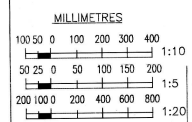
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S. NO.	DESCRIPTION	REFERENCE
1.	DETAILS OF MAIN GIRDER	RDSO/B-1569/R
2.	ASSEMBLY DRAWING	RDSO/B-1569/2/R
3.	PART LIST & SHIPPING LIST.	RDSO/B-1569/3/R
4.	DECK SLAB	RDSO/B-1569/4/R

RDS0/B-1569/1/R

- | | |
|--|---|
| MATERIAL FOR ALL OTHER PARTS | IS:2062-1984
Gr B FULLY
KILLED AND FULLY
NORMALISED. |
| MATERIAL FOR LAT:
BRACING X-FRAME
Ls. AND GUSSET | IS:226-1975
IS:2262-1984
Gr A SEMIKILLED |
| SCHEME OF SYMBOL
FOR WELDING | IS:813-1961 |
| MANUAL METAL
ARC WELDING | IS:9595-1980 |
| SUBMERGED ARC
WELDING | IS:4353-1967 |
| ELECTRODES | IRSM-28 |
| WIRE FLUX COMBINATION FOR SAW | IRSM-39 |
| FABRICATION &
ERECTION | IRS-B1 |

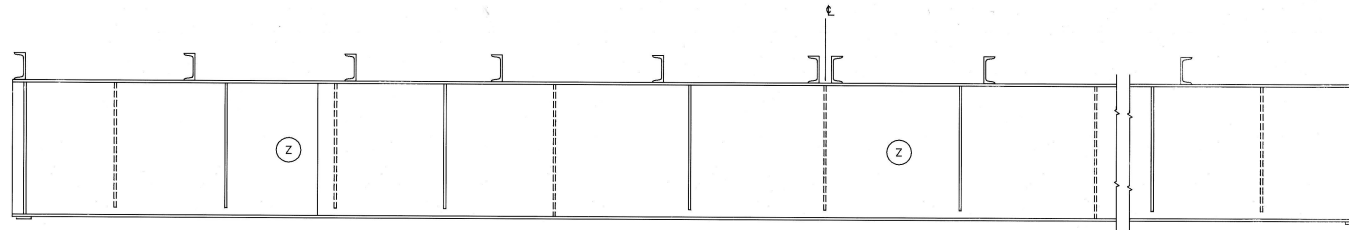


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ALTERATION 1. USING
AUTOCAD # 11. 01.08.96

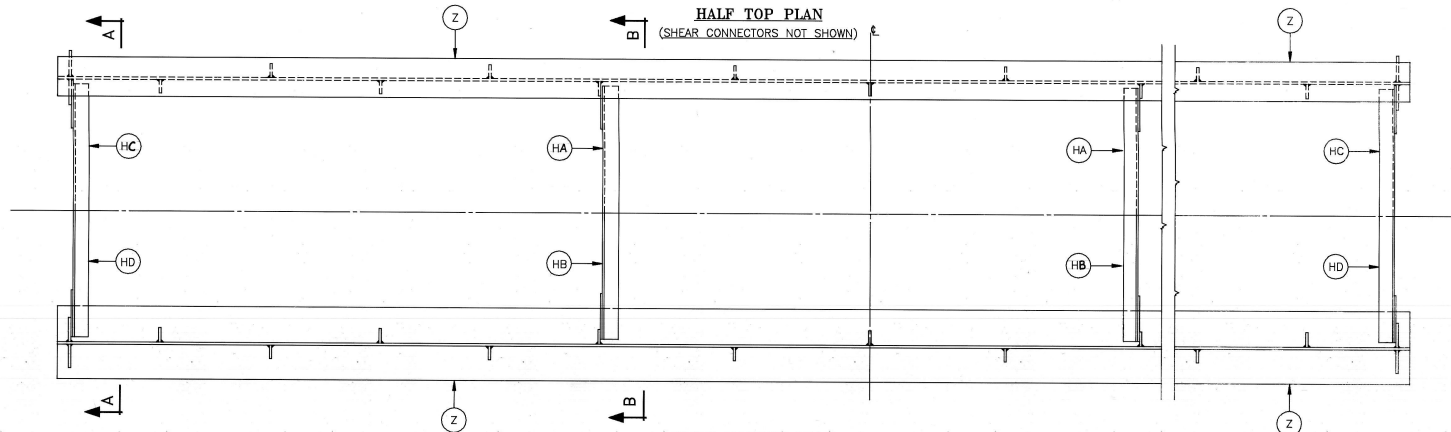
DATE _____

DRAWN BY- (IN AUTOCAD) COMPARED BY- <i>R. Agnihotri</i>	FLOPPY NO. BSRF/0008
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1. Letter No. BSRF/0008

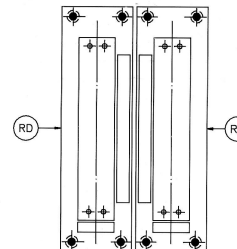


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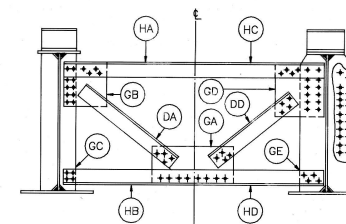


HALF TOP PLAN
(SHEAR CONNECTORS NOT SHOWN)

HALF BOTTOM PLAN



BED PLATE



HALF SECTION
ON BB

HALF SECTION
ON AA

RELATED DRAWINGS

S. NO.	DESCRIPTION	REFERENCE
1.	DETAILS OF MAIN GIRDER	RDSO/B-1569/R
2.	BEARING AND X-FRAME DETAILS	RDSO/B-1569/1/R
3.	PART LIST & SHIPPING LIST.	RDSO/B-1569/3/R
4.	DECK SLAB	RDSO/B-1569/4/R

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R.D.S.O.

MODIFIED B.G. LOADING - 1987
COMPOSITE GIRDER-WELDED TYPE
12.2m SPAN
(UPTO 4° CURVE)
ASSEMBLY DRAWING

ADVANCE

RDSO/B-1569/2/R

5. IN THE CASE OF A CONSIGNMENT OF GIRDERS OF DIFFERENT SPAN BEING DESPATCHED TOGETHER IN ORDER TO FACILITATE SORTING, ALL GIRDERS OF A GIVEN TYPE WILL BE PAINTED WITH A DISTINCTIVE COLOUR TO BE SPECIFIED BY THE INDENTOR.
4. WHILE TRANSPORTING PROPER CARE SHOULD BE TAKEN TO SEE THAT SHEAR CONNECTORS ARE NOT DAMAGED.
3. FOR PART LIST & SHIPPING LIST REFER DRG. NO. RDSO/B-1569/3/R
2. FOR GENERAL ARRANGEMENT REFER DRG. NO. RDSO/B-1569/R
1. SHIPPING MARKS ARE TO BE PAINTED IN WHITE LETTERS 100 mm HIGH OR AS LARGE AS THE MEMBER WILL PERMIT ON EACH MEMBER BEFORE DESPATCH FROM THE WORKSHOP AS THUS (H)

DESCRIPTION	SYMBOL
FIELD RIVET	+
ANCHOR BOLT	+

NOTE

SPECIFICATION

SCALE

ALT

DESCRIPTION

DATE

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COMPARED BY-

FLOPPY NO. BSRE/0010

1
REDRAWN INCORPORATING
ALTERATION 1 USING
AUTOCAD # 11.

01.08.96

Floppy No. BSRE/0010

PART LIST
(REFER DRG. NO. RDSO/B-1569/R)

NO. REQUIRED	DESCRIPTION	PART OR TEMPLATE NO.	
2	WEB PLATES	B	ZA
2	WEB PLATES	B	ZB
2	TOP FLANGE PLATES	B	FA
2	TOP FLANGE PLATES	B	FB
4	BOTTOM FLANGE PLATES	B	FC
2	BOTTOM FLANGE PLATES	B	FD
4	STIFFENERS AT ENDS	B	SA
4	STIFFENERS AT ENDS	B	SB
22	STIFFENERS (INTERMEDIATE) W/O X-FRAME	B	SC
4	STIFFENERS (INT.) WITH X-FRAME	B	SD
2	X-FRAME HORIZONTAL (INT.) TOP	B	HA
2	" " " BOTTOM	B	HB
2	" " (END) TOP	B	HC
2	" " " BOTTOM	B	HD
2	X-FRAME DIAGONAL (INT.)	B	DA
2	" " " "	B	DB
2	" " (END)	B	DC
2	" " " "	B	DD
4	X-FRAME GUSSETS CENTRAL	B	GA
4	" " CORNER TOP (INT.)	B	GB
4	" PACKING CORNER BOTTOM (INT.)	B	GC
4	X-FRAME GUSSETS CORNER TOP (END)	B	GD
4	" PACKING CORNER BOTTOM (END)	B	GE
160	CHANNEL SHEAR CONNECTORS	B	TC
4	BEARING FLATS	B	RB
4	BED PLATES	B	RC
2	STEEL PLATES	B	RD
2	PHOSPHOR BRONZE PLATES	B	RE
4	LOCATION STRIPS	B	RF
4	LOCATION STRIPS	B	RG
16	ANCHOR BOLTS 32 DIA.		
16	SET SCREWS DIA 22 TAPPED 40 DEEP		

SHIPPING LIST
(REFER DRG. NO. RDSO/B-1569/2/R)

NO. REQUIRED	DESCRIPTION	SIZE			SHIPPING MARK
		L	B	D	
2	GIRDER COMPLETE	13300	750	1417	(Z)
2 2	X-FRAME HORZ.(INT.)TOP & BOT.	2160	125	75	(HA) (HB)
2 2	X-FRAME DIAGONAL (INT.)	976	125	75	(DA) (DB)
2 2	X-FRAME HORZ: TOP & BOT. (END)	2160	125	75	(HC) (HD)
2 2	X-FRAME DIAGONALS (END)	900	125	75	(DC) (DD)
4	X-FRAME GUSSET (CENTRAL)	660	340	10	(GA)
4	X-FRAME GUSSET CORNER TOP (INTERMEDIATE)	375	350	10	(GB)
4	X-FRAME PACKING CORNER BOTTOM (INT.)	126	125	10	(GC)
4	X-FRAME GUSSET CORNER TOP (END)	426	400	10	(GD)
4	X-FRAME PACKING CORNER BOTTOM (END)	206	125	10	(GE)
1 1	BED PLATES	1060	290	75	(RD) (RE)
1 1	" "	1060	290	75	(RD) (RE)
16	ANCHOR BOLTS DIA 32	430			

RELATED DRAWINGS

S. NO.	DESCRIPTION	REFERENCE
1.	DETAILS OF MAIN GIRDER	RDSO/B-1569/R
2.	BEARING AND X-FRAME DETAILS	RDSO/B-1569/1/R
3.	ASSEMBLY DRAWING	RDSO/B-1569/2/R
4.	DECK SLAB	RDSO/B-1569/4/R

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R.D.S.O.

**MODIFIED B.G. LOADING - 1987
COMPOSITE GIRDER-WELDED TYPE
12.2m SPAN
(UPTO 4° CURVE)
PART LIST AND SHIPPING LIST**

ADVANCE

RDSO/B-1569/3/R

3. MEMBERS REQUIRED FOR TEMPORARY STAGING HAVE NOT BEEN INCLUDED IN THE PART LIST.
2. THE SHIPPING LIST IS SHOWN FOR SINGLE SPAN ONLY.
1. ALL DIMENSIONS ARE IN MILLIMETRES.

NOTE

SPECIFICATION

SCALE

ALT.

DESCRIPTION

DATE

NIL

1

REDRAWN USING
AUTOCAD # 11.

01.08.96

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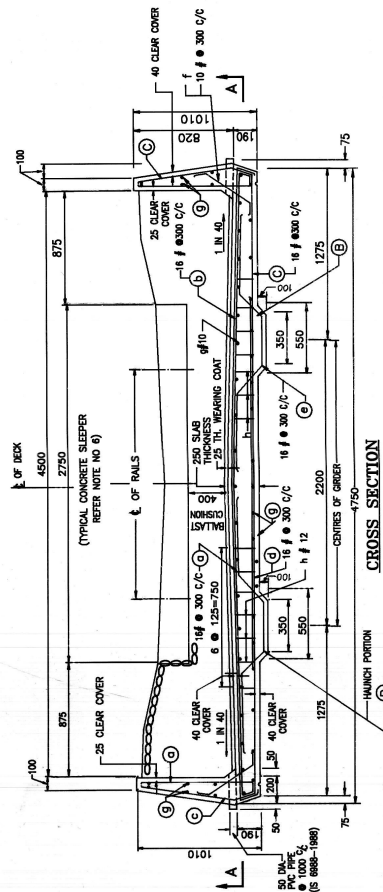
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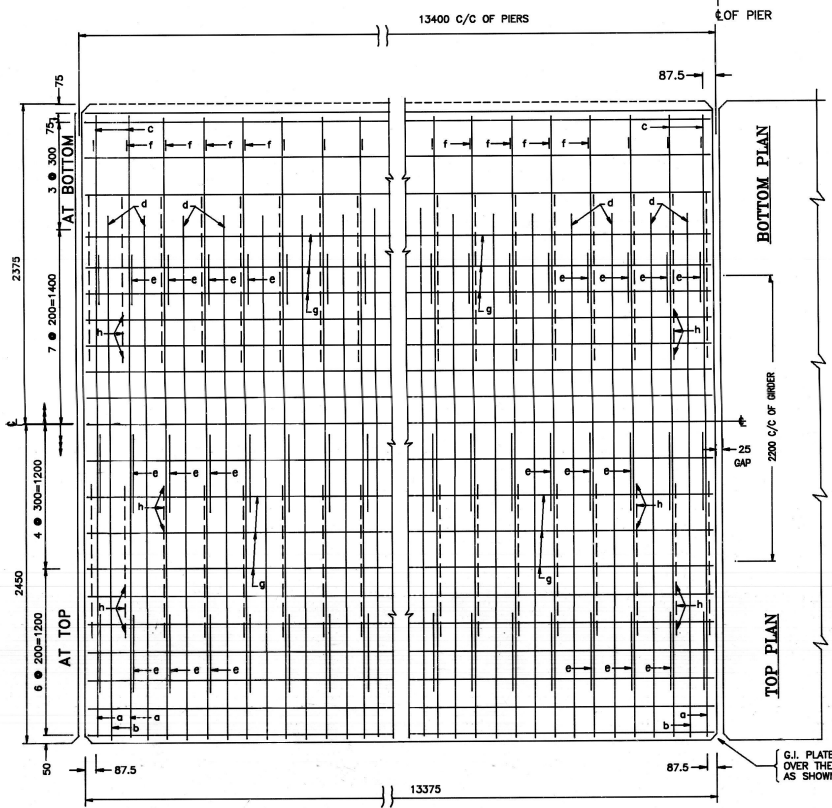
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COMPARED BY-

FLOPPY NO. BSRF10007

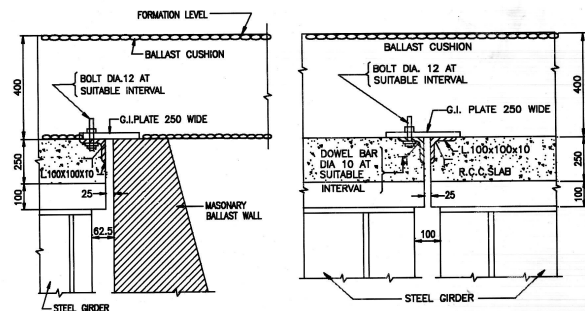
Floppy No. BSRF10007



CROSS SECTION



SECTIONAL PLAN AT A A



SECTION OF G.I. PLATE AT ABUTMENT AND PIER

BAR BENDING SCHEDULE PER SPAN

BAR MARK	DIA. OF BAR	SPACING OF BARS	LENGTH IN mm	TOTAL No. REQD.	BENDING SHAPE DIMENSIONS SHOWN ARE OVER OUTER EDGES	WEIGHT PER m IN kg	TOTAL WEIGHT IN kg.
a	16	300	7050	45		1.58	501.26
b	16	300	5040	44		1.58	350.38
c	16	300	6590	45		1.58	488.55
d	16	300	2850	44		1.58	198.13
e	16	300	2165	90		1.58	307.86
f	10	300	570	90		0.82	31.81
g	10	AS SHOWN IN DRG.	13325	54		0.62	448.12
h	12	AS SHOWN IN DRG. AVERAGE	293	630		0.89	164.29

RELATED DRAWINGS

S. NO.	DESCRIPTION	REFERENCE
1	DETAILS OF MAIN GIRDER	RDSO/B-1569/R
2	BEARING AND X-FRAME DETAILS	RDSO/B-1569/1/R
3	ASSEMBLY DRAWING	RDSO/B-1569/2/R
4	PART LIST & SHIPPING LIST	RDSO/B-1569/3/R

QUANTITY SCHEDULE PER SPAN

DESCRIPTION	DECK SLAB
WEIGHT @ 2500 kg/m ³	48800.00 kg
CUBICAL QUANTITY	18.72 cu. m.
NET WEIGHT OF BAR # 16	1828.18 kg.
NET WEIGHT OF BAR # 12	164.29 kg.
NET WEIGHT OF BAR # 10	477.93 kg
NET WEIGHT OF STEEL + 10% WASTAGE	2715.24 kg

- ALL DIMENSIONS ARE IN MILLIMETRES.
- THE DESIGN IS SUITABLE FOR CURVED ALIGNMENT UPTO 4°.
- BALLAST CUSHION HAS BEEN SHOWN AS 400mm. BUT SLAB IS ALSO ADEQUATE FOR 300mm BALLAST CUSHION.
- SPACING OF REINFORCEMENT IS WITH REFERENCE TO CENTRE LINE OF BARS.
- FOR ADOPTING THIS DESIGN FOR REQUIRING WORKS THE STRENGTH OF SUB-STRUCTURE SHOULD BE EXAMINED.
- ANY TYPE OF SLEEPER MAY BE USED.
- VIBRATED CONTROLLED CONCRETE OF MINIMUM WORKS CUBE STRENGTH OF 250 kg/Sq.Cm. AT 28 DAYS SHOULD BE USED.
- MAXIMUM SIZE OF AGGREGATE SHOULD BE 20mm.
- H.S.D STEEL BARS CONFORMING TO IS : 1786-1985 SHALL BE USED.
- TO ENSURE GOOD CONCRETING AT THE SHEAR CONNECTORS, CONCRETING IN PORTIONS MARKED "B" AS SHOWN SHOULD BE DONE FIRST FOLLOWED BY CONCRETING OF THE REMAINING PORTION.
- SUITABLE WATER PROOFING TREATMENT MAY BE GIVEN ON DECK SLAB.
- GUARD RAILS SHALL BE PROVIDED FOR THE ENTIRE LENGTH OF THE BRIDGE.
- REFER THE FOLLOWING DRAWINGS FOR DETAILS OF STEEL PORTION OF GIRDER.
 - (a) DETAILS OF MAIN GIRDER DRG. NO. RDSO/B-1569/R
 - (b) BEARING AND X-FRAME DETAILS DRG. NO. RDSO/B-1569/1/R
 - (c) ASSEMBLY DRG. NO. RDSO/B-1569/2/R (d) PART LIST AND SHIPPING LIST DRG. NO. RDSO/B-1569/3/R
- CASTING OF SLAB SHOULD BE DONE IN ONE POUR FROM CENTRE TO THE EDGES. IF CONSTRUCTION JOINTS ARE INEVITABLE, THE CASTING SHALL BE DONE AS PER SEQUENCE INDICATED. I/II POUR I POUR II/II POUR
- ALL CORNERS OF SLAB TO HAVE A CHAMFER OF 25mm.
- BALLAST RETAINER IN R.C.C. DECK SLAB IS MONOLITHIC WITH SLAB. THE DETAILS ARE AS SHOWN IN THIS DRAWING.

NOTE

SPECIFICATION

SCALE

ALT.

DESCRIPTION

DATE

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R.D.S.O.

COMPOSITE BRIDGE (WELDED TYPE)
(STEEL AND CONCRETE)
SPAN 12.2m
MODIFIED B.G. STANDARD LOADING-1987
DETAILS OF DECK SLAB

ADVANCE 10-8-94
RDSO/B-1569/4/R

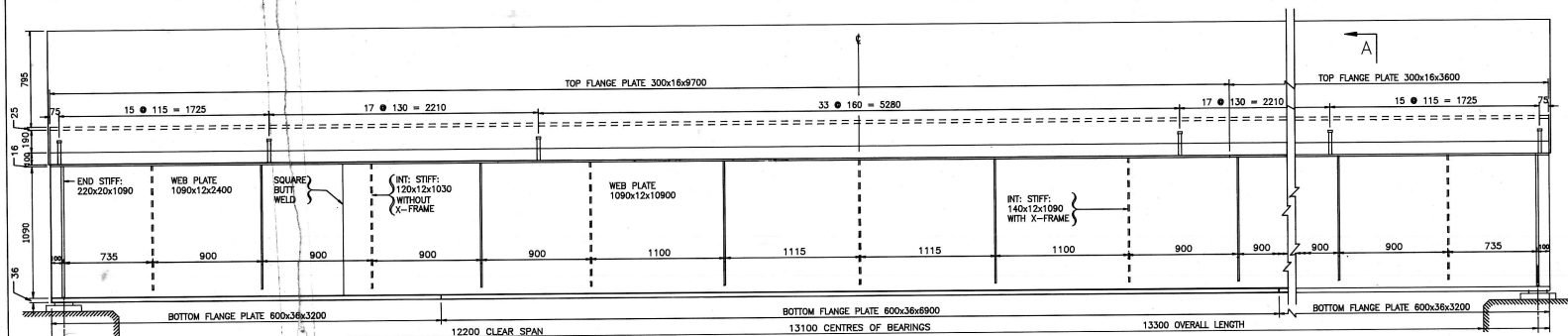
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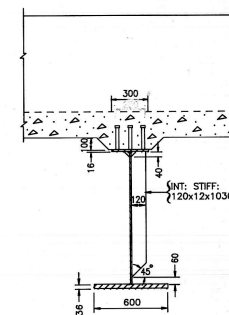
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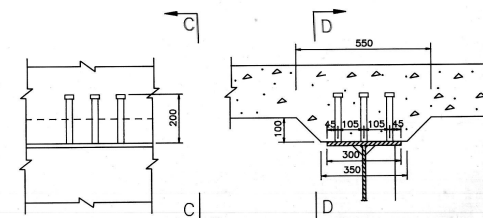


ELEVATION

(MAIN GIRDER AS PER DRG. No. RDSO/B-1569)



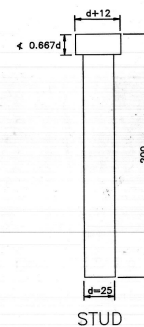
SECTION AA



SECTION DD

SECTION CC

TYPICAL DETAIL OF FLEXIBLE
STUD SHEAR CONNECTOR



EXTRACT FROM AASHTO

CI. 10.3.1.9 DIVISION II

10.3.1.9 WELDED STUD SHEAR CONNECTORS.

10.3.1.9.1 SHEAR CONNECTOR STUDS SHALL CONFORM TO THE REQUIREMENTS OF COLD FINISHED-CARBON STEEL BARS AND SHAPING, AASHTO M 169 (ASTM A 108), COLD-DRAWN BARS, GRADES 1015, 1018 OR 1020, EITHER SPM OR FULLY KILLED. IF FLUX RETAINING CAPS ARE USED, THE STEEL FOR THE CAPS SHALL BE OF A LOW CARBON GRADE SUITABLE FOR WELDING AND SHALL COMPLY WITH COLD-ROLLED CARBON STEEL STRIP, ASTM A 108.

10.3.1.9.2 TENSILE PROPERTIES AS DETERMINED BY TESTS OF BAR STOCK AFTER DRAWING OR OF FINISHED STUDS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

TENSILE STRENGTH	(MIN.) 60,000 PSI
YIELD STRENGTH	(MIN.) 50,000 PSI
ELONGATION	(MIN.) 20% IN 2 INCHES
REDUCTION OF AREA	(MIN.) 50%

* As determined by a 0.2% offset method.

10.3.1.9.3 TENSILE PROPERTIES SHALL BE DETERMINED IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF ASTM A 370, MECHANICAL TESTING OF STEEL PRODUCTS. TENSILE TESTS OF FINISHED STUDS SHALL BE MADE ON STUDS WELDED TO TEST PLATES USING A TEST FIXTURE SIMILAR TO THAT SHOWN IN FIGURE 4.23.2 OF AWS D1.1. IF FRACTURE OCCURS OUTSIDE OF THE MIDDLE HALF OF THE GAUGE LENGTH, THE TEST SHALL BE REPEATED.

10.3.1.9.4 FINISHED STUDS SHALL BE OF UNIFORM QUALITY AND CONDITION, FREE FROM INJURIOUS LAPS, FINS, SEAMS, CRACKS, TWISTS, BENDS OR OTHER INJURIOUS DEFECTS. FINISH SHALL BE AS PRODUCED BY COLD DRAWING, COLD ROLLING OR MACHINING.

10.3.1.9.5 THE MANUFACTURER SHALL CERTIFY THAT THE STUDS AS DELIVERED ARE IN ACCORDANCE WITH THE MATERIAL REQUIREMENTS OF THIS SECTION. CERTIFIED COPIES OF IN-PLANT QUALITY CONTROL TEST REPORTS SHALL BE FURNISHED TO THE ENGINEER UPON REQUEST.

10.3.1.9.6 THE ENGINEER MAY SELECT, AT THE CONTRACTOR'S EXPENSE, STUDS OF EACH TYPE AND SIZE USED UNDER THE CONTRACT, AS NECESSARY FOR CHECKING THE REQUIREMENTS OF THIS SECTION.

- ALL DIMENSIONS ARE IN MILLIMETRES.
- THE DESIGN IS BASED ON AASHTO (AS PER CLAUSE 10.3.8 OF DIVISION I).
- STUD MATERIAL AND TESTING: AS PER AASHTO CLAUSE 10.3.1.9 DIVISION II.
- STUD WELDING IS BASED ON ASSUMPTION THAT THE SAME WILL BE WELDED USING STUD WELDING MACHINE. THE WELD SHALL HAVE A MINIMUM CROSS SECTIONAL AREA EQUAL TO THE CROSS SECTION OF THE STUD.
- INSPECTION SHALL BE DONE BY RDSO. WELD PROCEDURE AND TESTING OF WELDED STUD SHEAR CONNECTOR SHALL BE DECIDED IN CONSULTATION WITH RDSO.

NOTE

SPECIFICATION

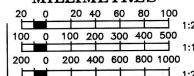
SCALE

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DESCRIPTION

DATE

MILLIMETRES



RELATED DRAWINGS

S.No.	DESCRIPTION	REFERENCE
1.	DETAILS OF MAIN GIRDER	RDSO/B-1569
2.	BEARING & X-FRAME DETAILS	RDSO/B-1569/1
3.	ASSEMBLY DRAWING	RDSO/B-1569/2
4.	PART & SHIPPING LIST	RDSO/B-1569/3
5.	DETAILS OF DECK SLAB	RDSO/B-1569/4

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MODIFIED B.G. LOADING - 1987
COMPOSITE GIRDER - WELDED TYPE
12.2 m SPAN
(UPTO 4° CURVE)
STUD SHEAR CONNECTOR

PROVISIONAL 25-6-1993

RDSO/B-1731

DESIGN REGISTER No. 104/93

PAGES DONE BY: 00/00/00

DRAWN BY: M. S. DTE.

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APPROVED BY: 00/00/00

ISSUED TO: 00/00/00

APPROVED BY DS(B&S): CBS/DCC n/p/11

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