

DISCLAIMER

The details like name of project, name of fabricator, etc. are indicative only. These should never be referred for any WPSS related matters. Only the technical details should be referred and followed for the WPSS purpose.

Model WPSS for
Railway COMPOSITE GIRDER
(25t Loading)

Railway Composite Girder (25t loading)

12.2m clear span

MODEL WPSS No- RDSO/ Infra-II/ B&S/ RG/
CG./ WPSS / 12.2 series (10 nos)

WELDING PROCEDURE SPECIFICATION SHEET

Name & Address of fabricator : Punia Construction Company,
Mangali Kutiya, 8 KM Stone on Tosham Road,
VPO Ladwa, Hisar (Haryana)

Welding Procedure Specification No. : PCC/12.2/01

1). Drawing Series No. : RDSO/B-11752/RI
I-Section {Shipping Mark: ZA & ZB} Web Plate (16 mm thick M.S. Plate) with Top flange (16 mm thick M.S. Plate) & First Bottom flange (36 mm thick M.S. Plate)

2). Weld Joint Description : Fillet (14 mm)

3). Base Metal : Plates IS: 2062-2011, E-250 Gr. B0,

4). Welding Process : S.A.W.

5). Welding Position : Flat inclined at 45°

6). Welding Consumable :

6.1). Electrode Wire : Class: W1 of IRS M-39/20,
Type: Copper coated mild steel wire
Drying Method: N.A.

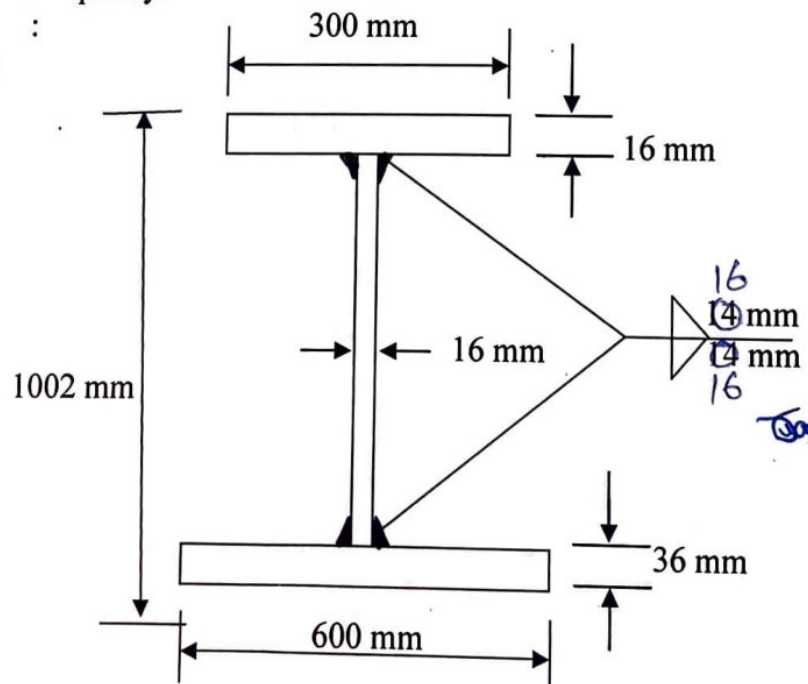
6.2). Flux : Class: F1 of IRS M-39/20,
Type: Agglomerated
Drying Method: 250°C for one hour before use

OR As recommended by manufacturer

6.3). Shielding Gas : N.A.

7). Base Metal Preparation : Fusion faces and adjacent surfaces are cleaned made free from cracks, notches, mill scale, grease, paint, rust, etc. which may affect weld quality.

7.1). Joint design details
(Sketch showing arrangements parts, Weld groove details, weld passes & their sequence, etc.)



16/01/2023
अनुसंधान अधिकारी (आयु)
Assistant Research Officer (M)
रेल्व बंगलाघर बल्लभपुर

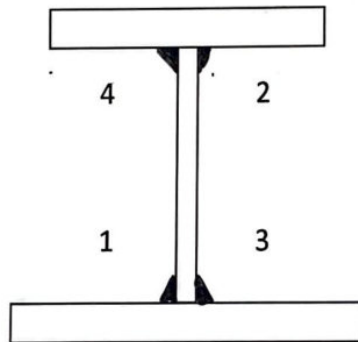


WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995 & WBC-2001
 8). Welding Current : Type: DC, Polarity: Reverse
 9). Welder qualification : As per IS: 7310 (Part-1) & 817
 10). Welding parameters & techniques :
 10.1) Welding parameters :

Weld pass No.	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Welding speed (in m/min.)	Electrode stick out (in mm)	Gas flow (l/min.)
1	4.00	550-600	28-32	1.0-1.4	0.30-0.40	20	N.A.
2	4.00	550-600	28-32	1.0-1.4	0.30-0.40	20	N.A.

- 10.2) Welding sequence & techniques : Welding from run on to run off tabs at the free ends.




 Assistant Research Officer (M)
 ..व.पा.वं. रेड मन्त्रालय कलकत्ता

- 11). Provision of run on/run off tabs : Yes
 12). Cleaning of weld bead before laying of next weld bead : N.A.
 13). Root preparation before welding other side of groove weld : N.A.
 14). Pre-heating & Interpass temperature : 100°C - 150°C
 16). Peening : N.A.
 17). Post weld treatment : N.A.
 18). Rectification of weld defect (If Any) : By grinding of the defective weld & rectifying the weld as per Cl.32.2 of IS: 9595-96, using A3 class of electrodes of specification IRS M-28/20 after conducting D.P. Test.
 19). Inspection of weld : Visual, D.P. Test & Macro Etching.
 20). Any other relevant detail : None

WELDING PROCEDURE SPECIFICATION SHEET

Name & Address of fabricator : Punia Construction Company,
Mangali Kutiya, 8 KM Stone on Tosham Road,
VPO Ladwa, Hisar (Haryana)

Welding Procedure Specification No. : PCC/12.2/02

1). Drawing Series No.

: RDSO/B-11752/R1
Bearing Stiffeners (Shipping Mark: BS1 & BS2) (20 mm thick M.S. Plate) on I-Section {Shipping Mark: ZA & ZB} with Web plate (16 mm thick M.S. Plate), Top Flange (16 mm thick M.S. Plate) & First Bottom Flange (36 mm thick M.S. Plate)

2). Weld Joint Description

: Fillet (12 mm)

3). Base Metal

: Plates IS: 2062-2011, E-250 Gr. B0,

4). Welding Process

: GMAW

5). Welding Position

: Horizontal

6). Welding Consumable

6.1). Electrode Wire

: For solid MIG/MAG Welding wire, Class 1 of
IRS: M-46/20, Grade: - S3X503,
As per IS/AWS: 6419-1996 (R2016)
Type: Copper coated mild steel wire
Drying Method: N.A.

6.2). Flux

: N.A.

6.3). Shielding Gas

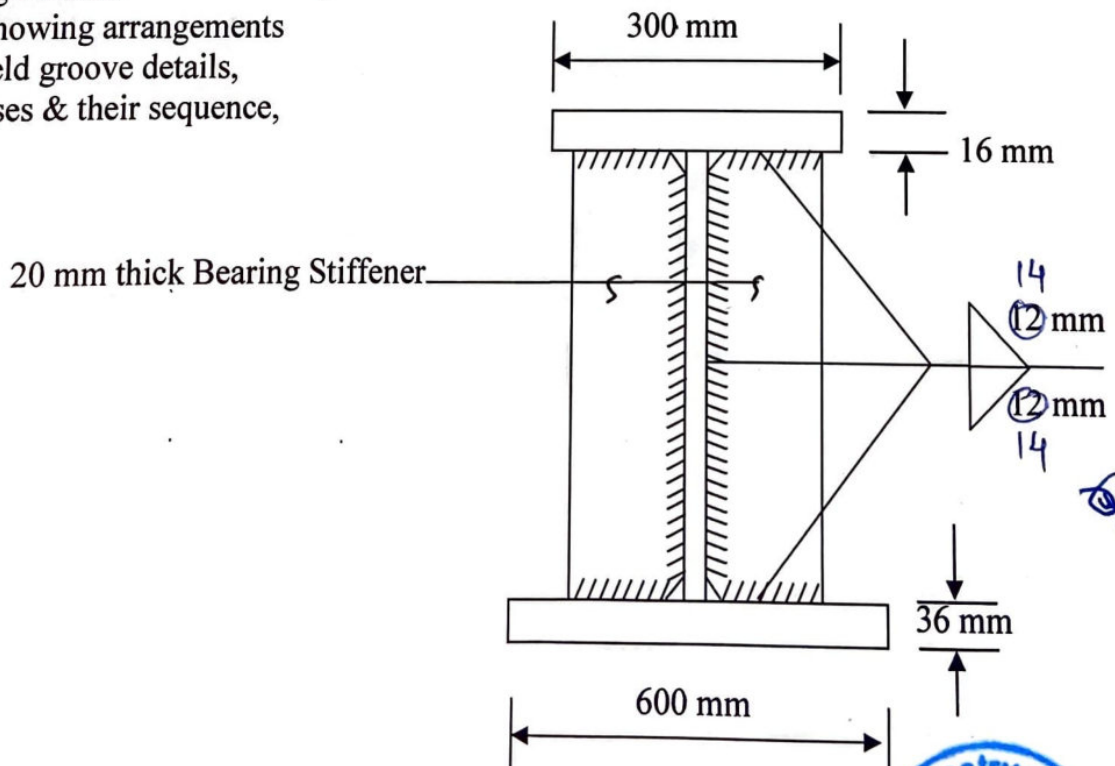
: CO₂

7). Base Metal Preparation

: Fusion faces and adjacent surfaces are cleaned
made free from cracks, notches, mill scale,
grease, paint, rust, etc. which may affect weld
quality.

7.1). Joint design details

(Sketch showing arrangements
parts, Weld groove details,
weld passes & their sequence,
etc.)



पुनिया कंस्ट्रक्शन कंपनी (प्रा.)
19/04/2020
Assistant Research Officer (PCC)
पुनिया कंस्ट्रक्शन कंपनी (प्रा.)

WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995 & WBC-2001
- 8). Welding Current : Type: DC, Polarity: Reverse
- 9). Welder qualification : As per IS: 7310 (Part-1) & 817
- 10). Welding parameters & techniques :
- 10.1) Welding parameters :

Weld pass No.	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Travel speed (in m/min.)	Electrode stick out (in mm)	Gas flow (l/min.)
1	1.2	250-300	27-30	5.0-5.5	0.20-0.25	10	15-22
2	1.2	250-300	27-30	5.0-5.5	0.20-0.25	10	15-22
3	1.2	250-300	27-30	5.0-5.5	0.20-0.25	10	15-22

2.0 - 2.5

- 10.2) Welding sequence & techniques : N.A.
- 11). Provision of run on/run off tabs : N.A.
- 12). Cleaning of weld bead before laying of next weld bead : Yes
- 13). Root preparation before welding other side of groove weld : N.A.
- 14). Pre-heating & interpass temperature : 100°C-150°C
- 15). Peening : N.A.
- 16). Post weld treatment : N.A.
- 18). Rectification of weld defect (If Any) : By grinding of the defective weld & rectifying the weld as per Cl.32.2 of IS: 9595-96, using A3 class of electrodes of specification IRS M-28/20 after conducting D.P. Test.
- 18). Inspection of weld : Visual, D.P. Test.
- 19). Any other relevant detail : None

WELDING PROCEDURE SPECIFICATION SHEET

Name & Address of fabricator : Punia Construction Company,
Mangali Kutia, 8 KM Stone on Tosham Road,
VPO Ladwa, Hisar (Haryana)

Welding Procedure Specification No. : PCC/12.2/03

1). Drawing Series No. : RDSO/B-11752/R1
Vertical Stiffeners with & without X-Frame {Shipping
Mark: IS1 & IS2} (12mm thick M.S. Plate) on I-Section
{Shipping Mark: ZA & ZB} with Web Plate (16 mm
thick M.S. Plate).

2). Weld Joint Description : Fillet (8 mm)

3). Base Metal : Plates IS: 2062-2011, E-250 Gr. B0,

4). Welding Process : GMAW

5). Welding Position : Horizontal

6). Welding Consumable :

6.1). Electrode Wire : For solid MIG/MAG Welding wire, Class 1 of
IRS: M-46/20, Grade: - S3X503,
As per IS/AWS: 6419-1996 (R2016)
Type: Copper coated mild steel wire
Drying Method: N.A.

6.2). Flux :

6.3). Shielding Gas : CO₂

7). Base Metal Preparation :

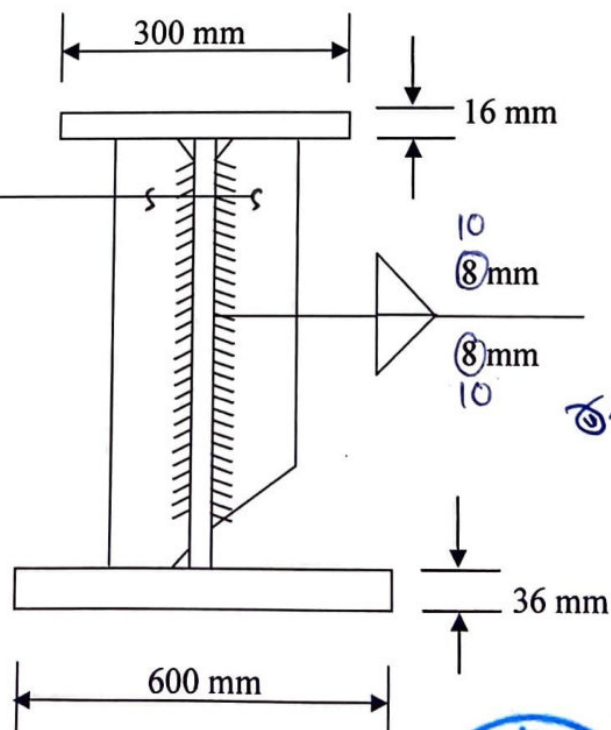
Fusion faces and adjacent surfaces are cleaned
made free from cracks, notches, mill scale,
grease, paint, rust, etc. which may affect weld
quality.

7.1). Joint design details :

(Sketch showing arrangements
parts, Weld groove details,
weld passes & their sequence,
etc.)

12 mm thick Int. Stiffener

16
10



WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995 & WBC-2001
 8). Welding Current : Type: DC, Polarity: Reverse
 9). Welder qualification : As per IS: 7310 (Part-1) & 817
 10). Welding parameters & techniques :
 10.1) Welding parameters :

Weld pass	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Travel speed (in m/min.)	Electrode stick out (in mm)	Gas flow (l/min.)
1	1.2	250-300	27-30	5.0-5.5	0.20-0.25	10	15-22

10.2) Welding sequence & techniques

11). Provision of run on/run off tabs

12). Cleaning of weld bead before laying of next weld bead

13). Root preparation before welding other side of groove weld

14). Pre-heating & interpass temperature

15). Peening

16). Post weld treatment

18). Rectification of weld defect
(If Any)

: N.A.
 : N.A.
 : Yes
 : N.A.
 : 100°C-150°C
 : N.A.
 : N.A.
 : By grinding of the defective weld & rectifying the weld as per Cl.32.2 of IS: 9595-96, using A3 class of electrodes of specification IRS M-28/20 after conducting D.P. Test.

18). Inspection of weld

19). Any other relevant detail

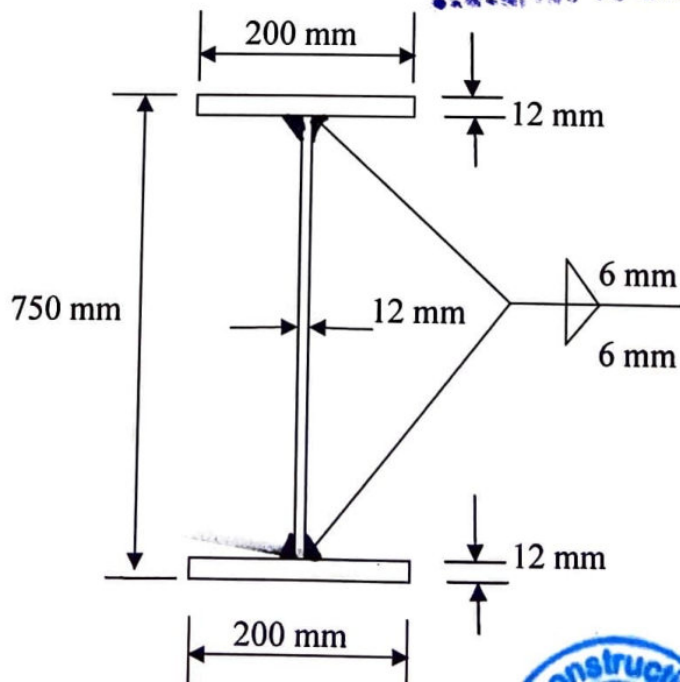
: Visual, D.P. Test.
 : None

2-2.5
6/

WELDING PROCEDURE SPECIFICATION SHEET

- Name & Address of fabricator : Punia Construction Company,
Mangali Kutiya, 8 KM Stone on Tosham Road,
VPO Ladwa, Hisar (Haryana)
- Welding Procedure Specification No. : PCC/12.2/04
- 1). Drawing Series No. : RDSO/B-11752/1R1
End Diaphragm, Web Plate (12 mm thick M.S. Plate)
with Top flange (12 mm thick M.S. Plate) & Bottom
flange (12 mm thick M.S. Plate)
- 2). Weld Joint Description : Fillet (6 mm)
- 3). Base Metal : Plates IS: 2062-2011, E-250 Gr. B0,
- 4). Welding Process : S.A.W.
- 5). Welding Position : Flat inclined at 45°
- 6). Welding Consumable :
- 6.1). Electrode Wire : Class: W1 of IRS M-39/20,
Type: Copper coated mild steel wire
Drying Method: N.A.
- 6.2). Flux : Class: F1 of IRS M-39/20,
Type: Agglomerated
Drying Method: 250°C for one hour before use
OR As recommended by manufacturer
- 6.3). Shielding Gas : N.A.
- 7). Base Metal Preparation : Fusion faces and adjacent surfaces are cleaned
made free from cracks, notches, mill scale,
grease, paint, rust, etc. which may affect weld
quality.

- 7.1). Joint design details
(Sketch showing arrangements
parts, Weld groove details,
weld passes & their sequence,
etc.)



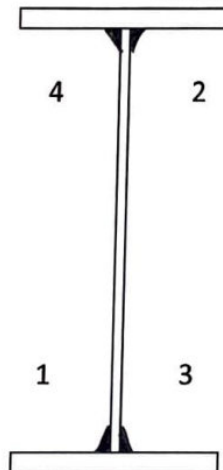
18/01/2020
वहावक अनुसंधान अधिकारी (वाह)
Assistant Research Officer (M)
पुनिया कंस्ट्रक्शंस प्राइवेट लिमिटेड

WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995 & WBC-2001
 8). Welding Current : Type: DC, Polarity: Reverse
 9). Welder qualification : As per IS: 7310 (Part-1) & 817
 10). Welding parameters & techniques :
 10.1) Welding parameters :

Weld pass	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Travel speed (in m/min.)	Electrode stick out (in mm)	Gas flow (l/min.)
1	4.0	550-600	28-32	1.0-1.2	0.55-.60	20	N.A.

- 10.2) Welding sequence & techniques : Welding from run on to run off tabs at the free ends.




 16/01/2020
 बहालक अनुसंधान अधिकारी (पापु)
 Assistant Research Officer (Mi)
 १०४-२४-२०१०

- 11). Provision of run on/run off tabs : Yes
 12). Cleaning of weld bead before laying of next weld bead : N.A.
 13). Root preparation before welding other side of groove weld : N.A.
 14). Pre-heating & Interpass temperature : 100°C - 150°C
 16). Peening : N.A.
 17). Post weld treatment : N.A.
 18). Rectification of weld defect (If Any) : By grinding of the defective weld & rectifying the weld as per Cl.32.2 of IS: 9595-96, using A3 class of electrodes of specification IRS M-28/20 after conducting D.P. Test.
 19). Inspection of weld : Visual, D.P. Test & Macro Etching.
 20). Any other relevant detail : None

WELDING PROCEDURE SPECIFICATION SHEET

Name & Address of fabricator : Punia Construction Company,
Mangali Kutiya, 8 KM Stone on Tosham Road,
VPO Ladwa, Hisar (Haryana)

Welding Procedure Specification No. : PCC/12.2/05

1). Drawing Series No. : RDSO/B-11752/2R1
Int. Diaphragm, Web Plate (12 mm thick M.S. Plate)
with Top flange (12 mm thick M.S. Plate) & Bottom
flange (12 mm thick M.S. Plate)

2). Weld Joint Description : Fillet (6 mm)

3). Base Metal : Plates IS: 2062-2011, E-250 Gr. B0,

4). Welding Process : S.A.W.

5). Welding Position : Flat inclined at 45°

6). Welding Consumable :

6.1). Electrode Wire : Class: W1 of IRS M-39/20,
Type: Copper coated mild steel wire
Drying Method: N.A.

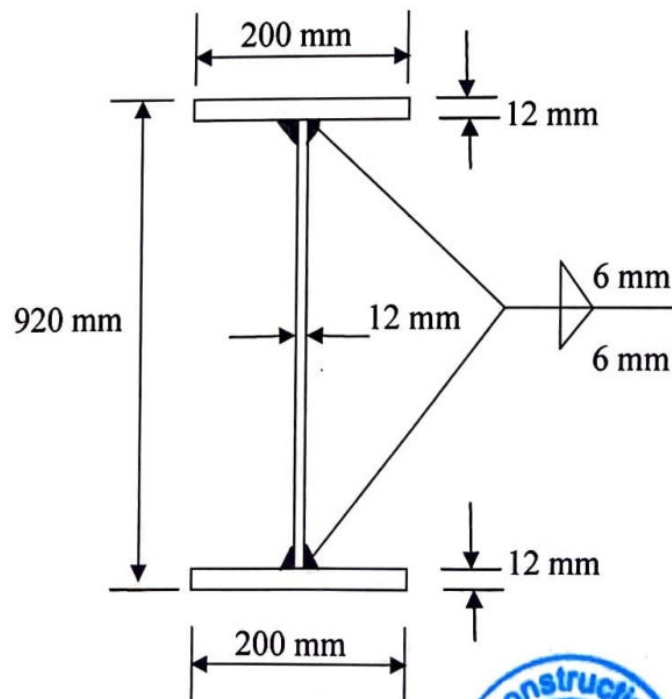
6.2). Flux : Class: F1 of IRS M-39/20,
Type: Agglomerated
Drying Method: 250°C for one hour before use

OR As recommended by manufacturer

6.3). Shielding Gas : N.A.

7). Base Metal Preparation : Fusion faces and adjacent surfaces are cleaned
made free from cracks, notches, mill scale,
grease, paint, rust, etc. which may affect weld
quality.

7.1). Joint design details :
(Sketch showing arrangements
parts, Weld groove details,
weld passes & their sequence,
etc.)

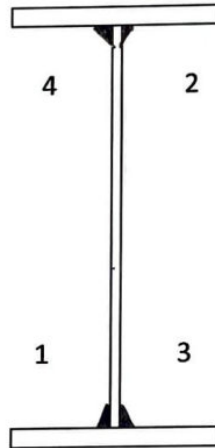


WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995 & WBC-2001
 8). Welding Current : Type: DC, Polarity: Reverse
 9). Welder qualification : As per IS: 7310 (Part-1) & 817
 10). Welding parameters & techniques :
 10.1) Welding parameters :

Weld pass	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Travel speed (in m/min.)	Electrode stick out (in mm)	Gas flow (l/min.)
1	4.0	550-600	28-32	1.0-1.2	0.55-.60	20	N.A.

- 10.2) Welding sequence & techniques : Welding from run on to run off tabs at the free ends.



16/04/2020
 Assistant Research Officer (M)
 १०८०५००० रेल मंत्रालय बल्लार

- 11). Provision of run on/run off tabs : Yes
 12). Cleaning of weld bead before laying of next weld bead : N.A.
 13). Root preparation before welding other side of groove weld : N.A.
 14). Pre-heating & Interpass temperature : 100°C - 150°C
 16). Peening : N.A.
 17). Post weld treatment : N.A.
 18). Rectification of weld defect (If Any) : By grinding of the defective weld & rectifying the weld as per Cl.32.2 of IS: 9595-96, using A3 class of electrodes of specification IRS M-28/20 after conducting D.P. Test.
 19). Inspection of weld : Visual, D.P. Test & Macro Etching.
 20). Any other relevant detail : None

WELDING PROCEDURE SPECIFICATION SHEET

Name & Address of fabricator : Punia Construction Company,
Mangali Kutiya, 8 KM Stone on Tosham Road,
VPO Ladwa, Hisar (Haryana)

Welding Procedure Specification No. : PCC/12.2/06

1). Drawing Series No. : RDSO/B-11752/1R1
Jacking Stiffeners (12mm thick M.S. Plate) with End
Diaphragm Web Plate (12 mm thick M.S. Plate)

2). Weld Joint Description : Fillet (6 mm)

3). Base Metal : Plates IS: 2062-2011, E-250 Gr. B0,

4). Welding Process : GMAW

5). Welding Position : Horizontal

6). Welding Consumable :

6.1). Electrode Wire : For solid MIG/MAG Welding wire, Class 1 of
IRS: M-46/20, Grade: - S3X503,
As per IS/AWS: 6419-1996 (R2016)
Type: Copper coated mild steel wire
Drying Method: N.A.

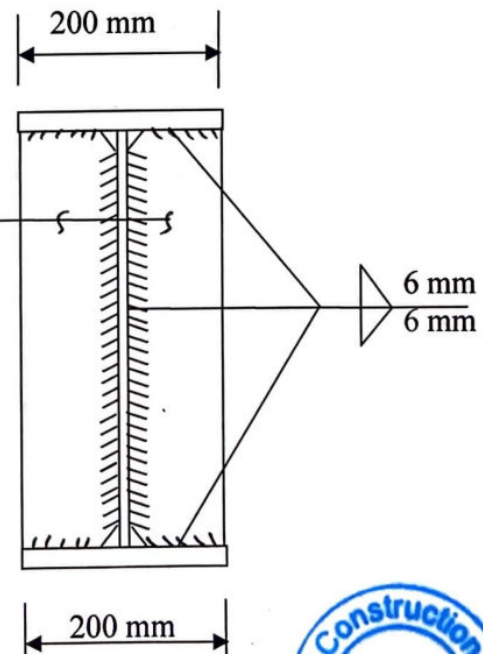
6.2). Flux : N.A.

6.3). Shielding Gas : CO2

7). Base Metal Preparation : Fusion faces and adjacent surfaces are cleaned
made free from cracks, notches, mill scale, grease, paint, rust, etc. which may affect weld
quality.

7.1). Joint design details :
(Sketch showing arrangements
parts, Weld groove details,
weld passes & their sequence,
etc.)

12 mm thick Jacking Stiffener



WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995 & WBC-2001
- 8). Welding Current : Type: DC, Polarity: Reverse
- 9). Welder qualification : As per IS: 7310 (Part-1) & 817
- 10). Welding parameters & techniques :
- 10.1) Welding parameters :

Weld pass	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Travel speed (in m/min.)	Electrode stick out (in mm)	Gas flow (l/min.)
1	1.2	250-300	27-30	5.0-5.5	0.30- 0.35	10	15-22

2.0-2.5

- 10.2) Welding sequence & techniques : N.A.
- 11). Provision of run on/run off tabs : N.A.
- 12). Cleaning of weld bead before laying of next weld bead : Yes
- 13). Root preparation before welding other side of groove weld : N.A.
- 14). Pre-heating & interpass temperature : 100°C-150°C
- 15). Peening : N.A.
- 16). Post weld treatment : N.A.
- 18). Rectification of weld defect (If Any) : By grinding of the defective weld & rectifying the weld as per Cl.32.2 of IS: 9595-96, using A3 class of electrodes of specification IRS M-28/20 after conducting D.P. Test.
- 18). Inspection of weld : Visual, D.P. Test.
- 19). Any other relevant detail : None

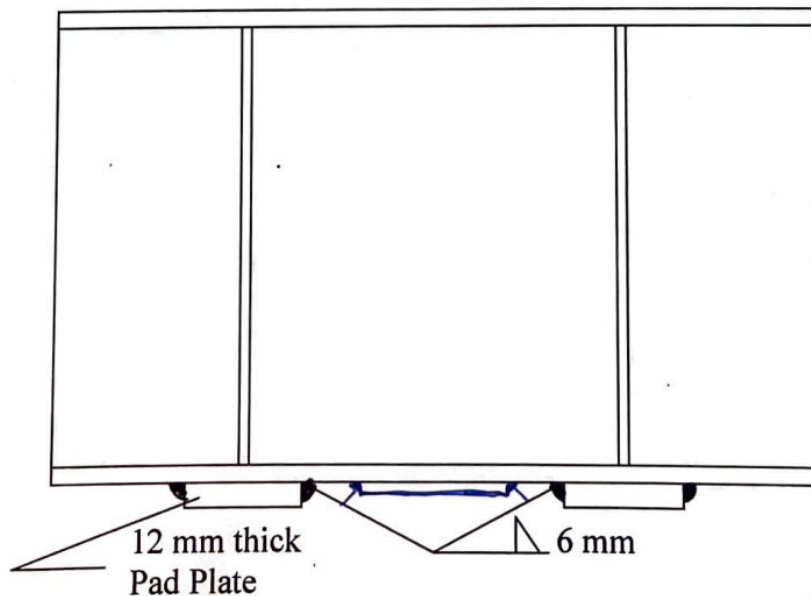
WELDING PROCEDURE SPECIFICATION SHEET

Name & Address of fabricator : Punia Construction Company,
Mangali Kutiya, 8 KM Stone on Tosham Road,
VPO Ladwa, Hisar (Haryana)

Welding Procedure Specification No. : PCC/12.2/07

- 1). Drawing Series No. : RDSO/B-11752/2R1
Pad Plate (12mm thick M.S. Plate) with End Diaphragm
Bottom flange Plate (12 mm thick M.S. Plate) *or Packing plate
metallic gasket bearing.*
- 2). Weld Joint Description : Fillet (6 mm)
- 3). Base Metal : Plates IS: 2062-2011, E-250 Gr. B0,
- 4). Welding Process : GMAW
- 5). Welding Position : Horizontal
- 6). Welding Consumable :
6.1). Electrode Wire : For solid MIG/MAG Welding wire, Class 1 of
IRS: M-46/20, Grade: - S3X503,
As per IS/AWS: 6419-1996 (R2016)
Type: Copper coated mild steel wire
Drying Method: N.A.
- 6.2). Flux : N.A.
- 6.3). Shielding Gas : CO2
- 7). Base Metal Preparation : Fusion faces and adjacent surfaces are cleaned
made free from cracks, notches, mill scale,
grease, paint, rust, etc. which may affect weld
quality.
- 7.1). Joint design details :
(Sketch showing arrangements
parts, Weld groove details,
weld passes & their sequence,
etc.

16/04/2020
विकास प्रमुखाने अधिकारी (पापु)
Assistant Research Officer (M)
पुनिय कंस्ट्रक्शन कम्पनी



WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995 & WBC-2001
- 8). Welding Current : Type: DC, Polarity: Reverse
- 9). Welder qualification : As per IS: 7310 (Part-1) & 817
- 10). Welding parameters & techniques :
- 10.1) Welding parameters :

Weld pass	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Travel speed (in m/min.)	Electrode stick out (in mm)	Gas flow (l/min.)
1	1.2	250-300	27-30	5.0-5.5	0.30 0.35 0.4-0.5	10	15-22

0.4-0.5

- 10.2) Welding sequence & techniques : N.A.
- 11). Provision of run on/run off tabs : N.A.
- 12). Cleaning of weld bead before laying of next weld bead : Yes
- 13). Root preparation before welding other side of groove weld : N.A.
- 14). Pre-heating & interpass temperature : 100°C-150°C
- 15). Peening : N.A.
- 16). Post weld treatment : N.A.
- 18). Rectification of weld defect (If Any) : By grinding of the defective weld & rectifying the weld as per Cl.32.2 of IS: 9595-96, using A3 class of electrodes of specification IRS M-28/20 after conducting D.P. Test.
- 18). Inspection of weld : Visual, D.P. Test.
- 19). Any other relevant detail : None

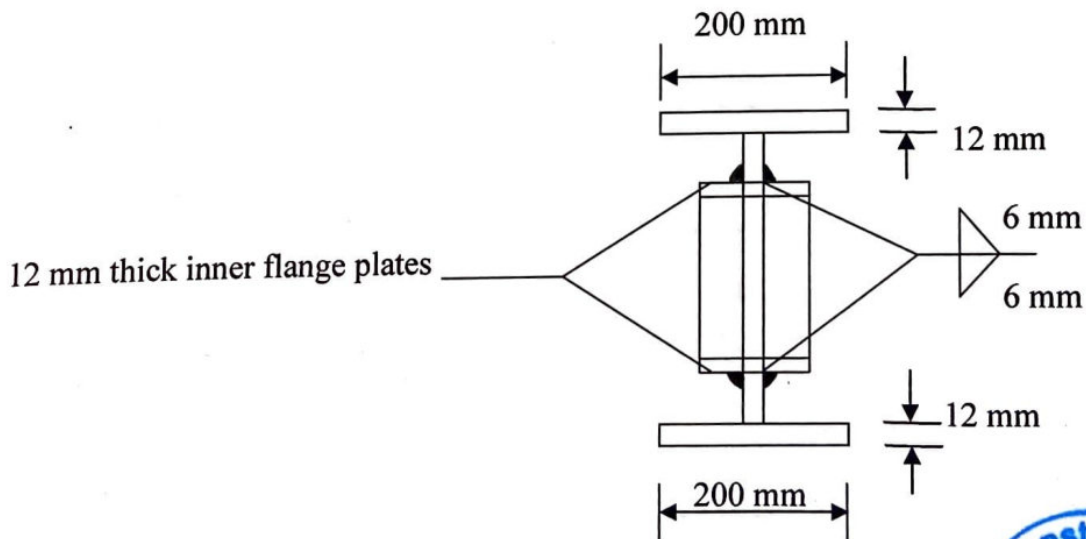
WELDING PROCEDURE SPECIFICATION SHEET

Name & Address of fabricator : Punia Construction Company,
Mangali Kutiya, 8 KM Stone on Tosham Road,
VPO Ladwa, Hisar (Haryana)

Welding Procedure Specification No. : PCC/12.2/08

- 1). Drawing Series No. : RDSO/B-11752/1RI
Int. Diaphragm, Inner Flange Plates (12mm thick M.S. Plate) with Web Plate (12 mm thick M.S. Plate)
- 2). Weld Joint Description : Fillet (6 mm)
- 3). Base Metal : Plates IS: 2062-2011, E-250 Gr. B0,
- 4). Welding Process : GMAW
- 5). Welding Position : Horizontal
- 6). Welding Consumable :
6.1). Electrode Wire : For solid MIG/MAG Welding wire, Class 1 of
IRS: M-46/20, Grade: - S3X503,
As per IS/AWS: 6419-1996 (R2016)
Type: Copper coated mild steel wire
Drying Method: N.A.
- 6.2). Flux : N.A.
- 6.3). Shielding Gas : CO₂
- 7). Base Metal Preparation : Fusion faces and adjacent surfaces are cleaned
made free from cracks, notches, mill scale,
grease, paint, rust, etc. which may affect weld
quality.

- 7.1). Joint design details
(Sketch showing arrangements
parts, Weld groove details,
weld passes & their sequence,
etc.)



16/04/2024
विकास कुलशान अधिकारी (आर)
Assistant Research Officer (M)
प.प.वा.सं. रेल मंत्रालय जयपुर



WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995 & WBC-2001
- 8). Welding Current : Type: DC, Polarity: Reverse
- 9). Welder qualification : As per IS: 7310 (Part-1) & 817
- 10). Welding parameters & techniques :
- 10.1) Welding parameters :

Weld pass	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Travel speed (in m/min.)	Electrode stick out (in mm)	Gas flow (l/min.)
1	1.2	250-300	27-30	5.0-5.5	0.30 0.35	10	15-22

0.30-0.35

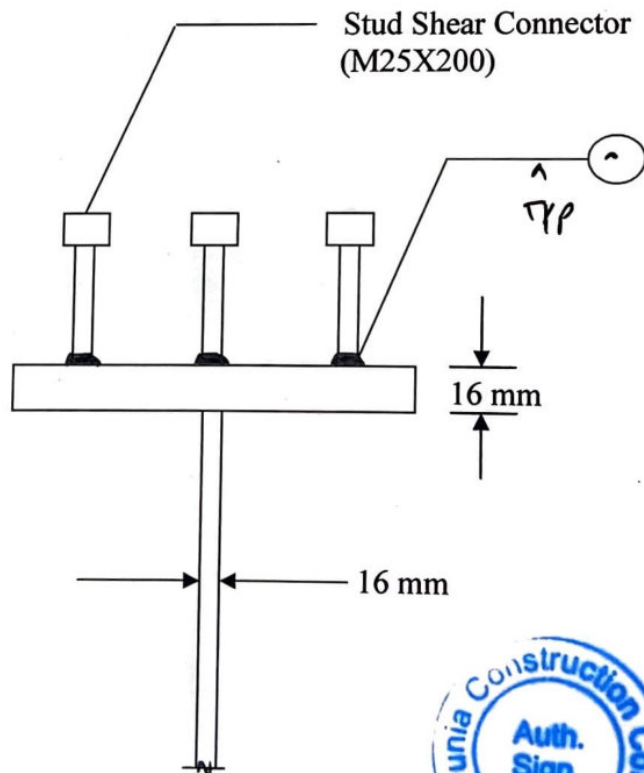
- 10.2) Welding sequence & techniques : N.A.
- 11). Provision of run on/run off tabs : N.A.
- 12). Cleaning of weld bead before laying of next weld bead : Yes
- 13). Root preparation before welding other side of groove weld : N.A.
- 14). Pre-heating & interpass temperature : 100°C-150°C
- 15). Peening : N.A.
- 16). Post weld treatment : N.A.
- 18). Rectification of weld defect (If Any) : By grinding of the defective weld & rectifying the weld as per Cl.32.2 of IS: 9595-96, using A3 class of electrodes of specification IRS M-28/20 after conducting D.P. Test.
- 18). Inspection of weld : Visual, D.P. Test.
- 19). Any other relevant detail : None

WELDING PROCEDURE SPECIFICATION SHEET

- Name & Address of fabricator : Punia Construction Company,
Mangali Kutiya, 8 KM Stone on Tosham Road,
VPO Ladwa, Hisar (Haryana)
- Welding Procedure Specification No. : PCC/12.2/09
- 1). Drawing Series No. : RDSO/B-11752/R1 *by RDSO/9-11752/1R1*
Stud Shear Connector (Shipping Mark: TS) on Top
Flanges of I-Section (Shipping Mark: ZA & ZB)
- 2). Weld Joint Description : Resistance Welding
- 3). Base Metal : Plates IS:2062-2011, E-250 Gr. B0,
The Stud Shear Connector & Ceramic Ferrules
Confirm to type SD1/UF as per BS EN ISO 13918.
- 4). Welding Process : Automatic Welding Machine
(Like Resistance Welding)
- 5). Welding Position : Down Hand
- 6). Welding Consumable :
- 6.1). Electrode Wire : N.A. Drying Method: N.A.
- 6.2). Flux : N.A.
- 6.3). Shielding Gas : N.A.
- 7). Base Metal Preparation : Fusion faces and adjacent surfaces are cleaned
made free from cracks, notches, mill scale,
grease, paint, rust, etc. which may affect weld
quality.

- 7.1). Joint design details :
(Sketch showing arrangements
parts, Weld groove details,
weld passes & their sequence,
etc.)

16/01/2020
अध्यक्ष अनुसंधान अधिकारी (अनु)
Assistant Research Officer (M.)
पुनिया कं. लि. देह बन्दारा बलवन



WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995 & WBC-2001
- 8). Welding Current : Type: DC, Polarity: Reverse
- 9). Welder qualification : As per IS: 7310 (Part-1) & 817
- 10). Welding parameters & techniques :
- 10.1) Welding parameters :

(For 25mm dia. Stud Shear Connector);

Weld Pass no.	Electrode/Wire dia. mm	Current (Amp)	Arc voltage(volt)	Time (in ms)	Lift (in mm)	Protrusion app. (in mm)	Shielding gas flow rate (Ltr/min)
1	N.A.	1800	N.A.	1600	-	-	N.A.

- 10.2) Welding sequence & techniques : N.A.
- 11). Provision of run on/run off tabs : N.A.
- 12). Cleaning of weld bead before laying of next weld bead : N.A.
- 13). Root preparation before welding other side of groove weld : N.A.
- 14). Pre-heating & interpass temperature : N.A.
- 15). Peening : N.A.
- 16). Post weld treatment : N.A.
- 17). Rectification of weld defect : By grinding of the defective weld & rectifying the
(If Any) weld as per Cl.32.2 of IS: 9595-96, using A3 class
of electrodes of specification IRS M-28/12,
Code as per IS: 814-2004), after conducting
D.P. Test.
- 18). Inspection of weld : Visual, Ring Test and Bend Test.
- 19). Any other relevant detail : None

WELDING PROCEDURE SPECIFICATION SHEET

Name & Address of fabricator : Punia Construction Company,
Mangali Kutiya, 8 KM Stone on Tosham Road,
VPO Ladwa, Hisar (Haryana)

Welding Procedure Specification No. : PCC/12.2/10

- 1). RDSO Drawing No. : All relevant drawings on the above
- 2). Weld Joint Description : 5mm Tack welds on all Fillet & Butt joints.
- 3). Base Metal : Plates IS: 2062-2011, E-250 Gr. B0,
- 4). Welding Process : M.M.A.W.
- 5). Welding Position : Horizontal-Vertical
- 6). Welding Consumable :
 - 6.1). Electrode Wire : Class: A3 of IRS M.28/20,
Code as per IS: 814-2004
Type: Medium coated
Drying Method: As recommended by the electrode manufacturer
 - 6.2). Flux : N.A.
 - 6.3). Shielding Gas : N.A.
- 7). Base Metal Preparation : Fusion faces and adjacent surfaces are cleaned made free from cracks, notches, mill scale, grease, paint, rust, etc. which may affect weld quality.
 - 7.1). Joint design details :
(Sketch showing arrangements parts, Weld groove details, weld passes & their sequence, etc.)
 - 7.2). Joint Preparation : As per IS: 4353-1995 & WBC-2001
- 8). Welding Current : Type: DC, Polarity: Reverse
- 9). Welder qualification : As per IS: 7310 (Part-1) & 817
- 10). Welding parameters & techniques :
 - 10.1) Welding parameters :

Weld pass	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Travel speed (in m/min.)	Electrode stick out (in mm)	Gas flow (l/min.)
1	4	180	24	N.A.	N.A.	N.A.	N.A.

- 10.2) Welding sequence & techniques : N.A.
- 11). Provision of run on/run off tabs : N.A.
- 12). Cleaning of weld bead before laying of next weld bead : N.A.


16/01/2020
सहायक अनुसंधान अधिकारी (आयु)
Assistant Research Officer (M)
पुनिया कंस्ट्रक्शंस प्राइवेट लिमिटेड

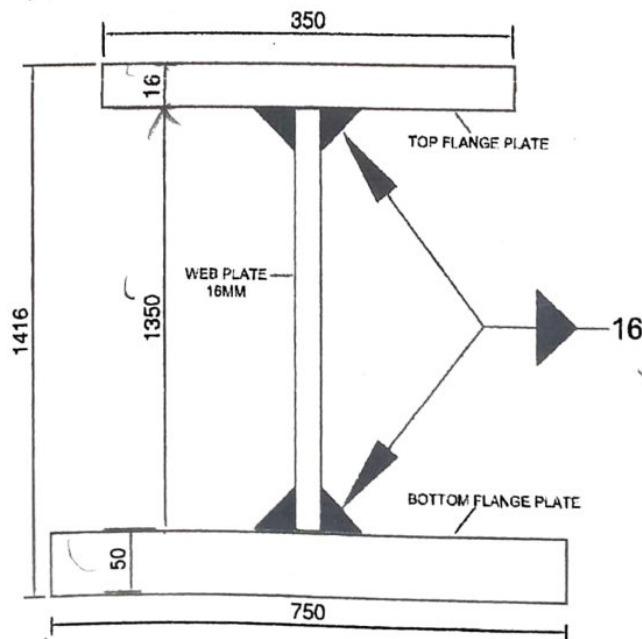
WELDING PROCEDURE SPECIFICATION SHEET

- | | |
|--|---|
| 13). Root preparation before welding other side of groove weld | : N.A. |
| 14). Pre-heating & interpass temperature | : N.A. |
| 15). Peening | : N.A. |
| 16). Post weld treatment | : N.A. |
| 17). Rectification of weld defect | : By grinding of the defective weld & rectifying the weld as per Cl.32.2 of IS:9595-96, using A3 class of electrodes of specification IRS M-28/20, Code as per IS:814-2004), after conducting D.P.Test. |
| 18). Inspection of weld | : Visual, D.P.Test. |
| 19). Any other relevant detail | : None |

Railway Composite Girder (25t loading)
18.3m clear span
MODEL WPSS No- RDSO/ Infra-II/ B&S/ RG/
CG./ WPSS / 18.3 series (9 nos)

WELDING PROCEDURE SPECIFICATION SHEET

- Name & Address of Fabricator : **Balabharti Infrastructure Pvt. Ltd.**
2/536, S-1, 2nd Floor, Chitrakoot, Vaishali Nagar
Jaipur, Rajasthan-302021
Work Address:
I-13, A.R.G. Industrial Park, Bagru rawan
N.H.-08, Jaipur, Rajasthan-303007
- Welding Procedure Specification No. : BIPL/DHAN/GR/RVNL/18.3/01
- 1). Reference Drawing No. : RDSO/B-11753/R2
- 2). Weld Joint Description : I-Section Main Girder Web Plate (16mm thick M.S.Plates) welded with Top Flange (16mm thick M.S.Plates) & Bottom flange (50mm thick M.S.Plates)
Fillet weld size= 16 mm
- 3). Base Metal : Plates IS: 2062-2011, E-250 Gr. B0,
Fully-killed/Normalized/Control-Cooled
- 4). Welding Process : **S.A.W.**
- 5). Welding Position : Flat inclined at 45° angle.
- 6). Welding Consumable-
- 6.1). Electrode Wire : Class: W1 of IRS M-39/01, Amend. No. 1 of May'2005
Type: Copper coated mild steel wire Drying Method: N/A
- 6.2). Flux : Class: F1 of IRS M-39/01, Amend. No. 1 of May'2005
Type: Agglomerated
Drying Method: 250°C for one hour before use
or as recommended by manufacturer.
- 6.3). Shielding Gas : N.A.
- 7). Base Metal Preparation : Fusion faces and adjacent surfaces are cleaned,
Made free from cracks, notches, mill scale,
Grease, paint, rust, etc. which may affect weld quality.
- 7.1). Joint design detail : As per Sketch shown below-



Signature
29.08.2018
Authorized Research Officer (M)



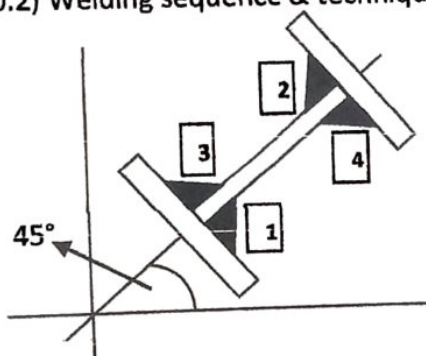
WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995, Cl.7 IRS B1-2001, Cl.17.3 & WBC-2011
 8). Welding Current : Type: DC, Polarity: Reverse
 9). Welder qualification : As per IS: 7310 (Part-1) & 817

- 10). Welding parameters & techniques :
 10.1) Welding parameters :

Weld pass no.	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Travel speed (in mm/min.)	Electrode stick out (in mm)	Gas flow (ltr./min.)
1 +	4.00	600-650	32-38	2.7	280-300	25	N.A.

- 10.2) Welding sequence & techniques : Welding from run on to run off tabs at the free ends.



- 11). Provision of run on/run off tabs
 12). Cleaning of weld bead before laying of next weld bead
 13). Root preparation before welding other side of groove weld
 14). Pre-heating & interpass temperature
 15). Peening
 16). Post weld treatment
 17). Rectification of weld defect

: Yes

: ☒ N.A. Y E

: N.A.

: N.A.

: N.A.

: N.A.

: By grinding of the defective weld & rectifying the Weld as per Cl.32.2 of IS: 9595-96, using A3 class Of electrodes of specification IRS M.28.2, after Conducting D.P.Test.

: Visual, D.P.Test & Macro Etching.

: None

- 18). Inspection of weld
 19). Any other relevant detail

29.09.22
 29.09.22
 29.09.22

Prepared by: Balabharti Infrastructure Pvt. Ltd.



WELDING PROCEDURE SPECIFICATION SHEET

Name & Address of fabricator

: **Balabharti Infrastructure Pvt. Ltd.**
2/536, S-1, 2nd Floor, Chitrakoot, Vaishali Nagar
Jaipur, Rajasthan-302021

Work Address:

I-13, A.R.G. Industrial Park, Bagru Rawan
N.H.-08, Jaipur, Rajasthan-303007

Welding Procedure Specification No.

1). Reference Drawing No.

2). Weld Joint Description

: BIPL/DHAN/GR/RVNL/18.3/02

: RDSO/B-11753/R2

: End Bearing Stiffeners (36mm thick M.S.Plates) welded with I-Sections of Main Girder, Web Plate (16mm thick M.S.Plates), Top Flange (16mm thick M.S.Plates) & Bottom Flange (50mm thick M.S.Plates)

Fillet (14 mm)

3). Base Metal

: Plates IS: 2062-2011, E-250 Gr. B0,
Fully-killed/Normalized/Control-Cooled.

4). Welding Process

: **M.I.G.**

5). Welding Position

: Horizontal.

6). Welding Consumables

6.1). Electrode Wire

: For solid MIG/MAG Welding wire, Class 1 of
IRS: M-46-03, Amdt. 01 in May 2005, grade as per IS: 6419-2004
Type: Copper coated mild steel wire
Drying Method: N.A.

6.2). Flux

: N.A.

6.3). Shielding Gas

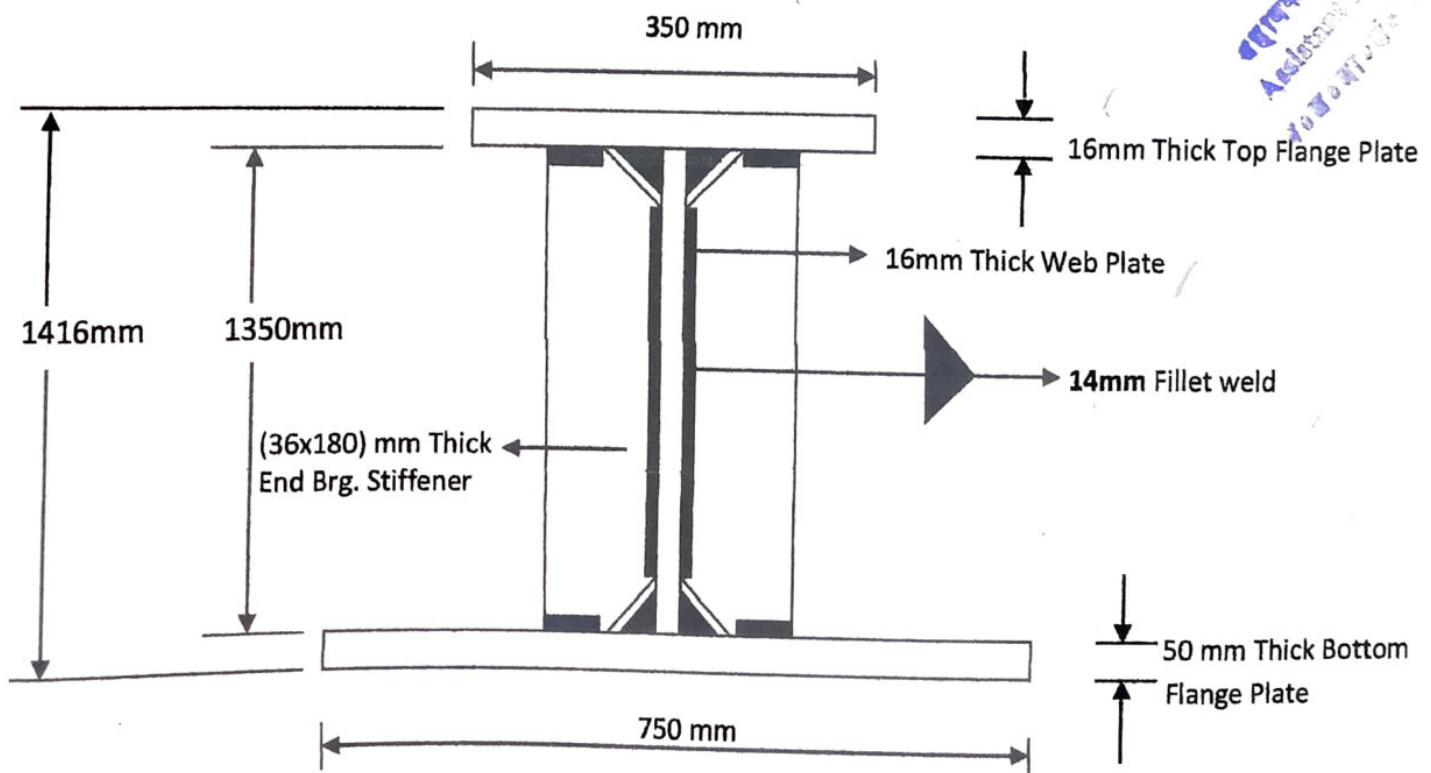
: CO₂/Ar.

7). Base Metal Preparation

: Fusion faces and adjacent surfaces are cleaned
Made free from cracks, notches, mill scale,
Grease, paint, rust, etc. which may affect weld quality.

7.1). Joint design details

: As per sketch shown below-



29.08.22
Over
Assistant Engineer (SPE)
Jaipur
29.08.22

WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995, C1.7 IRS B1-2001, C1.17.3 & W.B.C.-2011
 8). Welding Current : Type: DC, Polarity: Reverse
 9). Welder qualification : As per IS: 7310 (Part-1) & 817
 10). Welding parameters & techniques :
 10.1) Welding parameters :

Weld pass no.	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Travel speed (in m/min.)	Electrode stick out (in mm)	Gas flow (Ltr. /min.)
1 +	1.2	190-240	20-25	2.0-3.5	0.20-0.35	10	15-20

- 10.2) Welding sequence & techniques : N.A.
 11). Provision of run on/run off tabs : N.A.
 12). Cleaning of weld bead before laying of next weld bead : Yes
 13). Root preparation before welding other side of groove weld : N.A.
 14). Pre-heating & interpass temperature : Yes
 15). Peening : N.A.
 16). Post weld treatment : N.A.
 17). Rectification of weld defect : By grinding of the defective weld & rectifying the Weld as per Cl.32.2 of IS:9595-96, using A3 class Of electrodes of specification IRS M.28.2, after Conducting D.P.Test.
 18). Inspection of weld : Visual, D.P.Test.
 19). Any other relevant detail : None

Signature
 29.04.22
 PROJECT OFFICER (P&T)
 TECHNICAL OFFICE (P&T)
 BALABHARTI INFRASTRUCTURE

WELDING PROCEDURE SPECIFICATION SHEET

Name & Address of fabricator : **Balabharti Infrastructure Pvt. Ltd.**
 2/536, S-1, 2nd Floor, Chitrakoot, Vaishali Nagar
 Jaipur, Rajasthan-302021
Work Address:
 I-13, A.R.G. Industrial Park, Bagru Rawan
 N.H.-08, Jaipur, Rajasthan-303007

Welding Procedure Specification No. : BIPL/DHAN/GR/RVNL/18.3/03

1). Reference Drawing No. : RDSO/B-11753/R2

2). Weld Joint Description : Intermediate Stiffeners (16mm thick M.S.Plates) welded with I-Sections of Main Girder, Web Plate (16mm thick M.S.Plates)
Fillet (10 mm)

3). Base Metal : Plates IS: 2062-2011, E-250 Gr. B0,
 Fully-killed/Normalized/Control-Cooled.

4). Welding Process : **M.I.G.**

5). Welding Position : Horizontal.

6). Welding Consumables :

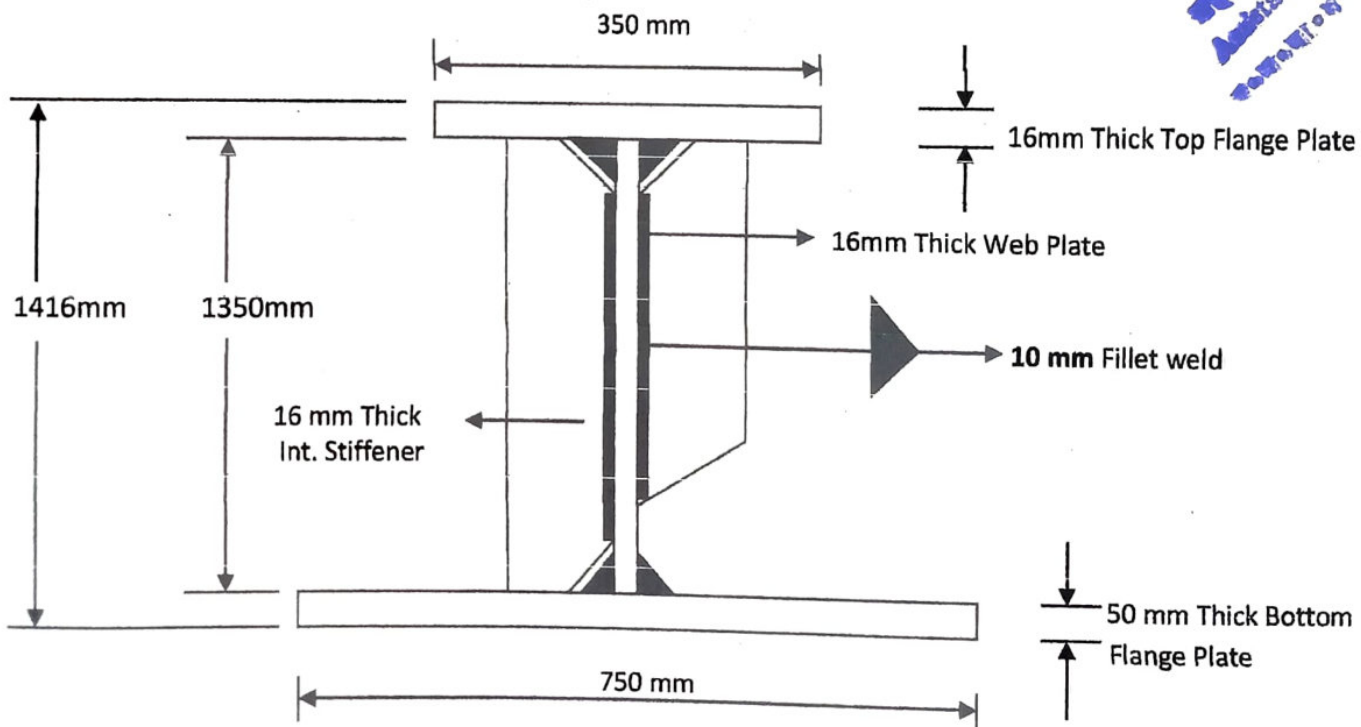
6.1). Electrode Wire : For solid MIG/MAG Welding wire, Class 1 of
 IRS: M-46-03, Amdt. 01 in May 2005, grade as per IS: 6419-2004
 Type: Copper coated mild steel wire
 Drying Method: N.A.

6.2). Flux : N.A.

6.3). Shielding Gas : CO₂/Ar.

7). Base Metal Preparation : Fusion faces and adjacent surfaces are cleaned
 Made free from cracks, notches, mill scale,
 Grease, paint, rust, etc. which may affect weld quality.

7.1). Joint design details : As per sketch shown below-



Sheet
29.04.22
Assistant Research Officer (S&T)
Control No. 29

WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995, C1.7 IRS B1-2001, C1.17.3 & W.B.C.-2011
 8). Welding Current : Type: DC, Polarity: Reverse
 9). Welder qualification : As per IS: 7310 (Part-1) & 817

- 10). Welding parameters & techniques :
 10.1) Welding parameters :

Weld pass no.	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Travel speed (in m/min.)	Electrode stick out (in mm)	Gas flow (Ltr. /min.)
1 +	1.2	190-240	20-25	2.0-3.5	0.20-0.35	10	15-20

- 10.2) Welding sequence & techniques : N.A.
 11). Provision of run on/run off tabs : N.A.
 12). Cleaning of weld bead before laying of next weld bead : Yes
 13). Root preparation before welding other side of groove weld : N.A.
 14). Pre-heating & interpass temperature : Yes
 15). Peening : N.A.
 16). Post weld treatment : N.A.
 17). Rectification of weld defect : By grinding of the defective weld & rectifying the Weld as per Cl.32.2 of IS: 9595-96, using A3 class Of electrodes of specification IRS M.28.2, after Conducting D.P.Test.
 18). Inspection of weld : Visual, D.P.Test.
 19). Any other relevant detail : None


 Project Engineer (ME)
 29.04.22

Prepared by: Balabharti Infrastructure Pvt. Ltd.

WELDING PROCEDURE SPECIFICATION SHEET

Name & Address of Fabricator

: **Balabharti Infrastructure Pvt. Ltd.**
2/536, S-1, 2nd Floor, Chitrakoot, Vaishali Nagar
Jaipur, Rajasthan-302021

Work Address:

I-13, A.R.G. Industrial Park, Bagru rawan
N.H.-08, Jaipur, Rajasthan-303007

Welding Procedure Specification No.

: BIPL/DHAN/GR/RVNL/18.3/04

1). Reference Drawing No.

: RDSO/B-11753/R2

2). Weld Joint Description

End Diaphragm Girder Web Plate (12mm thick M.S.Plates) welded with Top Flange (12mm thick M.S.Plates) & Bottom flange (16mm thick M.S.Plates)
Fillet weld size= 06 mm

3). Base Metal

: Plates IS: 2062-2011, E-250 Gr. B0,
Fully-killed/Normalized/Control-Cooled

4). Welding Process

: **S.A.W.**

5). Welding Position

: Flat inclined at 45° angle.

6). Welding Consumable-

6.1). Electrode Wire

: Class: W1 of IRS M-39/01, Amend. No. 1 of May'2005
Type: Copper coated mild steel wire Drying Method: N/A

6.2). Flux

: Class: F1 of IRS M-39/01, Amend. No. 1 of May'2005
Type: Agglomerated
Drying Method: 250°C for one hour before use
or as recommended by manufacturer.

6.3). Shielding Gas

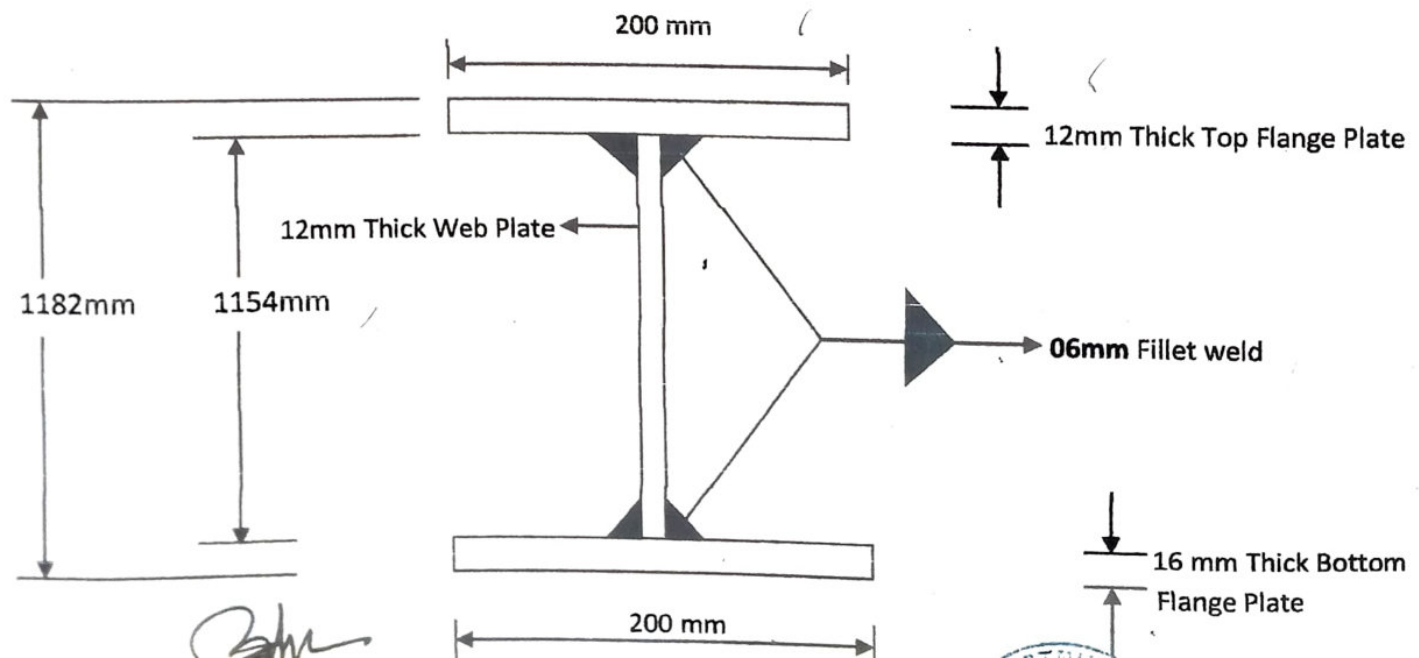
: N.A.

7). Base Metal Preparation

: Fusion faces and adjacent surfaces are cleaned,
Made free from cracks, notches, mill scale,
Grease, paint, rust, etc. which may affect weld quality.

7.1). Joint design detail

: As per Sketch shown below-



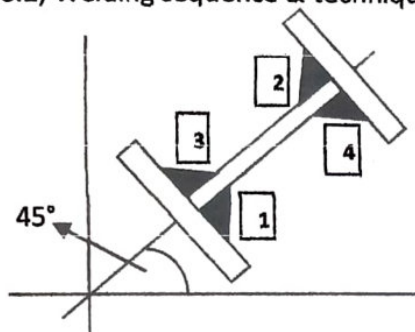
29.04.22
 Assistant Research Officer (M)

WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995, Cl.7 IRS B1-2001, Cl.17.3 & WBC-2011
- 8). Welding Current : Type: DC, Polarity: Reverse
- 9). Welder qualification : As per IS: 7310 (Part-1) & 817
- 10). Welding parameters & techniques :
- 10.1) Welding parameters :

Weld pass no.	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (In volt)	Wire feed speed (in m/min.)	Travel speed (in mm/min.)	Electrode stick out (in mm)	Gas flow (ltr./min.)
1	4.00	550-600	30-34	2.9	350-400	25	N.A.

- 10.2) Welding sequence & techniques : Welding from run on to run off tabs at the free ends.



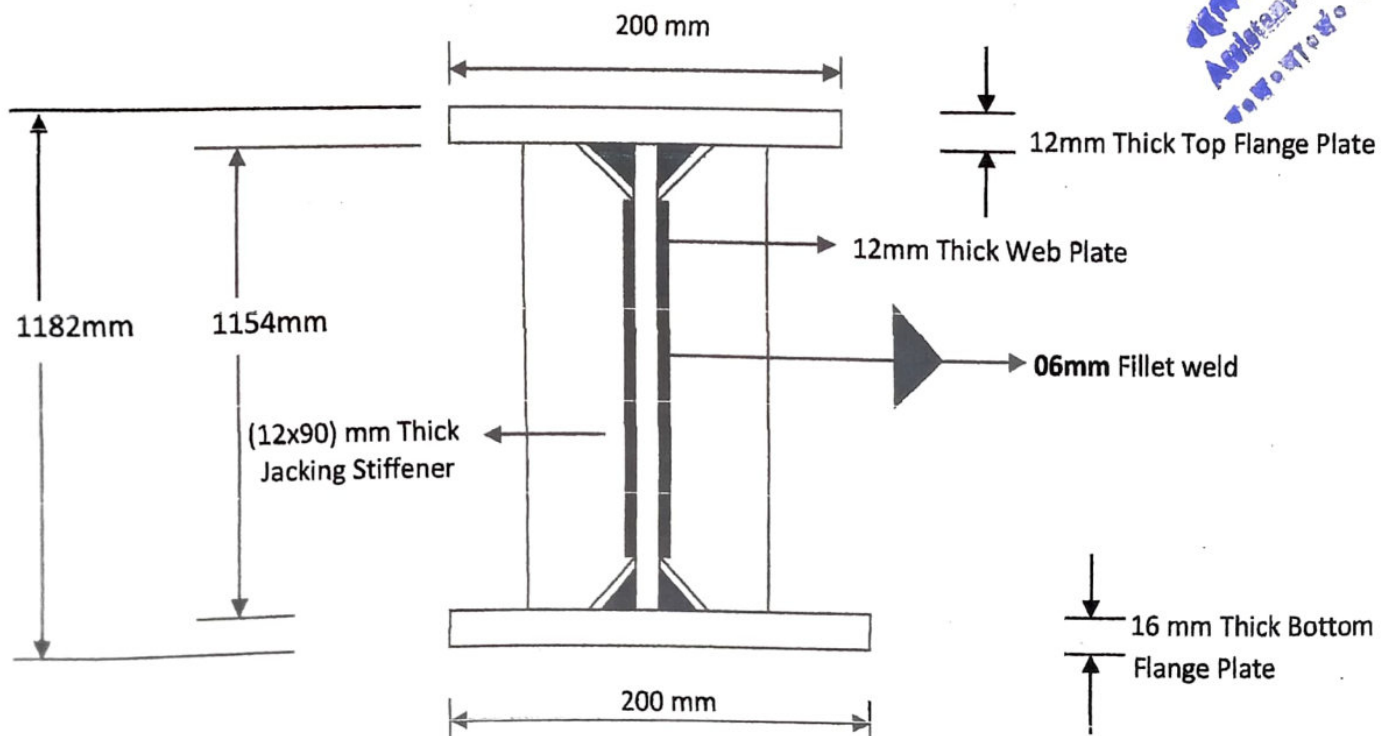
- 11). Provision of run on/run off tabs : Yes
- 12). Cleaning of weld bead before laying of next weld bead : N.A.
- 13). Root preparation before welding other side of groove weld : N.A.
- 14). Pre-heating & interpass temperature : N.A.
- 15). Peening : N.A.
- 16). Post weld treatment : N.A.
- 17). Rectification of weld defect : By grinding of the defective weld & rectifying the Weld as per Cl.32.2 of IS: 9595-96, using A3 class Of electrodes of specification IRS M.28.2, after Conducting D.P.Test.
- 18). Inspection of weld : Visual, D.P.Test & Macro Etching.
- 19). Any other relevant detail : None

Assistant Research Officer (M)



WELDING PROCEDURE SPECIFICATION SHEET

- Name & Address of fabricator : **Balabharti Infrastructure Pvt. Ltd.**
 2/536, S-1, 2nd Floor, Chitrakoot, Vaishali Nagar
 Jaipur, Rajasthan-302021
Work Address:
 I-13, A.R.G. Industrial Park, Bagru Rawan
 N.H.-08, Jaipur, Rajasthan-303007
- Welding Procedure Specification No. : BIPL/DHAN/GR/RVNL/18.3/05
- 1). Reference Drawing No. : RDSO/B-11753/R2
- 2). Weld Joint Description : Jacking Stiffeners (12mm thick M.S.Plates) welded with I-Sections of End Diaphragm Girder, Web Plate (12mm thick M.S.Plates) & Top flange (12 mm thick M.S. Plate) & Bottom Flange Plate (16 mm thick M.S. plate)
Fillet (06 mm)
- 3). Base Metal : Plates IS: 2062-2011, E-250 Gr. B0,
 Fully-killed/Normalized/Control-Cooled.
- 4). Welding Process : **M.I.G.**
- 5). Welding Position : Horizontal.
- 6). Welding Consumables :
- 6.1). Electrode Wire : For solid MIG/MAG Welding wire, Class 1 of
 IRS: M-46-03, Amdt. 01 in May 2005, grade as per IS: 6419-2004
 Type: Copper coated mild steel wire
 Drying Method: N.A.
- 6.2). Flux : N.A.
- 6.3). Shielding Gas : CO₂/Ar.
- 7). Base Metal Preparation : Fusion faces and adjacent surfaces are cleaned
 Made free from cracks, notches, mill scale,
 Grease, paint, rust, etc. which may affect weld quality.
- 7.1). Joint design details : As per sketch shown below-



29.04.22
 Assistant Research Officer (M)

WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995, C1.7 IRS B1-2001, C1.17.3 & W.B.C.-2011
8). Welding Current : Type: DC, Polarity: Reverse
9). Welder qualification : As per IS: 7310 (Part-1) & 817
10). Welding parameters & techniques :
10.1) Welding parameters :

Weld pass no.	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Travel speed (in m/min.)	Electrode stick out (in mm)	Gas flow (Ltr. /min.)
1 +	1.2	180-220	20-25	2.0-3.5	0.30-0.45	10	15-20

- 10.2) Welding sequence & techniques : N.A.
11). Provision of run on/run off tabs : N.A.
12). Cleaning of weld bead before laying of next weld bead : Yes
13). Root preparation before welding other side of groove weld : N.A.
14). Pre-heating & interpass temperature : Yes
15). Peening : N.A.
16). Post weld treatment : N.A.
17). Rectification of weld defect : By grinding of the defective weld & rectifying the Weld as per Cl.32.2 of IS: 9595-96, using A3 class Of electrodes of specification IRS M.28.2, after Conducting D.P.Test.
18). Inspection of weld : Visual, D.P.Test.
19). Any other relevant detail : None

29.04.22
Research Officer (M)
Bharati Infrastructure Pvt. Ltd.

Prepared by: Bharati Infrastructure Pvt. Ltd.



WELDING PROCEDURE SPECIFICATION SHEET

Name & Address of fabricator

: **Balabharti Infrastructure Pvt. Ltd.**
2/536, S-1, 2nd Floor, Chitrakoot, Vaishali Nagar
Jaipur, Rajasthan-302021

Work Address:

I-13, A.R.G. Industrial Park, Bagru Rawan
N.H.-08, Jaipur, Rajasthan-303007

Welding Procedure Specification No.

: BIPL/DHAN/GR/RVNL/18.3/06

1). Reference Drawing No.

: RDSO/B-11753/R2

2). Weld Joint Description

: Pad Plate (12mm thick M.S.Plates) welded with I-Sections of
End Diaphragm Girder, Bottom Flange (16 mm thick M.S.Plates)
Fillet (06 mm)

3). Base Metal

: Plates IS: 2062-2011, E-250 Gr. B0,
Fully-killed/Normalized/Control-Cooled.

4). Welding Process

: **M.I.G.**

5). Welding Position

: Horizontal.

6). Welding Consumables

6.1). Electrode Wire

: For solid MIG/MAG Welding wire, Class 1 of
IRS: M-46-03, Amdt. 01 in May 2005, grade as per IS: 6419-2004
Type: Copper coated mild steel wire
Drying Method: N.A.

6.2). Flux

: N.A.

6.3). Shielding Gas

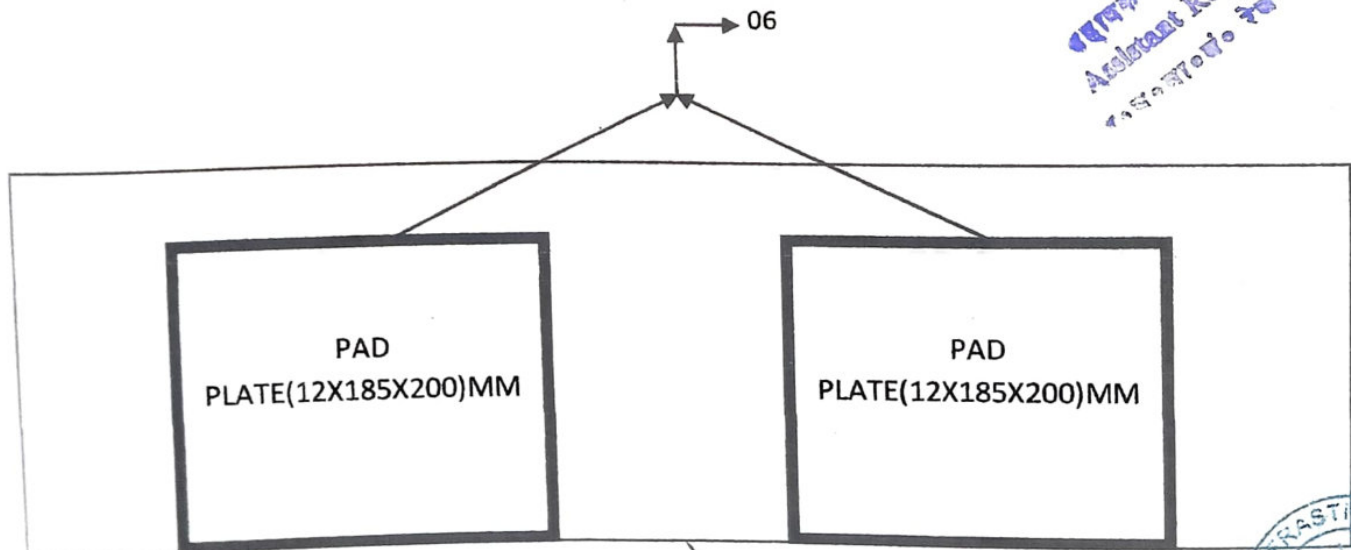
: CO₂/Ar.

7). Base Metal Preparation

: Fusion faces and adjacent surfaces are cleaned
Made free from cracks, notches, mill scale,
Grease, paint, rust, etc. which may affect weld quality.

7.1). Joint design details

: As per sketch shown below-



29.04.22
Assistant Research Officer (M)
Balabharti Infrastructure Pvt. Ltd.



WELDING PROCEDURE SPECIFICATION SHEET

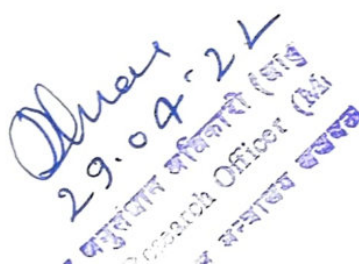
- 7.2). Joint Preparation : As per IS: 4353-1995, C1.7 IRS B1-2001, C1.17.3 & W.B.C.-2011
 8). Welding Current : Type: DC, Polarity: Reverse
 9). Welder qualification : As per IS: 7310 (Part-1) & 817

10). Welding parameters & techniques :

10.1) Welding parameters :

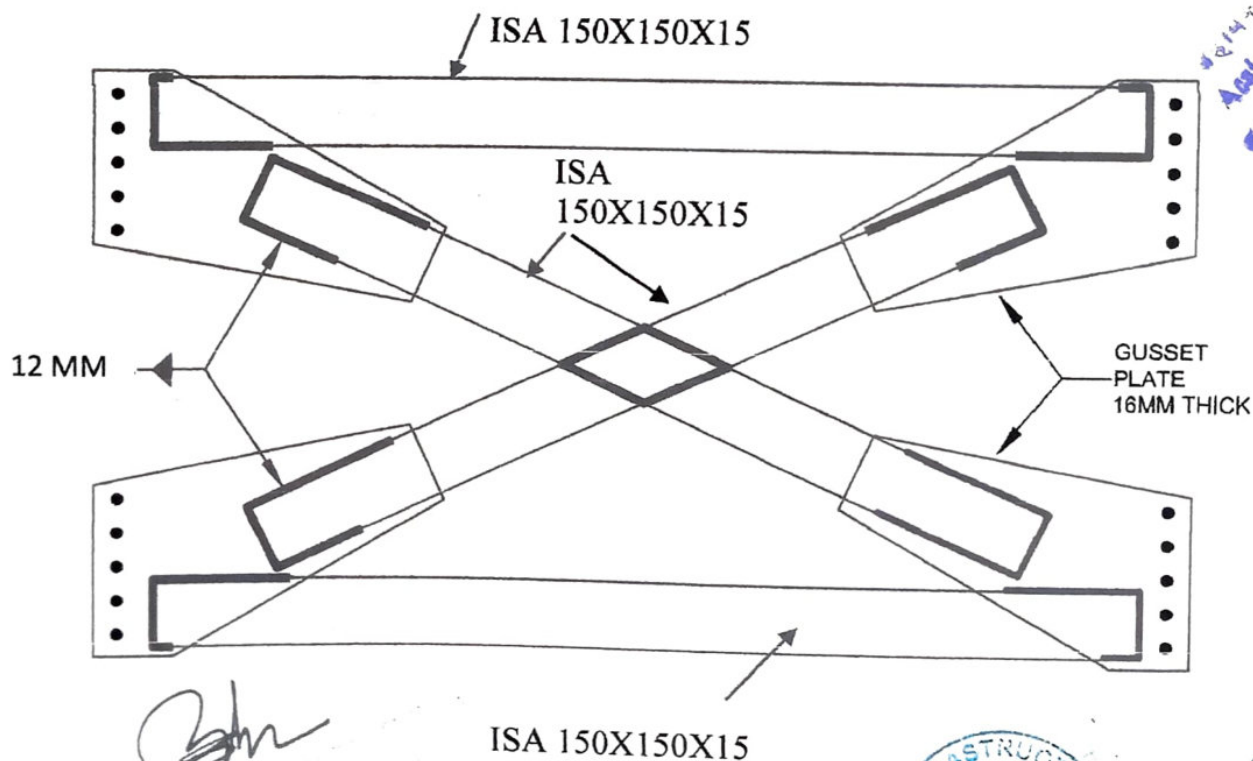
Weld pass no.	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Travel speed (in m/min.)	Electrode stick out (in mm)	Gas flow (Ltr. /min.)
1	1.2	180-220	20-25	2.0-3.5	0.30-0.45	10	15-20

- 10.2) Welding sequence & techniques : N.A.
 11). Provision of run on/run off tabs : N.A.
 12). Cleaning of weld bead before laying of next weld bead : Yes
 13). Root preparation before welding other side of groove weld : N.A.
 14). Pre-heating & interpass temperature : Yes
 15). Peening : N.A.
 16). Post weld treatment : N.A.
 17). Rectification of weld defect : By grinding of the defective weld & rectifying the Weld as per Cl.32.2 of IS: 9595-96, using A3 class Of electrodes of specification IRS M.28.2, after Conducting D.P.Test.
 18). Inspection of weld : Visual, D.P.Test.
 19). Any other relevant detail : None

29.04.21
 प्रमाणित अधिकारी (आ) 
 प्रमाणित अधिकारी (आ)

WELDING PROCEDURE SPECIFICATION SHEET

- Name & Address of Fabricator : **Balabharti Infrastructure Pvt. Ltd.**
2/536, S-1, 2nd Floor, Chitrakoot, Vaishali Nagar
Jaipur, Rajasthan-302021
Work Address:
I-13, A.R.G. Industrial Park, Bagru rawan
N.H.-08, Jaipur, Rajasthan-303007
- Welding Procedure Specification No. : BIPL/DHAN/GR/RVNL/18.3/07
- 1). Reference Drawing No. : RDSO/B-11753/R2
- 2). Weld Joint Description : Int. X-Frame, Top & Bottom Corner Gusset Plate (16mm Thick) Welded with Top, Bottom & Diagonal Angle (ISA 150x150x15mm)
Fillet weld size= 12 mm
- 3). Base Metal : Plates IS: 2062-2011, E-250 Gr. B0,
Fully-killed/Normalized/Control-Cooled
- 4). Welding Process : **M.I.G.**
- 5). Welding Position : Horizontal.
- 6). Welding Consumables :
6.1). Electrode Wire : For solid MIG/MAG Welding wire, Class 1 of
IRS: M-46-03, Amdt. 01 in May 2005, grade as per IS: 6419-2004
Type: Copper coated mild steel wire
Drying Method: N.A.
- 6.2). Flux : N.A.
- 6.3). Shielding Gas : CO₂/Ar.
- 7). Base Metal Preparation : Fusion faces and adjacent surfaces are cleaned
Made free from cracks, notches, mill scale,
Grease, paint, rust, etc. which may affect weld quality.
- 7.1). Joint design details : As per sketch shown below-



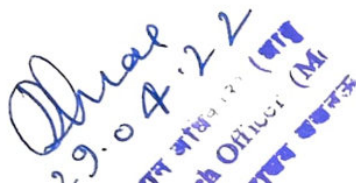
29.04.22
Assistant Research Officer (M)

WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995, C1.7 IRS B1-2001, C1.17.3 & W.B.C.-2011
- 8). Welding Current : Type: DC, Polarity: Reverse
- 9). Welder qualification : As per IS: 7310 (Part-1) & 817
- 10). Welding parameters & techniques :
- 10.1) Welding parameters :

Weld pass no.	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Travel speed (in m/min.)	Electrode stick out (in mm)	Gas flow (Ltr. /min.)
1 +	1.2	180-220	20-25	2.0-3.5	0.30-0.45	10	15-20

- 10.2) Welding sequence & techniques : N.A.
- 11). Provision of run on/run off tabs : N.A.
- 12). Cleaning of weld bead before laying of next weld bead : Yes
- 13). Root preparation before welding other side of groove weld : N.A.
- 14). Pre-heating & interpass temperature : Yes
- 15). Peening : N.A.
- 16). Post weld treatment : N.A.
- 17). Rectification of weld defect : By grinding of the defective weld & rectifying the Weld as per Cl.32.2 of IS: 9595-96, using A3 class Of electrodes of specification IRS M.28.2, after Conducting D.P. Test.
- 18). Inspection of weld : Visual, D.P. Test.
- 19). Any other relevant detail : None



 29.04.22

 Authorized Officer (M)

WELDING PROCEDURE SPECIFICATION SHEET

Name & Address of fabricator

: **Balabharti Infrastructure Pvt. Ltd.**

2/536, S-1, 2nd Floor, Chitrakoot, Vaishali Nagar
Jaipur, Rajasthan-302021

Work Address:

I-13, A.R.G. Industrial Park, Bagru rawan
N.H.-08, Jaipur, Rajasthan-303007

Welding Procedure Specification No.

: BIPL/DHAN/GR/RVNL/18.3/08

1). Reference Drawing No.

: RDSO/B-11753/R2

2). Weld Joint Description

: Stud Shear Connector on Top flanges of End I-Section & Middle I-Section Main Girders

3). Base Metal

: Plates IS: 2062-2011, E-250 Gr. B0,
Fully-killed/Normalized/Control-Cooled,
The Stud Shear Connector & Ceramic Ferrules
Confirm to type SD1/UF as per BS EN ISO 13918.

4). Welding Process

: Automatic Welding Machine
(Like Resistance Welding)

: Down Hand

:

: N.A.

: N.A.

: N.A.

: N.A.

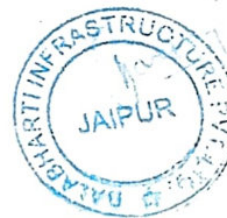
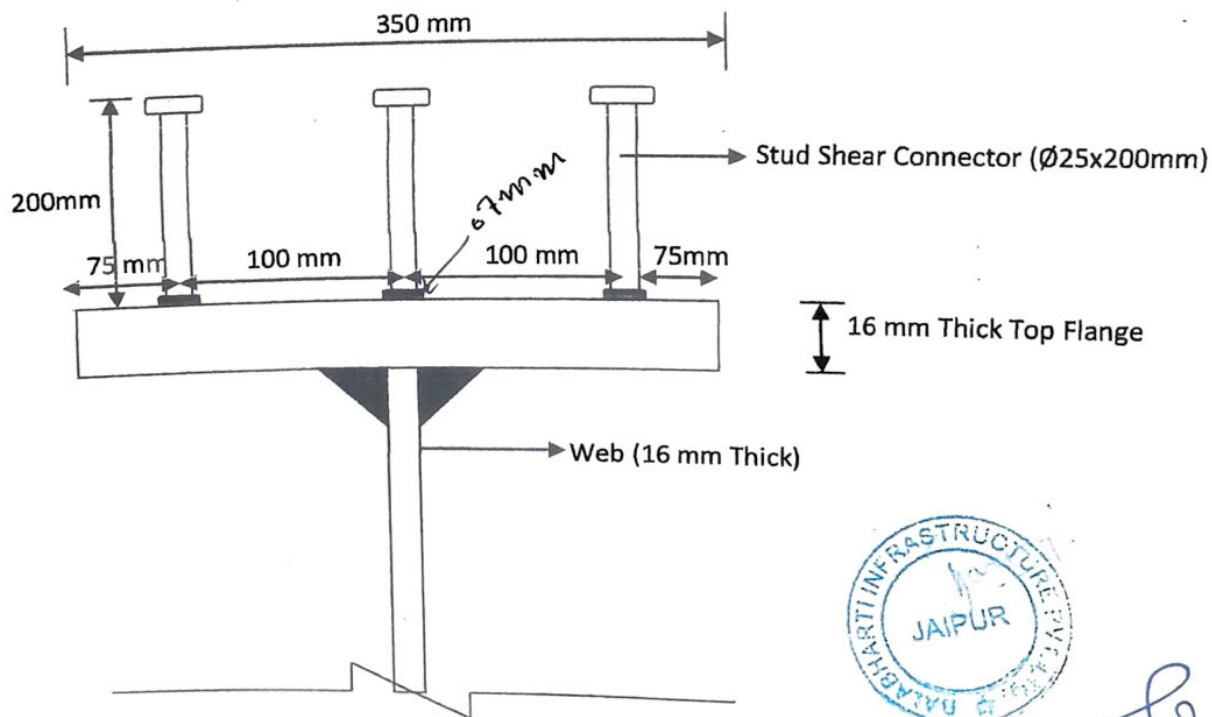
: Fusion faces and adjacent surfaces are cleaned
Made free from cracks, notches, mill scale,
Grease, paint, rust, etc. which may affect weld
Quality.

7). Base Metal Preparation

: As per sketch shown below-

Handwritten: 29.04.22
Stamp: Assistant Research Officer (M)
RDSO

7.1). Joint design details



WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995, Cl.7 IRS B1-2001, Cl.17.3 & WBC-2001
8). Welding Current : Type: DC, Polarity: Reverse
9). Welder qualification : As per IS: 7310 (Part-1) & 817
10). Welding parameters & techniques :
10.1) Welding parameters :
(For Ø25mm Stud Shear Connector)-

Weld Pass no.	Electrode/Wire dia. mm	Current (Amp)	Arc voltage(volt)	Time (in ms)	Lift (in mm)	Protrusion app. (in mm)	Shielding gas flow rate (Ltr./min)
1	M 25*200 mm	1650-1900	N.A.	1300	5	8	N.A.

- 10.2) Welding sequence & techniques : N.A.
11). Provision of run on/run off tabs : N.A.
12). Cleaning of weld bead before laying of next weld bead : N.A.
13). Root preparation before welding other side of groove weld : N.A.
14). Pre-heating & interpass temperature : N.A.
15). Peening : N.A.
16). Post weld treatment : N.A.

17). Rectification of weld defect : By grinding of the defective weld & rectifying the weld as per Cl.32.2 of IS:9595-96, using A3 class of electrodes of specification IRS M.28.2, after conducting D.P.T est.
18). Inspection of weld : Visual, Appearance test, Bend Test & Ring test. *weld size 2D*
19). Any other relevant detail : None

WELDING PROCEDURE SPECIFICATION SHEET

Name & Address of Fabricator : **Balabharti Infrastructure Pvt. Ltd.**
2/536, S-1, 2nd Floor, Chitrakoot, Vaishali Nagar
Jaipur, Rajasthan-302021
Work Address:
I-13, A.R.G. Industrial Park, Bagru rawan
N.H.-08, Jaipur, Rajasthan-303007

Welding Procedure Specification No. : BIPL/DHAN/GR/RVNL/18.3/09

1). Reference Drawing No. : RDSO/B-11753/R2

2). Weld Joint Description : All Relevant Joints as per Drawing.
Fillet weld size= 05 mm
TACK WELD (50mm Long Tack Weld with intermittent distance of 300mm).

3). Base Metal : Plates IS: 2062-2011, E-250B0
Fully-killed/Normalized/Control-Cooled.

4). Welding Process : **M.M.A.W.**

5). Welding Position : Horizontal & Vertical.

6). Welding Consumables :
6.1). Electrode Wire : Class: A2 of IRS M.28/12,
Code as per IS: 814-2004
Type: Medium coated
Drying Method: As recommended by the electrode manufacturer

6.2). Flux : N.A.

6.3). Shielding Gas : N.A.

7). Base Metal Preparation : Fusion faces and adjacent surfaces are cleaned
Made free from cracks, notches, mill scale,
Grease, paint, rust, etc. which may affect weld quality.

7.1). Joint design details : All Relevant Joints as per Drawing.

7.2). Joint Preparation : As per IS: 4353-1995, C1.7 IRS B1-2001, C1.17.3 & W.B.C.-2011

8). Welding Current : Type: DC, Polarity: Reverse

9). Welder qualification : As per IS: 7310 (Part-1) & 817

10). Welding parameters & techniques :
10.1) Welding parameters :

Weld pass no.	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Travel speed (in m/min.)	Electrode stick out (in mm)	Gas flow (Ltr. /min.)
1	4.0	140-180	24-29	NA	NA	NA	NA

10.2) Welding sequence & techniques : N.A.

11). Provision of run on/run off tabs : N.A.

12). Cleaning of weld bead before laying of next weld bead : Yes

13). Root preparation before welding other side of groove weld : N.A.

14). Pre-heating & interpass temperature : Yes

15). Peening : N.A.

16). Post weld treatment : N.A.

29.08.22
29.08.22
Asst. Engineer (Welding)
Asst. Engineer (Welding)
Asst. Engineer (Welding)

INFRASTRUCTURE

WELDING PROCEDURE SPECIFICATION SHEET

17). Rectification of weld defect

: By grinding of the defective weld & rectifying the weld as per Cl.32.2 of IS:9595-96, using A3 class of electrodes of specification IRS M.28.2, after conducting D.P.Test.

18). Inspection of weld

: Visual, D.P.Test.

19). Any other relevant detail

: None

Prepared by: Balabharti Infrastructure Pvt. Ltd.



Railway Composite Girder (25t loading)

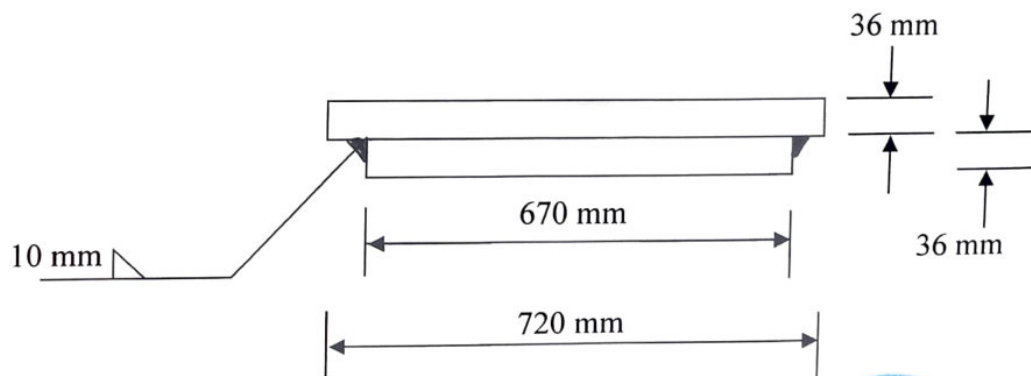
24.4m clear span

MODEL WPSS No- RDSO/ Infra-II/ B&S/ RG/
CG./ WPSS / 24.4 series (10 nos)

WELDING PROCEDURE SPECIFICATION SHEET

- Name & Address of fabricator : Punia Construction Company,
Mangali Kutiya, 8 KM Stone on Tosham Road,
VPO Ladwa, Hisar (Haryana).
- Welding Procedure Specification No. : PCC/24.4/01
- 1). Drawing Series No. : RDSO/B-11751/R2.
First Bottom Flange {Shipping Mark: BF1, BF3 & BF5} (36 mm thick M.S. Plate) with Second Bottom Flange {Shipping Mark: BF2, BF4 & BF6} (36 mm Thick M.S. Plate)
- 2). Weld Joint Description : Fillet (10 mm)
- 3). Base Metal : Plates IS: 2062-2011, E-250 Gr. B0,
- 4). Welding Process : S.A.W.
- 5). Welding Position : Flat inclined at 45°
- 6). Welding Consumable :
- 6.1). Electrode Wire : Class: W1 of IRS M-39/20,
Type: Copper coated mild steel wire
Drying Method: N.A.
- 6.2). Flux : Class: F1 of IRS M-39/20,
Type: Agglomerated
Drying Method: 250°C for one hour before use
OR As recommended by manufacturer
- 6.3). Shielding Gas : N.A.
- 7). Base Metal Preparation : Fusion faces and adjacent surfaces are cleaned made free from cracks, notches, mill scale, grease, paint, rust, etc. which may affect weld quality.

- 7.1). Joint design details :
(Sketch showing arrangements parts, Weld groove details, weld passes & their sequence, etc.)



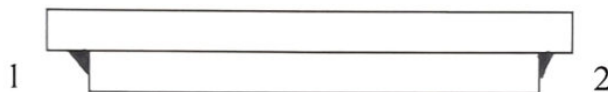
[Handwritten Signature]
Assistant Research Officer (M)
RDSO, Delhi

WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995 & WBC-2001
 8). Welding Current : Type: DC, Polarity: Reverse
 9). Welder qualification : As per IS: 7310 (Part-1) & 817
 10). Welding parameters & techniques :
 10.1) Welding parameters :

Weld pass	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Welding speed (in m/min.)	Electrode stick out (in mm)	Gas flow (l/min.)
1	4.00	650-700	24-27	1.3-1.6	0.350-0.400	20	N.A.

- 10.2) Welding sequence & techniques : Welding from run on to run off tabs at the free ends.



16/04/2022
 Assistant Research Officer (M)
 PCCO, PCCO, PCCO

- 11). Provision of run on/run off tabs : Yes
 12). Cleaning of weld bead before laying of next weld bead : N.A.
 13). Root preparation before welding other side of groove weld : N.A.
 14). Pre-heating & Interpass temperature : 100°C - 150°C
 16). Peening : N.A.
 17). Post weld treatment : N.A.
 18). Rectification of weld defect (If Any) : By grinding of the defective weld & rectifying the weld as per Cl.32.2 of IS: 9595-96, using A3 class of electrodes of specification IRS M-28/20 after conducting D.P. Test.
 19). Inspection of weld : Visual, D.P. Test & Macro Etching.
 20). Any other relevant detail : None

Prepared by: Punia Construction Company.

Signature:

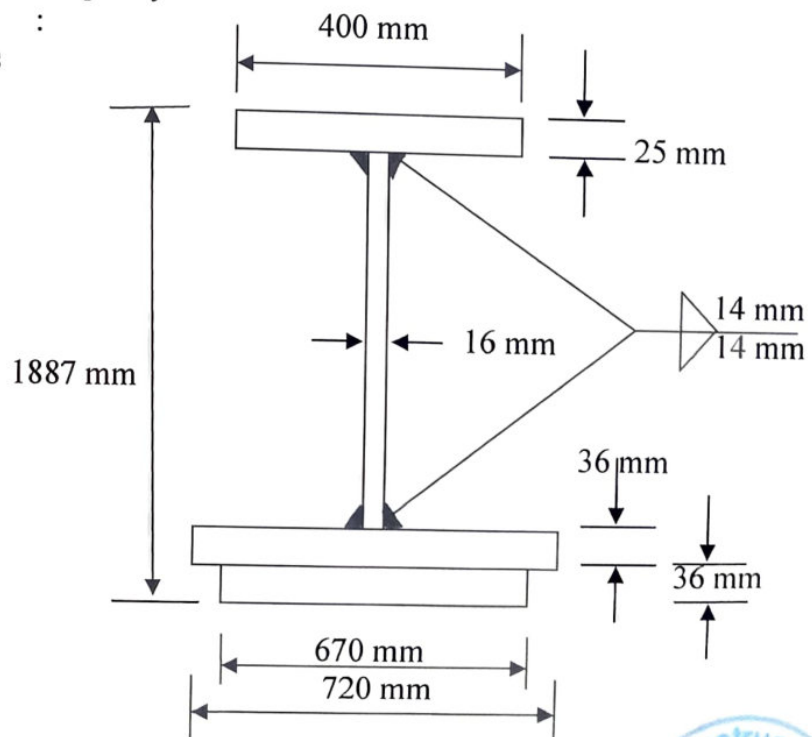
Designation:



WELDING PROCEDURE SPECIFICATION SHEET

- Name & Address of fabricator : Punia Construction Company,
Mangali Kutiya, 8 KM Stone on Tosham Road,
VPO Ladwa, Hisar (Haryana)
- Welding Procedure Specification No. : PCC/24.4/02
- 1). Drawing Series No. : RDSO/B-11751/R2.
I-Section {Shipping Mark: ZA, ZB & ZC} Web Plate
(16 mm thick M.S. Plate) with Top flange (25 mm thick
M.S. Plate) & First Bottom flange (36 mm thick M.S.
Plate)
- 2). Weld Joint Description : Fillet (14 mm)
- 3). Base Metal : Plates IS: 2062-2011, E-250 Gr. B0,
- 4). Welding Process : S.A.W.
- 5). Welding Position : Flat inclined at 45°
- 6). Welding Consumable :
6.1). Electrode Wire : Class: W1 of IRS M-39/20,
Type: Copper coated mild steel wire
Drying Method: N.A.
- 6.2). Flux : Class: F1 of IRS M-39/20,
Type: Agglomerated
Drying Method: 250°C for one hour before use
OR As recommended by manufacturer
- 6.3). Shielding Gas : N.A.
- 7). Base Metal Preparation : Fusion faces and adjacent surfaces are cleaned
made free from cracks, notches, mill scale,
grease, paint, rust, etc. which may affect weld
quality.

- 7.1). Joint design details
(Sketch showing arrangements
parts, Weld groove details,
weld passes & their sequence,
etc.)

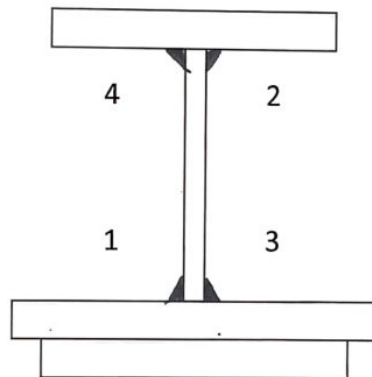


WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995 & WBC-2001
 8). Welding Current : Type: DC, Polarity: Reverse
 9). Welder qualification : As per IS: 7310 (Part-1) & 817
 10). Welding parameters & techniques :
 10.1) Welding parameters :

Weld pass No.	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Welding speed (in m/min.)	Electrode stick out (in mm)	Gas flow (l/min.)
1	4.00	550-600	28-32	1.0-1.4	0.30-0.40	20	N.A.
2	4.00	550-600	28-32	1.0-1.4	0.30-0.40	20	N.A.

- 10.2) Welding sequence & techniques : Welding from run on to run off tabs at the free ends.




 Assistant Research Officer (M)
 PUNIA CONSTRUCTION COMPANY

- 11). Provision of run on/run off tabs : Yes
 12). Cleaning of weld bead before laying of next weld bead : N.A.
 13). Root preparation before welding other side of groove weld : N.A.
 14). Pre-heating & Interpass temperature : 100°C - 150°C
 16). Peening : N.A.
 17). Post weld treatment : N.A.
 18). Rectification of weld defect (If Any) : By grinding of the defective weld & rectifying the weld as per Cl.32.2 of IS: 9595-96, using A3 class of electrodes of specification IRS M-28/20 after conducting D.P. Test.
 19). Inspection of weld : Visual, D.P. Test & Macro Etching.
 20). Any other relevant detail : None

WELDING PROCEDURE SPECIFICATION SHEET

Name & Address of fabricator : Punia Construction Company,
Mangali Kutiya, 8 KM Stone on Tosham Road,
VPO Ladwa, Hisar (Haryana)

Welding Procedure Specification No. : PCC/24.4/03

1). Drawing Series No. : RDSO/B-11751/R2.
Bearing Stiffeners (Shipping Mark: BS1 & BS2) (36 mm thick M.S. Plate) on I-Section {Shipping Mark: ZA & ZC} with Web plate (16 mm thick M.S. Plate), Top Flange (25 mm thick M.S. Plate) & First Bottom Flange (36 mm thick M.S. Plate)

2). Weld Joint Description : Fillet (12 mm)

3). Base Metal : Plates IS: 2062-2011, E-250 Gr. B0,

4). Welding Process : GMAW

5). Welding Position : Horizontal

6). Welding Consumable :

6.1). Electrode Wire : For solid MIG/MAG Welding wire, Class 1 of
IRS: M-46/20, Grade: - S3X503,
As per IS/AWS: 6419-1996 (R2016)
Type: Copper coated mild steel wire
Drying Method: N.A.

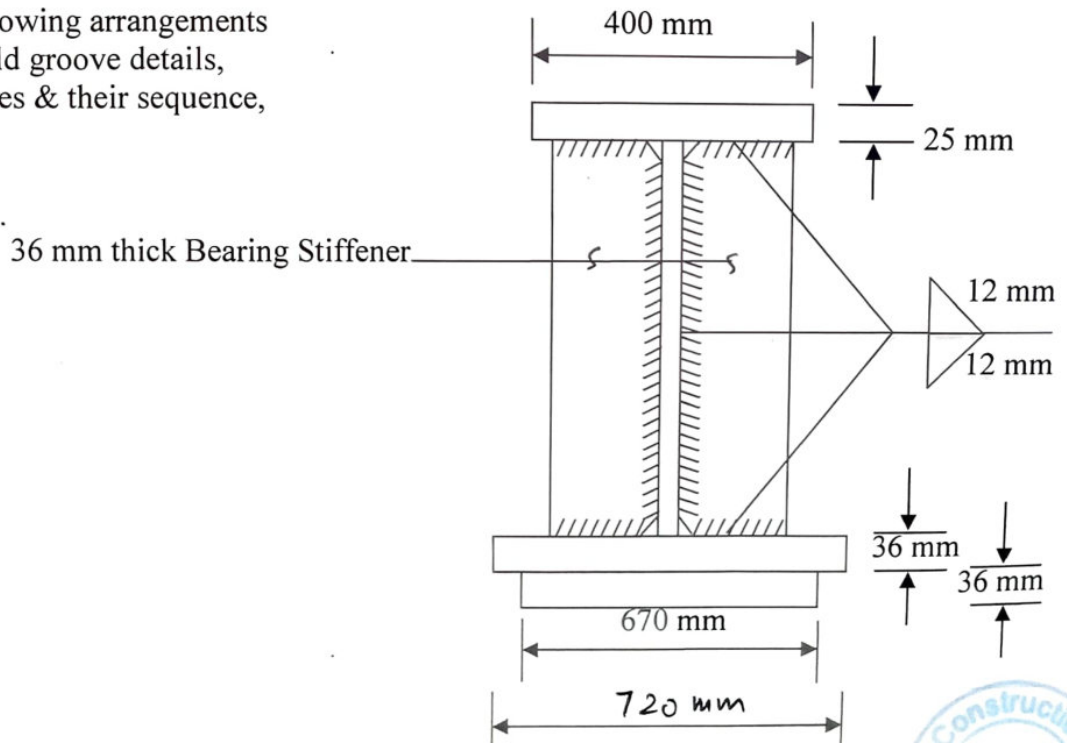
6.2). Flux : N.A.

6.3). Shielding Gas : CO₂

7). Base Metal Preparation : Fusion faces and adjacent surfaces are cleaned
made free from cracks, notches, mill scale,
grease, paint, rust, etc. which may affect weld
quality.

7.1). Joint design details :

(Sketch showing arrangements
parts, Weld groove details,
weld passes & their sequence,
etc.)



अधीक्षक अनुसंधान प्रविधिकी विभाग
Assistant Research Officer (M)
राजस्थान राज्य मंत्रालय, जयपुर

WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995 & WBC-2001
 8). Welding Current : Type: DC, Polarity: Reverse
 9). Welder qualification : As per IS: 7310 (Part-1) & 817
 10). Welding parameters & techniques :
 10.1) Welding parameters :

Weld pass No.	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Travel speed (in m/min.)	Electrode stick out (in mm)	Gas flow (l/min.)
1	1.2	250-300	27-30	5.0-5.5	0.20-0.25	10	15-22
2	1.2	250-300	27-30	5.0-5.5	0.20-0.25	10	15-22
3	1.2	250-300	27-30	5.0-5.5	0.20-0.25	10	15-22

- 10.2) Welding sequence & techniques : N.A.
 11). Provision of run on/run off tabs : N.A.
 12). Cleaning of weld bead before laying of next weld bead : Yes
 13). Root preparation before welding other side of groove weld : N.A.
 14). Pre-heating & interpass temperature : 100°C-150°C
 15). Peening : N.A.
 16). Post weld treatment : N.A.
 18). Rectification of weld defect (If Any) : By grinding of the defective weld & rectifying the weld as per Cl.32.2 of IS: 9595-96, using A3 class of electrodes of specification IRS M-28/20 after conducting D.P. Test.
 18). Inspection of weld : Visual, D.P. Test.
 19). Any other relevant detail : None

2-2.5


WELDING PROCEDURE SPECIFICATION SHEET

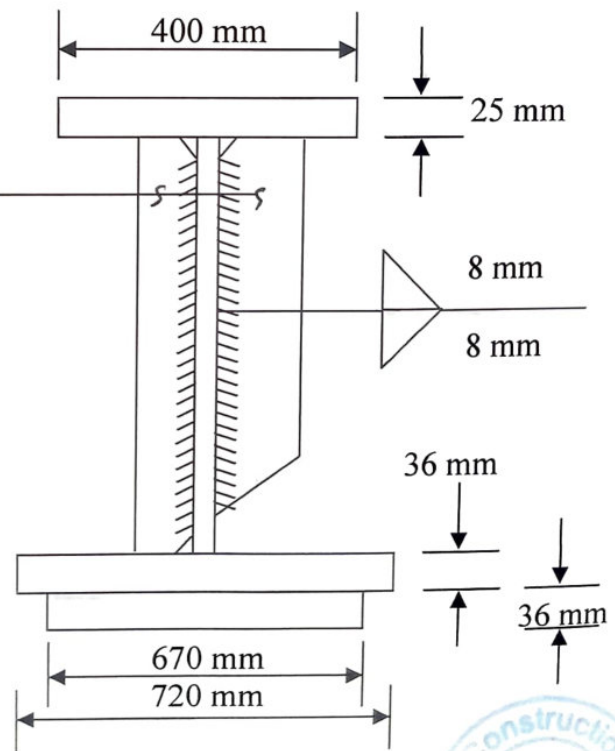
Name & Address of fabricator : Punia Construction Company,
Mangali Kutiya, 8 KM Stone on Tosham Road,
VPO Ladwa, Hisar (Haryana)

Welding Procedure Specification No. : PCC/24.4/04

- 1). Drawing Series No. : RDSO/B-11751/R2.
Vertical Stiffeners with & without X-Frame {Shipping Mark: IS1 & IS2} (16mm thick M.S. Plate) on I-Section {Shipping Mark: ZA, ZB & ZC} with Web Plate (16 mm thick M.S. Plate).
- 2). Weld Joint Description : Fillet (8 mm)
- 3). Base Metal : Plates IS: 2062-2011, E-250 Gr. B0,
- 4). Welding Process : GMAW
- 5). Welding Position : Horizontal
- 6). Welding Consumable :
6.1). Electrode Wire : For solid MIG/MAG Welding wire, Class 1 of IRS: M-46/20, Grade: - S3X503, As per IS/AWS: 6419-1996 (R2016) Type: Copper coated mild steel wire Drying Method: N.A.
- 6.2). Flux : N.A.
- 6.3). Shielding Gas : CO₂
- 7). Base Metal Preparation : Fusion faces and adjacent surfaces are cleaned made free from cracks, notches, mill scale, grease, paint, rust, etc. which may affect weld quality.

7.1). Joint design details :
(Sketch showing arrangements parts, Weld groove details, weld passes & their sequence, etc.)

16 mm thick Int. Stiffener



WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995 & WBC-2001
 8). Welding Current : Type: DC, Polarity: Reverse
 9). Welder qualification : As per IS: 7310 (Part-1) & 817
 10). Welding parameters & techniques :
 10.1) Welding parameters :

Weld pass	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Travel speed (in m/min.)	Electrode stick out (in mm)	Gas flow (1/min.)
1	1.2	250-300	27-30	5.0-5.5	0.20-0.25	10	15-22

2-2.5
③✓

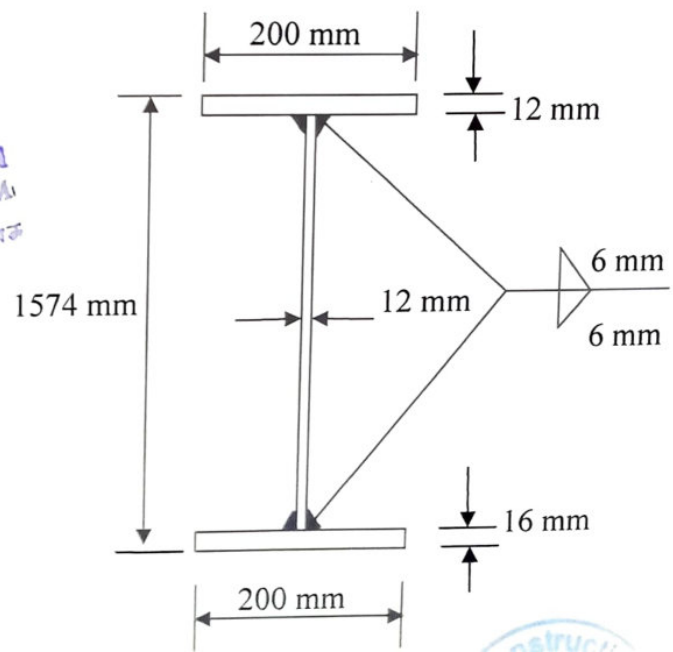
- 10.2) Welding sequence & techniques : N.A.
 11). Provision of run on/run off tabs : N.A.
 12). Cleaning of weld bead before laying of next weld bead : Yes
 13). Root preparation before welding other side of groove weld : N.A.
 14). Pre-heating & interpass temperature : 100°C-150°C
 15). Peening : N.A.
 16). Post weld treatment : N.A.
 17). Rectification of weld defect (If Any) : By grinding of the defective weld & rectifying the weld as per Cl.32.2 of IS: 9595-96, using A3 class of electrodes of specification IRS M-28/20 after conducting D.P. Test.
 18). Inspection of weld : Visual, D.P. Test.
 19). Any other relevant detail : None

WELDING PROCEDURE SPECIFICATION SHEET

- Name & Address of fabricator : Punia Construction Company,
Mangali Kutiya, 8 KM Stone on Tosham Road,
VPO Ladwa, Hisar (Haryana)
- Welding Procedure Specification No. : PCC/24.4/05
- 1). Drawing Series No. : RDSO/B-11751/2R2.
End Diaphragm, Web Plate (12mm thick M.S. Plate)
with Top flange (12 mm thick M.S. Plate) & Bottom
flange (16 mm thick M.S. Plate)
- 2). Weld Joint Description : Fillet (6 mm)
- 3). Base Metal : Plates IS: 2062-2011, E-250 Gr. B0,
- 4). Welding Process : S.A.W.
- 5). Welding Position : Flat inclined at 45°
- 6). Welding Consumable :
- 6.1). Electrode Wire : Class: W1 of IRS M-39/20,
Type: Copper coated mild steel wire
Drying Method: N.A.
- 6.2). Flux : Class: F1 of IRS M-39/20,
Type: Agglomerated
Drying Method: 250°C for one hour before use
OR As recommended by manufacturer
- 6.3). Shielding Gas : N.A.
- 7). Base Metal Preparation : Fusion faces and adjacent surfaces are cleaned
made free from cracks, notches, mill scale,
grease, paint, rust, etc. which may affect weld
quality.

- 7.1). Joint design details :
(Sketch showing arrangements
parts, Weld groove details,
weld passes & their sequence,
etc.)

सहायक अनुसंधान अधिकारी (या)
Assistant Research Officer (M)
... ..

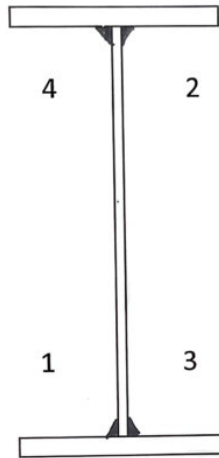


WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995 & WBC-2001
 8). Welding Current : Type: DC, Polarity: Reverse
 9). Welder qualification : As per IS: 7310 (Part-1) & 817
 10). Welding parameters & techniques :
 10.1) Welding parameters :

Weld pass	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Travel speed (in m/min.)	Electrode stick out (in mm)	Gas flow (l/min.)
1	4.0	550-600	28-32	1.0-1.2	0.55-.60	20	N.A.

- 10.2) Welding sequence & techniques : Welding from run on to run off tabs at the free ends.




 Assistant Research Officer (M)
 PUNIA CONSTRUCTION COMPANY

- 11). Provision of run on/run off tabs : Yes
 12). Cleaning of weld bead before laying of next weld bead : N.A.
 13). Root preparation before welding other side of groove weld : N.A.
 14). Pre-heating & Interpass temperature : 100°C - 150°C
 16). Peening : N.A.
 17). Post weld treatment : N.A.
 18). Rectification of weld defect : By grinding of the defective weld & rectifying the weld as per Cl.32.2 of IS: 9595-96, using A3 class of electrodes of specification IRS M-28/20 after conducting D.P. Test.
 (If Any) : Visual, D.P. Test & Macro Etching.
 19). Inspection of weld : None
 20). Any other relevant detail :

Prepared by: Punia Construction Company.
 Signature: _____
 Designation: _____



WELDING PROCEDURE SPECIFICATION SHEET

Name & Address of fabricator : Punia Construction Company,
Mangali Kutiya, 8 KM Stone on Tosham Road,
VPO Ladwa, Hisar (Haryana)

Welding Procedure Specification No. : PCC/24.4/06

1). Drawing Series No. : RDSO/B-11751/2R2.
Gusset plates {Shipping Mark: GUS1, GUS2 & GUS3}
with Horizontal Angles {Shipping Mark: ANG4} &
Diagonal Angles {Shipping Mark: ANG5}

2). Weld Joint Description : Fillet (12 mm)

3). Base Metal : Plates IS: 2062-2011, E-250 Gr. B0,

4). Welding Process : GMAW

5). Welding Position : Horizontal

6). Welding Consumable :
6.1). Electrode Wire : For solid MIG/MAG Welding wire, Class 1 of
IRS: M-46/20, Grade: - S3X503,
As per IS/AWS: 6419-1996 (R2016)
Type: Copper coated mild steel wire
Drying Method: N.A.

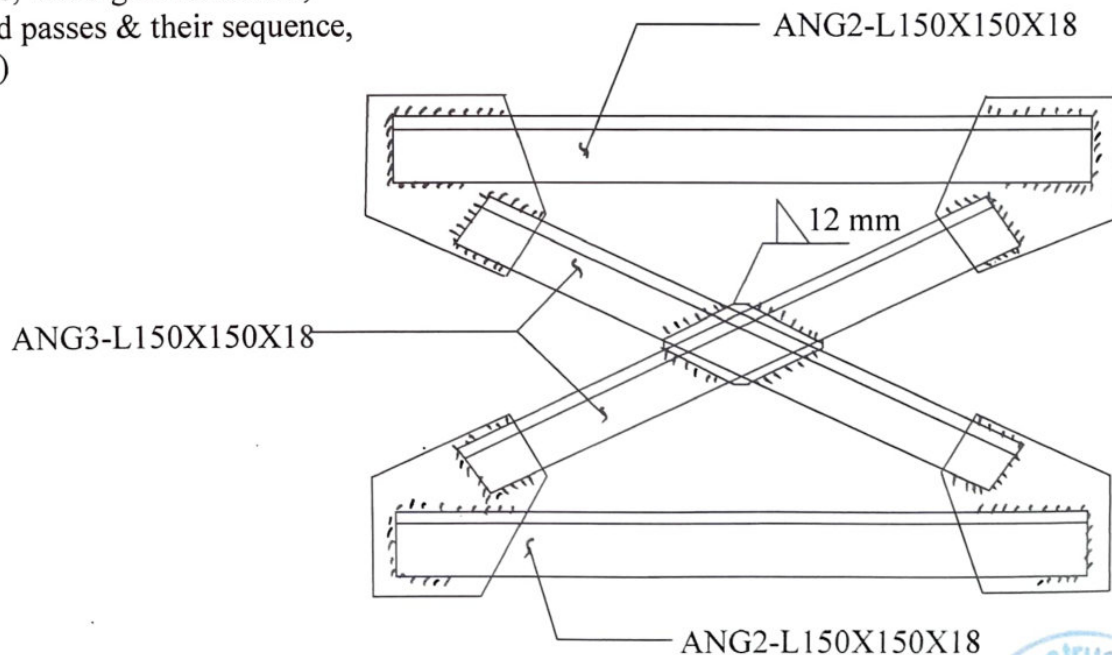
6.2). Flux : N.A.

6.3). Shielding Gas : CO2

7). Base Metal Preparation : Fusion faces and adjacent surfaces are cleaned
made free from cracks, notches, mill scale,
grease, paint, rust, etc. which may affect weld
quality.

18/04/2024
अध्यक्ष अनुसंधान अधिकारी (मातृ)
Assistant Research Officer (M)
पुनिया कंस्ट्रक्शन्स प्राइवेट लिमिटेड

7.1). Joint design details :
(Sketch showing arrangements
parts, Weld groove details,
weld passes & their sequence,
etc.)



WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995 & WBC-2001
 8). Welding Current : Type: DC, Polarity: Reverse
 9). Welder qualification : As per IS: 7310 (Part-1) & 817
 10). Welding parameters & techniques :
 10.1) Welding parameters :

Weld pass	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed rate(in m/min.)	Welding speed (in m/min.)	Electrode stick out (in mm)	Gas flow (l/min.)
1	1.2	250-300	27-30	5.0-5.5	0.20-0.30	10	15-22
2	1.2	250-300	27-30	5.0-5.5	0.20-0.30	10	15-22
3	1.2	250-300	27-30	5.0-5.5	0.20-0.30	10	15-22

2-2.5


- 10.2) Welding sequence & techniques : N.A.
 11). Provision of run on/run off tabs : N.A.
 12). Cleaning of weld bead before laying of next weld bead : Yes
 13). Root preparation before welding other side of groove weld : N.A.
 14). Pre-heating & interpass temperature : 100°C-150°C
 15). Peening : N.A.
 16). Post weld treatment : N.A.
 18). Rectification of weld defect : By grinding of the defective weld & rectifying the
 (If Any) weld as per Cl.32.2 of IS: 9595-96, using A3 class of electrodes of specification IRS M-28/20 after conducting D.P. Test.
 18). Inspection of weld : Visual, D.P. Test.
 19). Any other relevant detail : None

Prepared by: Punia Construction Company.
 Signature: 

WELDING PROCEDURE SPECIFICATION SHEET

Name & Address of fabricator : Punia Construction Company,
Mangali Kutiya, 8 KM Stone on Tosham Road,
VPO Ladwa, Hisar (Haryana)

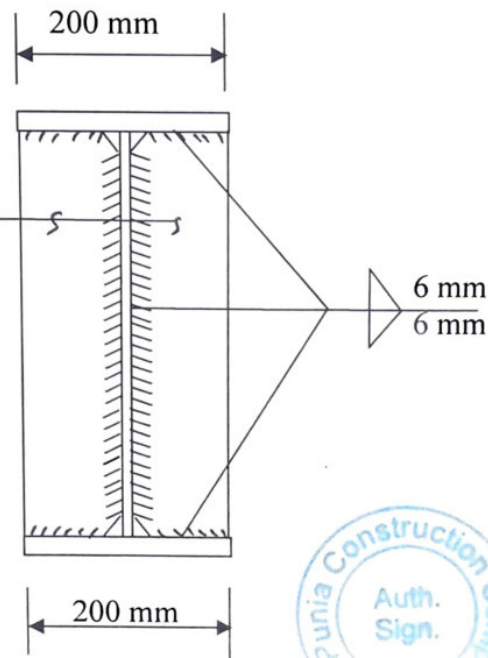
Welding Procedure Specification No. : PCC/24.4/07

- 1). Drawing Series No. : RDSO/B-11751/2R2.
Jacking Stiffeners (12 mm thick M.S. Plate) with End
Diaphragm Web Plate (12 mm thick M.S. Plate)
- 2). Weld Joint Description : Fillet (6 mm)
- 3). Base Metal : Plates IS: 2062-2011, E-250 Gr. B0,
- 4). Welding Process : GMAW
- 5). Welding Position : Horizontal
- 6). Welding Consumable :
- 6.1). Electrode Wire : For solid MIG/MAG Welding wire, Class 1 of
IRS: M-46/20, Grade: - S3X503,
As per IS/AWS: 6419-1996 (R2016)
Type: Copper coated mild steel wire
Drying Method: N.A.
- 6.2). Flux : N.A.
- 6.3). Shielding Gas : CO2
- 7). Base Metal Preparation : Fusion faces and adjacent surfaces are cleaned
made free from cracks, notches, mill scale,
grease, paint, rust, etc. which may affect weld
quality.

7.1). Joint design details :
(Sketch showing arrangements
parts, Weld groove details,
weld passes & their sequence,
etc.)

12 mm thick Jacking Stiffener

Assistant Research Officer (MI)



WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995 & WBC-2001
 8). Welding Current : Type: DC, Polarity: Reverse
 9). Welder qualification : As per IS: 7310 (Part-1) & 817
 10). Welding parameters & techniques :
 10.1) Welding parameters :

Weld pass	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Travel speed (in m/min.)	Electrode stick out (in mm)	Gas flow (l/min.)
1	1.2	250-300	27-30	5.0-5.5	0.30-0.35	10	15-22

2-2.5
⑤

- 10.2) Welding sequence & techniques : N.A.
 11). Provision of run on/run off tabs : N.A.
 12). Cleaning of weld bead before laying of next weld bead : Yes
 13). Root preparation before welding other side of groove weld : N.A.
 14). Pre-heating & interpass temperature : 100°C-150°C
 15). Peening : N.A.
 16). Post weld treatment : N.A.
 18). Rectification of weld defect (If Any) : By grinding of the defective weld & rectifying the weld as per Cl.32.2 of IS: 9595-96, using A3 class of electrodes of specification IRS M-28/20 after conducting D.P. Test.
 18). Inspection of weld : Visual, D.P. Test.
 19). Any other relevant detail : None

Prepared by: Punia Construction Company.

Signature:



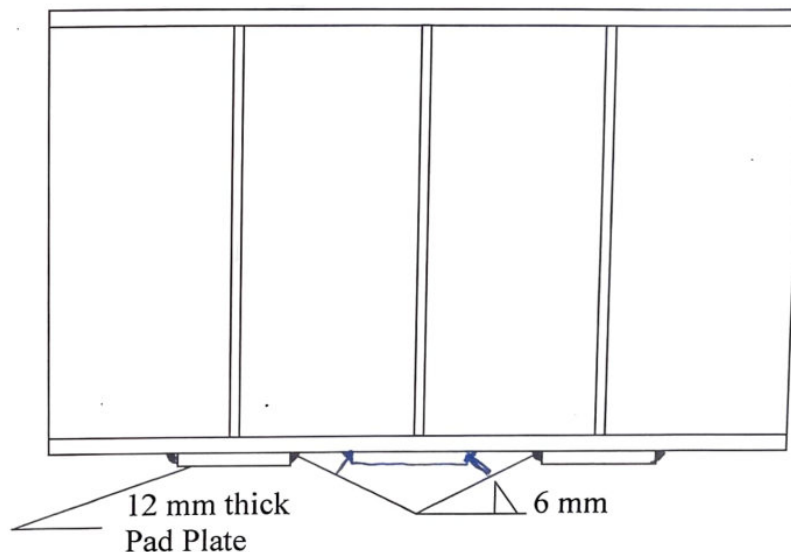
WELDING PROCEDURE SPECIFICATION SHEET

Name & Address of fabricator : Punia Construction Company,
Mangali Kutiya, 8 KM Stone on Tosham Road,
VPO Ladwa, Hisar (Haryana)

Welding Procedure Specification No. : PCC/24.4/08

- 1). Drawing Series No. : RDSO/B-11751/2R2.
Pad Plate (12mm thick M.S. Plate) with End Diaphragm
Bottom flange Plate (16 mm thick M.S. Plate) *Fixing plate of metallic gull bearing.*
- 2). Weld Joint Description : Fillet (6 mm)
- 3). Base Metal : Plates IS: 2062-2011, E-250 Gr. B0,
- 4). Welding Process : GMAW
- 5). Welding Position : Horizontal
- 6). Welding Consumable :
- 6.1). Electrode Wire : For solid MIG/MAG Welding wire, Class 1 of
IRS: M-46/20, Grade: - S3X503,
As per IS/AWS: 6419-1996 (R2016)
Type: Copper coated mild steel wire
Drying Method: N.A.
- 6.2). Flux : N.A.
- 6.3). Shielding Gas : CO2
- 7). Base Metal Preparation : Fusion faces and adjacent surfaces are cleaned
made free from cracks, notches, mill scale,
grease, paint, rust, etc. which may affect weld
quality.
- 7.1). Joint design details :
(Sketch showing arrangements
parts, Weld groove details,
weld passes & their sequence,
etc.

16/01/2022
अधीक अनुसंधान अधिकारी (आर) *16/01/2022*
Assistant Research Officer (M)
प.प.वा.ड. रेल मंत्रालय बलनर



WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995 & WBC-2001
- 8). Welding Current : Type: DC, Polarity: Reverse
- 9). Welder qualification : As per IS: 7310 (Part-1) & 817
- 10). Welding parameters & techniques :
- 10.1) Welding parameters :

Weld pass	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Travel speed (in m/min.)	Electrode stick out (in mm)	Gas flow (l/min.)
1	1.2	250-300	27-30	5.0-5.5	0.30-0.35	10	15-22

- 10.2) Welding sequence & techniques : N.A.
- 11). Provision of run on/run off tabs : N.A.
- 12). Cleaning of weld bead before laying of next weld bead : Yes
- 13). Root preparation before welding other side of groove weld : N.A.
- 14). Pre-heating & interpass temperature : 100°C-150°C
- 15). Peening : N.A.
- 16). Post weld treatment : N.A.
- 17). Rectification of weld defect (If Any) : By grinding of the defective weld & rectifying the weld as per Cl.32.2 of IS: 9595-96, using A3 class of electrodes of specification IRS M-28/20 after conducting D.P. Test.
- 18). Inspection of weld : Visual, D.P. Test.
- 19). Any other relevant detail : None

WELDING PROCEDURE SPECIFICATION SHEET

Name & Address of fabricator : Punia Construction Company,
Mangali Kutiya, 8 KM Stone on Tosham Road,
VPO Ladwa, Hisar (Haryana)

Welding Procedure Specification No. : PCC/24.4/09

1). Drawing Series No.	: RDSO/B-11751/R2.
2). Weld Joint Description	Stud Shear Connector (Shipping Mark: TS) on Top Flanges of I-Section (Shipping Mark: ZA, ZB & ZC)

2). Weld Joint Description	Flanges of I-Section
2). Base Metal	: Resistance Welding

3). Base Metal : Resistance Welding
: Plates IS:2062-2011, E-250 Gr. B0,
The Stud Shear Connector & Ceramic Ferrules
Confirm to type SD1/UF as per BS EN ISO 13918.

4). Welding Process : Automatic Welding Machine
(Like Resistance Welding)

5). Welding Position : Down Hand

6). Welding Consumable

6.1). Electrode Wire

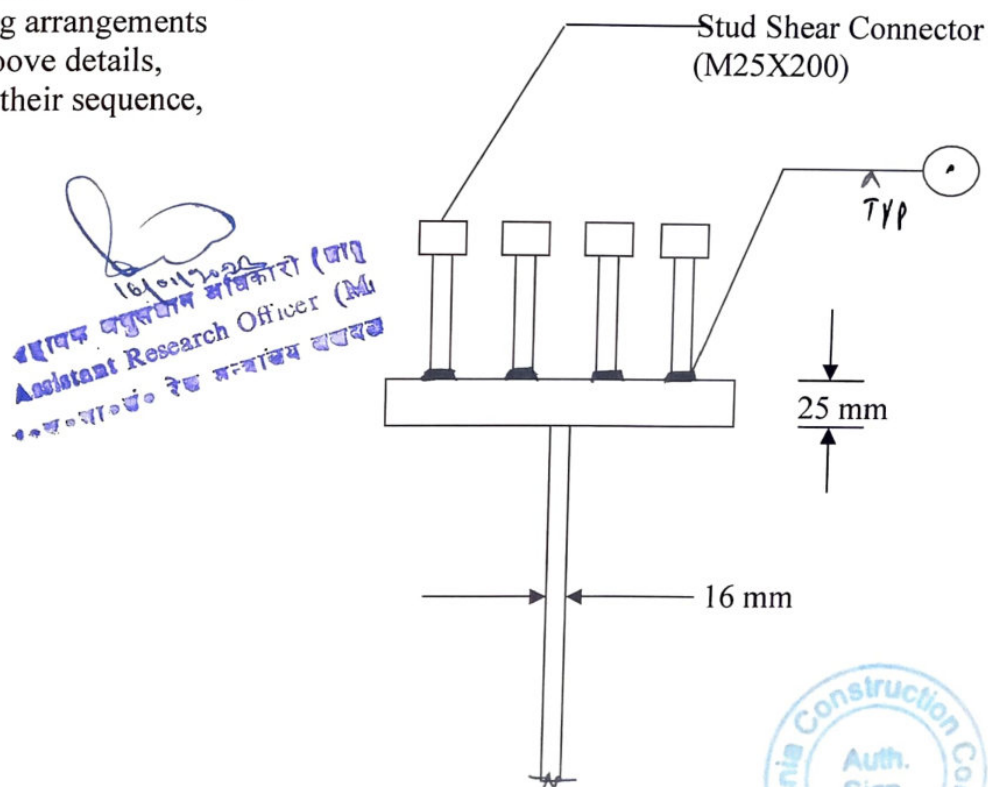
6.2). Flux

6.3). Shielding Gas

7).Base Metal Preparation

- : Fusion faces and adjacent surfaces are cleaned made free from cracks, notches, mill scale, grease, paint, rust, etc. which may affect weld quality.

7.1). Joint design details
(Sketch showing arrangements
parts, Weld groove details,
weld passes & their sequence,
etc.)



WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995 & WBC-2001
 8). Welding Current : Type: DC, Polarity: Reverse
 9). Welder qualification : As per IS: 7310 (Part-1) & 817
 10). Welding parameters & techniques :
 10.1) Welding parameters :

(For 25mm dia. Stud Shear Connector);

Weld Pass no.	Electrode/Wire dia. mm	Current (Amp)	Arc voltage(volt)	Time (in ms)	Lift (in mm)	Protrusion app. (in mm)	Shielding gas flow rate (Ltr/min)
1	N.A.	1800	N.A.	1600	-	-	N.A.

- 10.2) Welding sequence & techniques : N.A.
 11). Provision of run on/run off tabs : N.A.
 12). Cleaning of weld bead before laying of next weld bead : N.A.
 13). Root preparation before welding other side of groove weld : N.A.
 14). Pre-heating & interpass temperature : N.A.
 15). Peening : N.A.
 16). Post weld treatment : N.A.
 17). Rectification of weld defect : By grinding of the defective weld & rectifying the weld as per Cl.32.2 of IS: 9595-96, using A3 class of electrodes of specification IRS M-28/12, Code as per IS: 814-2004), after conducting D.P. Test.
 (If Any)
 18). Inspection of weld : Visual, Ring Test and Bend Test.
 19). Any other relevant detail : None

Prepared by: Punia Construction Company.

Signature:

Designation:



WELDING PROCEDURE SPECIFICATION SHEET

Name & Address of fabricator : Punia Construction Company,
Mangali Kutiya, 8 KM Stone on Tosham Road,
VPO Ladwa, Hisar (Haryana)

Welding Procedure Specification No. : PCC/24.4/10

1). RDSO Drawing No. : All relevant drawings on the above
2). Weld Joint Description : 5mm Tack welds on all Fillet & Butt joints.
3). Base Metal : Plates IS: 2062-2011, E-250 Gr. B0,
4). Welding Process : M.M.A.W.
5). Welding Position : Horizontal-Vertical
6). Welding Consumable :
6.1). Electrode Wire : Class: A3 of IRS M.28/20,
Code as per IS: 814-2004
Type: Medium coated
Drying Method: As recommended by the electrode
manufacturer

6.2). Flux : N.A.

6.3). Shielding Gas : N.A.

7). Base Metal Preparation : Fusion faces and adjacent surfaces are cleaned
made free from cracks, notches, mill scale,
grease, paint, rust, etc. which may affect weld
quality.

7.1). Joint design details :
(Sketch showing arrangements
parts, Weld groove details,
weld passes & their sequence,
etc.)

16.01.2024
अधीनस्थ अनुसंधान अधिकारी (प्रा)
Assistant Research Officer (Pr)
पुनिया कंस्ट्रक्शन कंपनी प्रा.
पुनिया कंस्ट्रक्शन कंपनी प्रा.

7.2). Joint Preparation : As per IS: 4353-1995 & WBC-2001

8). Welding Current : Type: DC, Polarity: Reverse

9). Welder qualification : As per IS: 7310 (Part-1) & 817

10). Welding parameters & techniques :

10.1) Welding parameters :

Weld pass	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Travel speed (in m/min.)	Electrode stick out (in mm)	Gas flow (l/min.)
1	4	180	24	N.A.	N.A.	N.A.	N.A.

10.2) Welding sequence & techniques : N.A.

11). Provision of run on/run off tabs : N.A.

12). Cleaning of weld bead before laying of next weld bead : N.A.

WELDING PROCEDURE SPECIFICATION SHEET

- 13). Root preparation before welding other side of groove weld : N.A.
- 14). Pre-heating & interpass temperature : N.A.
- 15). Peening : N.A.
- 16). Post weld treatment : N.A.
- 17). Rectification of weld defect : By grinding of the defective weld & rectifying the weld as per Cl.32.2 of IS:9595-96, using A3 class of electrodes of specification IRS M-28/20, Code as per IS:814-2004), after conducting D.P.Test.
- 18). Inspection of weld : Visual, D.P.Test.
- 19). Any other relevant detail : None

Prepared by: Punia Construction Company.

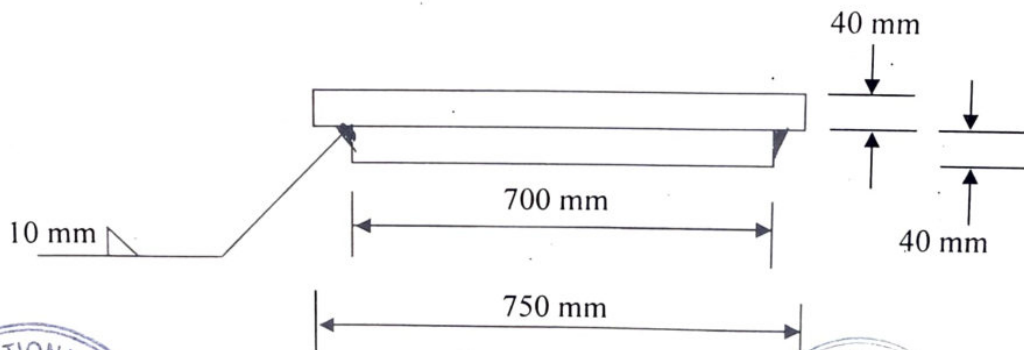
Signature:



Railway Composite Girder (25t loading)
30.5m clear span
MODEL WPSS No- RDSO/ Infra-II/ B&S/ RG/
CG./ WPSS / 30.5 series (10 nos)

WELDING PROCEDURE SPECIFICATION SHEET

- Name & Address of fabricator : Punia Construction Company,
Mangali Kutiya, 8 KM Stone on Tosham Road,
VPO Ladwa, Hisar (Haryana).
- Welding Procedure Specification No. : PCC/30.50/01
- 1). Drawing Series No. : RDSO/B-11754/R2.
First Bottom Flange {Shipping Mark: BF1, BF3 & BF5} (40mm thick M.S. Plate) with Second Bottom Flange {Shipping Mark: BF2, BF4 & BF6} (40mm Thick M.S. Plate)
- 2). Weld Joint Description : Fillet (10 mm)
- 3). Base Metal : Plates IS: 2062-2011, E-250 Gr. B0,
- 4). Welding Process : S.A.W.
- 5). Welding Position : Flat inclined at 45°
- 6). Welding Consumable :
- 6.1). Electrode Wire : Class: W1 of IRS M-39/20,
Type: Copper coated mild steel wire
Drying Method: N.A.
- 6.2). Flux. : Class: F1 of IRS M-39/20,
Type: Agglomerated
Drying Method: 250°C for one hour before use
OR As recommended by manufacturer
- 6.3). Shielding Gas : N.A.
- 7). Base Metal Preparation : Fusion faces and adjacent surfaces are cleaned made free from cracks, notches, mill scale, grease, paint, rust, etc. which may affect weld quality.
- 7.1). Joint design details :
(Sketch showing arrangements parts, Weld groove details, weld passes & their sequence, etc.)



WELDING PROCEDURE SPECIFICATION SHEET

7.2). Joint Preparation : As per IS: 4353-1995 & WBC-2001

8). Welding Current : Type: DC, Polarity: Reverse

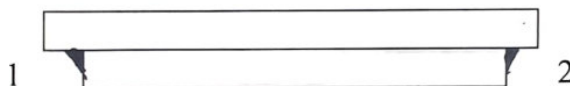
9). Welder qualification : As per IS: 7310 (Part-1) & 817

10). Welding parameters & techniques :

10.1) Welding parameters :

Weld pass	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Welding speed (in m/min.)	Electrode stick out (in mm)	Gas flow (l/min.)
1	4.00	650-700	24-27	1.3-1.6	0.350-0.400	20	N.A.

10.2) Welding sequence & techniques : Welding from run on to run off tabs at the free ends.



१. **मुख्य अधिकारी (मुख्य)**
 २. **मुख्य अधिकारी (मुख्य)**
 ३. **मुख्य अधिकारी (मुख्य)**

11). Provision of run on/run off tabs	: Yes
12). Cleaning of weld bead before laying of next weld bead	: N.A.
13). Root preparation before welding other side of groove weld	: N.A.
14). Pre-heating & Interpass temperature	: 100°C - 150°C
16). Peening	: N.A.
17). Post weld treatment	: N.A.
18). Rectification of weld defect (If Any)	: By grinding of the defective weld & rectifying the weld as per Cl.32.2 of IS: 9595-96, using A3 class of electrodes of specification IRS M-28/20 after conducting D.P. Test.
19). Inspection of weld	: Visual, D.P. Test & Macro Etching.
20). Any other relevant detail	: None

WELDING PROCEDURE SPECIFICATION SHEET

Name & Address of fabricator : Punia Construction Company,
Mangali Kutiya, 8 KM Stone on Tosham Road,
VPO Ladwa, Hisar (Haryana)

Welding Procedure Specification No. : PCC/30.50/02

1). Drawing Series No. : RDSO/B-11754/R2.
I-Section {Shipping Mark: ZA, ZB & ZC} Web Plate
(20 mm thick M.S. Plate) with Top flange (28 mm thick
M.S. Plate) & First Bottom flange (40mm thick M.S.
Plate)

2). Weld Joint Description

: Fillet (14 mm)

3). Base Metal

: Plates IS: 2062-2011, E-250 Gr. B0,

4). Welding Process

: S.A.W.

5). Welding Position

: Flat inclined at 45°

6). Welding Consumable

6.1). Electrode Wire

: Class: W1 of IRS M-39/20,

Type: Copper coated mild steel wire

Drying Method: N.A.

6.2). Flux

: Class: F1 of IRS M-39/20,

Type: Agglomerated

Drying Method: 250°C for one hour before use

OR As recommended by manufacturer

6.3). Shielding Gas

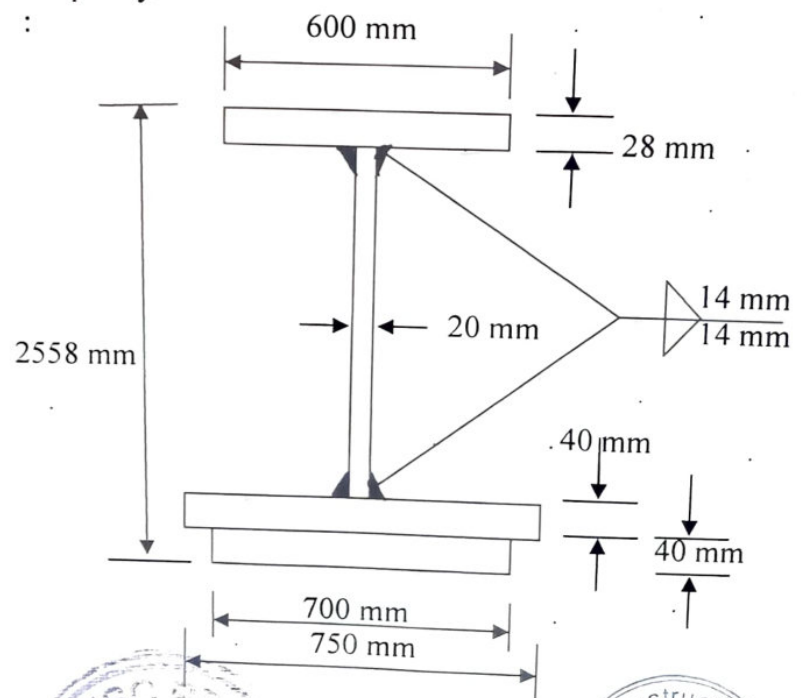
: N.A.

7). Base Metal Preparation

: Fusion faces and adjacent surfaces are cleaned
made free from cracks, notches, mill scale,
grease, paint, rust, etc. which may affect weld
quality.

7.1). Joint design details

(Sketch showing arrangements
parts, Weld groove details,
weld passes & their sequence,
etc.)

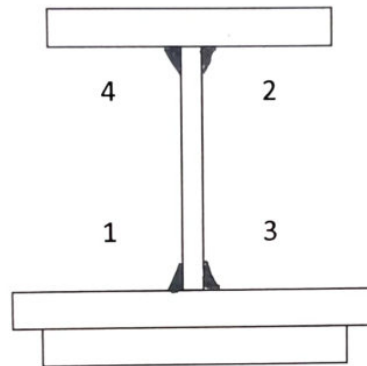


WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995 & WBC-2001.
 8). Welding Current : Type: DC, Polarity: Reverse
 9). Welder qualification : As per IS: 7310 (Part-1) & 817
 10). Welding parameters & techniques :
 10.1) Welding parameters :

Weld pass No.	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Welding speed (in m/min.)	Electrode stick out (in mm)	Gas flow (l/min.)
1	4.00	550-600	28-32	1.0-1.4	0.30-0.40	20	N.A.
2	4.00	550-600	28-32	1.0-1.4	0.30-0.40	20	N.A.

- 10.2) Welding sequence & techniques : Welding from run on to run off tabs at the free ends.



- 11). Provision of run-on/run off tabs : Yes
 12). Cleaning of weld bead before laying of next weld bead : N.A.
 13). Root preparation before welding other side of groove weld : N.A.
 14). Pre-heating & Interpass temperature : 100°C - 150°C
 16). Peening : N.A.
 17). Post weld treatment : N.A.
 18). Rectification of weld defect (If Any) : By grinding of the defective weld & rectifying the weld as per Cl.32.2 of IS: 9595-96, using A3 class of electrodes of specification IRS M-28/20 after conducting D.P. Test.
 19). Inspection of weld : Visual, D.P. Test & Macro Etching.
 20). Any other relevant detail : None

WELDING PROCEDURE SPECIFICATION SHEET

Name & Address of fabricator : Punia Construction Company,
Mangali Kutiya, 8 KM Stone on Tosham Road,
VPO Ladwa, Hisar (Haryana)

Welding Procedure Specification No. : PCC/30.50/03

1). Drawing Series No. : RDSO/B-11754/R2.
Bearing Stiffeners (Shipping Mark: BS1 & BS2) (40 mm thick M.S. Plate) on I-Section {Shipping Mark: ZA & ZC} with Web plate (20 mm thick M.S. Plate), Top Flange (28mm thick M.S. Plate) & First Bottom Flange (40mm thick M.S. Plate)

2). Weld Joint Description : Fillet (12 mm)

3). Base Metal : Plates IS: 2062-2011, E-250 Gr. B0,

4). Welding Process : GMAW

5). Welding Position : Horizontal

6). Welding Consumable

6.1). Electrode Wire

For solid MIG/MAG Welding wire, Class 1 of
IRS: M-46/20, Grade: - S3X503,
As per IS/AWS: 6419-1996 (R2016)
Type: Copper coated mild steel wire
Drying Method: N.A.

6.2). Flux

6.3). Shielding Gas

N.A.

CO2

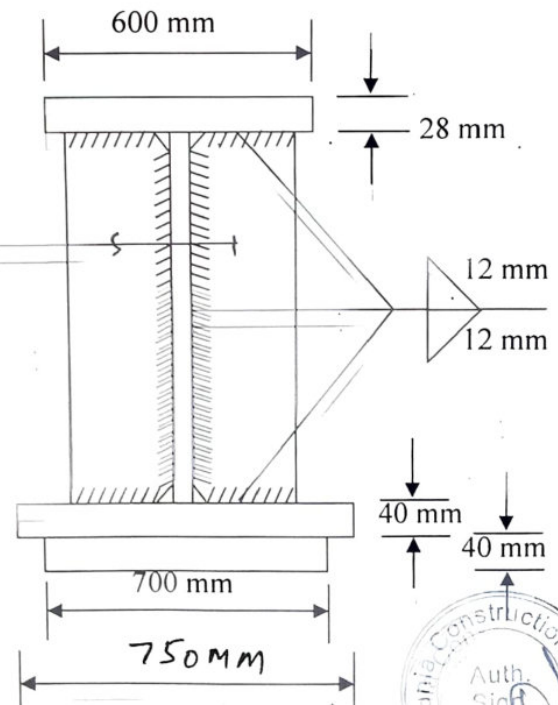
7). Base Metal Preparation

Fusion faces and adjacent surfaces are cleaned
made free from cracks, notches, mill scale,
grease, paint, rust, etc. which may affect weld
quality.

7.1). Joint design details

(Sketch showing arrangements
parts, Weld groove details,
weld passes & their sequence,
etc.)

40 mm thick Bearing Stiffener



WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995 & WBC-2001
- 8). Welding Current : Type: DC, Polarity: Reverse
- 9). Welder qualification : As per IS: 7310 (Part-1) & 817
- 10). Welding parameters & techniques :
- 10.1) Welding parameters :

Weld pass No.	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Travel speed (in m/min.)	Electrode stick out (in mm)	Gas flow (l/min.)
1	1.2	250-300	27-30	5.0-5.5	0.20-0.25	10	15-22
2	1.2	250-300	27-30	5.0-5.5	0.20-0.25	10	15-22
3	1.2	250-300	27-30	5.0-5.5	0.20-0.25	10	15-22

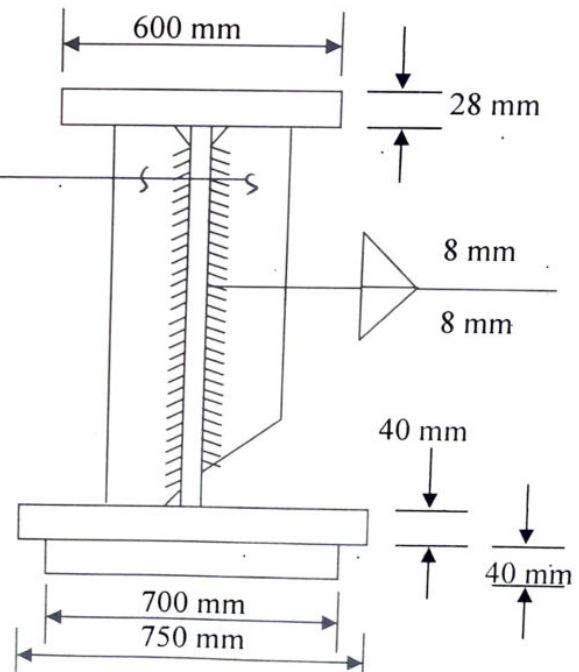
- 10.2) Welding sequence & techniques : N.A.
- 11). Provision of run on/run off tabs : N.A.
- 12). Cleaning of weld bead before laying of next weld bead : Yes
- 13). Root preparation before welding other side of groove weld : N.A.
- 14). Pre-heating & interpass temperature : 100°C-150°C
- 15). Peening : N.A.
- 16). Post weld treatment : N.A.
- 18). Rectification of weld defect (If Any) : By grinding of the defective weld & rectifying the weld as per Cl.32.2 of IS: 9595-96, using A3 class of electrodes of specification IRS M-28/20 after conducting D.P. Test.
- 18). Inspection of weld : Visual, D.P. Test.
- 19). Any other relevant detail : None

WELDING PROCEDURE SPECIFICATION SHEET

- Name & Address of fabricator : Punia Construction Company,
Mangali Kutiya, 8 KM Stone on Tosham Road,
VPO Ladwa, Hisar (Haryana)
- Welding Procedure Specification No. : PCC/30.50/04
- 1). Drawing Series No. : RDSO/B-11754/R2.
Vertical Stiffeners with & without X-Frame {Shipping
Mark: IS1 & IS2} (16mm thick M.S. Plate) on I-Section
{Shipping Mark: ZA, ZB & ZC} with Web Plate
(20 mm thick M.S. Plate).
- 2). Weld Joint Description : Fillet (8 mm)
- 3). Base Metal : Plates IS: 2062-2011, E-250 Gr. B0,
- 4). Welding Process : GMAW
- 5). Welding Position : Horizontal
- 6). Welding Consumable :
6.1). Electrode Wire : For solid MIG/MAG Welding wire, Class 1 of
IRS: M-46/20, Grade: - S3X503,
As per IS/AWS: 6419-1996 (R2016)
Type: Copper coated mild steel wire
Drying Method: N.A.
- 6.2). Flux : N.A.
- 6.3). Shielding Gas : CO2
- 7). Base Metal Preparation : Fusion faces and adjacent surfaces are cleaned
made free from cracks, notches, mill scale,
grease, paint, rust, etc. which may affect weld
quality.

- 7.1). Joint design details :
(Sketch showing arrangements
parts, Weld groove details,
weld passes & their sequence,
etc.)

16 mm thick Int. Stiffener



WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995 & WBC-2001
 8). Welding Current : Type: DC, Polarity: Reverse
 9). Welder qualification : As per IS: 7310 (Part-1) & 817
 10). Welding parameters & techniques :
 10.1) Welding parameters :

Weld pass	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Travel speed (in m/min.)	Electrode stick out (in mm)	Gas flow (l/min.)
1	1.2	250-300	27-30	5.0-5.5	0.20-0.25	10	15-22

- 10.2) Welding sequence & techniques : N.A.
 11). Provision of run on/run off tabs : N.A.
 12). Cleaning of weld bead before laying of next weld bead : Yes
 13). Root preparation before welding other side of groove weld : N.A.
 14). Pre-heating & interpass temperature : 100°C-150°C
 15). Peening : N.A.
 16). Post weld treatment : N.A.
 18). Rectification of weld defect (If Any) : By grinding of the defective weld & rectifying the weld as per Cl.32.2 of IS: 9595-96, using A3 class of electrodes of specification IRS M-28/20 after conducting D.P. Test.
 18). Inspection of weld : Visual, D.P. Test.
 19). Any other relevant detail : None

WELDING PROCEDURE SPECIFICATION SHEET

Name & Address of fabricator : Punia Construction Company,
Mangali Kutiya, 8 KM Stone on Tosham Road,
VPO Ladwa, Hisar (Haryana)

Welding Procedure Specification No. : PCC/30.50/05

1). Drawing Series No. : RDSO/B-11754/2R2.
End Diaphragm, Web Plate (12mm thick M.S. Plate)
with Top flange (16mm thick M.S. Plate) & Bottom
flange (16mm thick M.S. Plate)

2). Weld Joint Description : Fillet (6 mm)

3). Base Metal : Plates IS: 2062-2011, E-250 Gr. B0,

4). Welding Process : S.A.W.

5). Welding Position : Flat inclined at 45°

6). Welding Consumable :

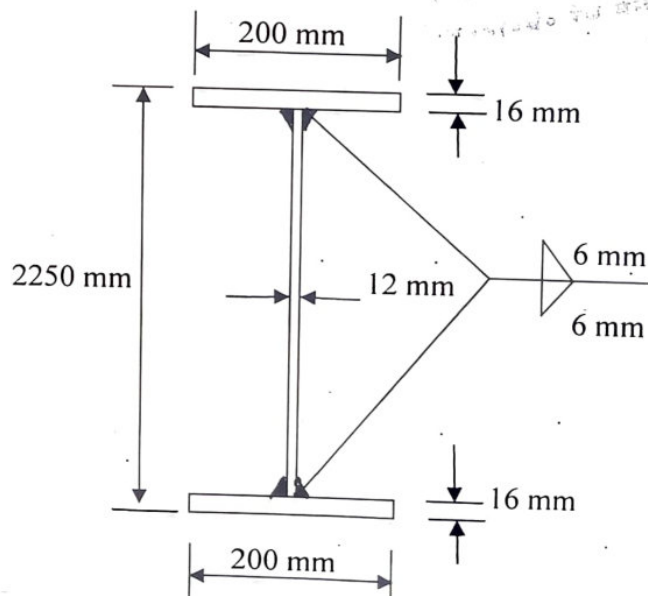
6.1). Electrode Wire : Class: W1 of IRS M-39/20,
Type: Copper coated mild steel wire
Drying Method: N.A.

6.2). Flux : Class: F1 of IRS M-39/20,
Type: Agglomerated
Drying Method: 250°C for one hour before use
OR As recommended by manufacturer

6.3). Shielding Gas : N.A.

7). Base Metal Preparation : Fusion faces and adjacent surfaces are cleaned
made free from cracks, notches, mill scale,
grease, paint, rust, etc. which may affect weld
quality.

7.1). Joint design details
(Sketch showing arrangements
parts, Weld groove details,
weld passes & their sequence,
etc.)

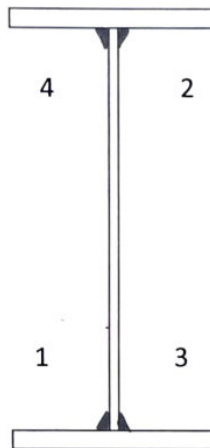


WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995 & WBC-2001
 8). Welding Current : Type: DC, Polarity: Reverse
 9). Welder qualification : As per IS: 7310 (Part-1) & 817
 10). Welding parameters & techniques :
 10.1) Welding parameters :

Weld pass	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Travel speed (in m/min.)	Electrode stick out (in mm)	Gas flow (l/min.)
1	4.0	550-600	28-32	1.0-1.2	0.55-.60	20	N.A.

- 10.2) Welding sequence & techniques : Welding from run on to run off tabs at the free ends.



(M)
 Assistant Engineer (M)
 14/02/2023

- 11). Provision of run on/run off tabs : Yes
 12). Cleaning of weld bead before laying of next weld bead : N.A.
 13). Root preparation before welding other side of groove weld : N.A.
 14). Pre-heating & Interpass temperature : 100°C - 150°C
 16). Peening : N.A.
 17). Post weld treatment : N.A.
 18). Rectification of weld defect (If Any) : By grinding of the defective weld & rectifying the weld as per Cl.32.2 of IS: 9595-96, using A3 class of electrodes of specification IRS M-28/20 after conducting D.P. Test.
 19). Inspection of weld : Visual, D.P. Test & Macro Etching.
 20). Any other relevant detail : None

WELDING PROCEDURE SPECIFICATION SHEET

Name & Address of fabricator : Punia Construction Company,
Mangali Kutiya, 8 KM Stone on Tosham Road,
VPO Ladwa, Hisar (Haryana)

Welding Procedure Specification No. : PCC/30.50/06

1). Drawing Series No. : RDSO/B-11754/2R2.
Gusset plates {Shipping Mark: GUS1, GUS2 & GUS3}
with Horizontal Angles {Shipping Mark: ANG5} &
Diagonal Angles {Shipping Mark: ANG6}

2). Weld Joint Description : Fillet (16 mm)

3). Base Metal : Plates IS: 2062-2011, E-250 Gr. B0,

4). Welding Process : GMAW

5). Welding Position : Horizontal

6). Welding Consumable :

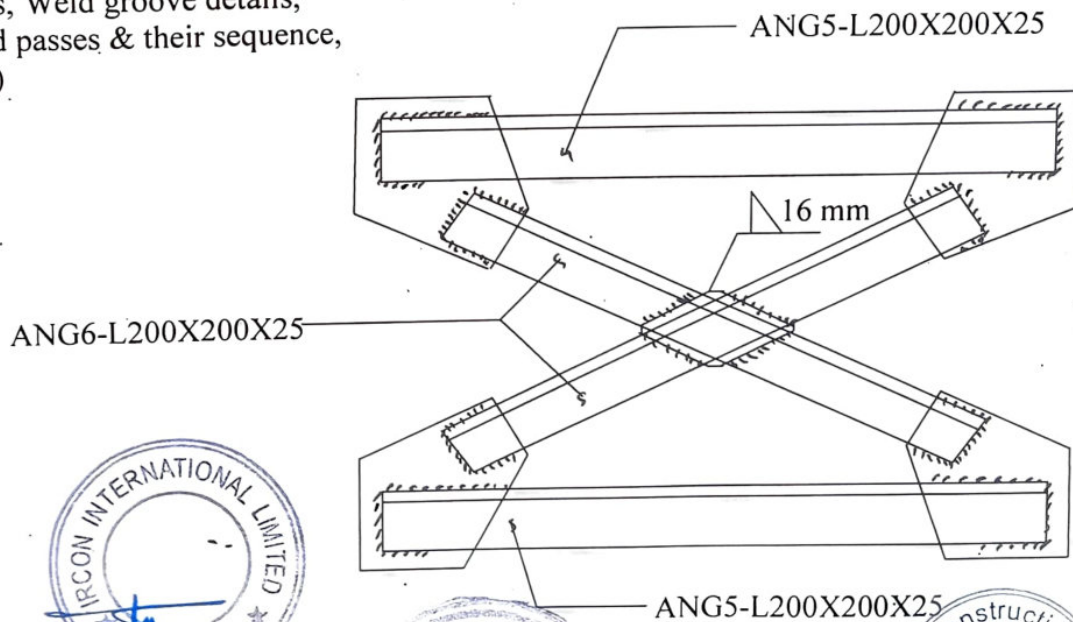
6.1). Electrode Wire : For solid MIG/MAG Welding wire, Class 1 of
IRS: M-46/20, Grade: - S3X503,
As per IS/AWS: 6419-1996 (R2016)
Type: Copper coated mild steel wire
Drying Method: N.A.

6.2). Flux :

6.3). Shielding Gas : CO2

7). Base Metal Preparation : Fusion faces and adjacent surfaces are cleaned
made free from cracks, notches, mill scale,
grease, paint, rust, etc. which may affect weld
quality.

7.1). Joint design details :
(Sketch showing arrangements
parts, Weld groove details,
weld passes & their sequence,
etc.)



WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995 & WBC-2001
 8). Welding Current : Type: DC, Polarity: Reverse
 9). Welder qualification : As per IS: 7310 (Part-1) & 817
 10). Welding parameters & techniques :
 10.1) Welding parameters :

Weld pass	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed rate(in m/min.)	Welding speed (in m/min.)	Electrode stick out (in mm)	Gas flow (l/min.)
1	1.2	250-300	27-30	5.0-5.5	0.20-0.25	10	15-22
2	1.2	250-300	27-30	5.0-5.5	0.20-0.25	10	15-22
3	1.2	250-300	27-30	5.0-5.5	0.20-0.25	10	15-22

- 10.2) Welding sequence & techniques : N.A.
 11). Provision of run on/run off tabs : N.A.
 12). Cleaning of weld bead before laying of next weld bead : Yes
 13). Root preparation before welding other side of groove weld : N.A.
 14). Pre-heating & interpass temperature : 100°C-150°C
 15). Peening : N.A.
 16). Post weld treatment : N.A.
 18). Rectification of weld defect : By grinding of the defective weld & rectifying the
 (If Any) weld as per Cl.32.2 of IS: 9595-96, using A3 class of electrodes of specification IRS M-28/20 after conducting D.P. Test.
 18). Inspection of weld : Visual, D.P. Test.
 19). Any other relevant detail : None

WELDING PROCEDURE SPECIFICATION SHEET

Name & Address of fabricator : Punia Construction Company,
Mangali Kutiya, 8 KM Stone on Tosham Road,
VPO Ladwa, Hisar (Haryana)

Welding Procedure Specification No. : PCC/30.50/07

1). Drawing Series No. : RDSO/B-11754/2R2.
Jacking Stiffeners (12mm thick M.S. Plate) with End
Diaphragm Web Plate (12mm thick M.S. Plate)

2). Weld Joint Description : Fillet (6 mm)

3). Base Metal : Plates IS: 2062-2011, E-250 Gr. B0,

4). Welding Process : GMAW

5). Welding Position : Horizontal

6). Welding Consumable :
6.1). Electrode Wire : For solid MIG/MAG Welding wire, Class 1 of
IRS: M-46/20, Grade: - S3X503,
As per IS/AWS: 6419-1996 (R2016)
Type: Copper coated mild steel wire
Drying Method: N.A.

6.2). Flux : N.A.

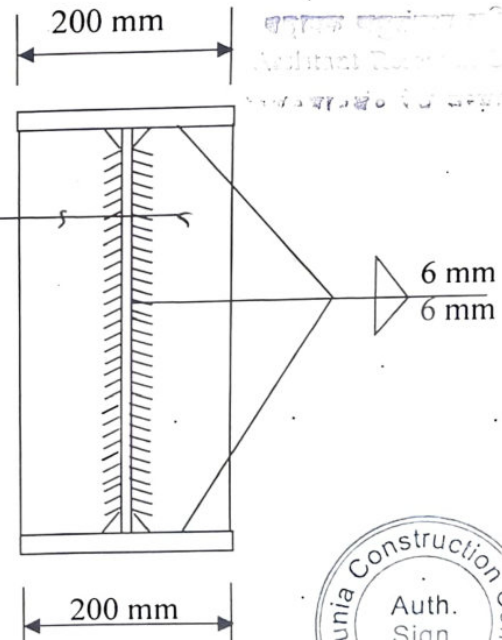
6.3). Shielding Gas : CO₂

7). Base Metal Preparation : Fusion faces and adjacent surfaces are cleaned
made free from cracks, notches, mill scale,
grease, paint, rust, etc. which may affect weld
quality.

7.1). Joint design details

(Sketch showing arrangements
parts, Weld groove details,
weld passes & their sequence,
etc.)

12 mm thick Jacking Stiffener



WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995 & WBC-2001
- 8). Welding Current : Type: DC, Polarity: Reverse
- 9). Welder qualification : As per IS: 7310 (Part-1) & 817
- 10). Welding parameters & techniques :
- 10.1) Welding parameters :

Weld pass	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Travel speed (in m/min.)	Electrode stick out (in mm)	Gas flow (l/min.)
1	1.2	250-300	27-30	5.0-5.5	0.30-0.35	10	15-22

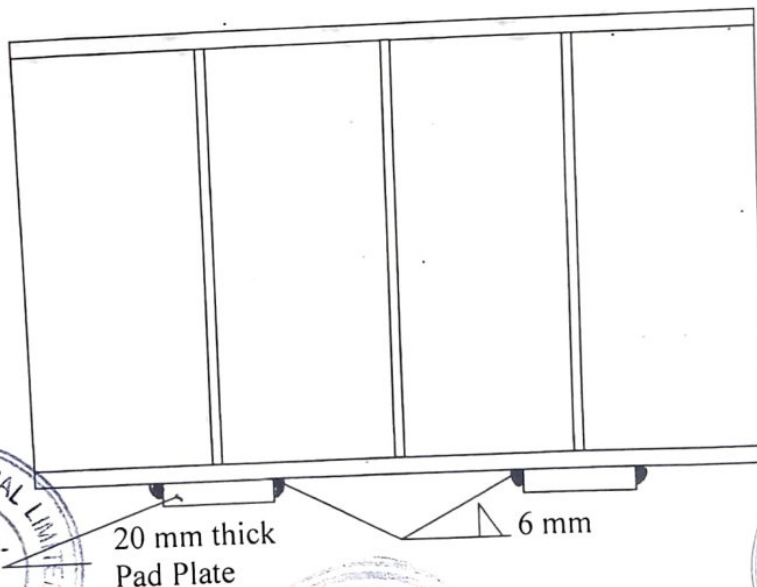
- 10.2) Welding sequence & techniques : N.A.
- 11). Provision of run on/run off tabs : N.A.
- 12). Cleaning of weld bead before laying of next weld bead : Yes
- 13). Root preparation before welding other side of groove weld : N.A.
- 14). Pre-heating & interpass temperature : 100°C-150°C
- 15). Peening : N.A.
- 16). Post weld treatment : N.A.
- 18). Rectification of weld defect (If Any) : By grinding of the defective weld & rectifying the weld as per Cl.32.2 of IS: 9595-96, using A3 class of electrodes of specification IRS M-28/20 after conducting D.P. Test.
- 18). Inspection of weld : Visual, D.P. Test.
- 19). Any other relevant detail : None

WELDING PROCEDURE SPECIFICATION SHEET

Name & Address of fabricator : Punia Construction Company,
Mangali Kutiya, 8 KM Stone on Tosham Road,
VPO Ladwa, Hisar (Haryana)

Welding Procedure Specification No. : PCC/30.50/08

- 1). Drawing Series No. : RDSO/B-11754/2R2.
Pad Plate (20mm thick M.S. Plate) with End Diaphragm
Bottom flange Plate (16 mm thick M.S. Plate)
- 2). Weld Joint Description : Fillet (6 mm)
- 3). Base Metal : Plates IS: 2062-2011, E-250 Gr. B0,
- 4). Welding Process : GMAW
- 5). Welding Position : Horizontal
- 6). Welding Consumable :
6.1). Electrode Wire : For solid MIG/MAG Welding wire, Class 1 of
IRS: M-46/20, Grade: - S3X503,
As per IS/AWS: 6419-1996 (R2016)
Type: Copper coated mild steel wire
Drying Method: N.A.
- 6.2). Flux : N.A.
- 6.3). Shielding Gas : CO₂
- 7). Base Metal Preparation : Fusion faces and adjacent surfaces are cleaned
made free from cracks, notches, mill scale,
grease, paint, rust, etc. which may affect weld
quality.
- 7.1). Joint design details
(Sketch showing arrangements
parts, Weld groove details,
weld passes & their sequence,
etc.



Assistant Research Officer (14)
Punjab Engineering College, Ludhiana

WELDING PROCEDURE SPECIFICATION SHEET

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- 7.2). Joint Preparation : As per IS: 4353-1995 & WBC-2001
 8). Welding Current : Type: DC, Polarity: Reverse
 9). Welder qualification : As per IS: 7310 (Part-1) & 817
 10). Welding parameters & techniques :
 10.1) Welding parameters :

Weld pass	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Travel speed (in m/min.)	Electrode stick out (in mm)	Gas flow (l/min.)
1	1.2	250-300	27-30	5.0-5.5	0.30-0.35	10	15-22

- 10.2) Welding sequence & techniques : N.A.
 11). Provision of run on/run off tabs : N.A.
 12). Cleaning of weld bead before laying of next weld bead : Yes
 13). Root preparation before welding other side of groove weld : N.A.
 14). Pre-heating & interpass temperature : 100°C-150°C
 15). Peening : N.A.
 16). Post weld treatment : N.A.
 18). Rectification of weld defect : By grinding of the defective weld & rectifying the weld as per Cl.32.2 of IS: 9595-96, using A3 class of electrodes of specification IRS M-28/20 after conducting D.P. Test.
 (If Any) : Visual, D.P. Test.
 18). Inspection of weld : None
 19). Any other relevant detail

Prepared by: Punia Construction Company.
 Signature:



WELDING PROCEDURE SPECIFICATION SHEET

Name & Address of fabricator : Punia Construction Company,
Mangali Kutiya, 8 KM Stone on Tosham Road,
VPO Ladwa, Hisar (Haryana)

Welding Procedure Specification No. : PCC/30.50/09

1). Drawing Series No.

: RDSO/B-11754/R2.

Stud Shear Connector (Shipping Mark: TS) on Top Flanges of I-Section (Shipping Mark: ZA, ZB & ZC).

2). Weld Joint Description

: Resistance Welding

3). Base Metal

: Plates IS:2062-2011, E-250 Gr. B0,

The Stud Shear Connector & Ceramic Ferrules
Confirm to type SD1/UF as per BS EN ISO 13918.

4). Welding Process

: Automatic Welding Machine
(Like Resistance Welding)

5). Welding Position

: Down Hand

6). Welding Consumable

: N.A. Drying Method: N.A.

6.1). Electrode Wire

: N.A.

6.2). Flux

: N.A.

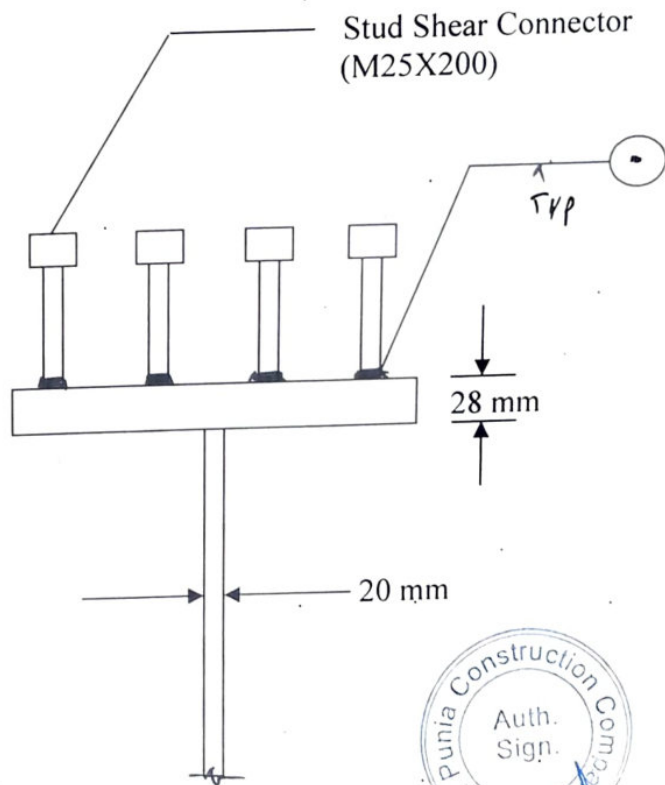
6.3). Shielding Gas

: Fusion faces and adjacent surfaces are cleaned made free from cracks, notches, mill scale, grease, paint, rust, etc. which may affect weld quality.

7).Base Metal Preparation

7.1). Joint design details

(Sketch showing arrangements of parts, Weld groove details, weld passes & their sequence, etc.)



WELDING PROCEDURE SPECIFICATION SHEET

- 7.2). Joint Preparation : As per IS: 4353-1995 & WBC-2001
 8). Welding Current : Type: DC, Polarity: Reverse
 9). Welder qualification : As per IS: 7310 (Part-1) & 817
 10). Welding parameters & techniques :
 10.1) Welding parameters :

(For 25mm dia. Stud Shear Connector);

Weld Pass no.	Electrode/Wire dia. mm	Current (Amp)	Arc voltage(volt)	Time (in ms)	Lift (in mm)	Protrusion app. (in mm)	Shielding gas flow rate (Ltr/min)
1	N.A.	1800	N.A.	1600	-	-	N.A.

- 10.2) Welding sequence & techniques : N.A.
 11). Provision of run on/run off tabs : N.A.
 12). Cleaning of weld bead before laying of next weld bead : N.A.
 13). Root preparation before welding other side of groove weld : N.A.
 14). Pre-heating & interpass temperature : N.A.
 15). Peening : N.A.
 16). Post weld treatment : N.A.
 17). Rectification of weld defect : By grinding of the defective weld & rectifying the
 (If Any) weld as per Cl.32.2 of IS: 9595-96, using A3 class
 of electrodes of specification IRS M-28/12,
 Code as per IS: 814-2004), after conducting
 D.P. Test.
 18). Inspection of weld : Visual, Ring Test and Bend Test.
 19). Any other relevant detail : None

Prepared by: Punia Construction Company.
 Signature: _____
 Auth. _____

WELDING PROCEDURE SPECIFICATION SHEET

Name & Address of fabricator

: Punia Construction Company,
Mangali Kutiya, 8 KM Stone on Tosham Road,
VPO Ladwa, Hisar (Haryana)

Welding Procedure Specification No. : PCC/30.50/10

- | | | |
|--|---|---|
| 1). RDSO Drawing No. | : | All relevant drawings on the above |
| 2). Weld Joint Description | : | 5mm Tack welds on all Fillet & Butt joints. |
| 3). Base Metal | : | Plates IS: 2062-2011, E-250 Gr. B0, |
| 4). Welding Process | : | M.M.A.W. |
| 5). Welding Position | : | Horizontal-Vertical |
| 6). Welding Consumable | : | |
| 6.1). Electrode Wire | : | Class: A3 of IRS M.28/20,
Code as per IS: 814-2004
Type: Medium coated
Drying Method: As recommended by the electrode manufacturer |
|
6.2). Flux | : | N.A. |
| 6.3). Shielding Gas | : | N.A. |
| 7).Base Metal Preparation | : | Fusion faces and adjacent surfaces are cleaned made free from cracks, notches, mill scale, grease, paint, rust, etc. which may affect weld quality. |
|
7.1). Joint design details
(Sketch showing arrangements parts, Weld groove details, weld passes & their sequence, etc.) | : | |
|
7.2). Joint Preparation | : | As per IS: 4353-1995 & WBC-2001 |
| 8). Welding Current | : | Type: DC, Polarity: Reverse |
|
9). Welder qualification | : | As per IS: 7310 (Part-1) & 817 |
| 10). Welding parameters & techniques | : | |
| 10.1) Welding parameters | : | |

Weld pass	Electrode/Wire dia. (in mm)	Current (in Amp.)	Arc voltage (in volt)	Wire feed speed (in m/min.)	Travel speed (in m/min.)	Electrode stick out (in mm)	Gas flow (l/min.)
1	4	180	24	N.A.	N.A.	N.A.	N.A.

- 10.2) Welding sequence & techniques
11). Provision of run on/run off tabs
12). Cleaning of weld bead before laying of next weld bead

: N.A.
: N.A.
: N.A.

WELDING PROCEDURE SPECIFICATION SHEET

- | | |
|--|---|
| 13). Root preparation before welding other side of groove weld | : N.A. |
| 14). Pre-heating & interpass temperature | : N.A. |
| 15). Peening | : N.A. |
| 16). Post weld treatment | : N.A. |
| 17). Rectification of weld defect | : By grinding of the defective weld & rectifying the weld as per Cl.32.2 of IS:9595-96, using A3 class of electrodes of specification IRS M-28/20, Code as per IS:814-2004), after conducting D.P.Test. |
| 18). Inspection of weld | : Visual, D.P.Test. |
| 19). Any other relevant detail | : None |

Prepared by: Punia Construction Company.

Signature:

Designation:

Date:

