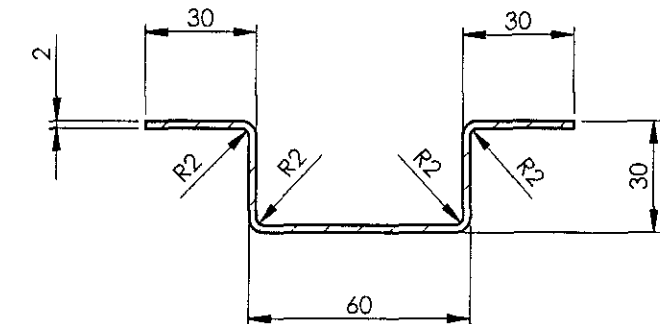
APPROVED &
DATE

1

A

A

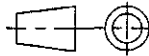
2180

SECTION A-A
SCALE 1 : 2

ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD-9-0-001.
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WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY

REF.DRG.NO.-

-	8/8/25	dw
DATE OF LATEST ALT.	DATE OF FIRST ISSUE	AME/SME

1	STIFFENER	2x164x2180	1		IS:6911 X04Cr19Ni9	5.82	
QTY	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 Roof Construction		SURFACE AREA IN Sq.m.:			WT/ASSY IN Kgs:		
STIFFENER					SCALE	SSE/D	L. Pandurangam
					1:1	CHD	
					ALT.	ALTD	
						DRN	E.SATHISH KUMAR
INDIAN RAILWAY STANDARDS INTEGRAL COACH FACTORY, CHENNAI - 600038							
					SHEET 1 OF 1		AAF16110

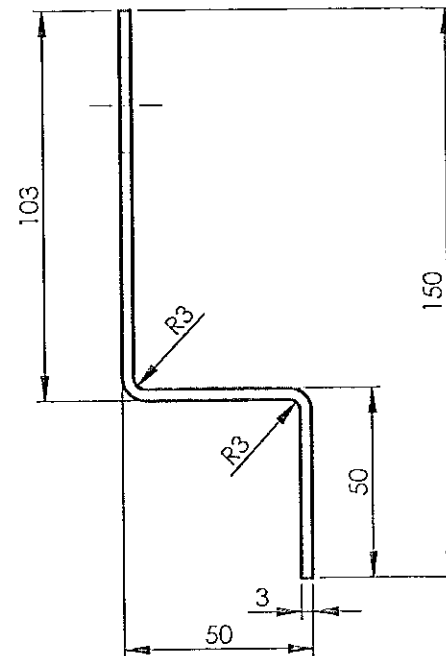
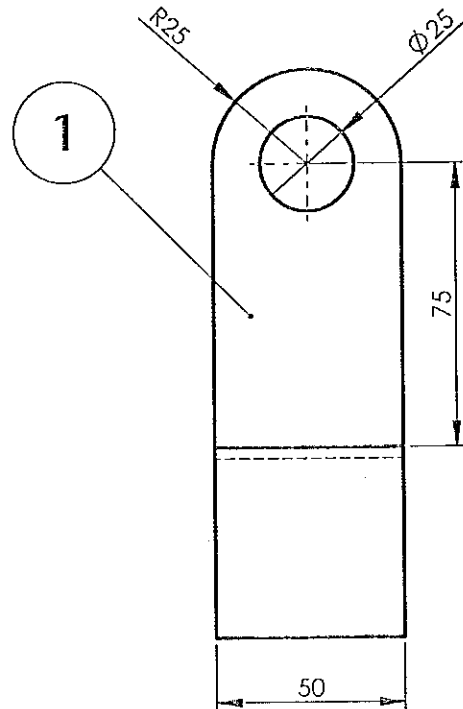
1		2		3		4		5		6		7		8																																																																																	
AAf16111				▽ ROUGH MACHINED		① ROUGH CLEANED		REVISIONS																																																																																							
				▽▽ FINISH MACHINED		①b BURRS REMOVED		ALT.		ZONE		DESCRIPTION		APPROVED & DATE																																																																																	
				▽▽▽ FINE FINISH MACHINED		⑱ CHAMFERED																																																																																									
<div>ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO IC/F/STD-9-0-001. ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER IS: 813-1986. WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY</div> <div><div>1</div><div>2180</div><div>A</div><div>A</div></div> <div><div>2</div><div>30</div><div>R2</div><div>R2</div><div>30</div><div>23</div><div>60</div></div> <div>SECTION A-A SCALE 1 : 2</div>																																																																																															
<table><tr><td>1</td><td>STIFFENER</td><td>2x150x2180</td><td>1</td><td></td><td>IS:6911 X04Cr19Ni9</td><td>5.33</td><td></td></tr><tr><td>QTY</td><td>DESCRIPTION</td><td>DIMENSIONS</td><td>ITEM NO.</td><td>REF. DRGS</td><td>MATL.SPEC.</td><td>WT/UNIT IN KGS</td><td>REMARKS</td></tr><tr><td colspan="4">GROUP: 1-6 Roof Construction</td><td colspan="2">SURFACE AREA IN Sq.m.:</td><td colspan="2">WT/ASSY IN Kgs:</td></tr><tr><td colspan="5">STIFFENER</td><td>SCALE 1:1</td><td>SSE/D CHD</td><td>L. Panduranga</td></tr><tr><td colspan="5"></td><td>ALT.</td><td>ALTD</td><td></td></tr><tr><td colspan="5"></td><td></td><td>DRN</td><td>E.SATHISH KUMAR</td></tr><tr><td colspan="4">INDIAN RAILWAY STANDARDS</td><td colspan="2">SHEET 1 OF 1</td><td colspan="2">AAf16111</td></tr><tr><td colspan="4">INTEGRAL COACH FACTORY, CHENNAI - 600038</td><td colspan="2"></td><td colspan="2">A3</td></tr></table> <table><tr><td>REF.DRG.NO.-</td><td></td><td></td><td></td></tr><tr><td>DATE OF LATEST ALT.</td><td>2/8/25</td><td></td><td></td></tr><tr><td>DATE OF FIRST ISSUE</td><td></td><td></td><td></td></tr><tr><td>AME/SME</td><td></td><td></td><td></td></tr></table>																1	STIFFENER	2x150x2180	1		IS:6911 X04Cr19Ni9	5.33		QTY	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS	GROUP: 1-6 Roof Construction				SURFACE AREA IN Sq.m.:		WT/ASSY IN Kgs:		STIFFENER					SCALE 1:1	SSE/D CHD	L. Panduranga						ALT.	ALTD								DRN	E.SATHISH KUMAR	INDIAN RAILWAY STANDARDS				SHEET 1 OF 1		AAf16111		INTEGRAL COACH FACTORY, CHENNAI - 600038						A3		REF.DRG.NO.-				DATE OF LATEST ALT.	2/8/25			DATE OF FIRST ISSUE				AME/SME			
1	STIFFENER	2x150x2180	1		IS:6911 X04Cr19Ni9	5.33																																																																																									
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1		2		3		4		5		6		7		8		
AAF16113				▽ ROUGH MACHINED		① ROUGH CLEANED		REVISIONS								
				▽▽ FINISH MACHINED		② BURRS REMOVED		ALT.		ZONE		DESCRIPTION			APPROVED & DATE	
				▽▽▽ FINE FINISH MACHINED		③ CHAMFERED										
<div><div><div>1</div><div><div>A</div><div>A</div></div><div>600</div></div><div><div>2</div><div>20</div><div>R2</div><div>R3</div><div>60</div></div><div>SECTION A-A SCALE 1 : 2</div></div>																
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REF.DRG.NO.-		DATE OF LATEST ALT.		DATE OF FIRST ISSUE		AME/SME										
1		2		3		4		5		6		7		8		

AA16435

▽ ROUGH MACHINED	① ROUGH CLEANED
▽▽ FINISH MACHINED	①b BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	①8 CHAMFERED

REVISIONS				APPROVED & DATE
ALT.	ZONE	DESCRIPTION		




ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD-9-0-001.
ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER EN ISO 2553.
WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY

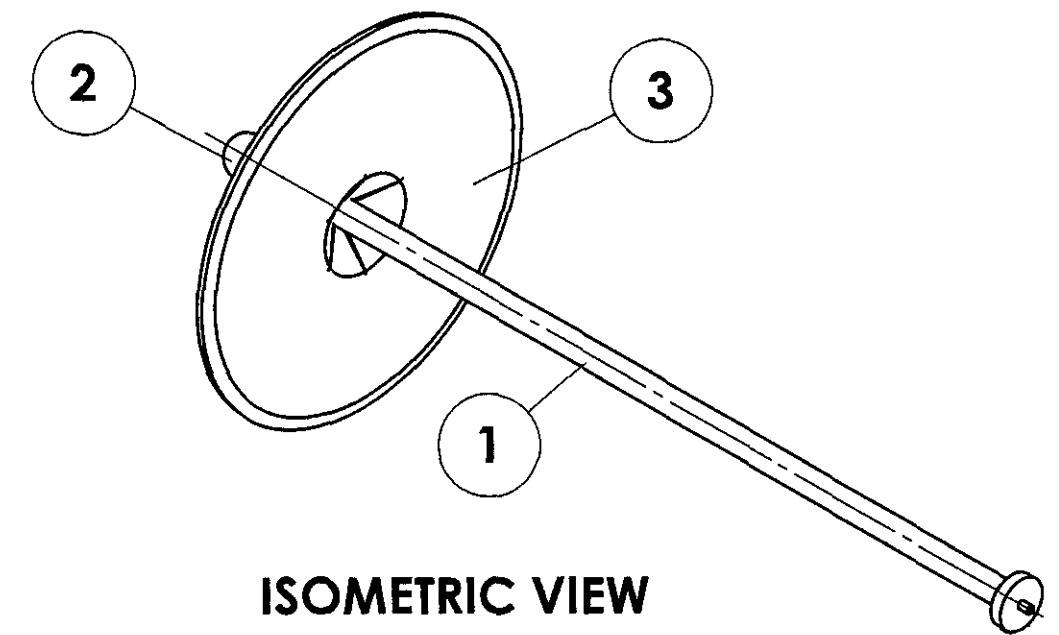
REF.DRG.NO.

1	LIFTING HOOK	3x50x191	1		IS:6911 X04Cr19Ni9	0.21	
QTY.	DESCRIPTION	DIMENSIONS	ITEM NO.	REF. DRGS	MATL.SPEC.	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 Roof Construction				SURFACE AREA IN Sq.m.:		WT/ASSY IN Kgs:	
LIFTING HOOK					SCALE 1:2	SSE/D CHD	<i>[Signature]</i>
					ALT.	ALTD	
						DRN	E.SATHISH KUMAR
INDIAN RAILWAY STANDARDS				SHEET 1 OF 1		AA16435	
INTEGRAL COACH FACTORY, CHENNAI - 600038						A3	
DATE OF LATEST ALT.		DATE OF FIRST ISSUE		AME/SME			
<i>[Signature]</i>		21/01/2026		<i>[Signature]</i>			

49516008

▽ ROUGH MACHINED	01 ROUGH CLEANED
▽▽ FINISH MACHINED	01b BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	18 CHAMFERED

REVISIONS			
ALT.	ZONE	DESCRIPTION	APPROVED & DATE
a		NOTE REVISED. VIEWS UPDATED AS PER DETAIL.	



ISOMETRIC VIEW

NOTE:

- ITEM-1 TO BE RESISTANCE WELDED AS SHOWN IN THE RESPECTIVE DRAWING AND ITEMS-2&3 TO BE SUPPLIED IN LOOSE (TO BE ASSEMBLED IN FURNISHING AFTER INSERTING THERMAL INSULATION).
- 5% EXCESS QTY OF ITEMS-2&3 TO BE SUPPLIED AGAINST THE QTY CALLED FOR IN THE RESPECTIVE ASSEMBLY DRAWINGS.

1	SERRATED SPRING WASHER		3	AAA16495		0.003	
1	CAP		2	AAA16494		0.000	
1	WELDING PIN		1	AAA16493		0.002	
QTY.	DESCRIPTION	DIMENSIONS	ITEM NO.	REF.DRGS.	MATL	WT/UNIT IN KGS	REMARKS

GROUP: 1-6 ROOF CONSTRUCTION

SURFACE AREA IN Sq.m.:0.002

WT/ASSY IN Kgs:

WELDING PIN ASSEMBLY

SCALE 1:1	SSE/D CHD	
ALT. a	ALTD DRN	A.Palanichamy 3D:A.Palanichamy 2D:P.Murugan

INDIAN RAILWAY STANDARDS

INTEGRAL COACH FACTORY, CHENNAI - 600038

SHEET 1 OF 1

LWGSCWAC2

49516008

A3

ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD-9-0-001. ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER EN ISO 2553. WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY

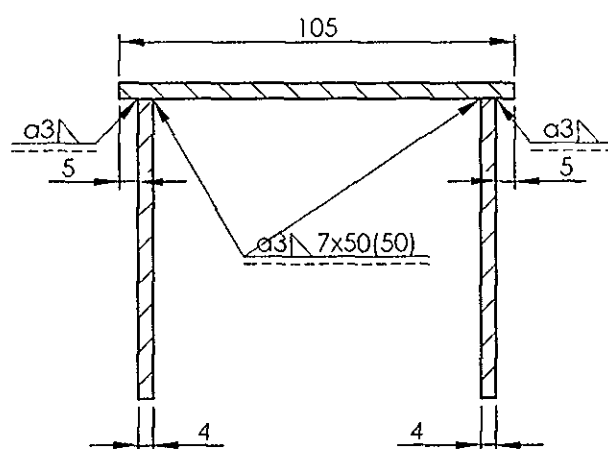
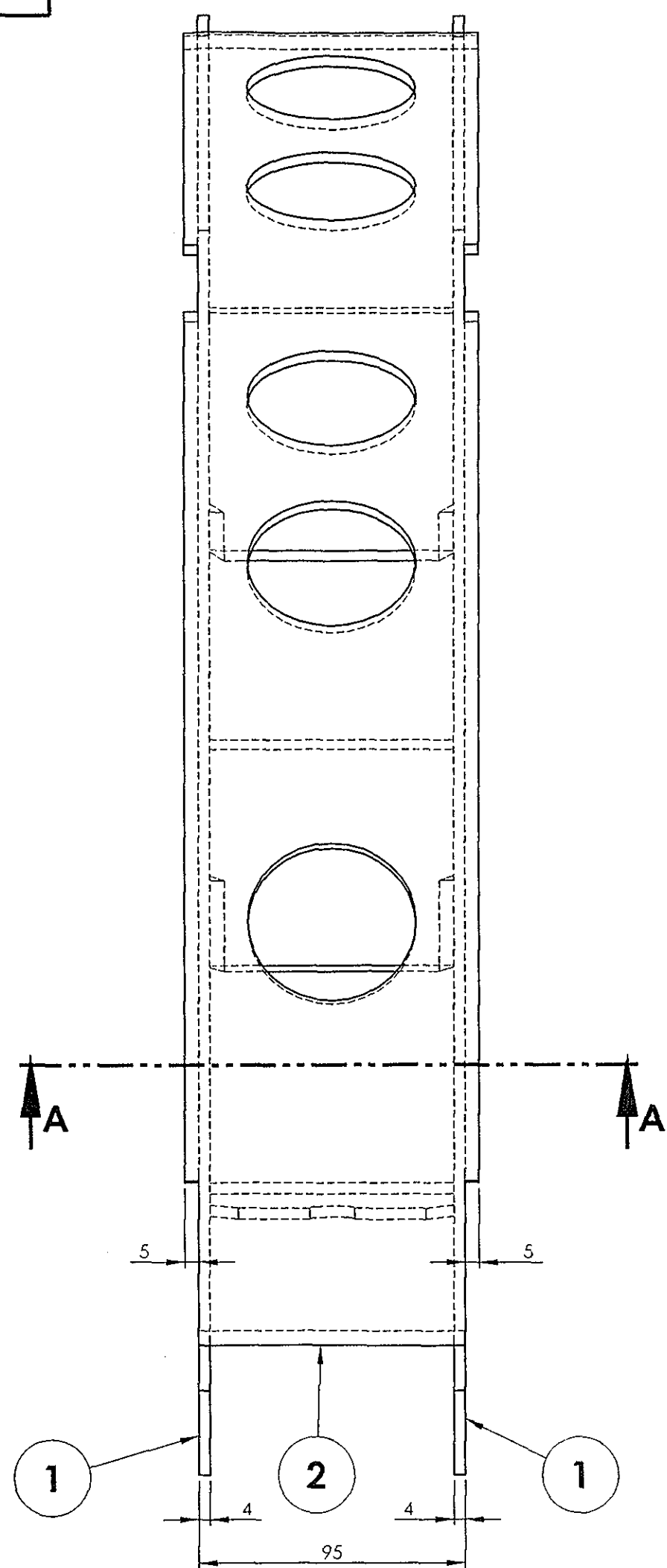
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06-02-2024	19-07-2013	
DATE OF LATEST ALT.	DATE OF FIRST ISSUE	AME/SME

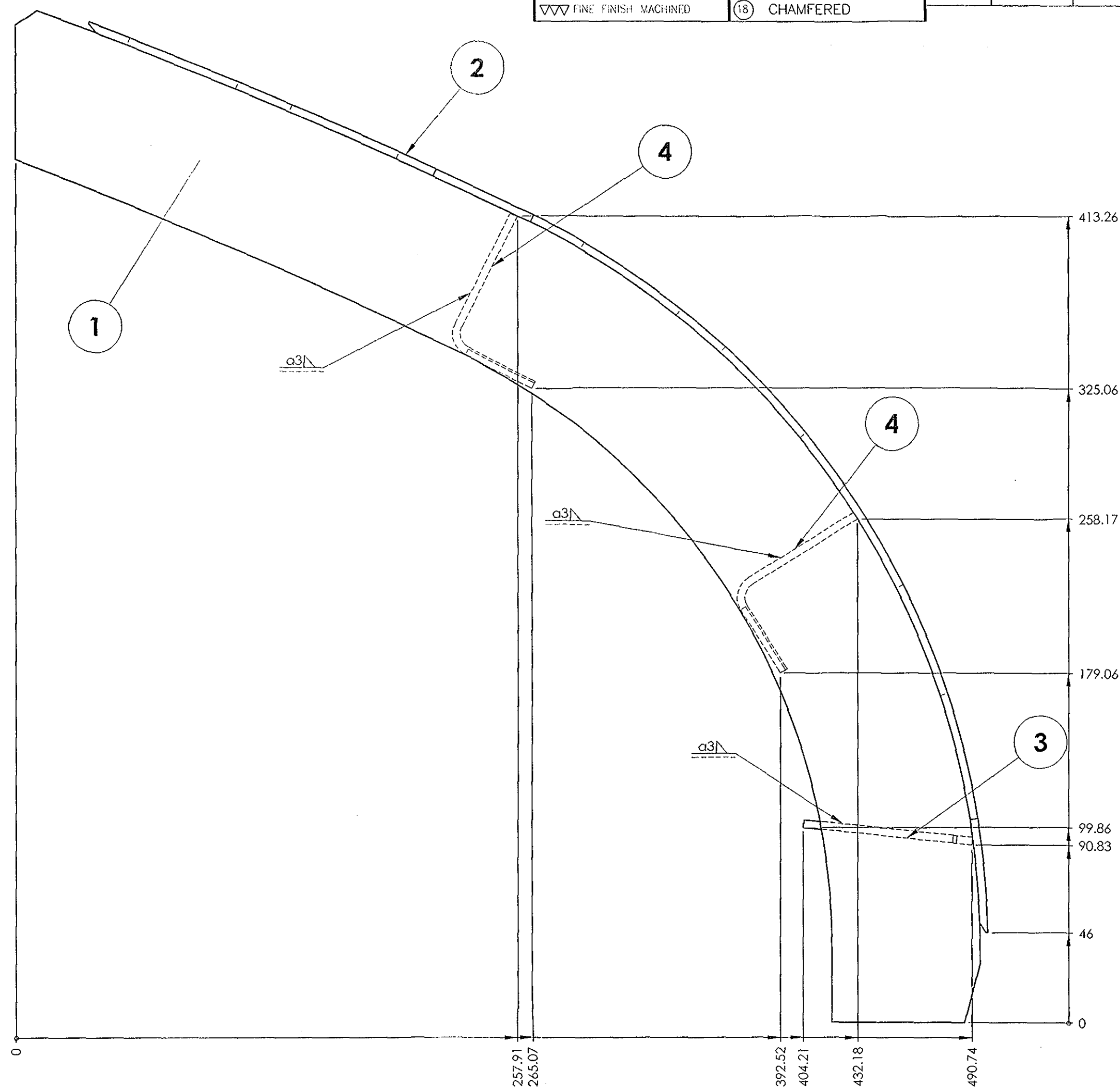
59316018

▽ ROUGH MACHINED	01 ROUGH CLEANED
▽▽ FINISH MACHINED	01b BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	18 CHAMFERED

REVISIONS			
ALT.	ZONE	DESCRIPTION	APPROVED & DATE



SECTION A-A
SCALE 1:2



NOTE:

1. STAINLESS STEEL ELECTRODE OF SAME COMPOSITION AS PER TABLE-3 OF RDSO/SPEC C-K201 SHALL BE USED FOR WELDING.
2. ALL WELD SPATTERS SHALL BE GROUND.
3. ALL WELDED JOINTS SHALL BE PICKLED AND PASSIVATED BEFORE SURFACE TREATMENT.
4. ALL SHARP CORNERS SHALL BE ROUNDED OFF.
5. ALL WELDINGS SHALL BE TIG WELDING UNLESS OTHERWISE SPECIFIED.
6. ALL BUTT WELDINGS TO BE DONE AT COACH OUTSIDE AND ROUGH GRINDING TO BE DONE ON THE SAME SIDE. PENETRATION SHOULD NOT BE GROUND.

2	STIFFENING ANGLE		4	AAA16940		0.322	
1	WEB		3	AAA16939		0.236	
1	FLANGE		2	AAA16938		1.864	
2	ROOF ARCH		1	AAA16937		1.758	
QTY.	DESCRIPTION	DIMENSIONS	ITEM NO.	REF.DRGS.	MATL	WT/UNIT IN KGS	REMARKS

GROUP: 1-6 ROOF ASSEMBLY				SURFACE AREA IN Sq.m.: 0.420		WT/ASSY IN Kgs: 6.260	
ROOF ARCH COMPLETE				SCALE 1:5	SSE/D CHD	K. Sriram	
				ALT	ALTD		
				DRN	DRN		

INDIAN RAILWAY STANDARDS
INTEGRAL COACH FACTORY, CHENNAI - 600038

SHEET
1 OF 1

59316018

A2

REF.DRG. NO. 2 10113.0.20.210.006

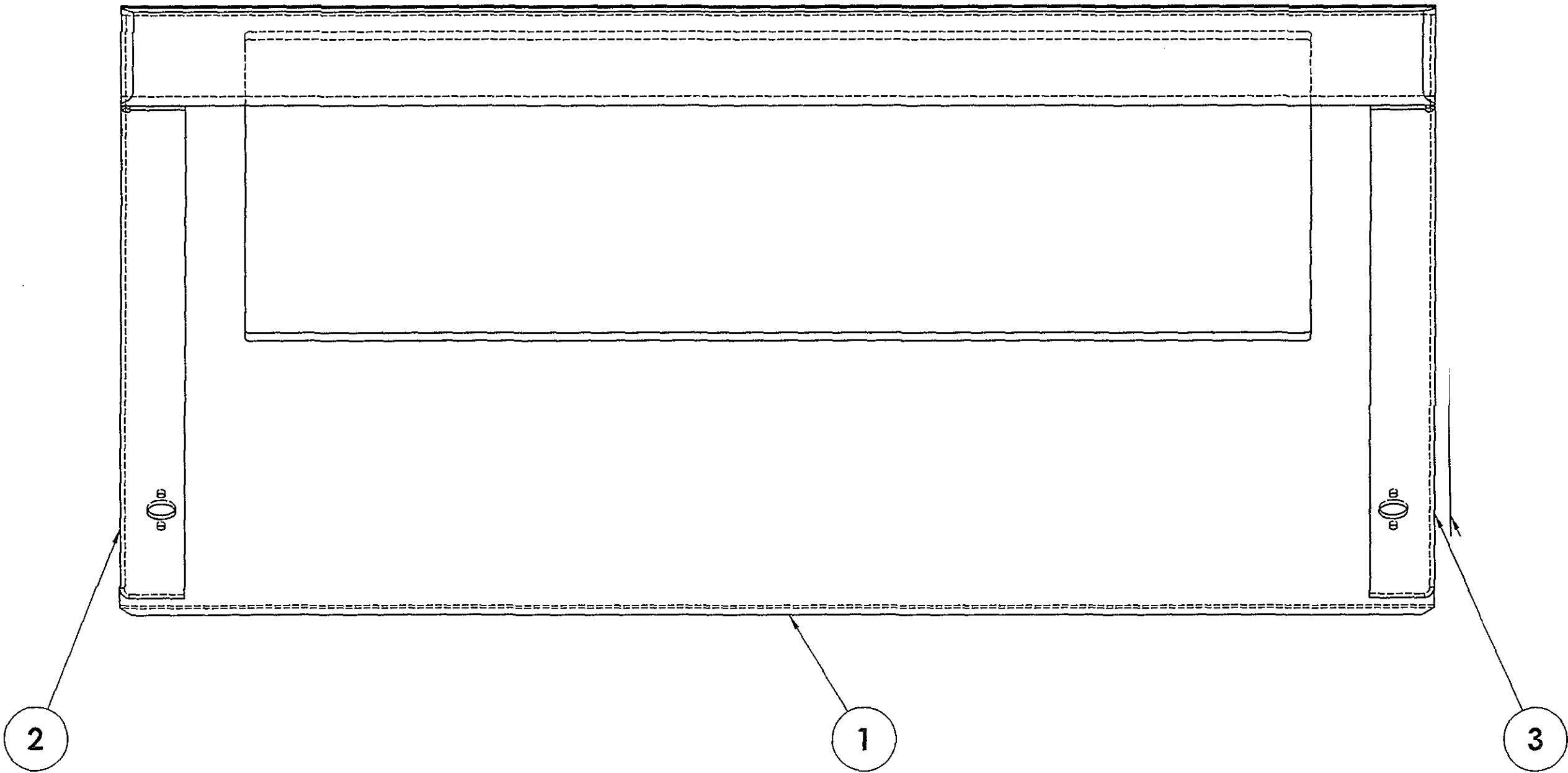
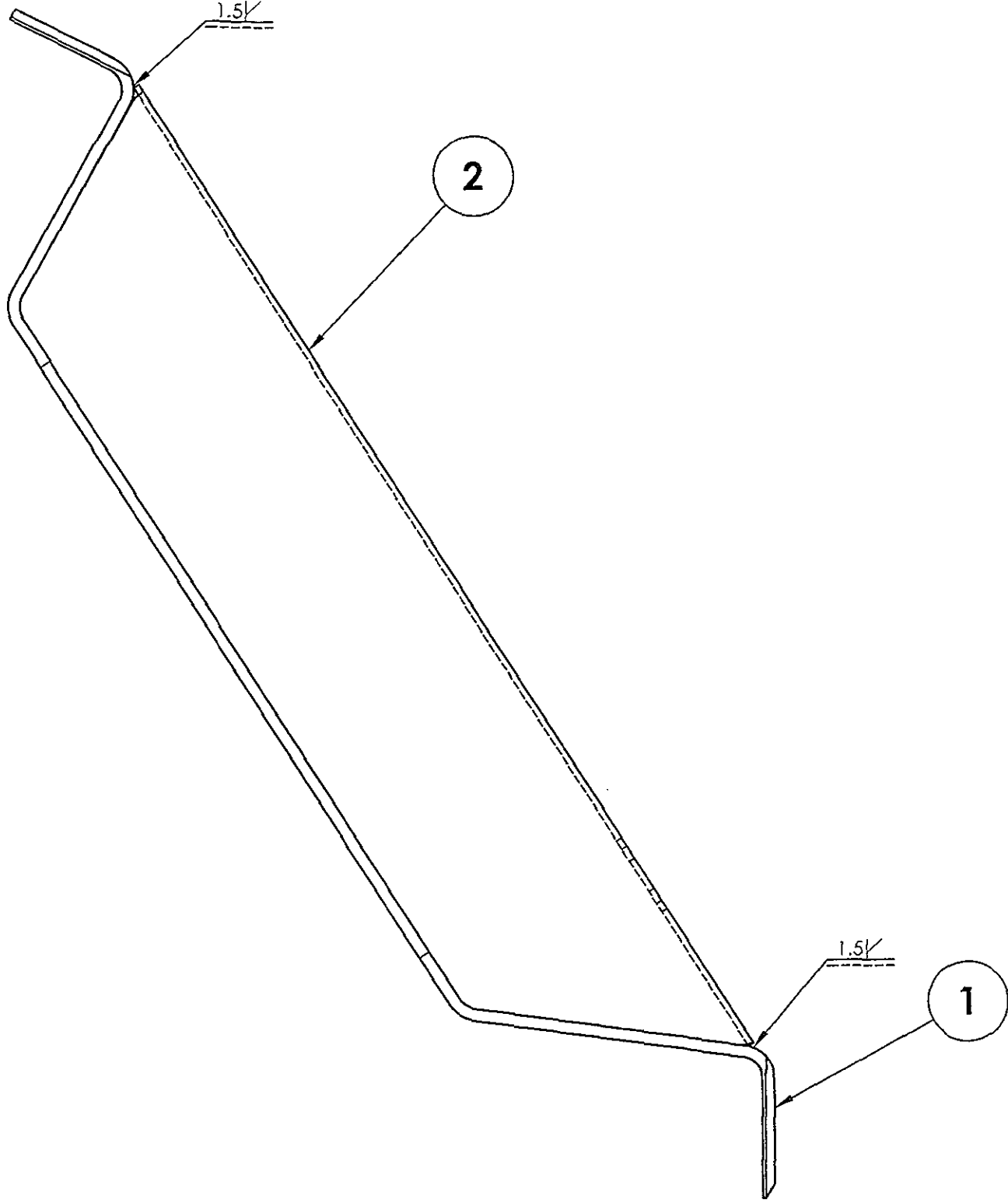
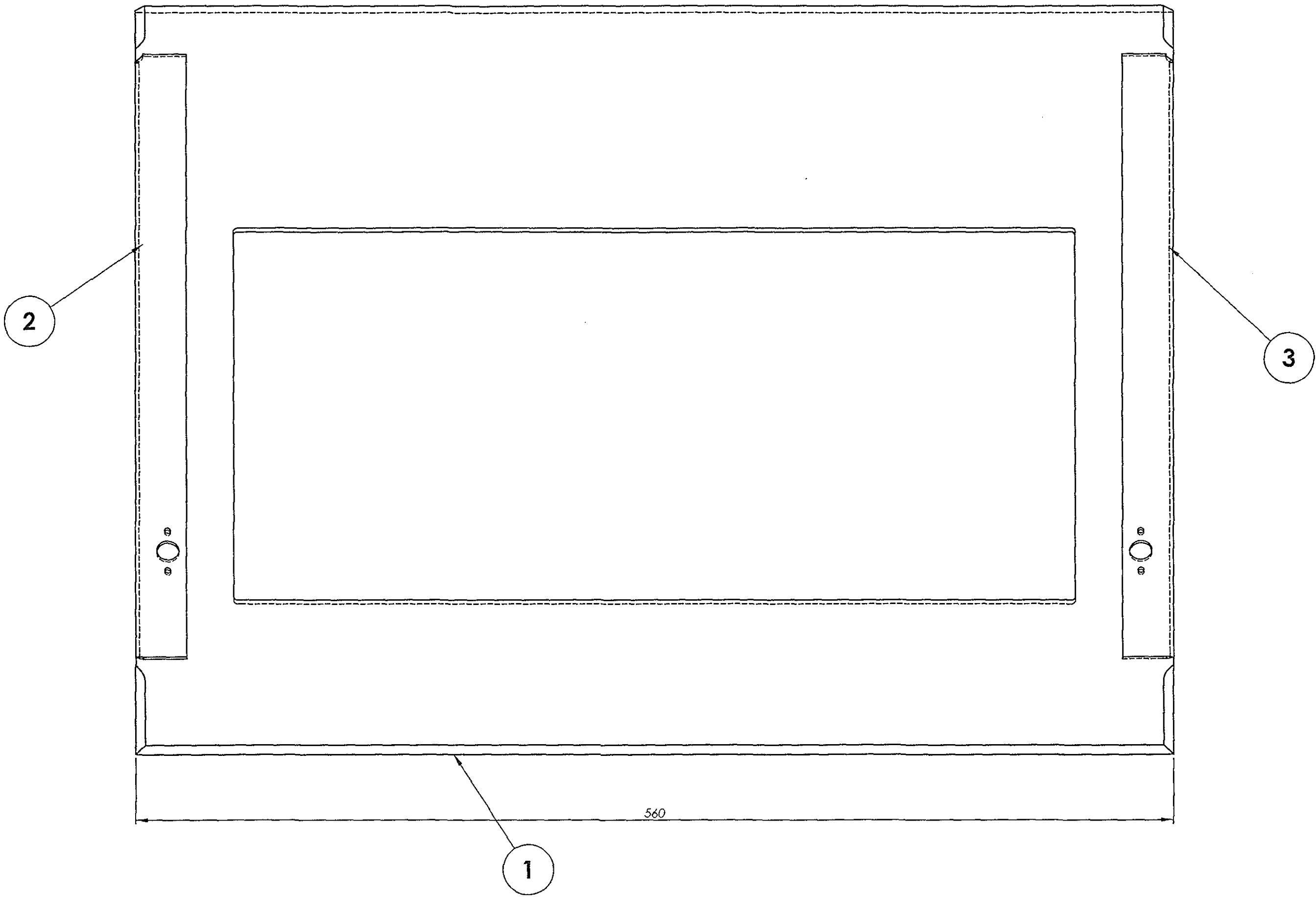
DATE OF LATEST ALT.	22-03-2013	DATE OF FIRST ISSUE	10-03-2013	AMU/SME
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59316019

▽ ROUGH MACHINED
▽▽ FINISH MACHINED
▽▽▽ FINE FINISH MACHINED

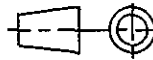
① ROUGH CLEANED
①① BURRS REMOVED
①① CHAMFERED

REVISIONS		APPROVED & DATE	
ALT.	ZONE	DESCRIPTION	



NOTE:

1. STAINLESS STEEL ELECTRODE OF SAME COMPOSITION AS PER TABLE-3 OF RDSO/SPEC C-K201 SHALL BE USED FOR WELDING.
2. ALL WELD SPATTERS SHALL BE GROUND.
3. ALL WELDED JOINTS SHALL BE PICKLED AND PASSIVATED BEFORE SURFACE TREATMENT.
4. ALL SHARP CORNERS SHALL BE ROUNDED OFF.
5. ALL WELDINGS SHALL BE TIG WELDING UNLESS OTHERWISE SPECIFIED.
6. ALL BUTT WELDINGS TO BE DONE AT COACH OUTSIDE AND ROUGH GRINDING TO BE DONE ON THE SAME SIDE. PENETRATION SHOULD NOT BE GROUND.

1			3	AAA16943		0.069	
1	CLOSING ANGLE		2	AAA16942		0.556	
1	TERMINAL FRAME		1	AAA16941		6.658	
QTY.	DESCRIPTION	DIMENSIONS	ITEM NO.	REF.DRGS.	MATL	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 ROOF ASSEMBLY			SURFACE AREA IN Sq.m.: 0.575		WT/ASSY IN Kgs: 7.769		
LOCATION FRAME COMPLETE					SCALE 1:2	SSE/D	<i>K. Sriram</i>
						CHD	
					ALT.	ALTD	
					DRN	K. Sriram	
INDIAN RAILWAY STANDARDS INTEGRAL COACH FACTORY, CHENNAI - 600038				SHEET 1 OF 1	 LWSCWAC/EOG	59316019	

ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD-9-Q-001. ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER IS813:1986.

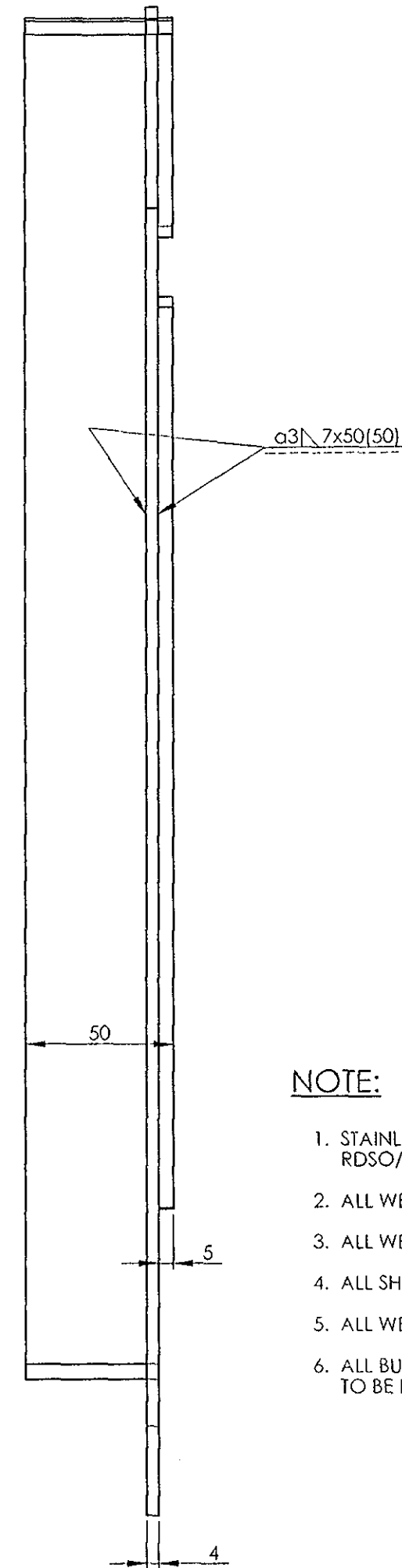
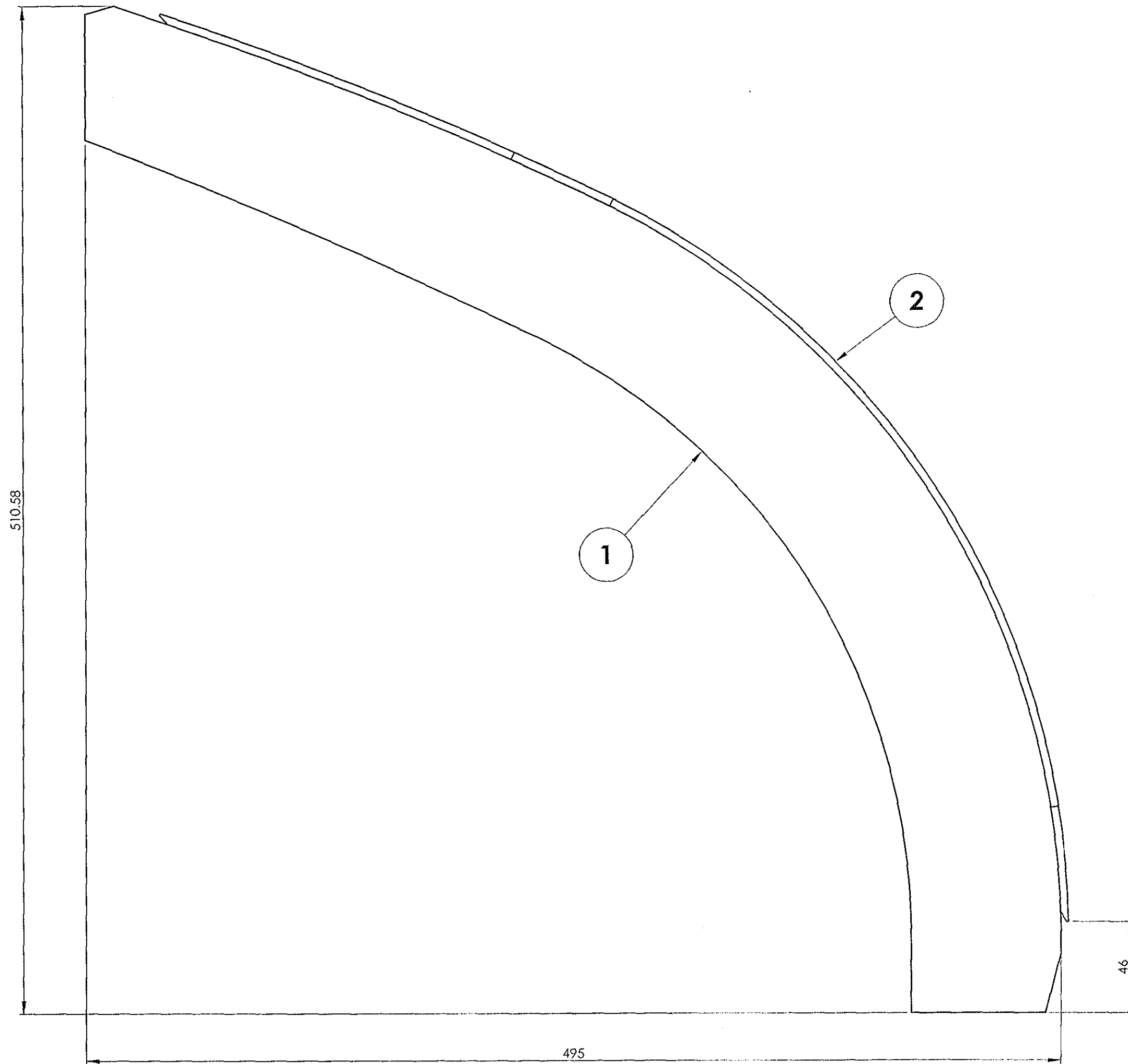
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22-03-2013	AME/SME
DATE OF LATEST ALT.	DATE OF FIRST ISSUE

59316022

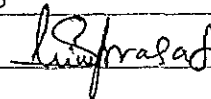
▽ ROUGH MACHINED	① ROUGH CLEANED
▽▽ FINISH MACHINED	①b BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	①c CHAMFERED

REVISIONS			APPROVED & DATE
ALT.	ZONE	DESCRIPTION	



NOTE:

1. STAINLESS STEEL ELECTRODE OF SAME COMPOSITION AS PER TABLE-3 OF RDSO/SPEC C-K201 SHALL BE USED FOR WELDING.
2. ALL WELD SPATTERS SHALL BE GROUND.
3. ALL WELDED JOINTS SHALL BE PICKLED AND PASSIVATED BEFORE SURFACE TREATMENT.
4. ALL SHARP CORNERS SHALL BE ROUNDED OFF.
5. ALL WELDINGS SHALL BE TIG WELDING UNLESS OTHERWISE SPECIFIED.
6. ALL BUTT WELDINGS TO BE DONE AT COACH OUTSIDE AND ROUGH GRINDING TO BE DONE ON THE SAME SIDE. PENETRATION SHOULD NOT BE GROUND.

1	FLANGE		2	AAA16957		1.10	
1	ROOF ARCH		1	AAA16935		1.737	
QTY.	DESCRIPTION	DIMENSIONS	ITEM NO.	REF.DRGS.	MATL	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 ROOF ASSEMBLY		SURFACE AREA IN Sq.m.: 0.19			WT/ASSY IN Kgs:2.83		
ROOF ARCH COMPLETE					SCALE 1:5	SSE/D	
						CHD	
					ALT	ALTD	
						DRN	
INDIAN RAILWAY STANDARDS INTEGRAL COACH FACTORY, CHENNAI - 600038					LWSCWAC/EOG		
					59316022		
SHEET 1 OF 1					A2		

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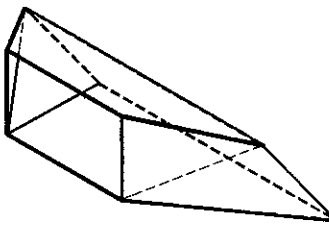
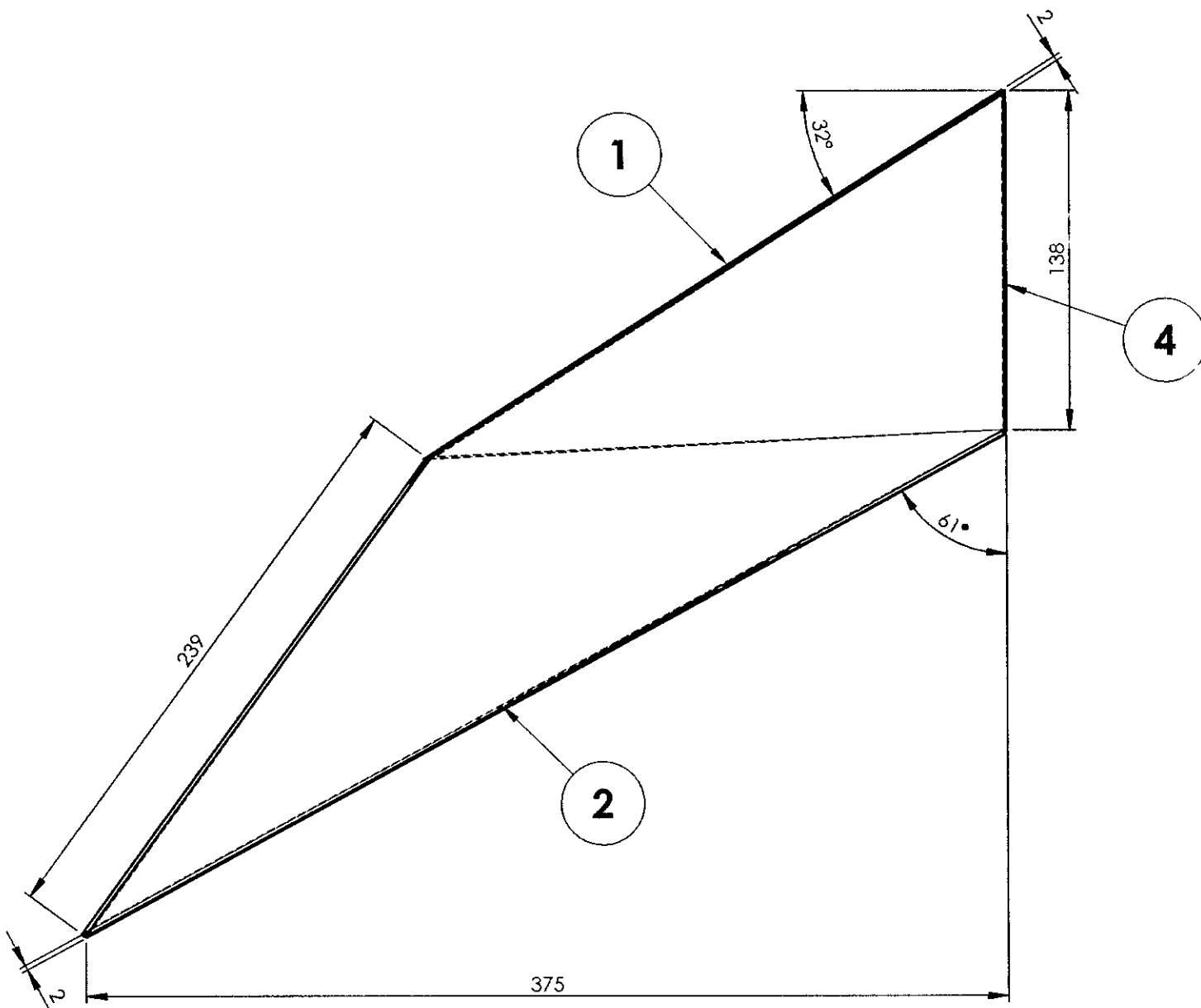
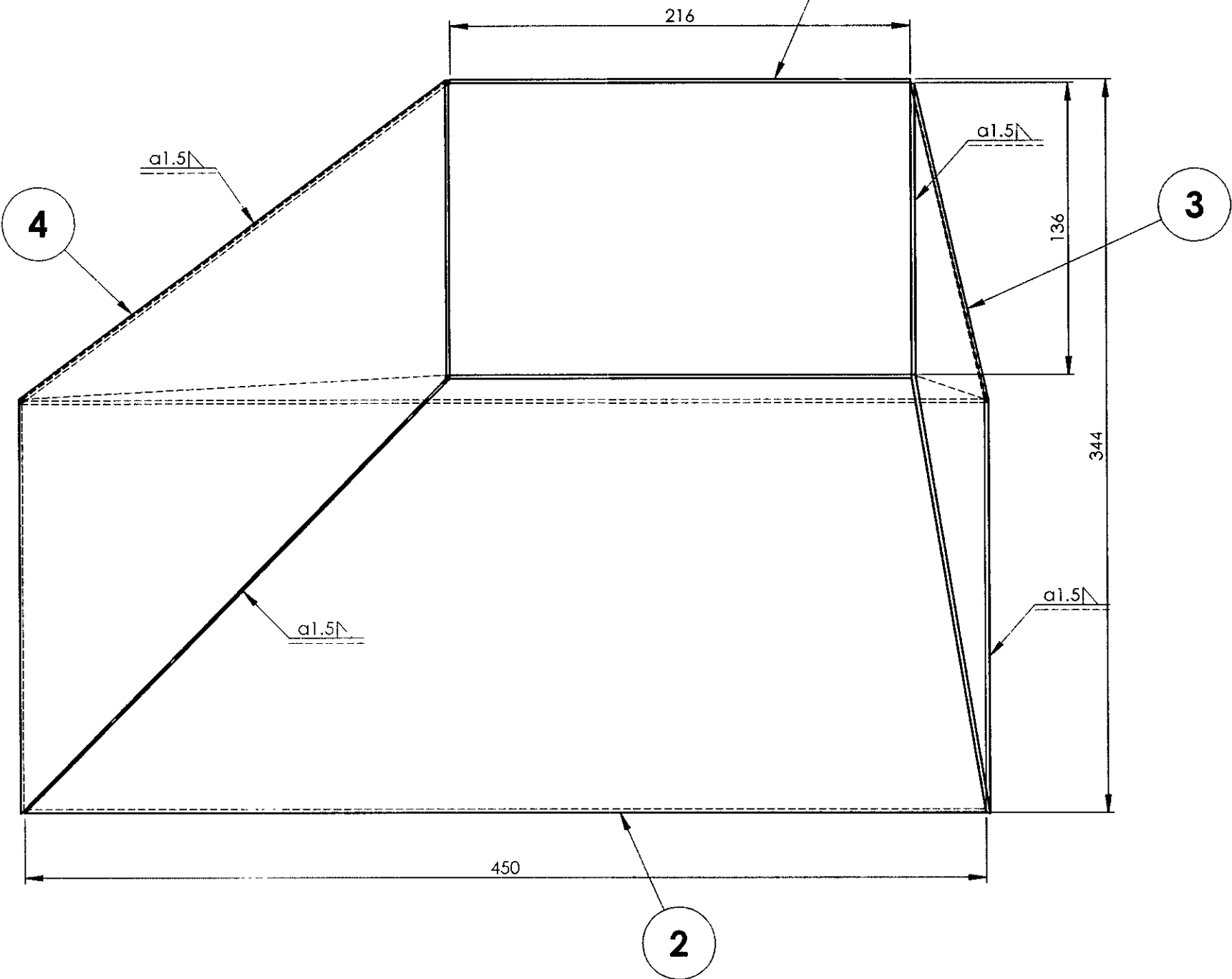
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22-03-2013		
DATE OF LATEST A.C.	DATE OF FIRST ISSUE	AMF/SME

59316057

▽ ROUGH MACHINED	① ROUGH CLEANED
▽▽ FINISH MACHINED	①b BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	①c CHAMFERED

REVISIONS			
ALT.	ZONE	DESCRIPTION	APPROVED & DATE
a		SUCTION PIPE MODIFIED AND VIEWS UPDATED.	<i>[Signature]</i> 19/01/24



ISOMETRIC VIEW

NOTE:-

1. STAINLESS STEEL ELECTRODE OF SAME COMPOSITION AS PER TABLE-3 OF RDSO/SPEC. CK-201 SHALL BE USED FOR WELDING.
2. ALL WELD SPATTERS SHALL BE GROUND.
3. ALL SHARP CORNERS SHALL BE ROUNDED OFF.
4. ALL WELDED JOINTS SHALL BE PICKLED AND PASSIVATED BEFORE SURFACE TREATMENT.
5. ALL WELDING SHALL BE OF TIG UNLESS OTHERWISE SPECIFIED.
6. ALL WELD PERFORMANCE CLASS SHALL BE CP C2 UNLESS OTHERWISE SPECIFIED.
7. FOR WELD TESTING PREFERANCES REFER DRG. No. ICF/STD-9-0-998.
8. FOR WELD PROCEDURE SPECIFICATION REFER DRG. No. ICF/STD-9-0-999.

1	SIDE SHEET		4	AAE16690		0.865	
1	SIDE SHEET		3	AAE16691		0.613	
1	BOTTOM SHEET		2	AAE16692		2.269	
1	TOP SHEET		1	AAE16693		1.49	
QTY.	DESCRIPTION	DIMENSIONS	ITEM NO.	REF.DRGS.	MATL	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 Roof Construction				SURFACE AREA IN Sq.m.: 0.665		WT/ASSY IN Kgs: 5.239	
SUCTION PIPE COMPLETE					SCALE 1:2.5	SSE/D CHD	<i>[Signature]</i>
					ALT a	ALTD DRN	E.SATHISH KUMAR
INDIAN RAILWAY STANDARDS INTEGRAL COACH FACTORY, CHENNAI - 600038					LWSCWAC/EOG		
					SHEET 1 OF 1	59316057	A2

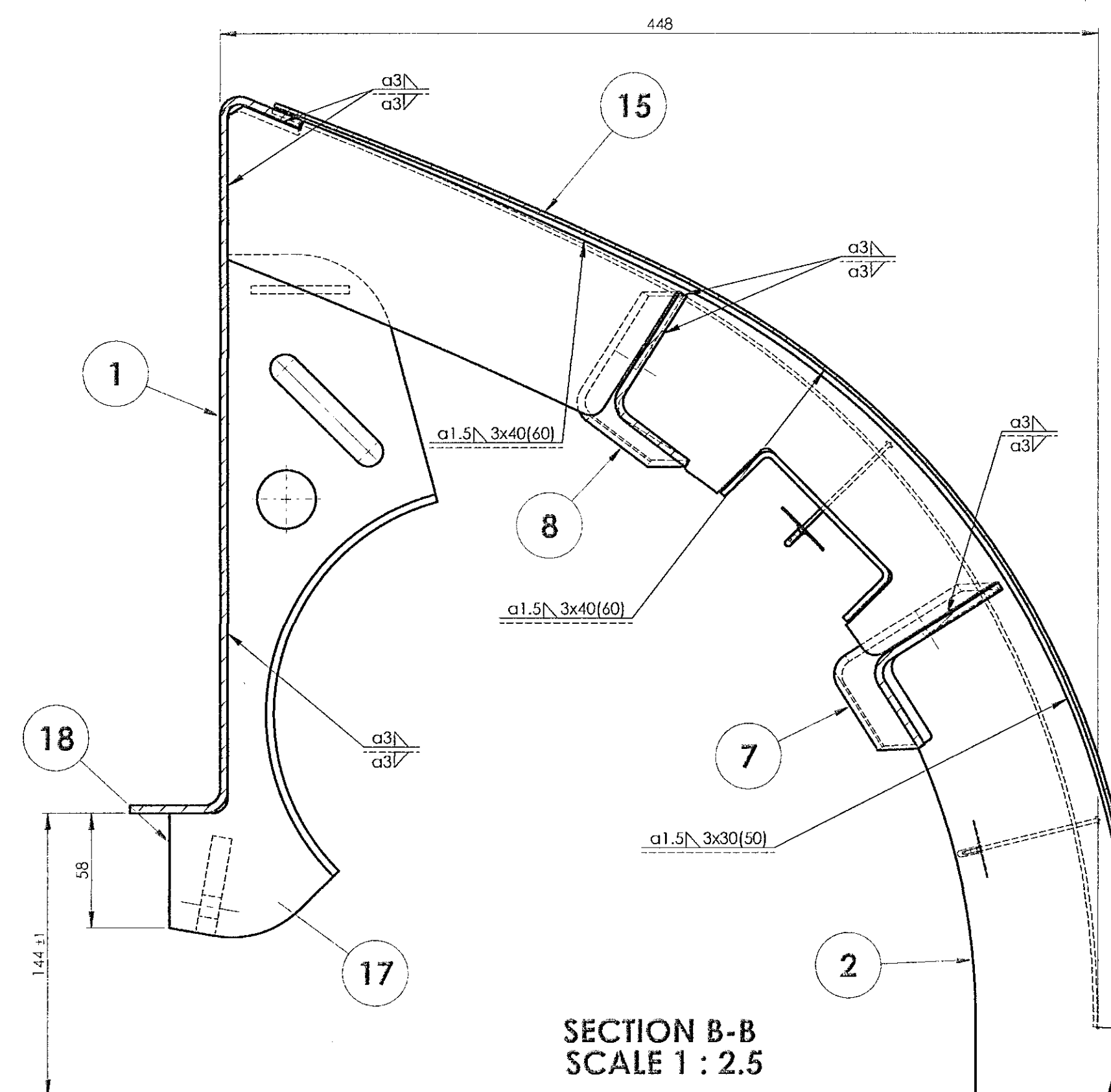
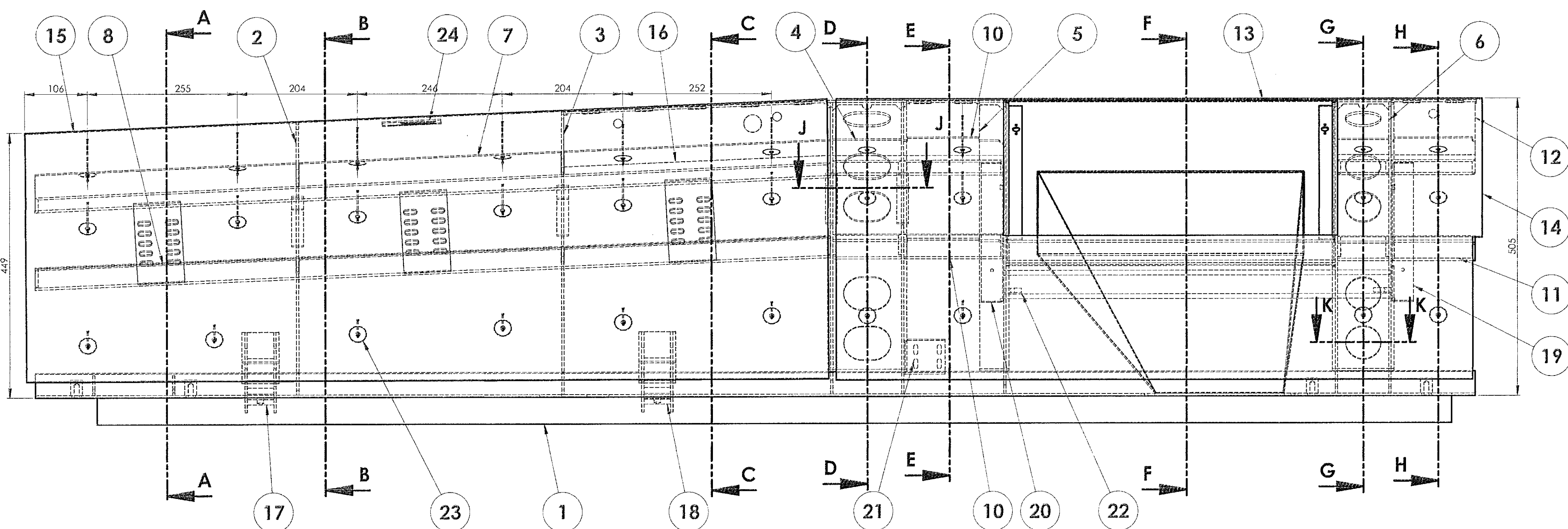
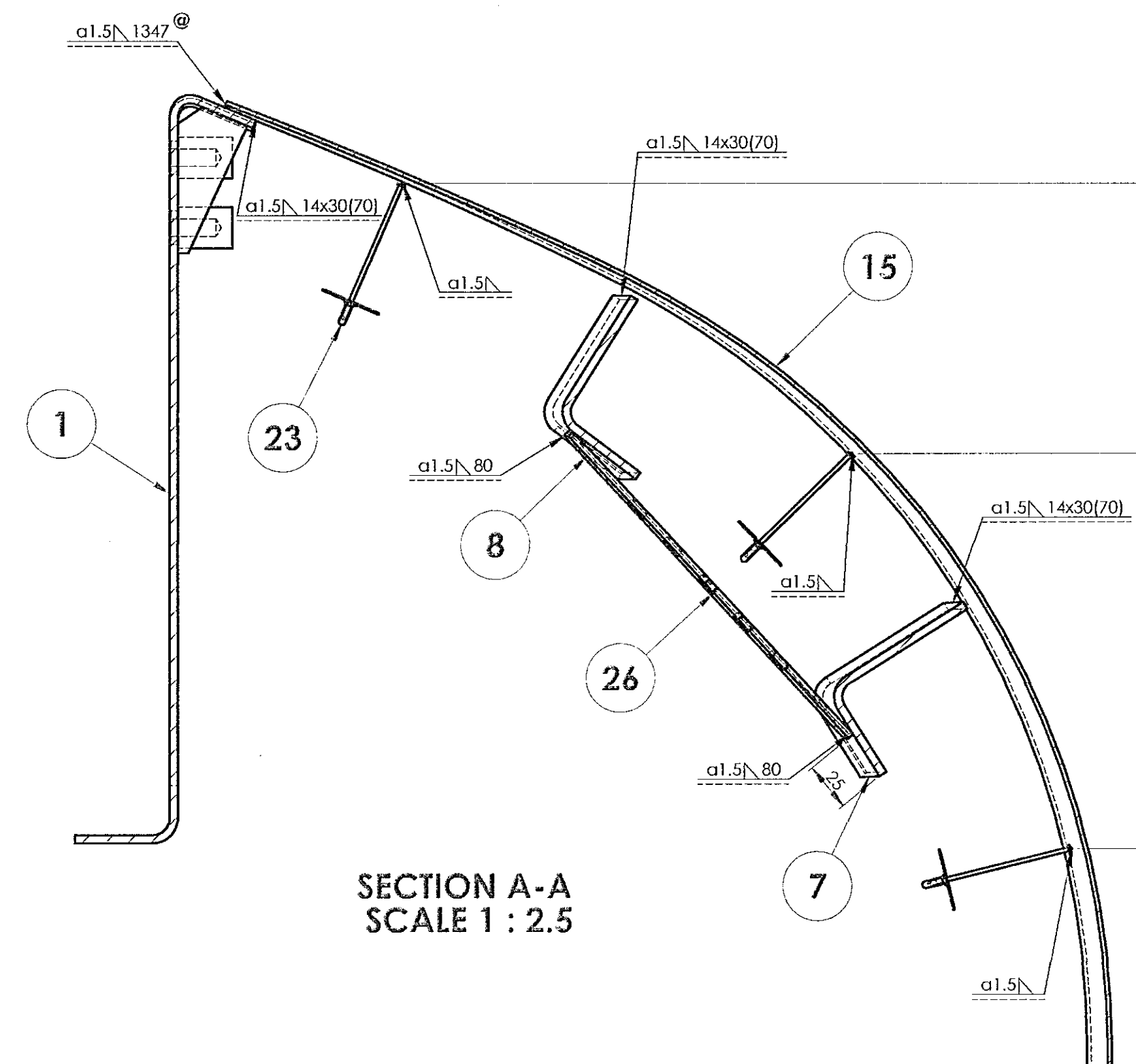
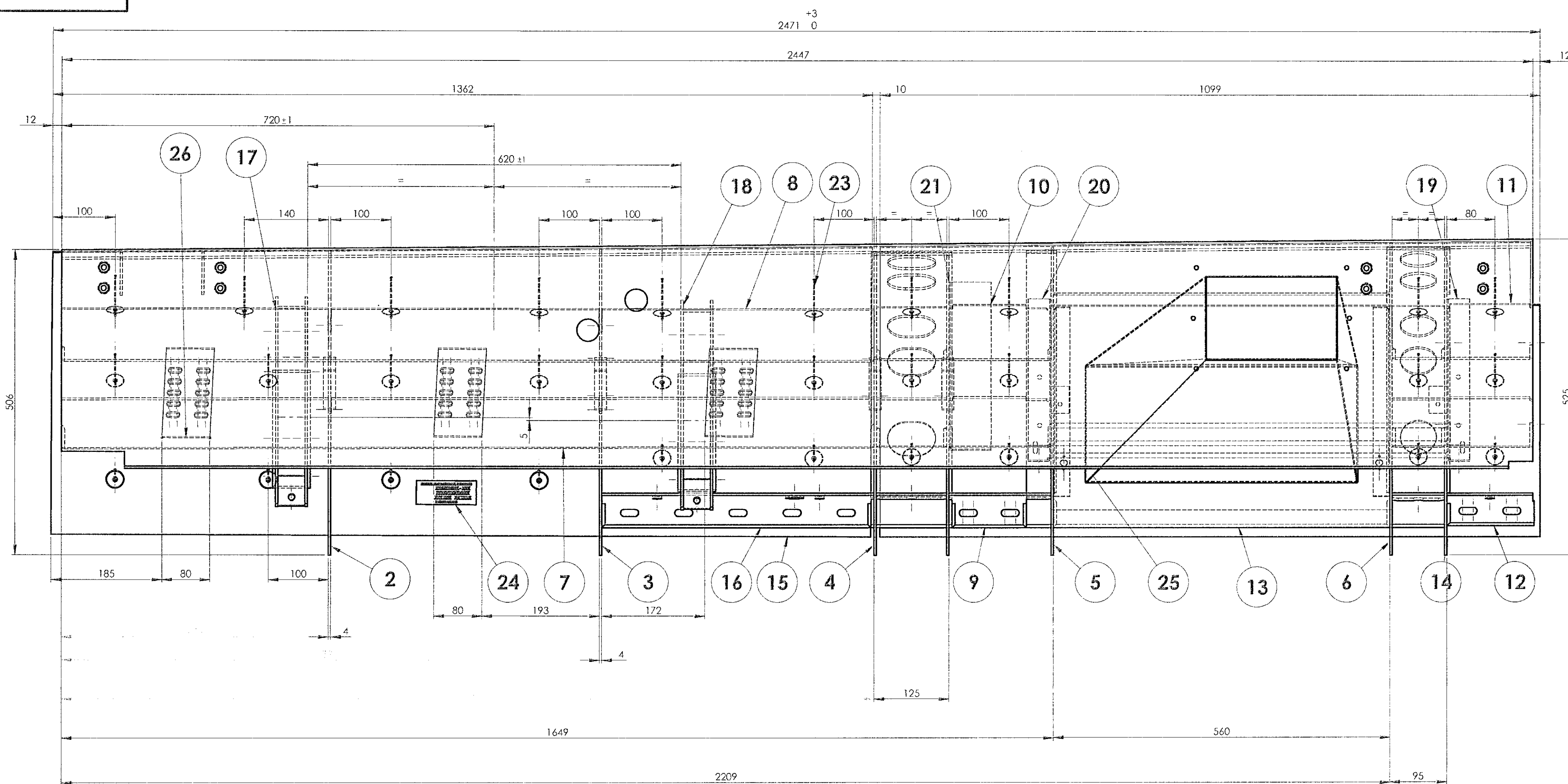
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DATE OF LATEST ALT.	DATE OF FIRST ISSUE	AME/SME

REF.DRG.NO.2 10113.0.20.200.007

ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO. ICF/STD-9-0-001. ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER IS:813-1986.

82716010

▽ ROUGH MACHINED	(01) ROUGH CLEANED
▽▽ FINISH MACHINED	(01b) BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	(08) CHAMFERED



ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO CFSTD-0-001.
ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER IS 813-1986.

REF.DRG.NO.

12-2-76

DATE OF LATEST ALT.

DATE OF FIRST ISSUE

AME/SME

FINAL ROOF ELEMENT COMPLETE

INDIAN RAILWAY STANDARDS
INTEGRAL COACH FACTORY, CHENNAI - 600088SHEET
1 OF 3

82716010

A1

GROUP: 1-6 Roof Construction

SURFACE AREA IN Sq.m.: 9.52

WT/ASSY IN Kgs: 101.50

SCALE 1:5

SSE/D CHD

ALT. b

DRN

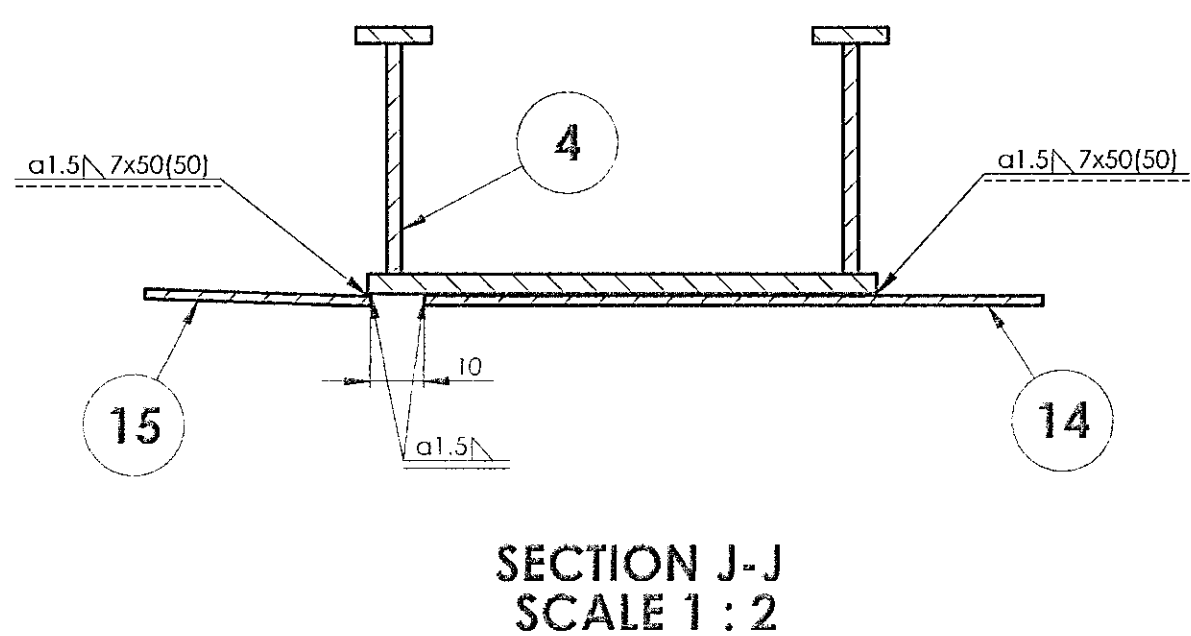
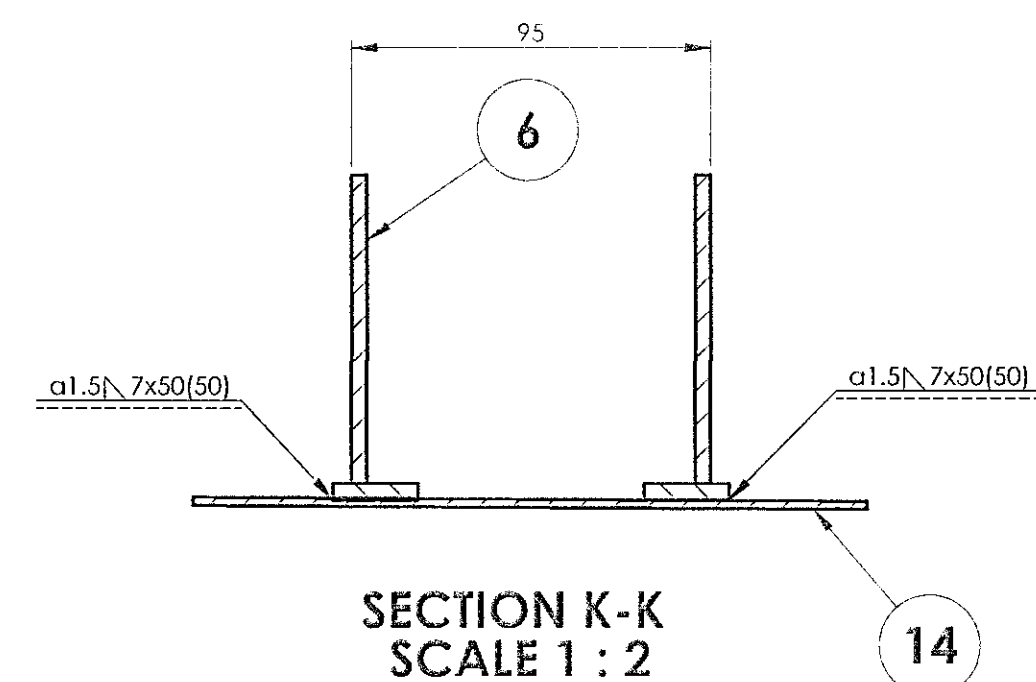
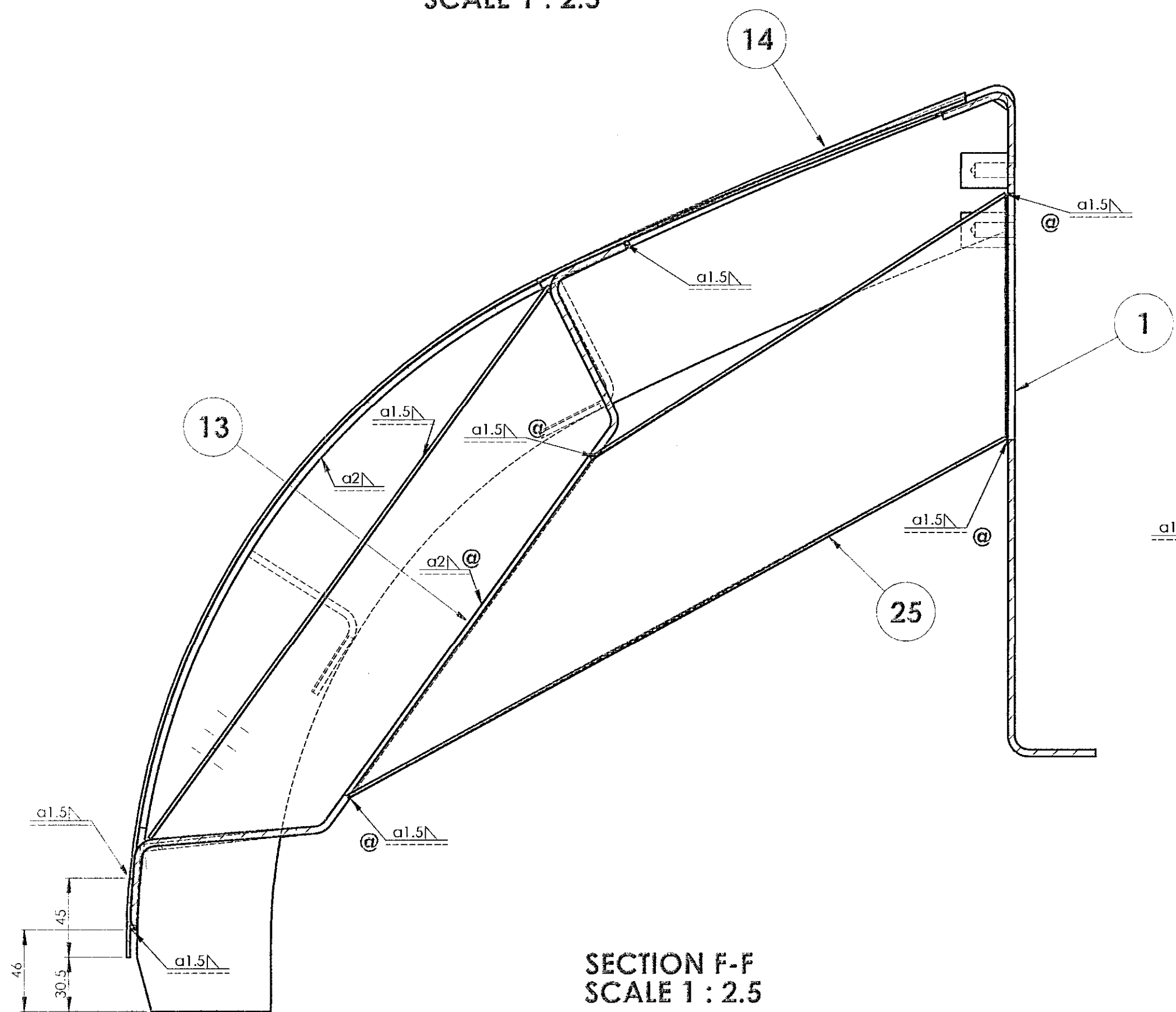
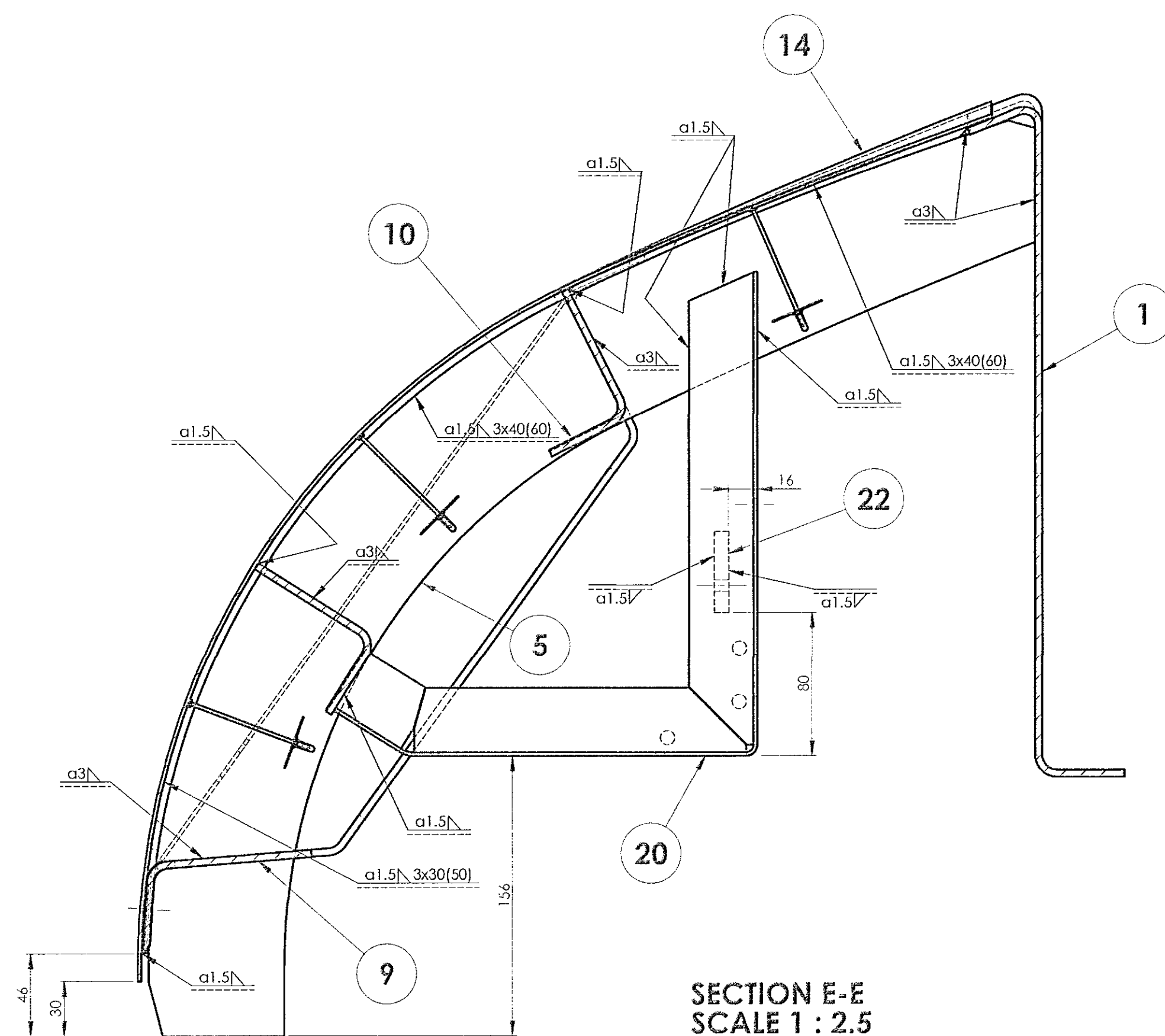
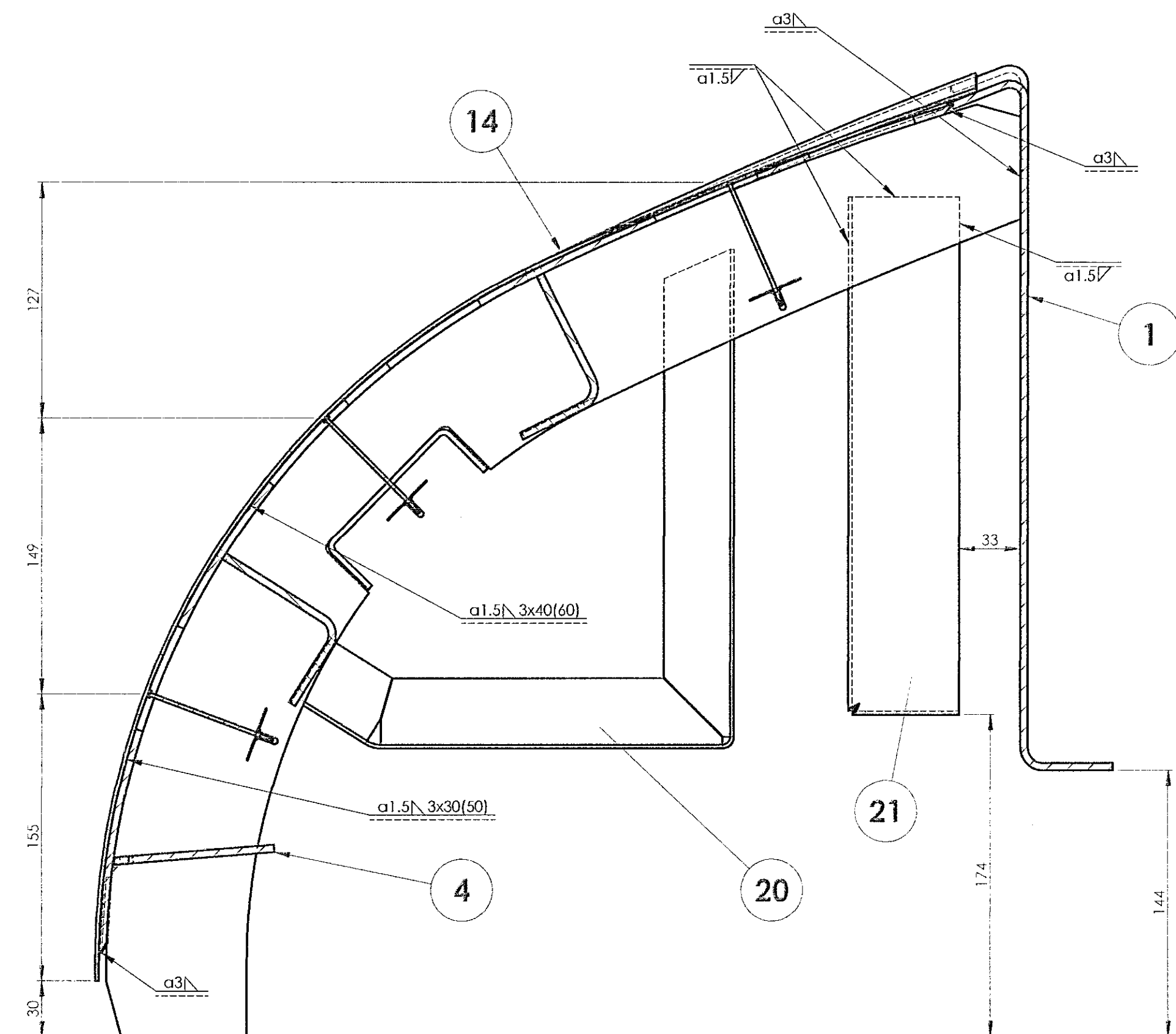
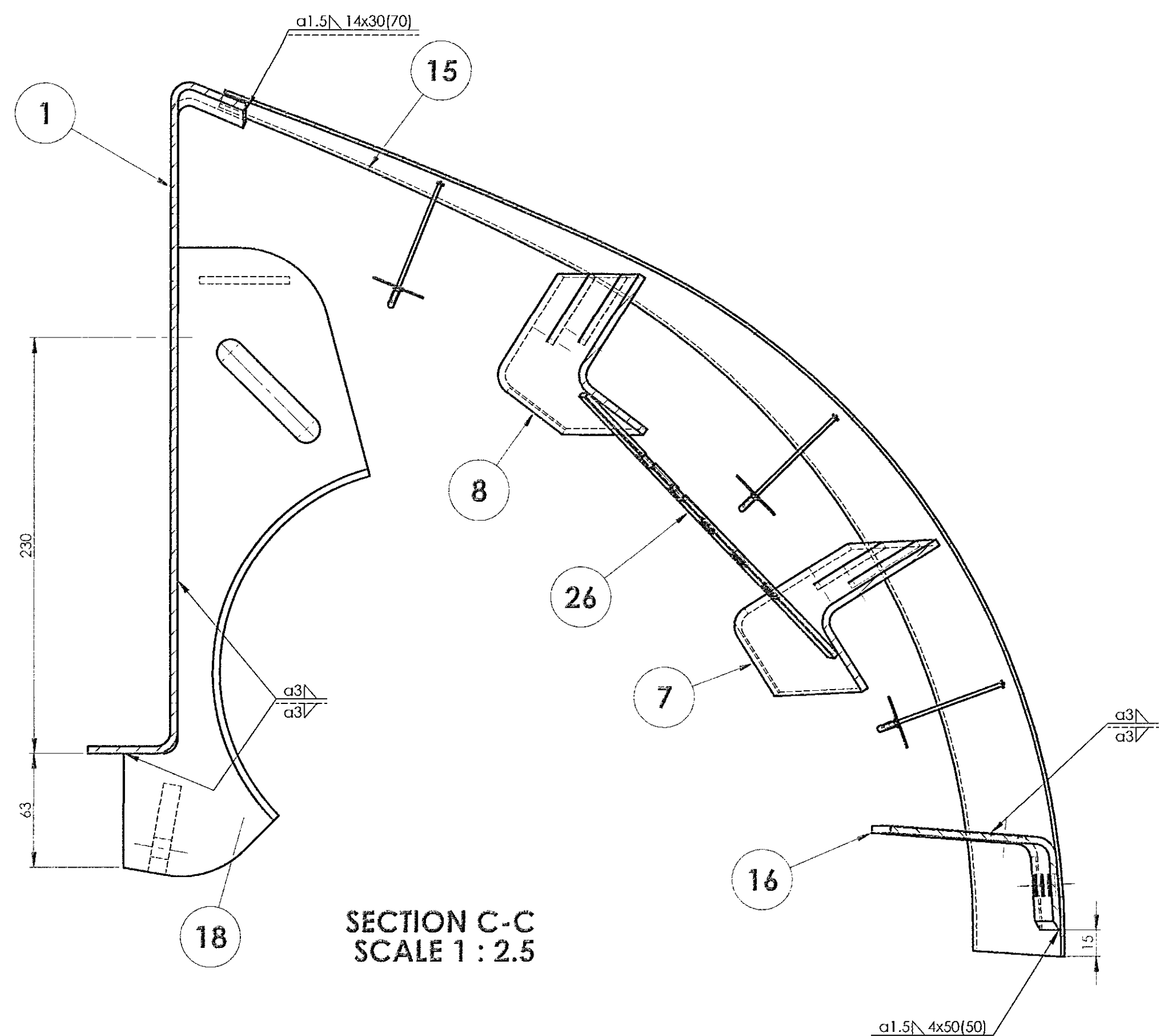
E.SATHISH KUMAR

E.SATHISH KUMAR

LWFAC/PP2

82716010

▽ ROUGH MACHINED	(01) ROUGH CLEANED
▽▽ FINISH MACHINED	(02) BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	(03) CHAMFERED



ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLENCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO CF/SD/9-0001.
ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER IS 13-1986.

REF.DRG.NO.

12-2-26		
DATE OF LATEST ALT.	DATE OF FIRST ISSUE	AME/SME

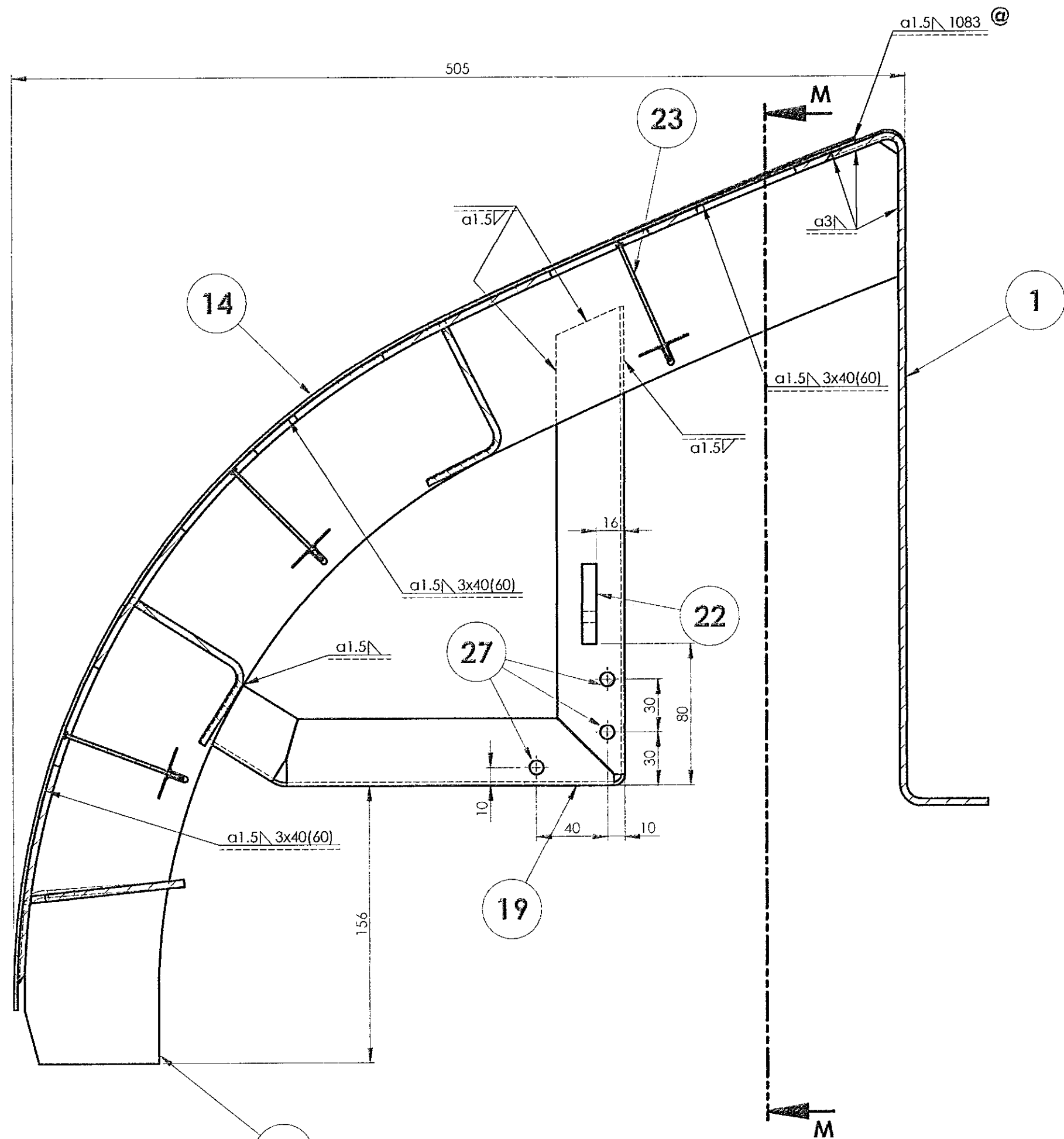
GROUP: 1-6 Roof Construction		SURFACE AREA IN Sq.m.: 9.52		WT/ASSY IN Kgs: 101.50	
SCALE: 1:5		SSE/D CHD		AL.T. b	
AL.T. b		AL.TD DRN		E.SATHISH KUMAR	
INDIAN RAILWAY STANDARDS		SHEET 2 OF 3		LWFAC/PP2	
INTEGRAL COACH FACTORY, CHENNAI - 600038		82716010		A1	

82716010

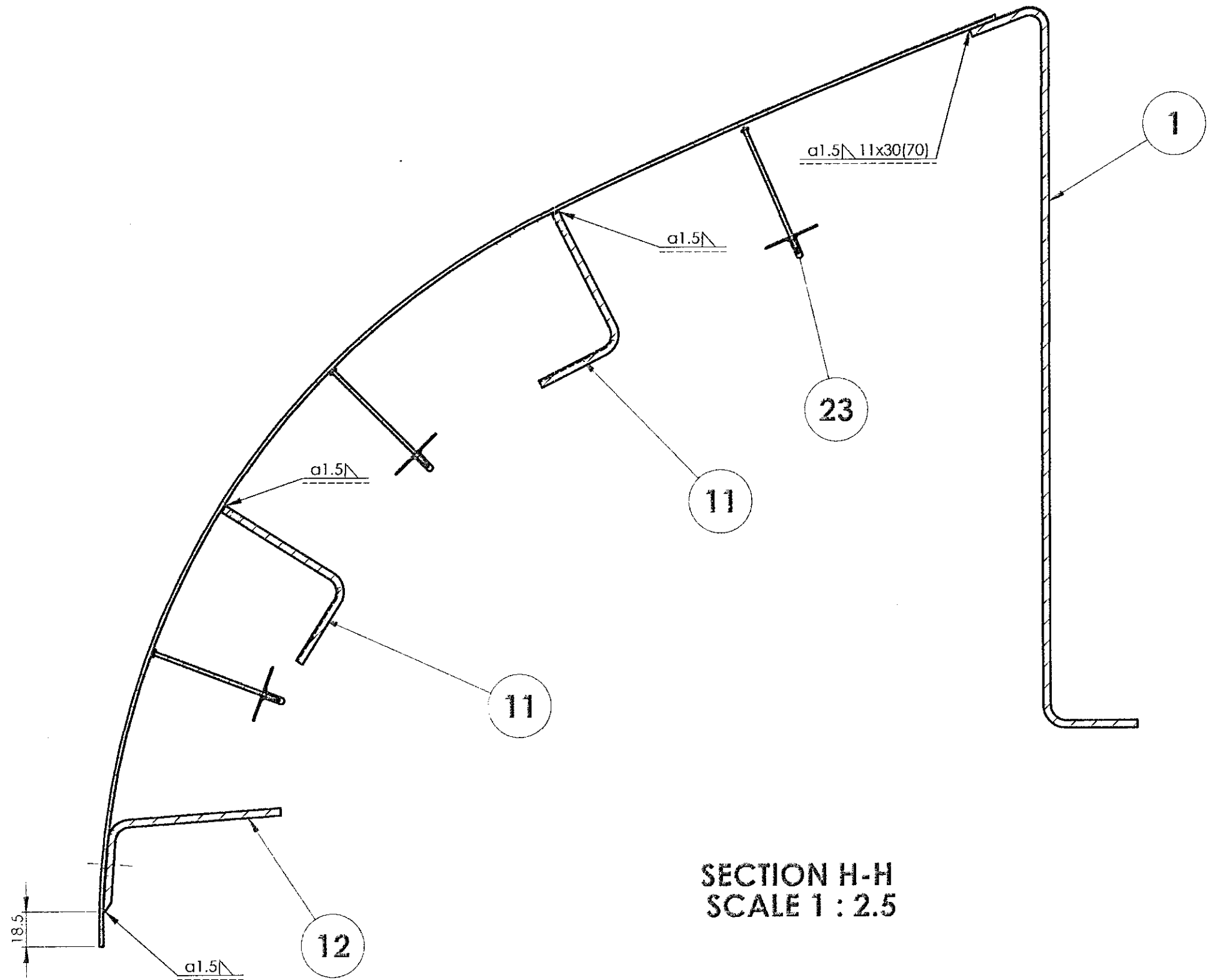
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▽▽ FINISH MACHINED	⑥⑥ BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	⑥⑥ CHAMFERED

⑥ ROUGH CLEANED	⑥⑥ BURRS REMOVED
⑥⑥ BURRS REMOVED	⑥⑥ CHAMFERED

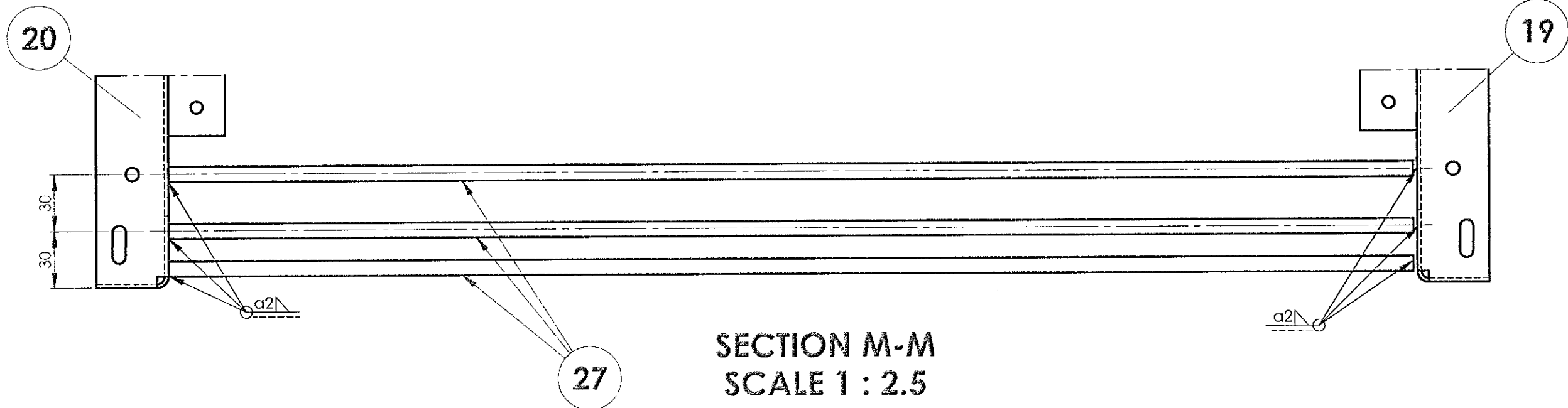
ALT.	ZONE	REVISIONS	DESCRIPTION	APPROVED & DATE
a		ITEM-1 REVISED VIEWS UPDATED.		
b		ITEM-14 REVISED AND ITEM-27 ADDED. SECTION-MM ADDED. WELDING UPDATED IN SECTION-FF. VIEWS UPDATED.		



SECTION G-G
SCALE 1 : 2.5



SECTION H-H
SCALE 1 : 2.5



SECTION M-M
SCALE 1 : 2.5

NOTE:-

1. STAINLESS STEEL ELECTRODE OF SAME COMPOSITION AS PER TABLE-3 OF RDSO/SPEC. CK-201 SHALL BE USED FOR WELDING.
2. ALL WELDED JOINTS SPATERS SHALL BE GROUND.
3. ALL WELDED JOINTS SHALL BE PICKLED AND PASSIVATED BEFORE SURFACE TREATMENT.
4. ALL SHARP CORNERS SHALL BE ROUNDED OFF.
5. ALL WELDING SHALL BE OF TIG UNLESS OTHERWISE SPECIFIED.
6. ALL WELD PERFORMANCE CLASS SHALL BE CP C2 UNLESS OTHERWISE SPECIFIED.
7. FOR WELD TESTING PREFERENCES REFER DRG. No. ICF/STD-9-0-998.
8. FOR WELD PROCEDURE SPECIFICATION REFER DRG. No. ICF/STD-9-0-999.
9. SCHEDULE OF REQUIREMENTS OF MANUFACTURE OF SIDEWALL/ ROOF ASSEMBLY SHALL COMPLY TO ICF/M/D/SPC-200 LATEST REVISION.
10. ITEM-24 (NAME PLATE) SHALL BE WELDED OR RIVETTED AT SUITABLE LOCATION AS SHOWN IN THE DRAWING IF PROCURED FROM TRADE.
11. ALL THE THREADED HOLES SHALL BE PROVIDED WITH SUITABLE DUMMY BOLTS TO SAFEGUARD THE THREADS.
- ⑥ 12. LEAK PROOF WELDING SHALL BE ENSURED.
13. FINAL ROOF ELEMENT COMPLETE SHALL BE MANUFACTURED USING PROPER FIXTURE.
14. MASKING SHOULD BE DONE AT ALL EARTHING LUG/BOSS/GROUNDING FLAPS WITH SUITABLE MASKING TAPE'S BEFORE PAINTING TO ENSURE PAINTLESS EARTHING SURFACE AND THE MASKING TAPE'S SHALL BE REMOVED AT FURNISHING STAGE DURING EARTHING CONNECTION OF ELECTRIC EQUIPMENTS.

3	TIE ROD	Ø8 x 657	27		SS-304	0.26	
3	FLAT		26	AAB16550		0.33	
1	SUCTION PIPE COMPLETE		25	59316057		5.239	
1	NAME PLATE FOR SUPPLIER IDENTIFICATION		24	AAA51072		0.063	
30	WELDING PIN ASSEMBLY		23	49516008		0.005	
2	GROUNDING FLAP		22	AAA16900		0.084	
1	BRACKET		21	AAA10968		0.615	
1	BRACKET		20	AAB10005		0.547	
1	BRACKET		19	AAB10006		0.547	
1	AUX. WATER TANK FIXING BRACKET		18	82716017		2.003	
1	AUX. WATER TANK FIXING BRACKET		17	82716016		1.948	
1	STIFFENING ANGLE		16	AAA16950		1.84	
1	ROOF SHEET		15	AAA16949		15.18	
1	ROOF SHEET		14	AAA16948		8.88	
1	LOCATION FRAME COMPLETE		13	59316019		7.283	
1	STIFFENING ANGLE		12	AAA16955		0.57	
2	STIFFENING ANGLE		11	AAA16926		0.544	
2	STIFFENING ANGLE		10	AAA16954		0.64	
1	STIFFENING ANGLE		9	AAA16953		0.63	
1	STIFFENING ANGLE		8	AAA16952		4.84	
1	STIFFENING ANGLE		7	AAA16951		5.22	
1	ROOF ARCH COMPLETE		6	59316018		6.260	
1	ROOF ARCH COMPLETE		5	59316022		2.83	
1	ROOF ARCH COMPLETE		4	82716015		6.945	
1	ROOF ARCH COMPLETE		3	82716019		1.73	
1	ROOF ARCH COMPLETE		2	82716020		1.69	
1	MEMBER COMPLETE		1	82716012		34.344	
QTY.	DESCRIPTION	DIMENSIONS	ITEM NO.	REF.DRGs.	MATL	WT/UNIT IN KGS	REMARKS

GROUP: 1-6 Roof Construction		SURFACE AREA IN Sq.m.: 9.62		WT/ASSY IN Kgs:	
SCALE 1:5		SSE/D CHD		E.SATHISH KUMAR	
ALT. b		ALTD DRN		E.SATHISH KUMAR	
INDIAN RAILWAY STANDARDS		SHEET 3 OF 3		LWFAC/PP2	
INTEGRAL COACH FACTORY, CHENNAI - 600038		82716010		A1	

REF.DRG.NO.

12-2-26

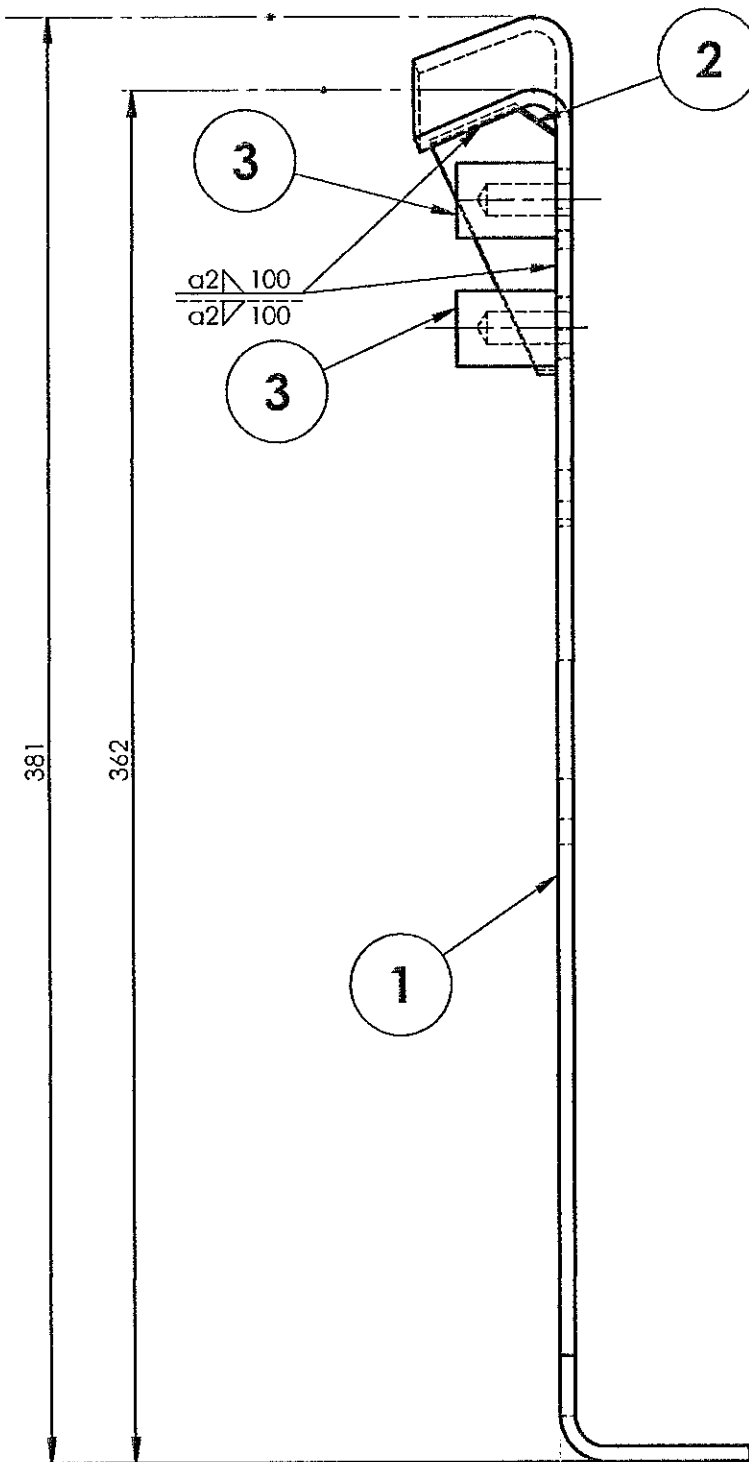
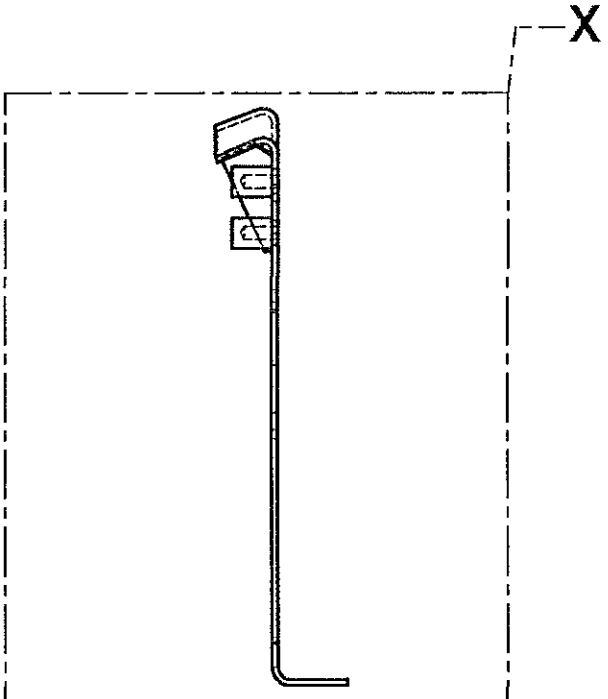
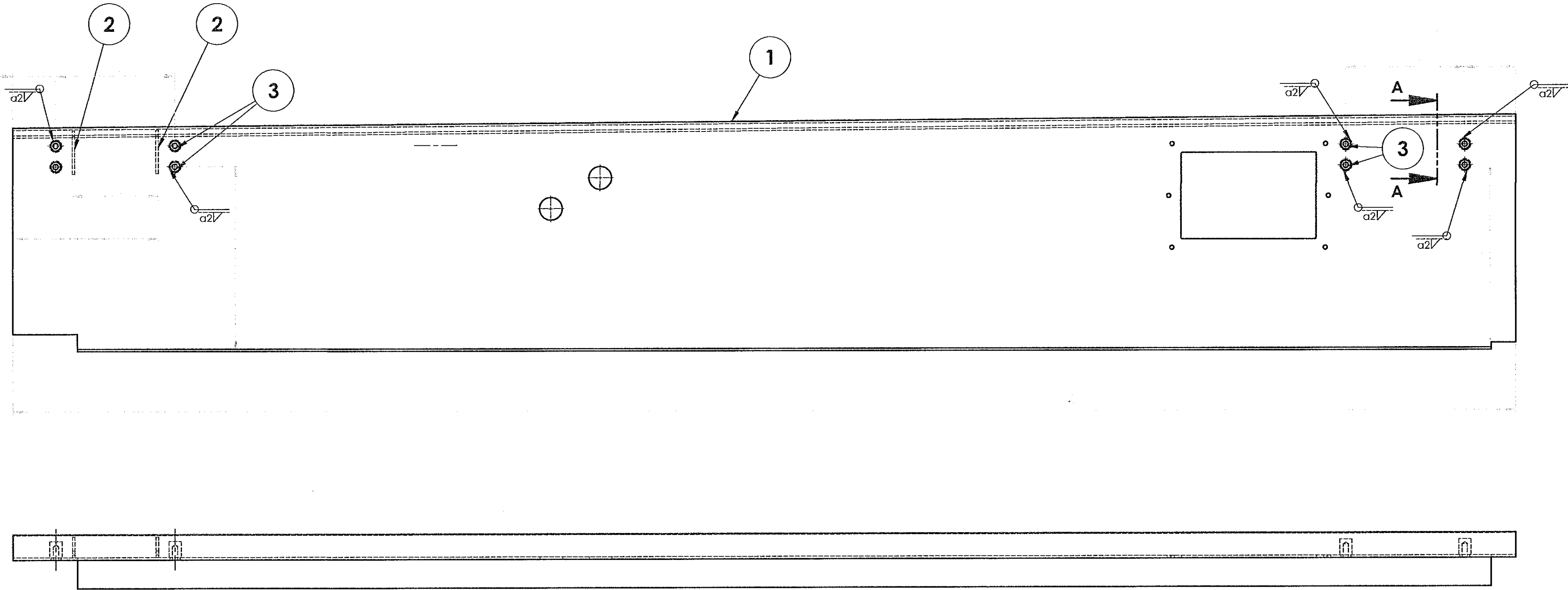
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DATE OF FIRST ISSUE

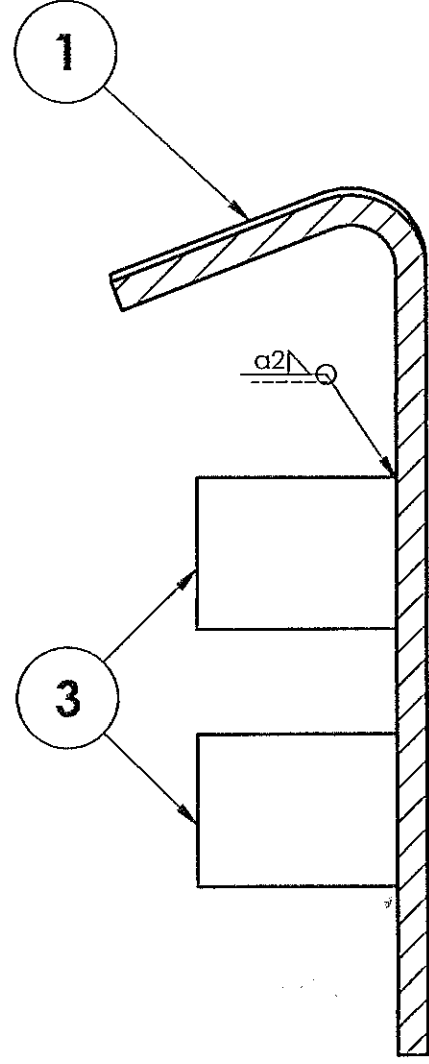
AME/SME

82716012

12		13	14	15	16
▽ ROUGH MACHINED		① ROUGH CLEANED	REVISIONS		
▽▽ FINISH MACHINED		② BURRS REMOVED	ALT.	ZONE	DESCRIPTION
▽▽▽ FINE FINISH MACHINED		③ CHAMFERED	α		ITEM-1 REVISED VIEWS UPDATED.
					APPROVED & DATE



DETAIL X
SCALE 1 : 2



SECTION A-A
SCALE 1 : 1

- NOTE:**
1. STAINLESS STEEL ELECTRODE OF SAME COMPOSITION AS PER TABLE-3 OF RDSO/SPEC C-K201 SHALL BE USED FOR WELDING.
 2. ALL WELD SPATTERS SHALL BE GROUND.
 3. ALL WELDED JOINTS SHALL BE PICKLED AND PASSIVATED BEFORE SURFACE TREATMENT.
 4. ALL SHARP CORNERS SHALL BE ROUNDED OFF.
 5. ALL WELDINGS SHALL BE TIG WELDING UNLESS OTHERWISE SPECIFIED.
 6. FOR WELD TESTING PREFERANCES REFER DRG. No. ICF/STD-9-0-998.
 7. FOR WELD PROCEDURE SPECIFICATION REFER DRG. No. ICF/STD-9-0-999.
 8. ITEM - 3 SHOULD BE WELDED WITH ITEM - 1 USING SUITABLE FIXTURE

8	SCREWING PIECE		3	AAD16884		0.06	
2	RIB		2	AAA16929		0.043	
1	MEMBER		1	AAF16121		33.764	
QTY.	DESCRIPTION	DIMENSIONS	ITEM NO.	REF.DRGS.	MATL	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 Roof Construction				SURFACE AREA IN Sq.m.: 2.70		WT/ASSY IN Kgs:	
MEMBER COMPLETE				SCALE 1:5	SSE/D CHD	E.SATHISH KUMAR	
				ALT. α	ALTD DRN	E.SATHISH KUMAR	
				INDIAN RAILWAY STANDARDS INTEGRAL COACH FACTORY, CHENNAI - 600038		LWFAC/PP2	
SHEET 1 OF 1				82716012		A1	

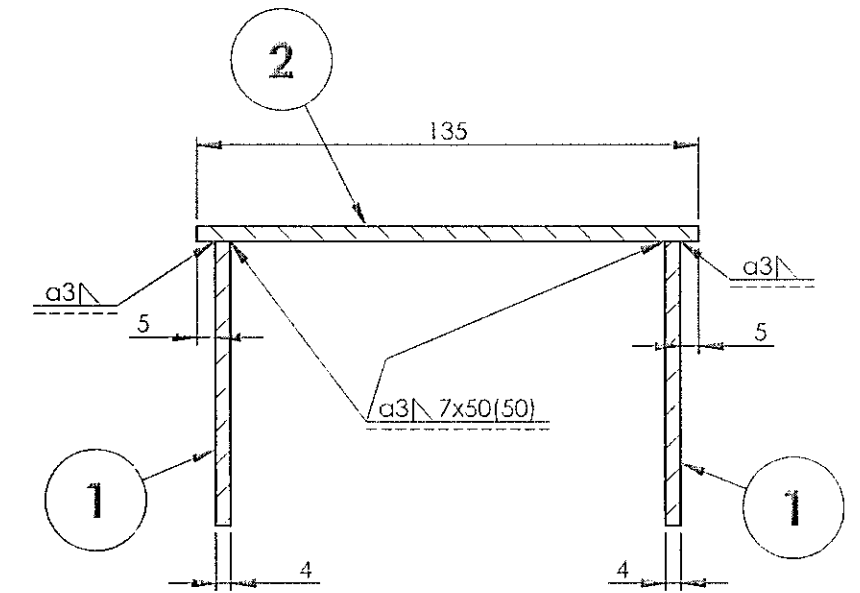
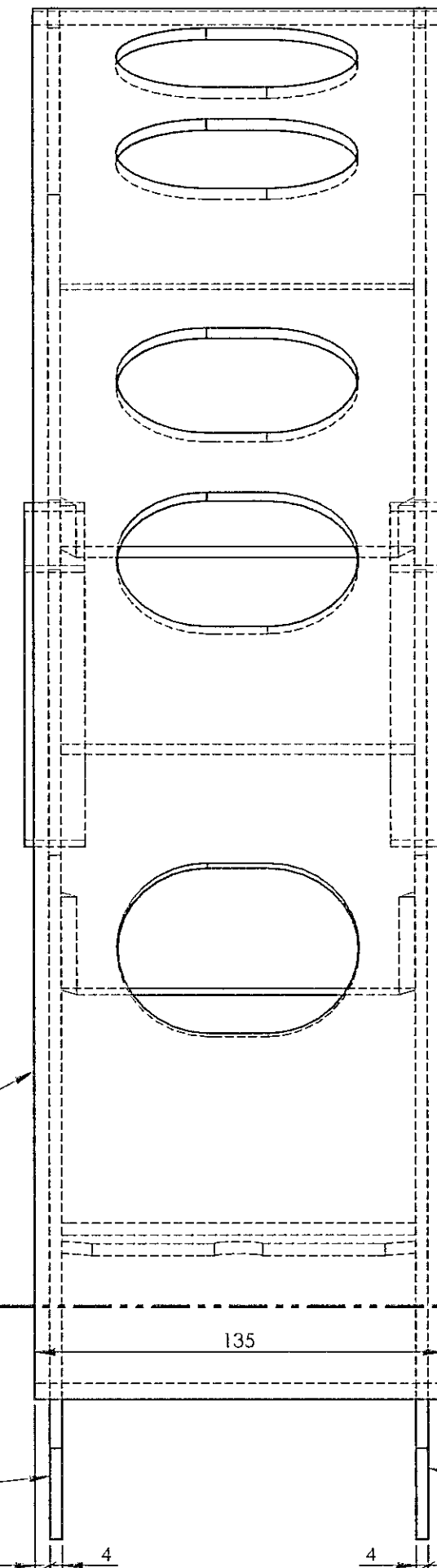
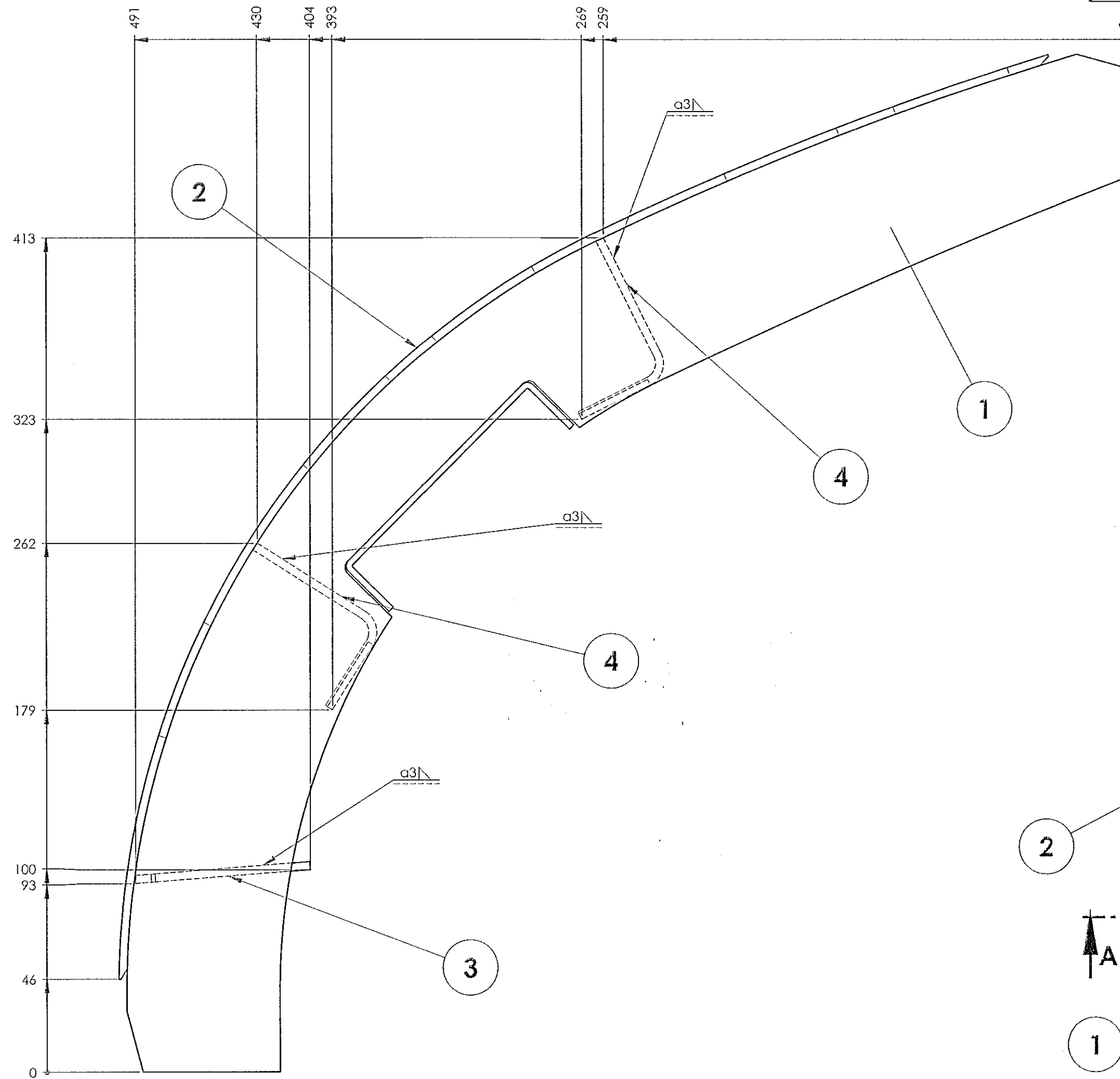
ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO ICF/STD-9-0-001. ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER IS:813-1986. WEIGHT GIVEN IN DRAWING IS FOR INDICATIVE PURPOSE ONLY.

REF.DRG.NO.

82716015

▽ ROUGH MACHINED	① ROUGH CLEANED
▽▽ FINISH MACHINED	② BURRS REMOVED
▽▽▽ FINE FINISH MACHINED	③ CHAMFERED

REVISIONS			
ALT.	ZONE	DESCRIPTION	APPROVED & DATE

SECTION A-A
SCALE 1 : 2

NOTE:

1. STAINLESS STEEL ELECTRODE OF SAME COMPOSITION AS PER TABLE-3 OF RDSO/SPEC C-K201 SHALL BE USED FOR WELDING.
2. ALL WELD SPATTERS SHALL BE GROUND.
3. ALL WELDED JOINTS SHALL BE PICKLED AND PASSIVATED BEFORE SURFACE TREATMENT.
4. ALL SHARP CORNERS SHALL BE ROUNDED OFF.
5. ALL WELDINGS SHALL BE TIG WELDING UNLESS OTHERWISE SPECIFIED.
6. ALL BUTT WELDINGS TO BE DONE AT COACH OUTSIDE AND ROUGH GRINDING TO BE DONE ON THE SAME SIDE. PENETRATION SHOULD NOT BE GROUND.

2	STIFFENING ANGLE		4	AAA16934		0.434	
1	WEB		3	AAA16933		0.319	
1	FLANGE		2	AAA16932		2.367	
2	ROOF ARCH COMPLETE		1	82716018		1681.75	
QTY.	DESCRIPTION	DIMENSIONS	ITEM NO.	REF.DRGS.	MATL	WT/UNIT IN KGS	REMARKS

GROUP: 1-6 Roof Construction

SURFACE AREA IN Sq.m.: 0.469

WT/ASSY IN Kgs: 6.918

ROOF ARCH COMPLETE

SCALE 1:5

SSE/D CHD

ALT' ALTD

DRN

E.SATHISH KUMAR

LWFAC/PP2

INDIAN RAILWAY STANDARDS

INTEGRAL COACH FACTORY, CHENNAI - 600038

SHEET 1 OF 1

82716015

A2

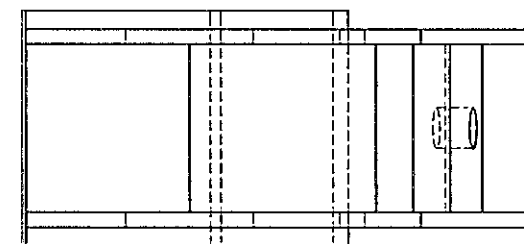
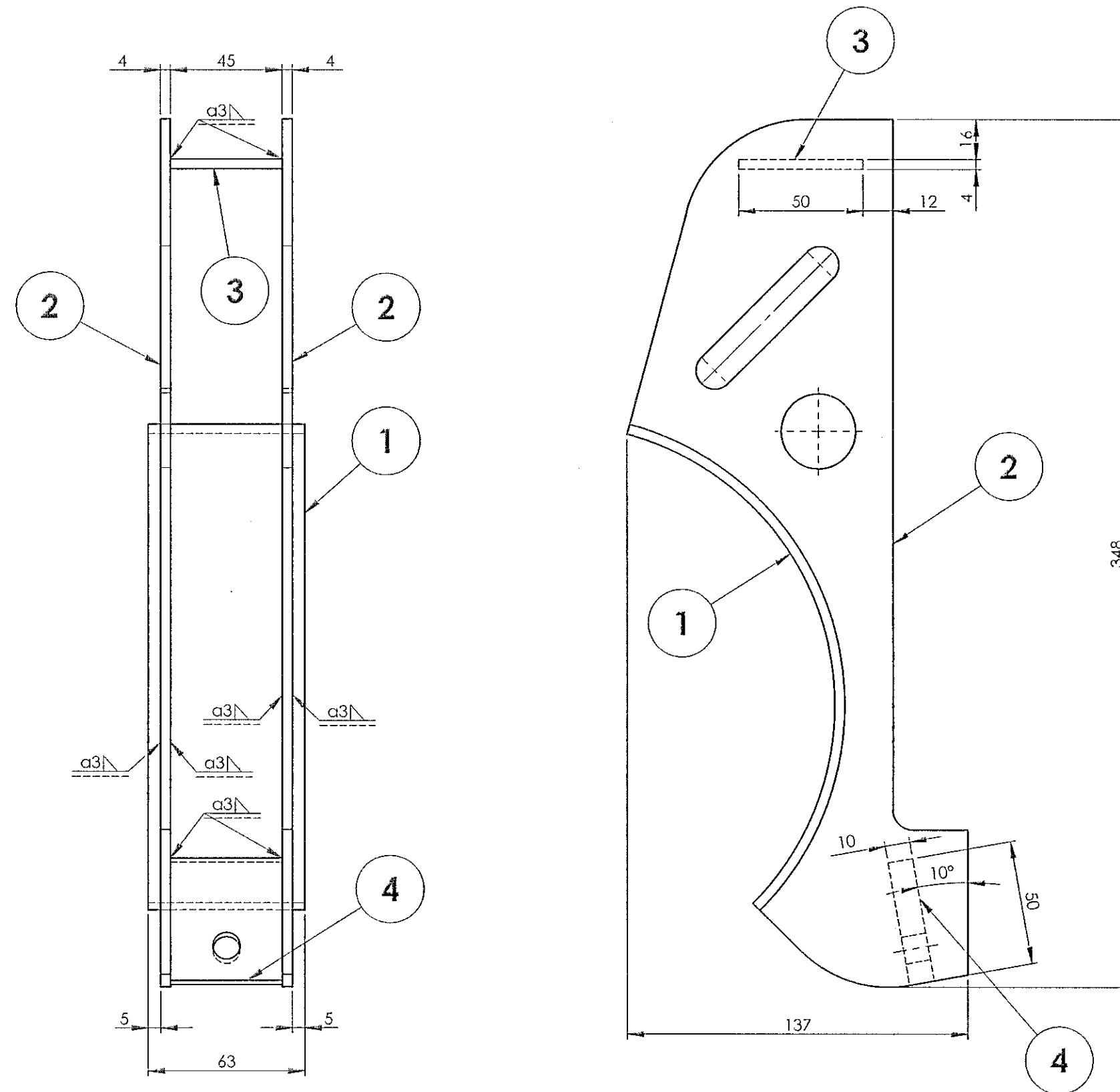
REF.DRG.NO.

DATE OF LATEST ALT.	04/09/25	AME/SME
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ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. FOR UNTOLERANCED DIMENSIONS AND ROUGHNESS VALUES, REFER DRAWING NO. ICF/STD-9-0-001.
ANY MANUAL ALTERATION SHALL AUTOMATICALLY RENDER THIS DRAWING INVALID. WELDING SYMBOLS ARE AS PER IS813-1986.

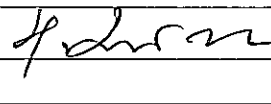
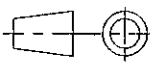
82716016

▽ ROUGH MACHINED	① ROUGH CLEANED	REVISIONS			
▽▽ FINISH MACHINED	①a BURRS REMOVED	ALT.	ZONE	DESCRIPTION	APPROVED & DATE
▽▽▽ FINE FINISH MACHINED	①b CHAMFERED				



NOTE:

1. STAINLESS STEEL ELECTRODE OF SAME COMPOSITION AS PER TABLE-3 OF RDSO/SPEC C-K201 SHALL BE USED FOR WELDING.
2. ALL WELD SPATTERS SHALL BE GROUND.
3. ALL WELDED JOINTS SHALL BE PICKLED AND PASSIVATED BEFORE SURFACE TREATMENT.
4. ALL SHARP CORNERS SHALL BE ROUNDED OFF.
5. ALL WELDINGS SHALL BE TIG WELDING UNLESS OTHERWISE SPECIFIED.
6. FOR WELD TESTING PREFERENCES REFER DRG.NO.ICF/STD-9-0-998.
7. FOR WELD PROCEDURE SPECIFICATION REFER DRG.NO.ICF/STD-9-0-999.

1	PLATE		4	AAB10073		0.172	
1	PLATE		3	AAB10010		0.072	
2	PLATE		2	AAF16201		0.610	
1	RING		1	AAB10008		0.483	
QTY.	DESCRIPTION	DIMENSIONS	ITEM NO.	REF.DRGs.	MATL	WT/UNIT IN KGS	REMARKS
GROUP: 1-6 Roof Construction			SURFACE AREA IN Sq.m.: 0.130		WT/ASSY IN Kgs:		
AUX. WATER TANK FIXING BRACKET					SCALE 1:2	SSE/D	
						CHD	
					ALT	ALTD	E.SATHISH KUMAR
						DRN	
INDIAN RAILWAY STANDARDS INTEGRAL COACH FACTORY, CHENNAI - 600038				SHEET 1 OF 1	 LWFAC/PP2		
					82716016 A2		

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REF.DRG.NO.59310015

DATE OF LATEST ALT.	04/09/25	AME/SME
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