



WELDING PROCEDURE SPECIFICATION SHEET **(W.P.S.S.)**



Name of Project- "Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

Name of the Work- Fabrication of 02x56.0m Clear Span R.O.B. Bow String Steel Girder Bridge

Drawing No.- RDSO/B-10428

No. of Span/Girder- 02x56.0m Span R.O.B. Bow String Steel Girder Bridge

Total Approximate Tonnage Involved- 1400 MT

Name of the Contractor- M/s R&C Infra Engineers Pvt. Ltd., Lucknow

Client- National Highways Authority of India (NHAI)

Inspection Authority- RDSO, Lucknow & Northern Railway, Lucknow Division

Fabrication Agency- M/s ARJIT TRADERS, Lucknow.

Add. of Fabrication Agency- Khasra No. 844, Kali Paschim, Near SGPGI, Raebareli Road, Lucknow, Uttar Pradesh-226301



Team Leader Cum Sr. Highway Engineer



Prepared by
M/s Arjit Traders
19-20A, SARVODAYA NAGAR
AWADHPURI, Lucknow, U. P. – 226016
INDIA


Sr. Divisional Engineer /VI
Northern Railway, Lucknow



WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

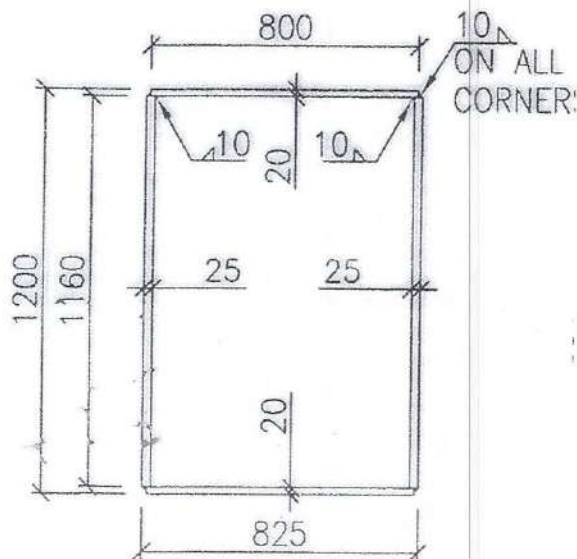
Factory Address-

Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

| | | |
|-------------------------------------|---|--|
| Welding Procedure Specification No. | : | ARJIT/R&C/NR-LKO/2x56.0m/BSG/Unchahar/WPSS/01 |
| Drawing No. | : | RDSO/B-10428/1 |
| 1.0 Weld Joint Description | : | Fillet-Bottom Long Beam |
| 1.1 Base Metal | : | Grade: IS: 2062, E350B0- Fully Killed and Normalized & Base Metal Thickness (25x20)mm |
| 1.2 Welding Process | : | SAW |
| 1.3 Welding Position | : | Flat |
| 1.4 Weld Location | : | Workshop |
| 1.5 Weld Size | : | 10mm |
| 1.6 Welding Consumable | : | |
| a) Electrode Wire | : | Class: W2 of IRS M-39 2001, Copper Coated Mild Steel Wire Dia. 4mm |
| b) Drying Method | : | N/A |
| c) Flux Class | : | F2 as per IRS M-39 2001 |
| d) Type | : | Agglomerated |
| e) Drying Method | : | As per manufacturer's recommendation |
| f) Shielding Gas | : | N/A |
| 1.7 Base Metal Preparation | : | Material to be cut straight & square by controlled gas Cutting machine, Edge preparation to be done as per Sketch. All Fusion faces and adjacent surfaces are cleaned, Made free from cracks, notches, mill scale, grease, paint, Rust etc. which may affect weld quality. |



SECTION 1-1
(BOTTOM LONG BEAM)

संलग्न अधिष्ठाता एवं रसां
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
लखनऊ/लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer /VI
Northern Railway, Lucknow



Team Leader Cum Sr. Highway Engineer





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- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001 & IS: 9595-20
- 1.10 Welding Current : Type, DC, Polarity: Reverse
- 1.11 Welder Qualification : SAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974
- 1.12 Welding Parameters & Technique : (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr./min.) | Travel Speed (mtr./min.) | Electrode Stick Out (mm) | Gas Flow (Ltr./min.) |
|---------------|---------------------------|----------------|---------------------|-----------------------------|--------------------------|--------------------------|----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |
| 2 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |
| 3 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |
| 4 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : N/A
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test & Macro Etching, Weld Size and weld profile.
- 1.21 Any other relevant detail : N/A

सं०अ० अधिकारी एवं रसा०
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
ल०अ०म०सं०, लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer /VI
Northern Railway, Lucknow



Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

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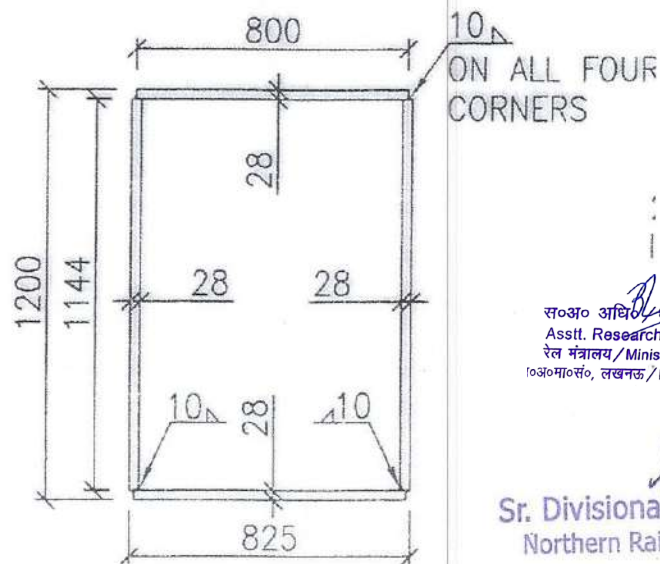
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Khasra No. 844 Kali Paschim Near SGPGL, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

| | | |
|-------------------------------------|---|--|
| Welding Procedure Specification No. | : | ARJIT/R&C/NR-LKO/2x56.0m/BSG/Unchahar/WPSS/02 |
| Drawing No. | : | RDSO/B-10428/1 |
| 1.0 Weld Joint Description | : | Fillet-Arch Beam |
| 1.1 Base Metal | : | Grade: IS: 2062, E350B0- Fully Killed and Normalized & Base Metal Thickness (28x28)mm |
| 1.2 Welding Process | : | SAW |
| 1.3 Welding Position | : | Flat |
| 1.4 Weld Location | : | Workshop |
| 1.5 Weld Size | : | 10mm |
| 1.6 Welding Consumable | : | |
| a) Electrode Wire | : | Class: W2 of IRS M-39 2001, Copper Coated Mild Steel Wire Dia. 4mm |
| b) Drying Method | : | N/A |
| c) Flux Class | : | F2 as per IRS M-39 2001 |
| d) Type | : | Agglomerated |
| e) Drying Method | : | As per manufacturer's recommendation |
| f) Shielding Gas | : | N/A |
| 1.7 Base Metal Preparation | : | Material to be cut straight & square by controlled gas Cutting machine, Edge preparation to be done as per Sketch. All Fusion faces and adjacent surfaces are cleaned, Made free from cracks, notches, mill scale, grease, paint, Rust etc. which may affect weld quality. |



संलग्न अधिष्ठाता एवं रसायन
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
लोकमान्य, लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer /VI
Northern Railway, Lucknow

SECTION 3-3
(ARCH)



Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

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- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001 & IS: 9595-20
- 1.10 Welding Current : Type, DC, Polarity: Reverse
- 1.11 Welder Qualification : SAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974
- 1.12 Welding Parameters & Technique : (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr./min.) | Travel Speed (mtr./ min.) | Electrode Stick Out (mm) | Gas Flow (Ltr./ min.) |
|---------------|---------------------------|----------------|---------------------|-----------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |
| 2 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |
| 3 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |
| 4 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : N/A
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test & Macro Etching, Weld Size and weld profile.
- 1.21 Any other relevant detail : N/A

सं०अ० अधी० धातु एवं रसा०
Asstt. Research Officer/M&C
रेल मंत्रालय / Ministry of Railways
१०अ०मार्ग०सं०, लखनऊ / R.D.S.O., Lucknow

Sr. Divisional Engineer /VI
Northern Railway, Lucknow



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Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

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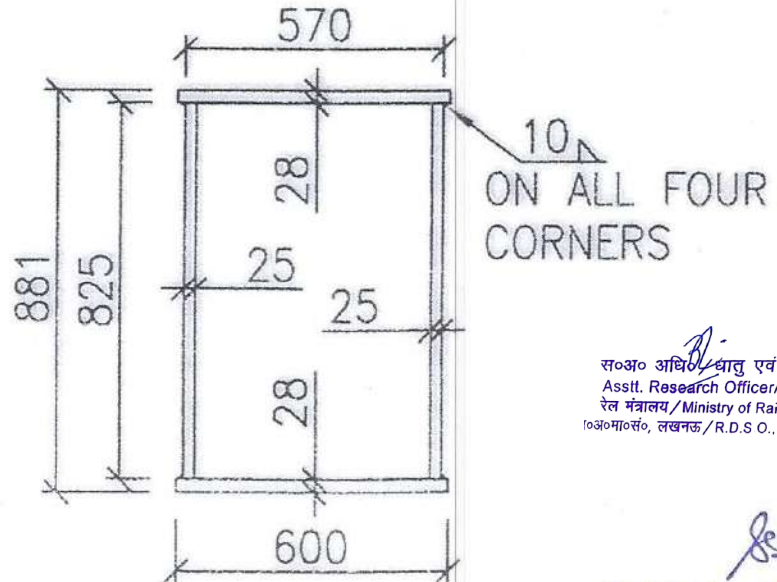
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| | | |
|-------------------------------------|---|--|
| Welding Procedure Specification No. | : | ARJIT/R&C/NR-LKO/2x56.0m/BSG/Unchahar/WPSS/03 |
| Drawing No. | : | RDSO/B-10428/1 |
| 1.0 Weld Joint Description | : | Fillet-Hanger |
| 1.1 Base Metal | : | Grade: IS: 2062, E350B0- Fully Killed and Normalized & Base Metal Thickness (25x28)mm |
| 1.2 Welding Process | : | SAW |
| 1.3 Welding Position | : | Flat |
| 1.4 Weld Location | : | Workshop |
| 1.5 Weld Size | : | 10mm |
| 1.6 Welding Consumable | : | |
| a) Electrode Wire | : | Class: W2 of IRS M-39 2001, Copper Coated Mild Steel Wire Dia. 4mm |
| b) Drying Method | : | N/A |
| c) Flux Class | : | F2 as per IRS M-39 2001 |
| d) Type | : | Agglomerated |
| e) Drying Method | : | As per manufacturer's recommendation |
| f) Shielding Gas | : | N/A |
| 1.7 Base Metal Preparation | : | Material to be cut straight & square by controlled gas Cutting machine, Edge preparation to be done as per Sketch. All Fusion faces and adjacent surfaces are cleaned, Made free from cracks, notches, mill scale, grease, paint, Rust etc. which may affect weld quality. |



SECTION 2-2

(HANGER)

सं० अ० अधि० एवं रसा०
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
लखनऊ/Lucknow

Sr. Divisional Engineer/VI
Northern Railway, Lucknow



Team Leader Cum Sr. Highway Engineer





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- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001 & IS: 9595-20
- 1.10 Welding Current : Type, DC, Polarity: Reverse
- 1.11 Welder Qualification : SAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974
- 1.12 Welding Parameters & Technique : (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr./min.) | Travel Speed (mtr./min.) | Electrode Stick Out (mm) | Gas Flow (Ltr./min.) |
|---------------|---------------------------|----------------|---------------------|-----------------------------|--------------------------|--------------------------|----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |
| 2 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |
| 3 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |
| 4 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : N/A
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test & Macro Etching, Weld Size and weld profile.
- 1.21 Any other relevant detail : N/A

सं०अ० अधिकारी एवं रसा०
Asstt. Research Officer/M&C
रेल मंत्रालय / Ministry of Railways
10अ०मार्गसं०, लखनऊ / R.D.S O., Lucknow

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Team Leader Cum Sr. Highway Engineer





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(W.P.S.S.)

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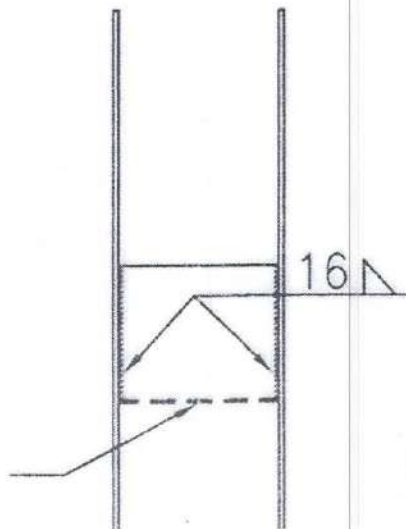
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| | | |
|-------------------------------------|---|--|
| Welding Procedure Specification No. | : | ARJIT/R&C/NR-LKO/2x56.0m/BSG/Unchahar/WPSS/04 |
| Drawing No. | : | RDSO/B-10428/9 |
| 1.0 Weld Joint Description | : | Fillet-Hanger |
| 1.1 Base Metal | : | Grade: IS: 2062, E350B0- Fully Killed and Normalized & Base Metal Thickness (25x28)mm |
| 1.2 Welding Process | : | SAW |
| 1.3 Welding Position | : | Flat |
| 1.4 Weld Location | : | Workshop |
| 1.5 Weld Size | : | 16mm |
| 1.6 Welding Consumable | : | |
| a) Electrode Wire | : | Class: W2 of IRS M-39 2001, Copper Coated Mild Steel Wire Dia. 4mm |
| b) Drying Method | : | N/A |
| c) Flux Class | : | F2 as per IRS M-39 2001 |
| d) Type | : | Agglomerated |
| e) Drying Method | : | As per manufacturer's recommendation |
| f) Shielding Gas | : | N/A |
| 1.7 Base Metal Preparation | : | Material to be cut straight & square by controlled gas Cutting machine, Edge preparation to be done as per Sketch. All Fusion faces and adjacent surfaces are cleaned, Made free from cracks, notches, mill scale, grease, paint, Rust etc. which may affect weld quality. |



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- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001 & IS: 9595-20
 1.10 Welding Current : Type, DC, Polarity: Reverse
 1.11 Welder Qualification : SAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974
 1.12 Welding Parameters & Technique : (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr./min.) | Travel Speed (mtr./min.) | Electrode Stick Out (mm) | Gas Flow (ltr./min.) |
|---------------|---------------------------|----------------|---------------------|-----------------------------|--------------------------|--------------------------|----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |
| 2 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |
| 3 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |
| 4 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |

- 1.13 Provision of Run-on & Run-off tabs : Yes
 1.14 Cleaning of weld bead before laying of next weld bead : N/A
 1.15 Root preparation before welding other side of groove weld : N/A
 1.16 Pre-heating & Interpass temperature : 100-150°C
 1.17 Peening : N/A
 1.18 Post weld treatment : N/A
 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
 1.20 Inspection of weld : Visual, D.P. Test & Macro Etching, Weld Size and weld profile.
 1.21 Any other relevant detail : N/A

संज्ञा अधिष्ठाता एवं रसां
 Asstt. Research Officer/M&C
 रेल मंत्रालय/Ministry of Railways
 १०३००००, लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer /VI
 Northern Railway, Lucknow



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Team Leader Cum Sr. Highway Engineer



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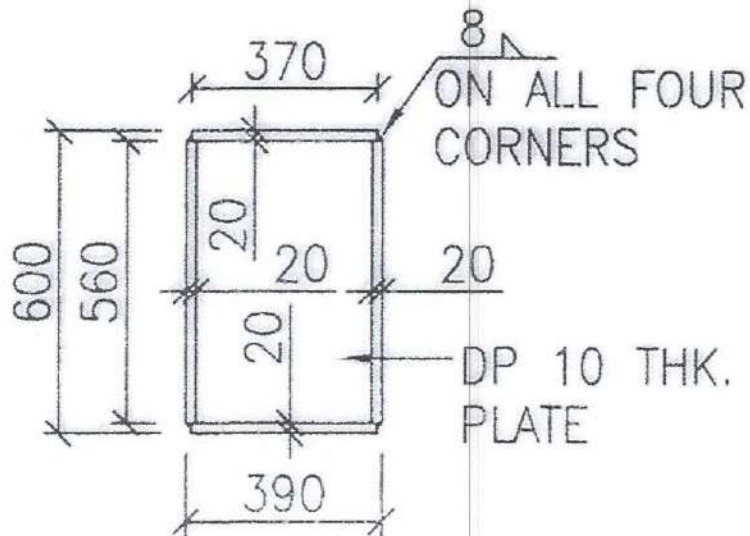
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| | | |
|-------------------------------------|---|--|
| Welding Procedure Specification No. | : | ARJIT/R&C/NR-LKO/2x56.0m/BSG/Unchahar/WPSS/05 |
| Drawing No. | : | RDSO/B-10428/1 |
| 1.0 Weld Joint Description | : | Fillet-Top Tie Beam |
| 1.1 Base Metal | : | Grade: IS: 2062, E350B0- Fully Killed and Normalized & Base Metal Thickness (20x20)mm |
| 1.2 Welding Process | : | SAW |
| 1.3 Welding Position | : | Flat |
| 1.4 Weld Location | : | Workshop |
| 1.5 Weld Size | : | 8mm |
| 1.6 Welding Consumable | : | |
| a) Electrode Wire | : | Class: W2 of IRS M-39 2001, Copper Coated Mild Steel Wire Dia. 4mm |
| b) Drying Method | : | N/A |
| c) Flux Class | : | F2 as per IRS M-39 2001 |
| d) Type | : | Agglomerated |
| e) Drying Method | : | As per manufacturer's recommendation |
| f) Shielding Gas | : | N/A |
| 1.7 Base Metal Preparation | : | Material to be cut straight & square by controlled gas Cutting machine, Edge preparation to be done as per Sketch. All Fusion faces and adjacent surfaces are cleaned, Made free from cracks, notches, mill scale, grease, paint, Rust etc. which may affect weld quality. |



SECTION 6-6 (TOP TIE BEAM)

सं० अ० अधिकारी एवं रसा०
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
लखनऊ/लखनऊ/R.D.S.O., Lucknow



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Sr. Divisional Engineer /VI
Northern Railway, Lucknow

Team Leader Cum Sr. Highway Engineer



WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

Factory Address-

Khasra No. 844 Kali Paschim Near SGPGL, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001 & IS: 9595-20
- 1.10 Welding Current : Type, DC, Polarity: Reverse
- 1.11 Welder Qualification : SAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974
- 1.12 Welding Parameters & Technique : (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr./min.) | Travel Speed (mtr./ min.) | Electrode Stick Out (mm) | Gas Flow (Ltr./ min.) |
|---------------|---------------------------|----------------|---------------------|-----------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |
| 2 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |
| 3 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |
| 4 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : N/A
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test & Macro Etching, Weld Size and weld profile.
- 1.21 Any other relevant detail : N/A

सं०अ० अधि० द्यातु एवं रसा०
Asstt. Research Officer/M&C
रेल मंत्रालय / Ministry of Railways
१०अ०मा०सं०, लखनऊ / R.D.S.O., Lucknow


Sr. Divisional Engineer /VI
Northern Railway, Lucknow





Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

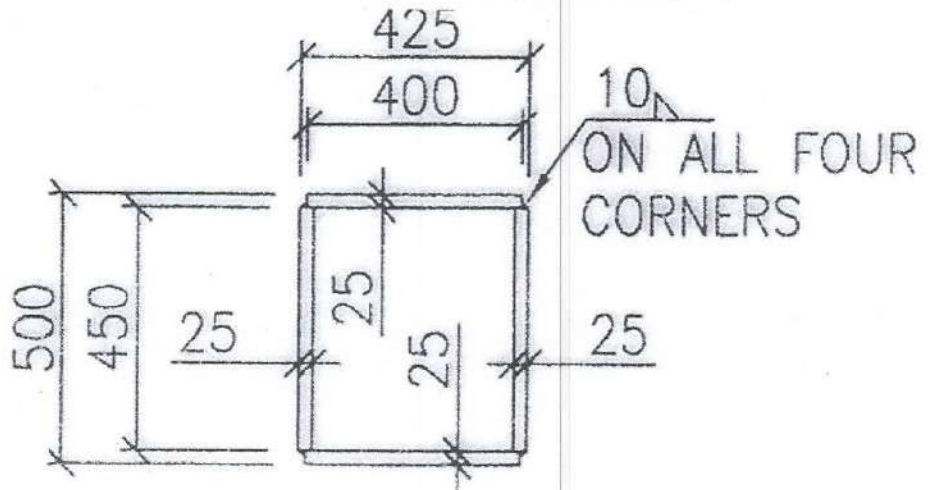
Factory Address-

Khasra No. 844 Kali Paschim Near SGPPI, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

| | | |
|-------------------------------------|---|--|
| Welding Procedure Specification No. | : | ARJIT/R&C/NR-LKO/2x56.0m/BSG/Unchahar/WPSS/06 |
| Drawing No. | : | RDSO/B-10428/1 |
| 1.0 Weld Joint Description | : | Fillet-Top Diagonal Tie Beam |
| 1.1 Base Metal | : | Grade: IS: 2062, E350B0- Fully Killed and Normalized & Base Metal Thickness (25x25)mm |
| 1.2 Welding Process | : | SAW |
| 1.3 Welding Position | : | Flat |
| 1.4 Weld Location | : | Workshop |
| 1.5 Weld Size | : | 10mm |
| 1.6 Welding Consumable | : | |
| a) Electrode Wire | : | Class: W2 of IRS M-39 2001, Copper Coated Mild Steel Wire Dia. 4mm |
| b) Drying Method | : | N/A |
| c) Flux Class | : | F2 as per IRS M-39 2001 |
| d) Type | : | Agglomerated |
| e) Drying Method | : | As per manufacturer's recommendation |
| f) Shielding Gas | : | N/A |
| 1.7 Base Metal Preparation | : | Material to be cut straight & square by controlled gas Cutting machine, Edge preparation to be done as per Sketch. All Fusion faces and adjacent surfaces are cleaned, Made free from cracks, notches, mill scale, grease, paint, Rust etc. which may affect weld quality. |



SECTION 7-7

(TOP DIAGONAL TIE BEAM)

संलग्न अधिष्ठाता एवं रसां
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
लोकमान्य, लखनऊ/R.D.S.O., Lucknow



Signature

Signature





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

Factory Address-

Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001 & IS: 9595-20
- 1.10 Welding Current : Type, DC, Polarity: Reverse
- 1.11 Welder Qualification : SAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974
- 1.12 Welding Parameters & Technique : (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr./min.) | Travel Speed (mtr./min.) | Electrode Stick Out (mm) | Gas Flow (Ltr./min.) |
|---------------|---------------------------|----------------|---------------------|-----------------------------|--------------------------|--------------------------|----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |
| 2 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |
| 3 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |
| 4 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : N/A
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test & Macro Etching, Weld Size and weld profile.
- 1.21 Any other relevant detail : N/A

संभालक/अधीक्षक एवं रसायन
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer /VI
Northern Railway, Lucknow



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Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

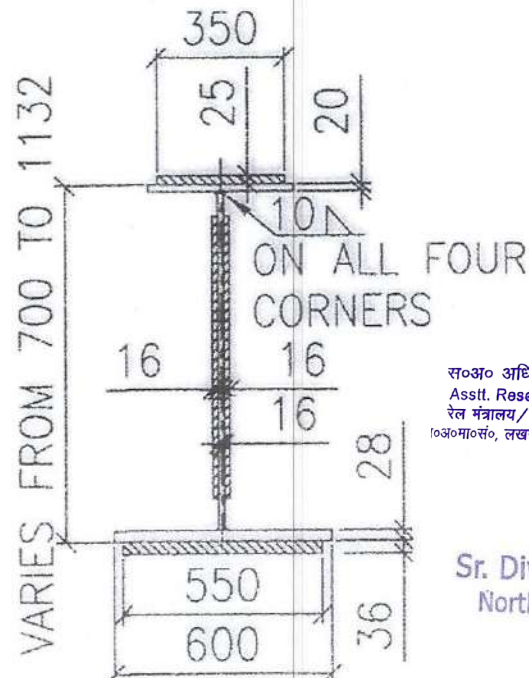
Factory Address-

Khasra No. 844 Kali Paschim Near SGPGL, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

| | | |
|-------------------------------------|---|--|
| Welding Procedure Specification No. | : | ARJIT/R&C/NR-LKO/2x56.0m/BSG/Unchahar/WPSS/07 |
| Drawing No. | : | RDSO/B-10428/6 |
| 1.0 Weld Joint Description | : | Fillet-Int. Bottom Cross Beam |
| 1.1 Base Metal | : | Grade: IS: 2062, E350B0 Fully Killed and Normalized & Base Metal Thickness (20x16)mm |
| 1.2 Welding Process | : | SAW |
| 1.3 Welding Position | : | Flat |
| 1.4 Weld Location | : | Workshop |
| 1.5 Weld Size | : | 10mm |
| 1.6 Welding Consumable | : | |
| a) Electrode Wire | : | Class: W2 of IRS M-39 2001, Copper Coated Mild Steel Wire Dia. 4mm |
| b) Drying Method | : | N/A |
| c) Flux Class | : | F2 as per IRS M-39 2001 |
| d) Type | : | Agglomerated |
| e) Drying Method | : | As per manufacturer's recommendation |
| f) Shielding Gas | : | N/A |
| 1.7 Base Metal Preparation | : | Material to be cut straight & square by controlled gas Cutting machine, Edge preparation to be done as per Sketch. All Fusion faces and adjacent surfaces are cleaned, Made free from cracks, notches, mill scale, grease, paint, Rust etc. which may affect weld quality. |



सं०अ० अधिकारी एवं रसा०
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
लखनऊ/लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer/V
Northern Railway, Lucknow

SECTION 3-3

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Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

Factory Address-

Khasra No. 844 Kali Paschim Near SGPPI, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001 & IS: 9595-20
- 1.10 Welding Current : Type, DC, Polarity: Reverse
- 1.11 Welder Qualification : SAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974
- 1.12 Welding Parameters & Technique : (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr./min.) | Travel Speed (mtr./min.) | Electrode Stick Out (mm) | Gas Flow (Ltr./min.) |
|---------------|---------------------------|----------------|---------------------|-----------------------------|--------------------------|--------------------------|----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |
| 2 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |
| 3 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |
| 4 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : N/A
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test & Macro Etching, Weld Size and weld profile.
- 1.21 Any other relevant detail : N/A

संभाला अधिकारी एवं रसायन
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
लखनऊ, लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer /VI
Northern Railway, Lucknow



Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

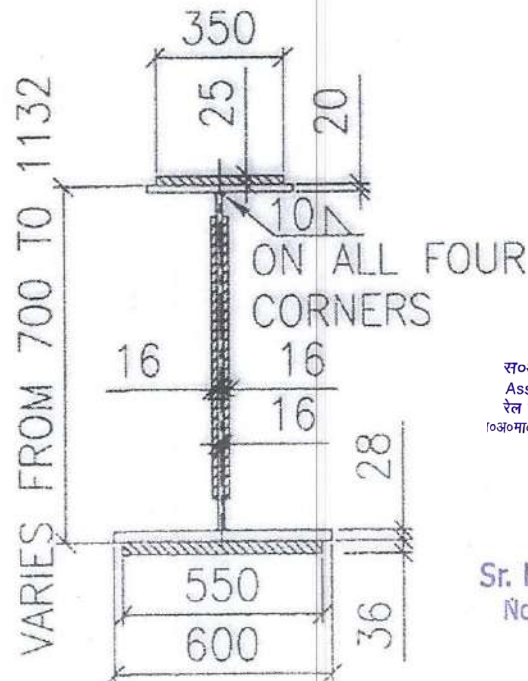
Factory Address-

Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301



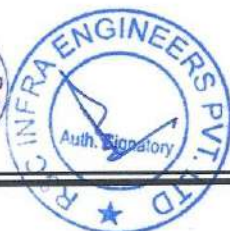
Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

| | | |
|-------------------------------------|---|--|
| Welding Procedure Specification No. | : | ARJIT/R&C/NR-LKO/2x56.0m/BSG/Unchahar/WPSS/08 |
| Drawing No. | : | RDSO/B-10428/6 |
| 1.0 Weld Joint Description | : | Fillet-Int. Bottom Cross Beam |
| 1.1 Base Metal | : | Grade: IS: 2062, E350B0 Fully Killed and Normalized & Base Metal Thickness (28x16)mm |
| 1.2 Welding Process | : | SAW |
| 1.3 Welding Position | : | Flat |
| 1.4 Weld Location | : | Workshop |
| 1.5 Weld Size | : | 10mm |
| 1.6 Welding Consumable | : | |
| a) Electrode Wire | : | Class: W2 of IRS M-39 2001, Copper Coated Mild Steel Wire Dia. 4mm |
| b) Drying Method | : | N/A |
| c) Flux Class | : | F2 as per IRS M-39 2001 |
| d) Type | : | Agglomerated |
| e) Drying Method | : | As per manufacturer's recommendation |
| f) Shielding Gas | : | N/A |
| 1.7 Base Metal Preparation | : | Material to be cut straight & square by controlled gas Cutting machine, Edge preparation to be done as per Sketch. All Fusion faces and adjacent surfaces are cleaned, Made free from cracks, notches, mill scale, grease, paint, Rust etc. which may affect weld quality. |



सं० अ० अधिकारी एवं रसा०
Asstt. Research Officer/M&C
रेल मंत्रालय / Ministry of Railways
१० अ० मा० सं०, लखनऊ / R.D.S.O., Lucknow

Sr. Divisional Engineer / V
Northern Railway, Lucknow



SECTION 3-3





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

Factory Address-

Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001 & IS: 9595-20
- 1.10 Welding Current : Type, DC, Polarity: Reverse
- 1.11 Welder Qualification : SAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974
- 1.12 Welding Parameters & Technique : (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr./min.) | Travel Speed (mtr./min.) | Electrode Stick Out (mm) | Gas Flow (Ltr./min.) |
|---------------|---------------------------|----------------|---------------------|-----------------------------|--------------------------|--------------------------|----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |
| 2 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |
| 3 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |
| 4 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : N/A
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test & Macro Etching, Weld Size and weld profile.
- 1.21 Any other relevant detail : N/A

सं०३० अधि० वि० एवं रसा०
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
१०३० भा० सं०, लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer /VI
Northern Railway, Lucknow

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Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

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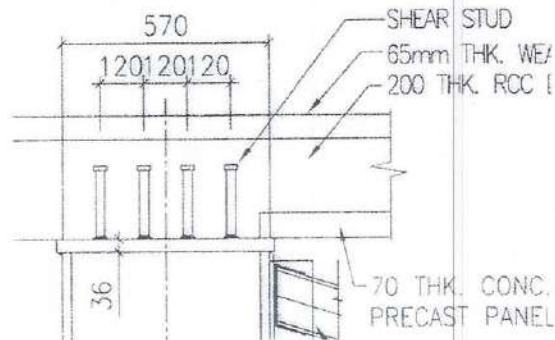
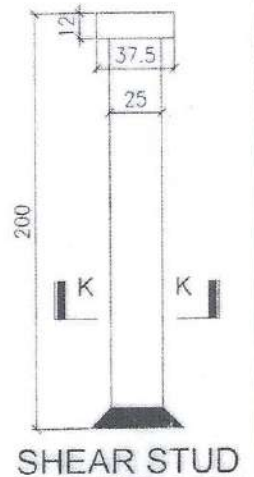
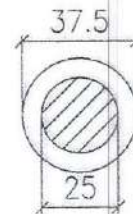
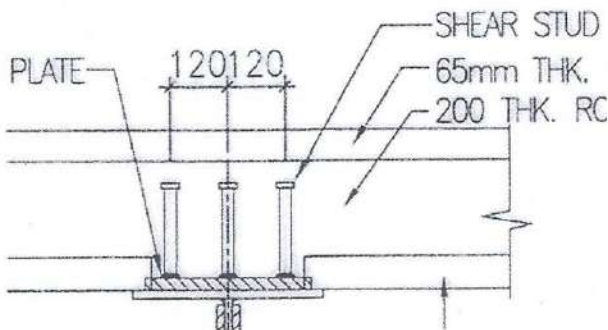
Factory Address-

Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

| | | |
|-------------------------------------|---|--|
| Welding Procedure Specification No. | : | ARJIT/R&C/NR-LKO/2x56.0m/BSG/Unchahar/WPSS/9 |
| Drawing No. | : | RDSO/B-10428/6 |
| 1.0 Weld Joint Description | : | Fillet Weld- Shear Stud Welding on Top of the Int. & End Bottom Cross Beam |
| 1.1 Base Metal | : | Grade: IS: 2062, E350B0 & Shear Stud as per SD1/UF BS EN ISO: 13918 |
| 1.2 Welding Process | : | Drawn Arc Stud Welding with Ceramic Ferrule Technique |
| 1.3 Welding Position | : | Downward |
| 1.4 Weld Location | : | Workshop |
| 1.5 Weld Size | : | 7 mm |
| 1.6 Welding Consumable | : | |
| a) Electrode Wire/ Class | : | N/A |
| b) Drying Method | : | N/A |
| c) Flux Type | : | The Stud tip shall be supplied with flux in the form of Refitted aluminum ball with ceramic ferrule |
| d) Type | : | N/A |
| e) Shielding Gas | : | N/A |
| 1.7 Base Metal Preparation | : | Fusion faces and adjacent surfaces are cleaned and Made free from cracks, notches, mill scale, grease, paint, Rust etc. which may affect weld quality. |



सं०अ० अधिकारी एवं रसा०
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
लखनऊ/लखनऊ/R.D.S.O., Lucknow



Signature

Sr. Divisional Engineer /VI
Northern Railway, Lucknow





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

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- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001 & IS: 9595-20
- 1.10 Welding Current : Type, DC, Polarity: Reverse
- 1.11 Welder Qualification : As per IS: 7310 (Part-I)-1974
- 1.12 Welding Parameters & Technique : (As Below)-

| Weld Pass No. | Stud Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Time | | Lift (mm) | Plunge |
|---------------|----------------|----------------|---------------------|--------|-------|-----------|--------|
| | | | | Second | Cycle | | |
| 1 | 25 | 2000 | N/A | 1.4 | 85 | 0.125 | N/A |

- 1.13 Welding Sequence and technique : (As per Sketch)
- 1.14 Provision of Run-on & Run-off tabs : N/A
- 1.15 Cleaning of weld bead before laying of next weld bead : N/A
- 1.16 Root preparation before welding other side of groove weld : N/A
- 1.17 Pre-heating & Interpass temperature : N/A
- 1.18 Peening : N/A
- 1.19 Post weld treatment : N/A
- 1.20 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B2 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.21 Inspection of weld : Visual, Ring Test & Bend Test.
- 1.22 Any other relevant detail : N/A

सं० अ० अधिकारी एवं रसा०
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
लोकमान्य सं०, लखनऊ/R.D.S.O., Lucknow



[Signature]

[Signature]

Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

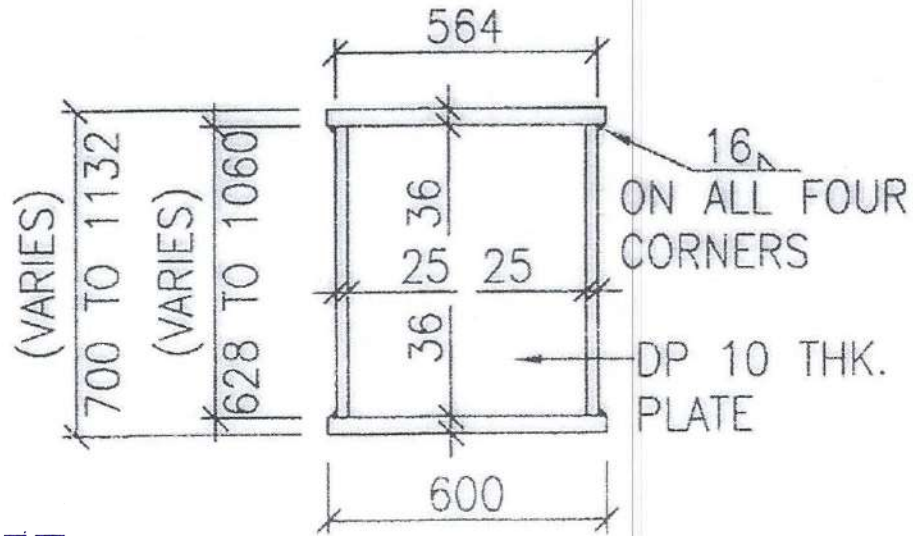
Factory Address-

Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

| | | |
|-------------------------------------|---|--|
| Welding Procedure Specification No. | : | ARJIT/R&C/NR-LKO/2x56.0m/BSG/Unchahar/WPSS/10 |
| Drawing No. | : | RDSO/B-10428/1 |
| 1.0 Weld Joint Description | : | Fillet-End Bottom Cross Beam |
| 1.1 Base Metal | : | Grade: IS: 2062, E350B0- Fully Killed and Normalized & Base Metal Thickness (25x36)mm |
| 1.2 Welding Process | : | SAW |
| 1.3 Welding Position | : | Flat |
| 1.4 Weld Location | : | Workshop |
| 1.5 Weld Size | : | 16mm |
| 1.6 Welding Consumable | : | |
| a) Electrode Wire | : | Class: W2 of IRS M-39 2001, Copper Coated Mild Steel Wire Dia. 4mm |
| b) Drying Method | : | N/A |
| c) Flux Class | : | F2 as per IRS M-39 2001 |
| d) Type | : | Agglomerated |
| e) Drying Method | : | As per manufacturer's recommendation |
| f) Shielding Gas | : | N/A |
| 1.7 Base Metal Preparation | : | Material to be cut straight & square by controlled gas Cutting machine, Edge preparation to be done as per Sketch. All Fusion faces and adjacent surfaces are cleaned, Made free from cracks, notches, mill scale, grease, paint, Rust etc. which may affect weld quality. |



सं० अ० अधिकारी एवं रसा०
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
लखनऊ/R.D.S.O., Lucknow

SECTION 5-5

(END BOTTOM CROSS BEAM)

Sr. Divisional Engineer/VI
Northern Railway, Lucknow



Page 19 of 78

Team Leader Cum-Sr. Highway Engineer



WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

Factory Address-

Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001 & IS: 9595-20
- 1.10 Welding Current : Type, DC, Polarity: Reverse
- 1.11 Welder Qualification : SAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974
- 1.12 Welding Parameters & Technique : (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr. /min.) | Travel Speed (mtr./ min.) | Electrode Stick Out (mm) | Gas Flow (Ltr./ min.) |
|---------------|---------------------------|----------------|---------------------|------------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |
| 2 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |
| 3 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |
| 4 | 4.0 | 500-550 | 28-32 | 1.6-1.8 | 0.40-0.45 | 10-15 | N/A |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : N/A
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test & Macro Etching, Weld Size and weld profile.
- 1.21 Any other relevant detail : N/A

संभाला अधिकारी एवं रसायन
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
10अमाला, लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer /VI
Northern Railway, Lucknow



Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

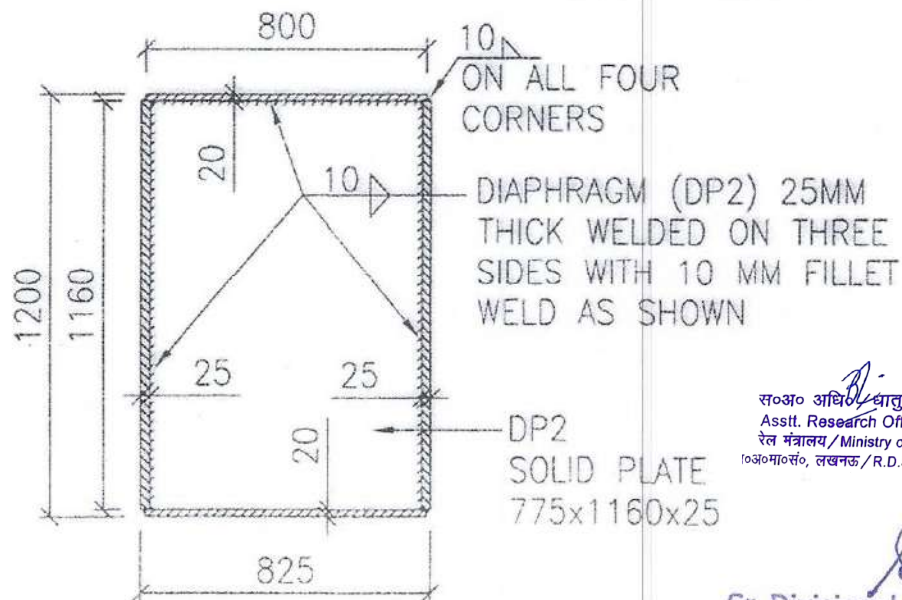
Factory Address-

Khasra No. 844 Kali Paschim Near SGPGL, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

| | | |
|-------------------------------------|---|--|
| Welding Procedure Specification No. | : | ARJIT/R&C/NR-LKO/2x56.0m/BSG/Unchahar/WPSS/11 |
| Drawing No. | : | RDSO/B-10428/5 |
| 1.0 Weld Joint Description | : | Fillet – Diaphragm Plate (DP2) in Bottom Long Beam |
| 1.1 Base Metal | : | IS: 2062, E350B0 Fully Killed and Normalized & Base Metal Thickness (20x25)mm |
| 1.2 Welding Process | : | FCAW |
| 1.3 Welding Position | : | Horizontal & Vertical |
| 1.4 Weld Location | : | Workshop |
| 1.5 Weld Size | : | 10mm |
| 1.6 Welding Consumable | : | |
| a) Electrode Wire | : | Class-1 of IRS M46-2013, Grade-E71T-12, Steel Wire Dia. 1.2mm, FCAW Wire |
| b) Drying Method | : | N/A |
| c) Flux Class | : | N/A |
| d) Type | : | N/A |
| e) Drying Method | : | N/A |
| f) Shielding Gas | : | CO2 99.8% Pure, Absolute Dry and Free from N2 as per IS: 307 GR.1 |
| 1.7 Base Metal Preparation | : | Material to be cut straight & square by controlled gas Cutting machine, Edge preparation to be done as per Sketch. All Fusion faces and adjacent surfaces are cleaned, Made free from cracks, notches, mill scale, grease, paint, Rust etc. which may affect weld quality. |



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लखनऊ/लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer/NI
Northern Railway, Lucknow

SECTION A-A



Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

Factory Address-

Khasra No. 844 Kali Paschim Near SGPGL, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001
- 1.10 Welding Current : Type, DC, Polarity: Reverse
- 1.11 Welder Qualification : FCAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974
- 1.12 Welding Parameters & Technique : (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr. /min.) | Travel Speed (mtr. /min.) | Electrode Stick Out (mm) | Gas Flow (Ltr. /min.) |
|---------------|---------------------------|----------------|---------------------|------------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 2 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 3 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : Yes
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test, weld Size & weld Profile.
- 1.21 Any other relevant detail : N/A

संभालक अधिकारी एवं रसायन
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
10अमार्ग, लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer/VI
Northern Railway, Lucknow



Team Leader

Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

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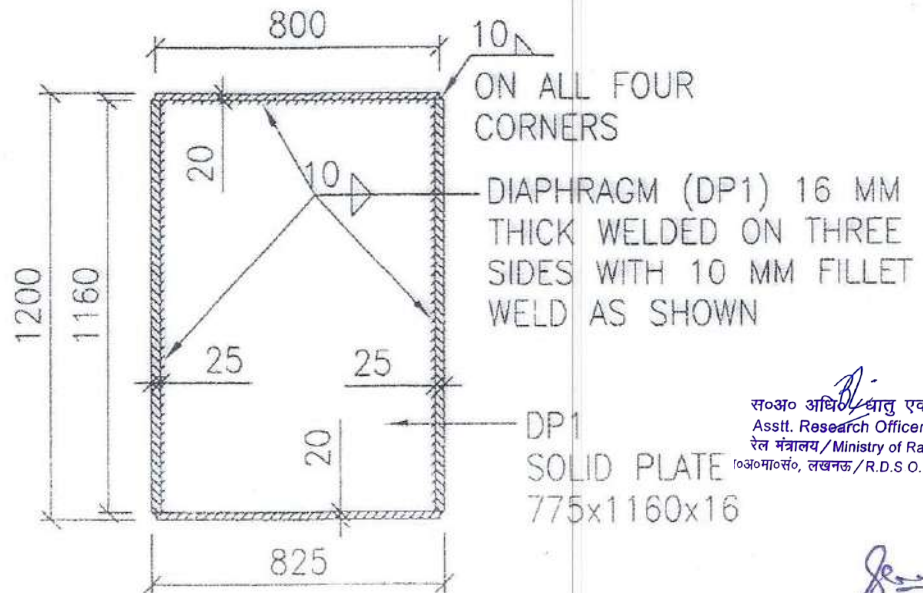
Factory Address-

Khasra No. 844 Kali Paschim Near SGPGL, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

| | | |
|-------------------------------------|---|--|
| Welding Procedure Specification No. | : | ARJIT/R&C/NR-LKO/2x56.0m/BSG/Unchahar/WPSS/12 |
| Drawing No. | : | RDSO/B-10428/5 |
| 1.0 Weld Joint Description | : | Fillet – Diaphragm Plate (DP1) in Bottom Long Beam |
| 1.1 Base Metal | : | IS: 2062, E350B0 Fully Killed and Normalized & Base Metal Thickness (16x25)mm |
| 1.2 Welding Process | : | FCAW |
| 1.3 Welding Position | : | Horizontal & Vertical |
| 1.4 Weld Location | : | Workshop |
| 1.5 Weld Size | : | 10mm |
| 1.6 Welding Consumable | : | |
| a) Electrode Wire | : | Class-1 of IRS M46-2013, Grade-E71T-12, Steel Wire Dia. 1.2mm, FCAW Wire |
| b) Drying Method | : | N/A |
| c) Flux Class | : | N/A |
| d) Type | : | N/A |
| e) Drying Method | : | N/A |
| f) Shielding Gas | : | CO2 99.8% Pure, Absolute Dry and Free from N2 as per IS: 307 GR.1 |
| 1.7 Base Metal Preparation | : | Material to be cut straight & square by controlled gas Cutting machine, Edge preparation to be done as per Sketch. All Fusion faces and adjacent surfaces are cleaned, Made free from cracks, notches, mill scale, grease, paint, Rust etc. which may affect weld quality. |



SECTION B-B

संज्ञा अधिकारी एवं रसां
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
लखनऊ/लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer /VI
Northern Railway, Lucknow



Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

Factory Address-

Khasra No. 844 Kali Paschim Near SGPGL, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001
- 1.10 Welding Current : & IS: 9595-20
- 1.11 Welder Qualification : Type, DC, Polarity: Reverse
- 1.12 Welding Parameters & Technique : FCAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974 (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr. /min.) | Travel Speed (mtr. /min.) | Electrode Stick Out (mm) | Gas Flow (Ltr. /min.) |
|---------------|---------------------------|----------------|---------------------|------------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 2 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 3 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : Yes
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test, weld Size & weld Profile.
- 1.21 Any other relevant detail : N/A

सं०३० अधि० वि० एवं रसा०
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
०३० मा० सं०, लखनऊ/R.D.S.O., Lucknow


Sr. Divisional Engineer /VI
Northern Railway, Lucknow



Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

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19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

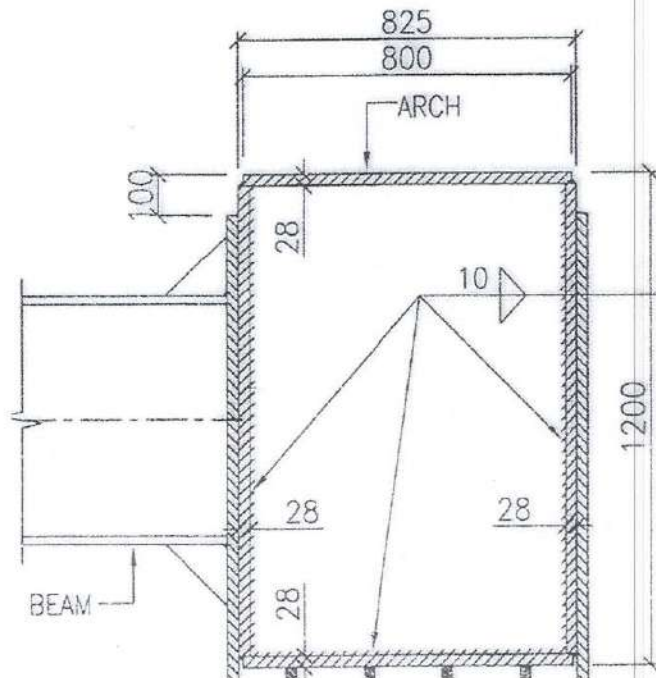
Factory Address-

Khasra No. 844 Kali Paschim Near SGPGL, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

| | | |
|-------------------------------------|---|--|
| Welding Procedure Specification No. | : | ARJIT/R&C/NR-LKO/2x56.0m/BSG/Unchahar/WPSS/13 |
| Drawing No. | : | RDSO/B-10428/2 |
| 1.0 Weld Joint Description | : | Fillet – Diaphragm Plate (DP) in Arch Beam |
| 1.1 Base Metal | : | IS: 2062, E350B0 Fully Killed and Normalized & Base Metal Thickness (25x28)mm |
| 1.2 Welding Process | : | FCAW |
| 1.3 Welding Position | : | Horizontal & Vertical |
| 1.4 Weld Location | : | Workshop |
| 1.5 Weld Size | : | 10mm |
| 1.6 Welding Consumable | : | |
| a) Electrode Wire | : | Class-1 of IRS M46-2013, Grade-E71T-12, Steel Wire Dia. 1.2mm, FCAW Wire |
| b) Drying Method | : | N/A |
| c) Flux Class | : | N/A |
| d) Type | : | N/A |
| e) Drying Method | : | N/A |
| f) Shielding Gas | : | CO2 99.8% Pure, Absolute Dry and Free from N2 as per IS: 307 GR.1 |
| 1.7 Base Metal Preparation | : | Material to be cut straight & square by controlled gas Cutting machine, Edge preparation to be done as per Sketch. All Fusion faces and adjacent surfaces are cleaned, Made free from cracks, notches, mill scale, grease, paint, Rust etc. which may affect weld quality. |



सं० अ० अधिकारी एवं रसा०
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
लखनऊ/लखनऊ/R.D.S.O., Lucknow

DIAPHRAGM (DP) 25MM
THICK WELDED ON
THREE SIDES WITH
10MM FILLET WELD
AS SHOWN

Sr. Divisional Engineer/V
Northern Railway, Lucknow



Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

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Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001
- 1.10 Welding Current : Type, DC, Polarity: Reverse
- 1.11 Welder Qualification : FCAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974
- 1.12 Welding Parameters & Technique : (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr. /min.) | Travel Speed (mtr. /min.) | Electrode Stick Out (mm) | Gas Flow (Ltr. /min.) |
|---------------|---------------------------|----------------|---------------------|------------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 2 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 3 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : Yes
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test, weld Size & weld Profile.
- 1.21 Any other relevant detail : N/A

संभाला एवं रसा
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
लखनऊ/लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer /VI
Northern Railway, Lucknow





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

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19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

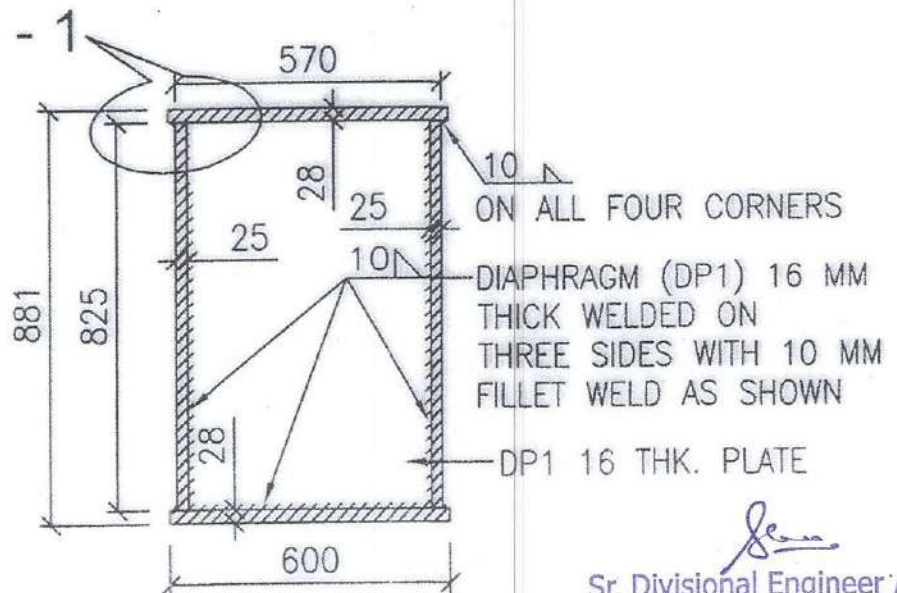
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| | | |
|-------------------------------------|---|--|
| Welding Procedure Specification No. | : | ARJIT/R&C/NR-LKO/2x56.0m/BSG/Unchahar/WPSS/14 |
| Drawing No. | : | RDSO/B-10428/9 |
| 1.0 Weld Joint Description | : | Fillet – Diaphragm Plate (DP1) in Hanger |
| 1.1 Base Metal | : | IS: 2062, E350B0 Fully Killed and Normalized & Base Metal Thickness (16x25x28)mm |
| 1.2 Welding Process | : | FCAW |
| 1.3 Welding Position | : | Horizontal & Vertical |
| 1.4 Weld Location | : | Workshop |
| 1.5 Weld Size | : | 10mm |
| 1.6 Welding Consumable | : | |
| a) Electrode Wire | : | Class-1 of IRS M46-2013, Grade-E71T-12, Steel Wire Dia. 1.2mm, FCAW Wire |
| b) Drying Method | : | N/A |
| c) Flux Class | : | N/A |
| d) Type | : | N/A |
| e) Drying Method | : | N/A |
| f) Shielding Gas | : | CO2 99.8% Pure, Absolute Dry and Free from N2 as per IS: 307 GR.1 |
| 1.7 Base Metal Preparation | : | Material to be cut straight & square by controlled gas Cutting machine, Edge preparation to be done as per Sketch. All Fusion faces and adjacent surfaces are cleaned, Made free from cracks, notches, mill scale, grease, paint, Rust etc. which may affect weld quality. |



सं० अ० अ० अ० एवं रसा०
Asstt. Research Officer/M&C
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लखनऊ/लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer /VI
Northern Railway, Lucknow

SECTION B-B





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

Factory Address-

Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301



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- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001
- 1.10 Welding Current : & IS: 9595-20
- 1.11 Welder Qualification : Type, DC, Polarity: Reverse
- 1.12 Welding Parameters & Technique : FCAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974 (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr. /min.) | Travel Speed (mtr. /min.) | Electrode Stick Out (mm) | Gas Flow (Ltr. /min.) |
|---------------|---------------------------|----------------|---------------------|------------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 2 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 3 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : Yes
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test, weld Size & weld Profile.
- 1.21 Any other relevant detail : N/A

संज्ञा अधिकारी एवं रसां
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
लखनऊ/लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer /VI
Northern Railway, Lucknow



Team Leader Cvm Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

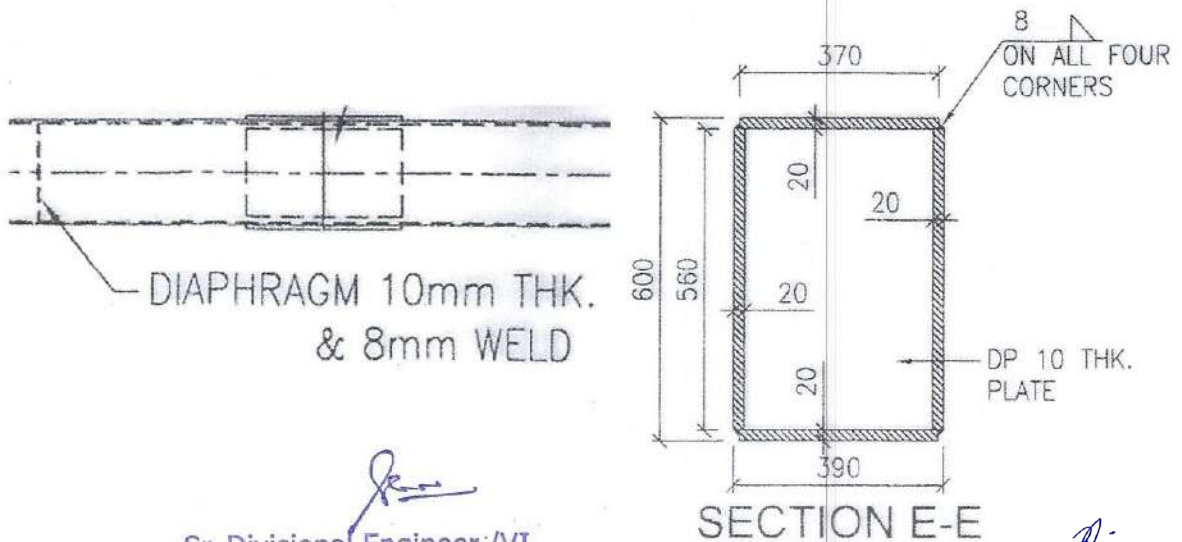
Factory Address-

Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

| | | |
|-------------------------------------|---|--|
| Welding Procedure Specification No. | : | ARJIT/R&C/NR-LKO/2x56.0m/BSG/Unchahar/WPSS/16 |
| Drawing No. | : | RDSO/B-10428/3 |
| 1.0 Weld Joint Description | : | Fillet – Diaphragm Plate (DP) in Top Tie Beam |
| 1.1 Base Metal | : | IS: 2062, E350B0 Fully Killed and Normalized & Base Metal Thickness (10x20)mm |
| 1.2 Welding Process | : | FCAW |
| 1.3 Welding Position | : | Horizontal & Vertical |
| 1.4 Weld Location | : | Workshop |
| 1.5 Weld Size | : | 8mm |
| 1.6 Welding Consumable | : | |
| a) Electrode Wire | : | Class-1 of IRS M46-2013, Grade-E71T-12, Steel Wire Dia. 1.2mm, FCAW Wire |
| b) Drying Method | : | N/A |
| c) Flux Class | : | N/A |
| d) Type | : | N/A |
| e) Drying Method | : | N/A |
| f) Shielding Gas | : | CO2 99.8% Pure, Absolute Dry and Free from N2 as per IS: 307 GR.1 |
| 1.7 Base Metal Preparation | : | Material to be cut straight & square by controlled gas Cutting machine, Edge preparation to be done as per Sketch. All Fusion faces and adjacent surfaces are cleaned, Made free from cracks, notches, mill scale, grease, paint, Rust etc. which may affect weld quality. |



Sr. Divisional Engineer /VI
Northern Railway, Lucknow

सं० अ० अधिकारी एवं रसा०
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
लखनऊ/लखनऊ/R.D.S.O., Lucknow



Signature

Signature





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

Factory Address-

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Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhai Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001
- 1.10 Welding Current : & IS: 9595-20
- 1.11 Welder Qualification : Type, DC, Polarity: Reverse
- 1.12 Welding Parameters & Technique : FCAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974 (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr. /min.) | Travel Speed (mtr. /min.) | Electrode Stick Out (mm) | Gas Flow (Ltr. /min.) |
|---------------|---------------------------|----------------|---------------------|------------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 2 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 3 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : Yes
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test, weld Size & weld Profile.
- 1.21 Any other relevant detail : N/A

सं०३० अधीक्षक एवं रसा०
Asstt. Research Officer/M&C
रेल मंत्रालय / Ministry of Railways
लखनऊ / R.D.S.O., Lucknow

Sr. Divisional Engineer /VI
Northern Railway, Lucknow



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WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

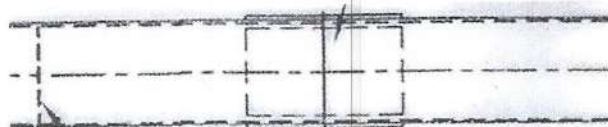
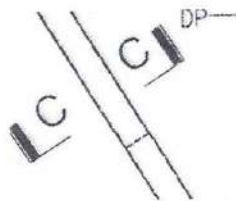
Factory Address-

Khasra No. 844 Kali Paschim Near SGPGL, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

| | | |
|-------------------------------------|---|--|
| Welding Procedure Specification No. | : | ARJIT/R&C/NR-LKO/2x56.0m/BSG/Unchahar/WPSS/16 |
| Drawing No. | : | RDSO/B-10428/3 |
| 1.0 Weld Joint Description | : | Fillet – Diaphragm Plate (DP) in Top Diagonal Tie Beam |
| 1.1 Base Metal | : | IS: 2062, E350B0 Fully Killed and Normalized & Base Metal Thickness (10x25)mm |
| 1.2 Welding Process | : | FCAW |
| 1.3 Welding Position | : | Horizontal & Vertical |
| 1.4 Weld Location | : | Workshop |
| 1.5 Weld Size | : | 8mm |
| 1.6 Welding Consumable | : | |
| a) Electrode Wire | : | Class-1 of IRS M46-2013, Grade-E71T-12, Steel Wire Dia. 1.2mm, FCAW Wire |
| b) Drying Method | : | N/A |
| c) Flux Class | : | N/A |
| d) Type | : | N/A |
| e) Drying Method | : | N/A |
| f) Shielding Gas | : | CO2 99.8% Pure, Absolute Dry and Free from N2 as per IS: 307 GR.1 |
| 1.7 Base Metal Preparation | : | Material to be cut straight & square by controlled gas Cutting machine, Edge preparation to be done as per Sketch. All Fusion faces and adjacent surfaces are cleaned, Made free from cracks, notches, mill scale, grease, paint, Rust etc. which may affect weld quality. |



DIAPHRAGM 10mm THK.
& 8mm WELD

संभाला अतिरिक्त एवं रसा
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
लखनऊ/लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer /VI
Northern Railway, Lucknow



Handwritten signature

Handwritten signature





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

Factory Address-

Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhai Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001
 1.10 Welding Current : & IS: 9595-20
 1.11 Welder Qualification : Type, DC, Polarity: Reverse
 1.12 Welding Parameters & Technique : FCAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974 (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr. /min.) | Travel Speed (mtr. /min.) | Electrode Stick Out (mm) | Gas Flow (Ltr. /min.) |
|---------------|---------------------------|----------------|---------------------|------------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 2 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 3 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |

- 1.13 Provision of Run-on & Run-off tabs : Yes
 1.14 Cleaning of weld bead before laying of next weld bead : Yes
 1.15 Root preparation before welding other side of groove weld : N/A
 1.16 Pre-heating & Interpass temperature : 100-150°C
 1.17 Peening : N/A
 1.18 Post weld treatment : N/A
 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
 1.20 Inspection of weld : Visual, D.P. Test, weld Size & weld Profile.
 1.21 Any other relevant detail : N/A

सं० अ० अधि० एवं रसा०
 Asstt. Research Officer/M&C
 रेल मंत्रालय/Ministry of Railways
 १० अ० मा० सं०, लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer /VI
 Northern Railway, Lucknow



Team Leader Cum Sr. Highway Engineer



Team Leader Cum Sr. Highway Engineer



WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

Factory Address-

Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhai Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001 & IS: 9595-20
- 1.10 Welding Current : Type, DC, Polarity: Reverse
- 1.11 Welder Qualification : FCAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974
- 1.12 Welding Parameters & Technique : (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr. /min.) | Travel Speed (mtr. /min.) | Electrode Stick Out (mm) | Gas Flow (Ltr. /min.) |
|---------------|---------------------------|----------------|---------------------|------------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 2 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 3 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 4 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : Yes
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test, weld Size & weld Profile.
- 1.21 Any other relevant detail : N/A

संभाल अधिकारी एवं रसां
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
1000मार्गसं, लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer /VI
Northern Railway, Lucknow







WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

Factory Address-

Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhai Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001
- 1.10 Welding Current : & IS: 9595-20
- 1.11 Welder Qualification : Type, DC, Polarity: Reverse
- 1.12 Welding Parameters & Technique : FCAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974 (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr. /min.) | Travel Speed (mtr. /min.) | Electrode Stick Out (mm) | Gas Flow (Ltr. /min.) |
|---------------|---------------------------|----------------|---------------------|------------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 2 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 3 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 4 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : Yes
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test, weld Size & weld Profile.
- 1.21 Any other relevant detail : N/A

सं० अ० अधी० धातु एवं रसा०
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
ल० अ० मा० सं०, लखनऊ/R.D.S.O., Lucknow

[Signature]
Sr. Divisional Engineer /VI
Northern Railway, Lucknow



[Signature]
Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

Factory Address-

Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhai Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001
- 1.10 Welding Current : & IS: 9595-20
- 1.11 Welder Qualification : Type, DC, Polarity: Reverse
- 1.12 Welding Parameters & Technique : FCAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974 (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr. /min.) | Travel Speed (mtr. /min.) | Electrode Stick Out (mm) | Gas Flow (Ltr. /min.) |
|---------------|---------------------------|----------------|---------------------|------------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 2 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 3 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 4 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : Yes
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test, weld Size & weld Profile.
- 1.21 Any other relevant detail : N/A

सं०अ० अधिकारी एवं रसा०
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer/VI
Northern Railway, Lucknow



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Handwritten signature

Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

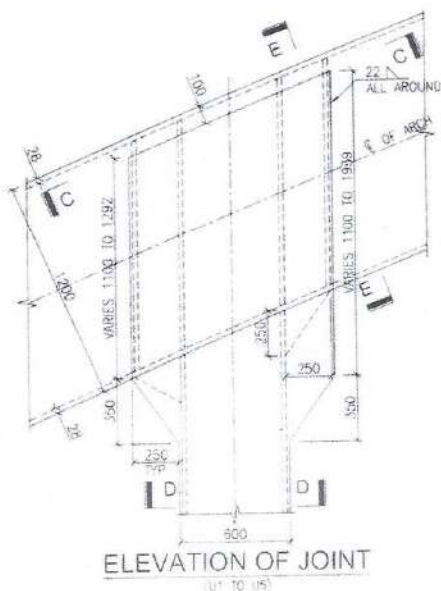
Factory Address-

Khasra No. 844 Kali Paschim Near SGPPI, Raebareli Road, Lucknow, UP-226301

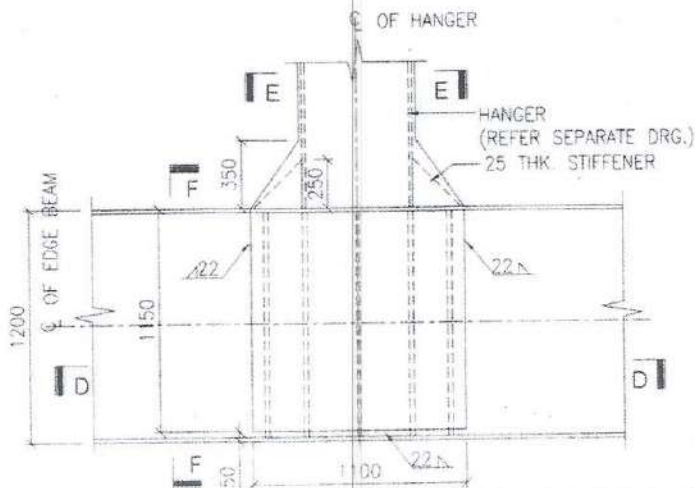


Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- Welding Procedure Specification No. : ARJIT/R&C/NR-LKO/2x56.0m/BSG/Unchahar/WPSS/20
- Drawing No. : RDSO/B-10428/5 & 2
- 1.0 Weld Joint Description : Fillet – Hanger Welding with Arch Beam & Bottom Long Beam
- 1.1 Base Metal : IS: 2062, E350B0 Fully Killed and Normalized & Base Metal Thickness
- 1.2 Welding Process : FCAW
- 1.3 Welding Position : Horizontal, Vertical & Overhead
- 1.4 Weld Location : Field
- 1.5 Weld Size : 22mm
- 1.6 Welding Consumable :
- a) Electrode Wire : Class-1 of IRS M46-2013, Grade-E71T-12, Steel Wire Dia. 1.2mm, FCAW Wire
- b) Drying Method : N/A
- c) Flux Class : N/A
- d) Type : N/A
- e) Drying Method : N/A
- f) Shielding Gas : CO2 99.8% Pure, Absolute Dry and Free from N2 as per IS: 307 GR.1
- 1.7 Base Metal Preparation : Material to be cut straight & square by controlled gas Cutting machine, Edge preparation to be done as per Sketch. All Fusion faces and adjacent surfaces are cleaned, Made free from cracks, notches, mill scale, grease, paint, Rust etc. which may affect weld quality.



ELEVATION OF JOINT
(J1 TO J5)



JOINT DETAILS - ELEVATION (L1, L2, L3, L4 & L5)

सं०अ० अधिकारी एवं रसा०
Asstt. Research Officer/M&C
रेल मंत्रालय / Ministry of Railways
1000 मा० सं०, लखनऊ / R.D.S O., Lucknow



Team Leader Cum Sr. Highway Engineer

Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

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19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

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Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhai Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001
- 1.10 Welding Current : & IS: 9595-20
- 1.11 Welder Qualification : Type, DC, Polarity: Reverse
- 1.12 Welding Parameters & Technique : FCAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974 (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr. /min.) | Travel Speed (mtr. /min.) | Electrode Stick Out (mm) | Gas Flow (Ltr. /min.) |
|---------------|---------------------------|----------------|---------------------|------------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 2 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 3 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 4 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : Yes
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test, weld Size & weld Profile.
- 1.21 Any other relevant detail : N/A

सं० अ० अधि० धातु एवं रसा०
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
10 अ० मार्ग सं०, लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer /VI
Northern Railway, Lucknow



Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

Factory Address-

Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhai Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001
- 1.10 Welding Current : & IS: 9595-20
- 1.11 Welder Qualification : Type, DC, Polarity: Reverse
- 1.12 Welding Parameters & Technique : FCAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974 (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr. /min.) | Travel Speed (mtr. /min.) | Electrode Stick Out (mm) | Gas Flow (Ltr. /min.) |
|---------------|---------------------------|----------------|---------------------|------------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 2 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 3 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 4 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : Yes
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test, weld Size & weld Profile.
- 1.21 Any other relevant detail : N/A

सं०अ० अधी० धातु एवं रसा०
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
10अ०मा०सं०, लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer/VI
Northern Railway, Lucknow



Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

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Factory Address-

Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001
- 1.10 Welding Current : & IS: 9595-20
- 1.11 Welder Qualification : Type, DC, Polarity: Reverse
- 1.12 Welding Parameters & Technique : FCAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974 (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr. /min.) | Travel Speed (mtr. /min.) | Electrode Stick Out (mm) | Gas Flow (Ltr. /min.) |
|---------------|---------------------------|----------------|---------------------|------------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 2 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 3 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 4 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : Yes
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test, weld Size & weld Profile.
- 1.21 Any other relevant detail : N/A

सं०अ० अधिकारी एवं रसा०
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लखनऊ/R.D.S.O., Lucknow


Sr. Divisional Engineer /VI
Northern Railway, Lucknow




Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

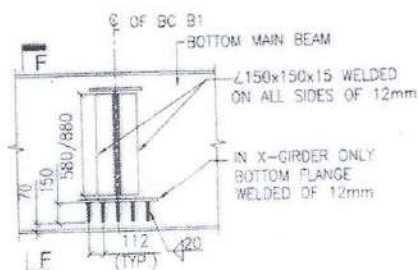
Factory Address-

Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301

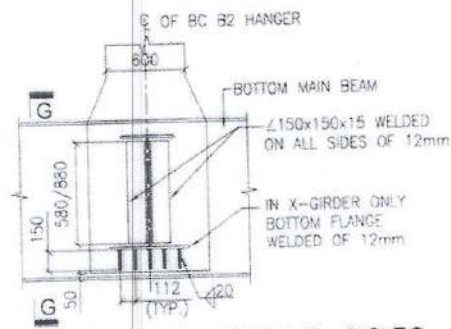


Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhai Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

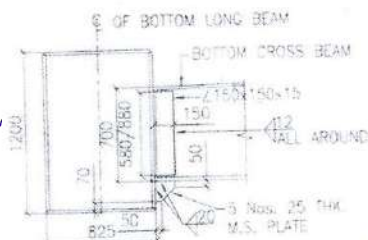
| | | |
|-------------------------------------|---|--|
| Welding Procedure Specification No. | : | ARJIT/R&C/NR-LKO/2x56.0m/BSG/Unchahar/WPSS/23 |
| Drawing No. | : | RDSO/B-10428/6 |
| 1.0 Weld Joint Description | : | Fillet – Bottom Cross Beam (BCB1 & BCB2) Welding With Bottom Long Beam & Hanger |
| 1.1 Base Metal | : | IS: 2062, E350B0 Fully Killed and Normalized & Base Metal Thickness |
| 1.2 Welding Process | : | FCAW |
| 1.3 Welding Position | : | Horizontal, Vertical & Overhead |
| 1.4 Weld Location | : | Field |
| 1.5 Weld Size | : | 12mm |
| 1.6 Welding Consumable | : | Class-1 of IRS M46-2013, Grade-E71T-12, Steel Wire Dia. 1.2mm, FCAW Wire |
| a) Electrode Wire | : | N/A |
| b) Drying Method | : | N/A |
| c) Flux Class | : | N/A |
| d) Type | : | N/A |
| e) Drying Method | : | N/A |
| f) Shielding Gas | : | CO2 99.8% Pure, Absolute Dry and Free from N2 as per IS: 307 GR.1 |
| 1.7 Base Metal Preparation | : | Material to be cut straight & square by controlled gas Cutting machine, Edge preparation to be done as per Sketch. All Fusion faces and adjacent surfaces are cleaned, Made free from cracks, notches, mill scale, grease, paint, Rust etc. which may affect weld quality. |



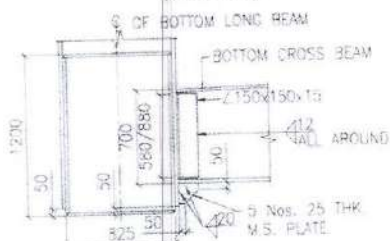
CONNECTION DETAILS - BC B1
(SCALE 1:25)



CONNECTION DETAILS - BC B2
(SCALE 1:25)



SECTION F-F
(SCALE 1:25)



SECTION G-G
(SCALE 1:25)

संलग्न अधिष्ठाता एवं रसां
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
लखनऊ/R.D.S.O., Lucknow



Sr. Divisional Engineer /VI
Northern Railway, Lucknow

Page 45 of 78



Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

Factory Address-

Khasra No. 844 Kali Paschim Near SGPGL, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001
- 1.10 Welding Current : & IS: 9595-20
- 1.11 Welder Qualification : Type, DC, Polarity: Reverse
- 1.12 Welding Parameters & Technique : FCAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974 (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr. /min.) | Travel Speed (mtr. /min.) | Electrode Stick Out (mm) | Gas Flow (Ltr. /min.) |
|---------------|---------------------------|----------------|---------------------|------------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 2 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 3 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 4 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : Yes
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test, weld Size & weld Profile.
- 1.21 Any other relevant detail : N/A

सं०अ० अधिकारी एवं रसा०
Asstt. Research Officer/M&C
रेल मंत्रालय / Ministry of Railways
१०अ०मार्गसं०, लखनऊ / R.D.S O., Lucknow

Sr. Divisional Engineer /VI
Northern Railway, Lucknow



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Handwritten signature





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

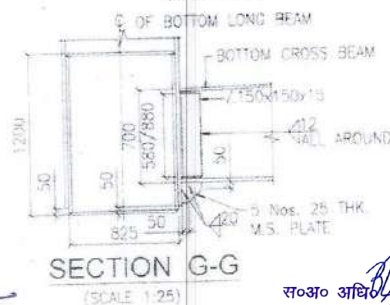
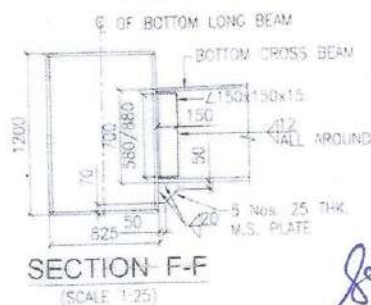
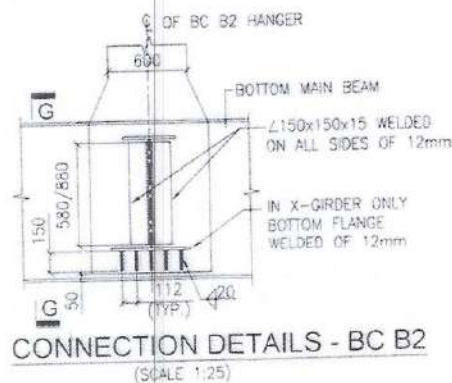
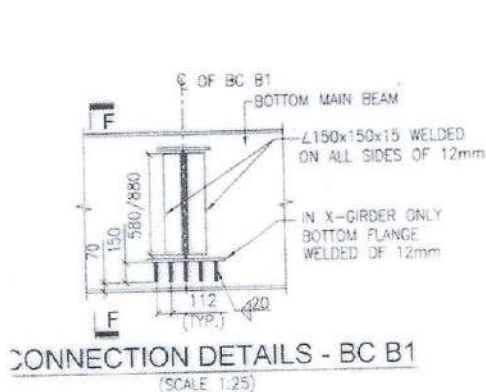
Factory Address-

Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project "Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- Welding Procedure Specification No. : ARJIT/R&C/NR-LKO/2x56.0m/BSG/Unchahar/WPSS/24
- Drawing No. : RDSO/B-10428/6
- 1.0 Weld Joint Description : Fillet - ISA (150x150x15)mm welding With Bottom Long Beam & Hanger for BCB1 & BCB2
- 1.1 Base Metal : IS: 2062, E350B0 Fully Killed and Normalized & Base Metal Thickness
- 1.2 Welding Process : FCAW
- 1.3 Welding Position : Horizontal, Vertical & Overhead
- 1.4 Weld Location : Field
- 1.5 Weld Size : 12mm
- 1.6 Welding Consumable : Class-1 of IRS M46-2013, Grade-E71T-12, Steel Wire Dia. 1.2mm, FCAW Wire
- a) Electrode Wire : N/A
- b) Drying Method : N/A
- c) Flux Class : N/A
- d) Type : N/A
- e) Drying Method : N/A
- f) Shielding Gas : CO2 99.8% Pure, Absolute Dry and Free from N2 as per IS: 307 GR.1
- 1.7 Base Metal Preparation : Material to be cut straight & square by controlled gas Cutting machine, Edge preparation to be done as per Sketch. All Fusion faces and adjacent surfaces are cleaned, Made free from cracks, notches, mill scale, grease, paint, Rust etc. which may affect weld quality.



Sr. Divisional Engineer /VI
Northern Railway, Lucknow

संलग्न अधिकारी एवं रसा
Asstt. Research Officer/M&C
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1000 मांस, लखनऊ / R.D.S.O., Lucknow



Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office:-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

Factory Address:-

Khasra No. 844 Kali Paschim Near SGPGL, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhai Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001
- 1.10 Welding Current : & IS: 9595-20
- 1.11 Welder Qualification : Type, DC, Polarity: Reverse
- 1.12 Welding Parameters & Technique : FCAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974 (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr. /min.) | Travel Speed (mtr. /min.) | Electrode Stick Out (mm) | Gas Flow (Ltr. /min.) |
|---------------|---------------------------|----------------|---------------------|------------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 2 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 3 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 4 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : Yes
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test, weld Size & weld Profile.
- 1.21 Any other relevant detail : N/A

सं०० अधि० धातु एवं रसा०
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
१०००००००, लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer /VI
Northern Railway, Lucknow



Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

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19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

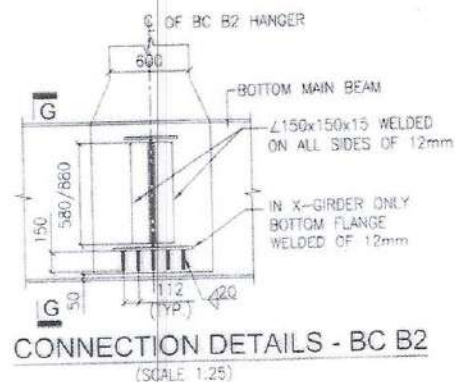
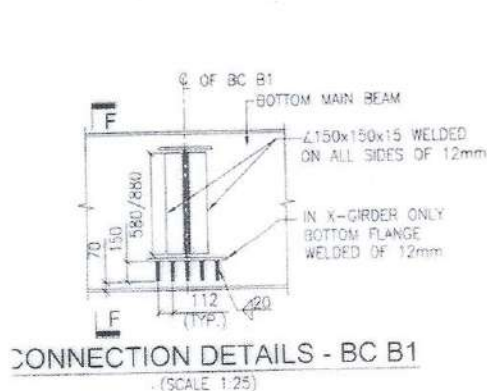
Factory Address-

Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301

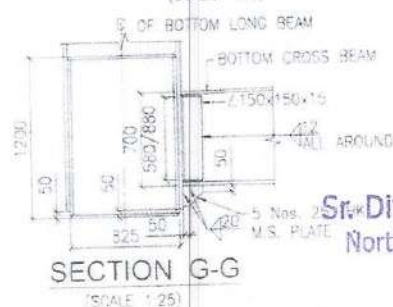
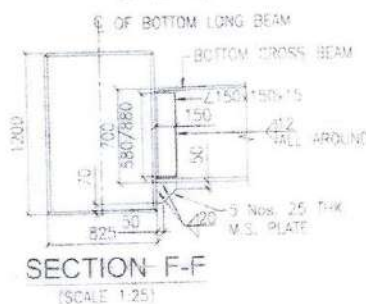


Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhai Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

| | | |
|-------------------------------------|---|--|
| Welding Procedure Specification No. | : | ARJIT/R&C/NR-LKO/2x56.0m/BSG/Unchahar/WPSS/25 |
| Drawing No. | : | RDSO/B-10428/6 |
| 1.0 Weld Joint Description | : | Fillet – Stiffener of Bottom Cross Beam (BCB1 & BCB2) Welding With Bottom Long Beam & Hanger |
| 1.1 Base Metal | : | IS: 2062, E350B0 Fully Killed and Normalized & Base Metal Thickness |
| 1.2 Welding Process | : | FCAW |
| 1.3 Welding Position | : | Horizontal, Vertical & Overhead |
| 1.4 Weld Location | : | Field |
| 1.5 Weld Size | : | 20mm |
| 1.6 Welding Consumable | : | Class-1 of IRS M46-2013, Grade-E71T-12, Steel Wire Dia. 1.2mm, FCAW Wire |
| a) Electrode Wire | : | N/A |
| b) Drying Method | : | N/A |
| c) Flux Class | : | N/A |
| d) Type | : | N/A |
| e) Drying Method | : | N/A |
| f) Shielding Gas | : | CO2 99.8% Pure, Absolute Dry and Free from N2 as per IS: 307 GR.1 |
| 1.7 Base Metal Preparation | : | Material to be cut straight & square by controlled gas Cutting machine, Edge preparation to be done as per Sketch. All Fusion faces and adjacent surfaces are cleaned, Made free from cracks, notches, mill scale, grease, paint, Rust etc. which may affect weld quality. |



सं०अ० अधी० धातु एवं रसा०
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क०अ०म०सं०, लखनऊ/R.D.S.O., Lucknow



Team Leader Cum Sr. Highway Engineer



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Northern Railway, Lucknow



WELDING PROCEDURE SPECIFICATION SHEET

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- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001
- 1.10 Welding Current : & IS: 9595-20
- 1.11 Welder Qualification : Type, DC, Polarity: Reverse
- 1.12 Welding Parameters & Technique : FCAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974 (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr. /min.) | Travel Speed (mtr. /min.) | Electrode Stick Out (mm) | Gas Flow (Ltr. /min.) |
|---------------|---------------------------|----------------|---------------------|------------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 2 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 3 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 4 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : Yes
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test, weld Size & weld Profile.
- 1.21 Any other relevant detail : N/A

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Asstt. Research Officer/M&C
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Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001
- 1.10 Welding Current : & IS: 9595-20
- 1.11 Welder Qualification : Type, DC, Polarity: Reverse
- 1.12 Welding Parameters & Technique : FCAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974 (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr. /min.) | Travel Speed (mtr. /min.) | Electrode Stick Out (mm) | Gas Flow (Ltr. /min.) |
|---------------|---------------------------|----------------|---------------------|------------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 2 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 3 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 4 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : Yes
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test, weld Size & weld Profile.
- 1.21 Any other relevant detail : N/A

सं०अ० अधी० वि० एवं रसा०
Asslt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
ल०अ०मा०सं०, लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer /VI
Northern Railway, Lucknow



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WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

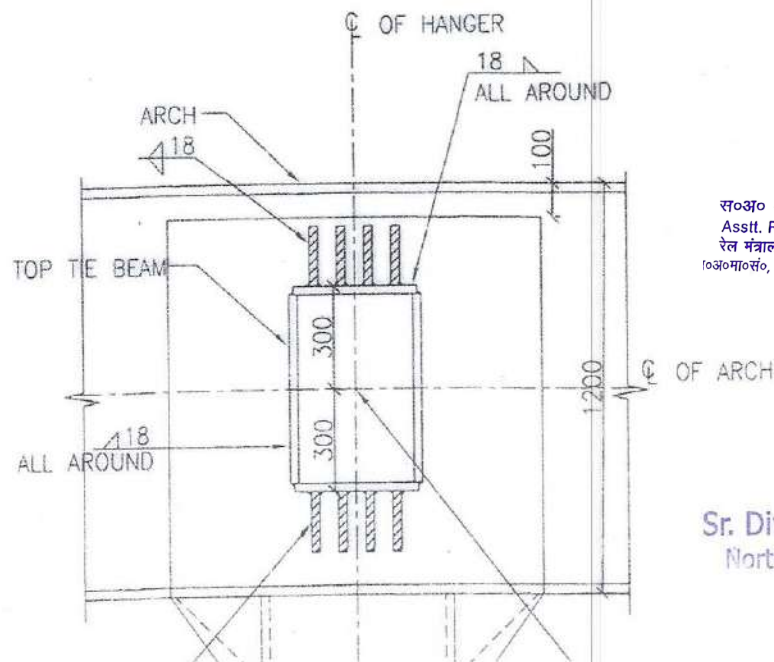
Factory Address-

Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

| | | |
|-------------------------------------|---|--|
| Welding Procedure Specification No. | : | ARJIT/R&C/NR-LKO/2x56.0m/BSG/Unchahar/WPSS/27 |
| Drawing No. | : | RDSO/B-10428/3 |
| 1.0 Weld Joint Description | : | Fillet – Stiffener of Top Tie Beam welding with Hanger & Top Tie Beam |
| 1.1 Base Metal | : | IS: 2062, E350B0 Fully Killed and Normalized & Base Metal Thickness |
| 1.2 Welding Process | : | FCAW |
| 1.3 Welding Position | : | Horizontal, Vertical & Overhead |
| 1.4 Weld Location | : | Field |
| 1.5 Weld Size | : | 18mm |
| 1.6 Welding Consumable | : | |
| a) Electrode Wire | : | Class-1 of IRS M46-2013, Grade-E71T-12, Steel Wire Dia. 1.2mm, FCAW Wire |
| b) Drying Method | : | N/A |
| c) Flux Class | : | N/A |
| d) Type | : | N/A |
| e) Drying Method | : | N/A |
| f) Shielding Gas | : | CO2 99.8% Pure, Absolute Dry and Free from N2 as per IS: 307 GR.1 |
| 1.7 Base Metal Preparation | : | Material to be cut straight & square by controlled gas Cutting machine, Edge preparation to be done as per Sketch. All Fusion faces and adjacent surfaces are cleaned, Made free from cracks, notches, mill scale, grease, paint, Rust etc. which may affect weld quality. |



संज्ञा अधिष्ठाता एवं रसा०
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Sr. Divisional Engineer/VI
 Northern Railway, Lucknow



Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

Factory Address-

Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001
- 1.10 Welding Current : Type, DC, Polarity: Reverse
- 1.11 Welder Qualification : FCAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974
- 1.12 Welding Parameters & Technique : (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr. /min.) | Travel Speed (mtr. /min.) | Electrode Stick Out (mm) | Gas Flow (Ltr. /min.) |
|---------------|---------------------------|----------------|---------------------|------------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 2 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 3 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 4 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : Yes
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test, weld Size & weld Profile.
- 1.21 Any other relevant detail : N/A

संशोधन अधिकारी एवं सहायक
Asstt. Research Officer/M&C
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लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer /VI
Northern Railway, Lucknow



Signature

Signature





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

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Factory Address-

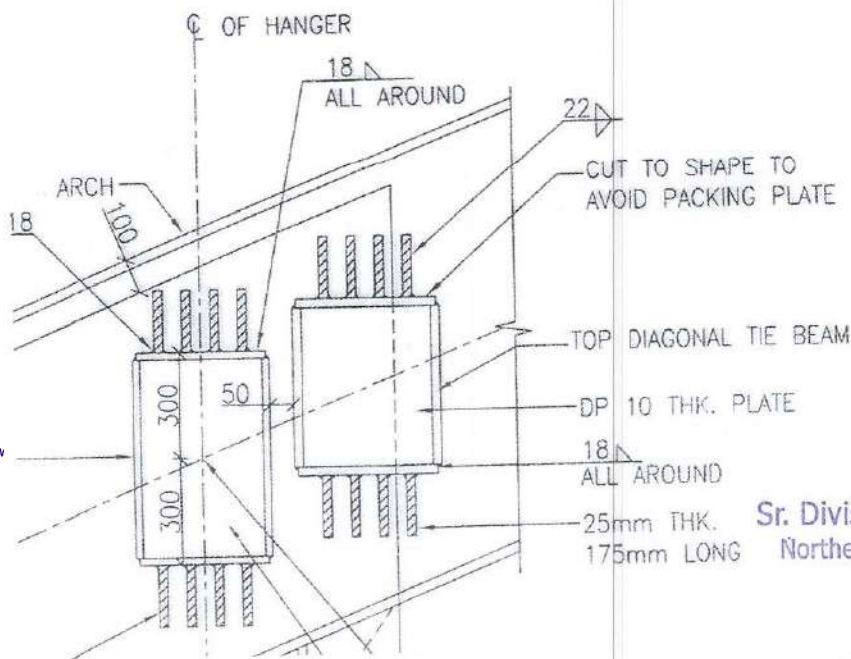
Khasra No. 844 Kali Paschim Near SGPGL, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhai Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

| | | |
|-------------------------------------|---|--|
| Welding Procedure Specification No. | : | ARJIT/R&C/NR-LKO/2x56.0m/BSG/Unchahar/WPSS/28 |
| Drawing No. | : | RDSO/B-10428/3 |
| 1.0 Weld Joint Description | : | Fillet – Top Lateral Tie Beam Welding with Hanger, Arch Beam & Top Tie Beam |
| 1.1 Base Metal | : | IS: 2062, E350B0 Fully Killed and Normalized & Base Metal Thickness |
| 1.2 Welding Process | : | FCAW |
| 1.3 Welding Position | : | Horizontal, Vertical & Overhead |
| 1.4 Weld Location | : | Field |
| 1.5 Weld Size | : | 18mm |
| 1.6 Welding Consumable | : | Class-1 of IRS M46-2013, Grade-E71T-12, Steel Wire Dia. 1.2mm, FCAW Wire |
| a) Electrode Wire | : | N/A |
| b) Drying Method | : | N/A |
| c) Flux Class | : | N/A |
| d) Type | : | N/A |
| e) Drying Method | : | N/A |
| f) Shielding Gas | : | CO2 99.8% Pure, Absolute Dry and Free from N2 as per IS: 307 GR.1 |
| 1.7 Base Metal Preparation | : | Material to be cut straight & square by controlled gas Cutting machine, Edge preparation to be done as per Sketch. All Fusion faces and adjacent surfaces are cleaned, Made free from cracks, notches, mill scale, grease, paint, Rust etc. which may affect weld quality. |

सं०अ० अधि० धातु एवं रसा०
Asstt. Research Officer/M&C
रेल मंत्रालय / Ministry of Railways
०२० मा० सं०, लखनऊ / R.D.S.O., Lucknow



Sr. Divisional Engineer /VI
Northern Railway, Lucknow

Page 55 of 78



Team Leader cum Sr. Highway Engineer



**WELDING PROCEDURE SPECIFICATION SHEET**

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

Factory Address-

Khasra No. 844 Kali Paschim Near SGPGL, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001
 & IS: 9595-20
 1.10 Welding Current : Type, DC, Polarity: Reverse
 1.11 Welder Qualification : FCAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974
 1.12 Welding Parameters & Technique : (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr. /min.) | Travel Speed (mtr. /min.) | Electrode Stick Out (mm) | Gas Flow (Ltr. /min.) |
|---------------|---------------------------|----------------|---------------------|------------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 2 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 3 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 4 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |

- 1.13 Provision of Run-on & Run-off tabs : Yes
 1.14 Cleaning of weld bead before laying of next weld bead : Yes
 1.15 Root preparation before welding other side of groove weld : N/A
 1.16 Pre-heating & Interpass temperature : 100-150°C
 1.17 Peening : N/A
 1.18 Post weld treatment : N/A
 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
 1.20 Inspection of weld : Visual, D.P. Test, weld Size & weld Profile.
 1.21 Any other relevant detail : N/A

सं०अ० अचि० धालु एवं रसा०
 Asstt. Research Officer/M&C
 रेल मंत्रालय/Ministry of Railways
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Sr. Divisional Engineer /VI
 Northern Railway, Lucknow

*Am**MSF*



WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

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Factory Address-

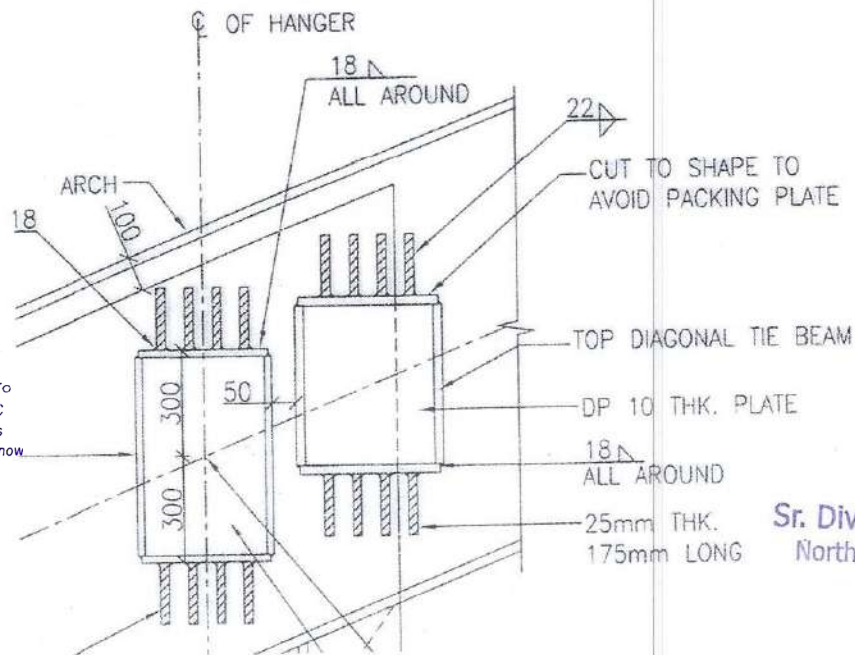
Khasra No. 844 Kali Paschim Near SGPGL, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

| | | |
|-------------------------------------|---|--|
| Welding Procedure Specification No. | : | ARJIT/R&C/NR-LKO/2x56.0m/BSG/Unchahar/WPSS/29 |
| Drawing No. | : | RDSO/B-10428/3 |
| 1.0 Weld Joint Description | : | Fillet - Stiffener of Top Lateral Tie Beam Welding with Hanger, Arch Beam & Top Tie Beam |
| 1.1 Base Metal | : | IS: 2062, E350B0 Fully Killed and Normalized & Base Metal Thickness |
| 1.2 Welding Process | : | FCAW |
| 1.3 Welding Position | : | Horizontal, Vertical & Overhead |
| 1.4 Weld Location | : | Field |
| 1.5 Weld Size | : | 22mm |
| 1.6 Welding Consumable | : | |
| a) Electrode Wire | : | Class-1 of IRS M46-2013, Grade-E71T-12, Steel Wire Dia. 1.2mm, FCAW Wire |
| b) Drying Method | : | N/A |
| c) Flux Class | : | N/A |
| d) Type | : | N/A |
| e) Drying Method | : | N/A |
| f) Shielding Gas | : | CO2 99.8% Pure, Absolute Dry and Free from N2 as per IS: 307 GR.1 |
| 1.7 Base Metal Preparation | : | Material to be cut straight & square by controlled gas Cutting machine, Edge preparation to be done as per Sketch. All Fusion faces and adjacent surfaces are cleaned, Made free from cracks, notches, mill scale, grease, paint, Rust etc. which may affect weld quality. |

सं०अ० अधिकारी एवं सहायक
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
लखनऊ/R.D.S.O., Lucknow



Sr. Divisional Engineer /VI
Northern Railway, Lucknow



Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office:-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

Factory Address:-

Khasra No. 844 Kali Paschim Near SGPGL, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001
- 1.10 Welding Current : & IS: 9595-20
- 1.11 Welder Qualification : Type, DC, Polarity: Reverse
- 1.12 Welding Parameters & Technique : FCAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974 (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr. /min.) | Travel Speed (mtr. /min.) | Electrode Stick Out (mm) | Gas Flow (Ltr. /min.) |
|---------------|---------------------------|----------------|---------------------|------------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 2 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 3 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 4 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : Yes
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test, weld Size & weld Profile.
- 1.21 Any other relevant detail : N/A

सं०अ० अधिकारी एवं रसा०
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer/VI
Northern Railway, Lucknow



Signature

Signature

Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

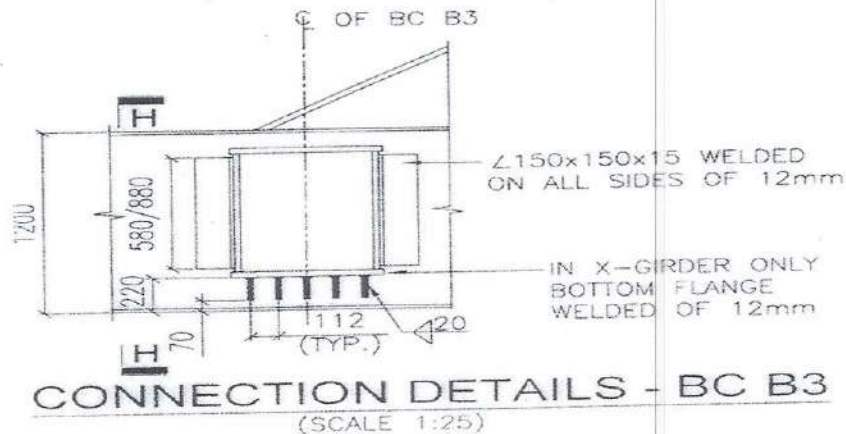
Factory Address-

Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301

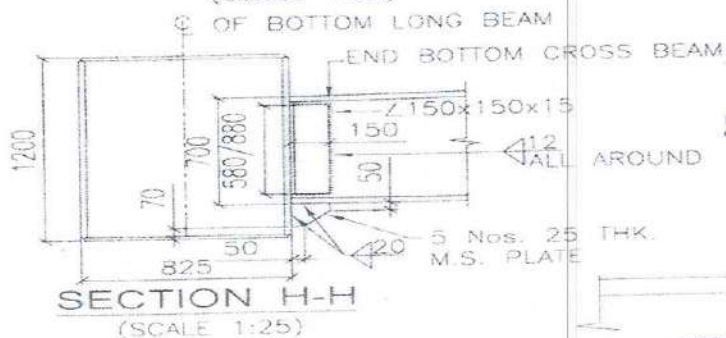


Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- Welding Procedure Specification No. : ARJIT/R&C/NR-LKO/2x56.0m/BSG/Unchahar/WPSS/30
- Drawing No. : RDSO/B-10428/6
- 1.0 Weld Joint Description : Fillet – End Bottom Cross Beam (BCB3) welding with Bottom Long Beam
- 1.1 Base Metal : IS: 2062, E350B0 Fully Killed and Normalized & Base Metal Thickness
- 1.2 Welding Process : FCAW
- 1.3 Welding Position : Horizontal, Vertical & Overhead
- 1.4 Weld Location : Field
- 1.5 Weld Size : 12mm
- 1.6 Welding Consumable :
- a) Electrode Wire : Class-1 of IRS M46-2013, Grade-E71T-12, Steel Wire Dia. 1.2mm, FCAW Wire
- b) Drying Method : N/A
- c) Flux Class : N/A
- d) Type : N/A
- e) Drying Method : N/A
- f) Shielding Gas : CO₂ 99.8% Pure, Absolute Dry and Free from N₂ as per IS: 307 GR.1
- 1.7 Base Metal Preparation : Material to be cut straight & square by controlled gas Cutting machine, Edge preparation to be done as per Sketch. All Fusion faces and adjacent surfaces are cleaned, Made free from cracks, notches, mill scale, grease, paint, Rust etc. which may affect weld quality.



CONNECTION DETAILS - BC B3
(SCALE 1:25)



SECTION H-H
(SCALE 1:25)

संशोधन अधिकारी एवं सहायक
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
लखनऊ/R.D.S.O., Lucknow



Sr. Divisional Engineer/V
Northern Railway, Lucknow



Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

Factory Address-

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Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001
- 1.10 Welding Current : & IS: 9595-20
- 1.11 Welder Qualification : Type, DC, Polarity: Reverse
- 1.12 Welding Parameters & Technique : FCAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974 (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr. /min.) | Travel Speed (mtr. /min.) | Electrode Stick Out (mm) | Gas Flow (Ltr. /min.) |
|---------------|---------------------------|----------------|---------------------|------------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 2 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 3 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 4 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : Yes
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test, weld Size & weld Profile.
- 1.21 Any other relevant detail : N/A

सं०अ० अधिकारी एवं रसा०
Asstt. Research Officer/M&C
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लखनऊ / R.D.S O., Lucknow

Sr. Divisional Engineer /VI
Northern Railway, Lucknow



Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

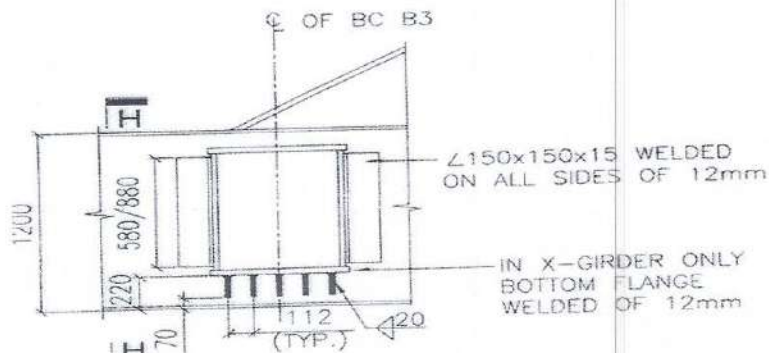
Factory Address-

Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301

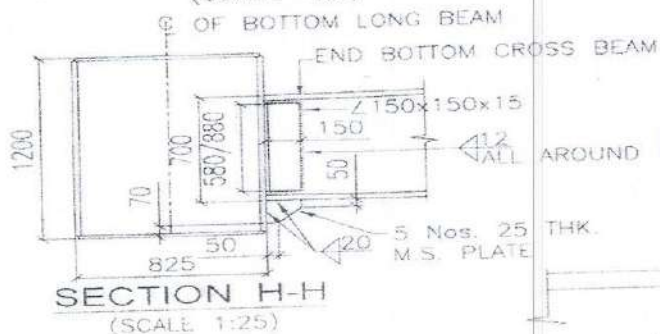


Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhai Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- Welding Procedure Specification No. : ARJIT/R&C/NR-LKO/2x56.0m/BSG/Unchahar/WPSS/31
- Drawing No. : RDSO/B-10428/6
- 1.0 Weld Joint Description : Fillet – End Bottom Cross Beam (BCB3)- ISA (150x150x15)mm welding with Bottom Long Beam & BCB3
- 1.1 Base Metal : IS: 2062, E350B0 Fully Killed and Normalized & Base Metal Thickness
- 1.2 Welding Process : FCAW
- 1.3 Welding Position : Horizontal, Vertical & Overhead
- 1.4 Weld Location : Field
- 1.5 Weld Size : 12mm
- 1.6 Welding Consumable : Class-1 of IRS M46-2013, Grade-E71T-12, Steel Wire Dia. 1.2mm, FCAW Wire
- a) Electrode Wire : N/A
- b) Drying Method : N/A
- c) Flux Class : N/A
- d) Type : N/A
- e) Drying Method : N/A
- f) Shielding Gas : CO2 99.8% Pure, Absolute Dry and Free from N2 as per IS: 307 GR.1
- 1.7 Base Metal Preparation : Material to be cut straight & square by controlled gas Cutting machine, Edge preparation to be done as per Sketch. All Fusion faces and adjacent surfaces are cleaned, Made free from cracks, notches, mill scale, grease, paint, Rust etc. which may affect weld quality.



CONNECTION DETAILS - BC B3
(SCALE 1:25)



सं० अ० अधिकारी एवं रसा०
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
लखनऊ/लखनऊ/R.D.S.O., Lucknow



Sr. Divisional Engineer/VI
Northern Railway, Lucknow



Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

Factory Address-

Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhai Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001
- 1.10 Welding Current : & IS: 9595-20
- 1.11 Welder Qualification : Type, DC, Polarity: Reverse
- 1.12 Welding Parameters & Technique : FCAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974 (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr. /min.) | Travel Speed (mtr. /min.) | Electrode Stick Out (mm) | Gas Flow (Ltr. /min.) |
|---------------|---------------------------|----------------|---------------------|------------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 2 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 3 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 4 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : Yes
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test, weld Size & weld Profile.
- 1.21 Any other relevant detail : N/A

सं०अ० अधिकारी एवं रसा०
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
लखनऊ/लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer/VI
Northern Railway, Lucknow



Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

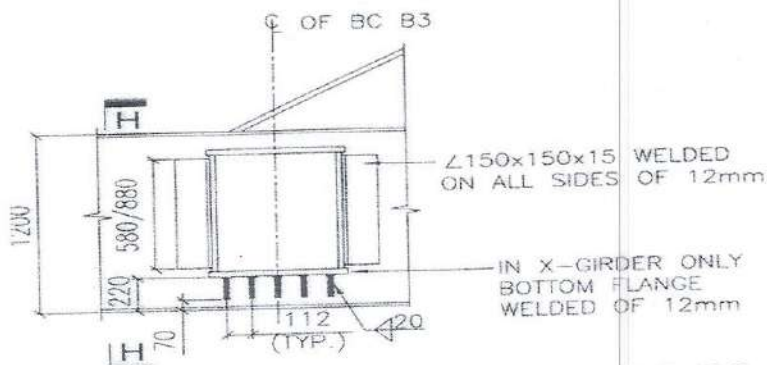
Factory Address-

Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301

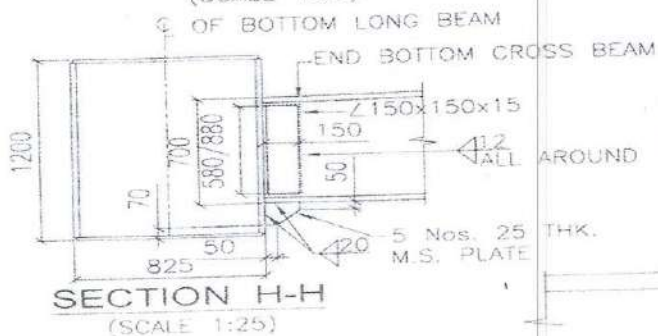


Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhai Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- Welding Procedure Specification No. : ARJIT/R&C/NR-LKO/2x56.0m/BSG/Unchahar/WPSS/32
- Drawing No. : RDSO/B-10428/6
- 1.0 Weld Joint Description : Fillet – End Bottom Cross Beam (BCB3)-Stiffener welding with Bottom Long Beam & BCB3
- 1.1 Base Metal : IS: 2062, E350B0 Fully Killed and Normalized & Base Metal Thickness
- 1.2 Welding Process : FCAW
- 1.3 Welding Position : Horizontal, Vertical & Overhead
- 1.4 Weld Location : Field
- 1.5 Weld Size : 20mm
- 1.6 Welding Consumable : Class-1 of IRS M46-2013, Grade-E71T-12, Steel Wire Dia. 1.2mm, FCAW Wire
- a) Electrode Wire : N/A
- b) Drying Method : N/A
- c) Flux Class : N/A
- d) Type : N/A
- e) Drying Method : N/A
- f) Shielding Gas : CO2 99.8% Pure, Absolute Dry and Free from N2 as per IS: 307 GR.1
- 1.7 Base Metal Preparation : Material to be cut straight & square by controlled gas Cutting machine, Edge preparation to be done as per Sketch. All Fusion faces and adjacent surfaces are cleaned, Made free from cracks, notches, mill scale, grease, paint, Rust etc. which may affect weld quality.



CONNECTION DETAILS - BC B3
(SCALE 1:25)



संशोधन अधिकारी एवं रसायन
Assst. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
लखनऊ/लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer /VI
Northern Railway, Lucknow

Page 63 of 78



Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

Factory Address-

Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhai Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001
- 1.10 Welding Current : & IS: 9595-20
- 1.11 Welder Qualification : Type, DC, Polarity: Reverse
- 1.12 Welding Parameters & Technique : FCAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974 (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr. /min.) | Travel Speed (mtr. /min.) | Electrode Stick Out (mm) | Gas Flow (Ltr. /min.) |
|---------------|---------------------------|----------------|---------------------|------------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 2 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 3 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 4 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : Yes
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test, weld Size & weld Profile.
- 1.21 Any other relevant detail : N/A

सं०अ० अधिकारी एवं रसा०
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Sr. Divisional Engineer /VI
Northern Railway, Lucknow



Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

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Factory Address-

Khasra No. 844 Kali Paschim Near SCPGI, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001 & IS: 9595-20
- 1.10 Welding Current : Type, DC, Polarity: Reverse
- 1.11 Welder Qualification : FCAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974
- 1.12 Welding Parameters & Technique : (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr. /min.) | Travel Speed (mtr. /min.) | Electrode Stick Out (mm) | Gas Flow (Ltr. /min.) |
|---------------|---------------------------|----------------|---------------------|------------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 2 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 3 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 4 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : Yes
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test, weld Size & weld Profile.
- 1.21 Any other relevant detail : N/A

सं० अ० अधिकारी एवं रसा०
Asstt. Research Officer/M&C
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Northern Railway, Lucknow



Team Leader Cum Sr. Highway Engineer







WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

Factory Address-

Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001
 & IS: 9595-20
 1.10 Welding Current : Type, DC, Polarity: Reverse
 1.11 Welder Qualification : FCAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974
 1.12 Welding Parameters & Technique : (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr. /min.) | Travel Speed (mtr. /min.) | Electrode Stick Out (mm) | Gas Flow (Ltr. /min.) |
|---------------|---------------------------|----------------|---------------------|------------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 2 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 3 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 4 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |

- 1.13 Provision of Run-on & Run-off tabs : Yes
 1.14 Cleaning of weld bead before laying of next weld bead : Yes
 1.15 Root preparation before welding other side of groove weld : N/A
 1.16 Pre-heating & Interpass temperature : 100-150°C
 1.17 Peening : N/A
 1.18 Post weld treatment : N/A
 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
 1.20 Inspection of weld : Visual, D.P. Test, weld Size & weld Profile.
 1.21 Any other relevant detail : N/A

संलग्न अधीनस्थ एवं रसायन
 Asstt. Research Officer/M&C
 रेल मंत्रालय / Ministry of Railways
 लखनऊ / Lucknow

Sr. Divisional Engineer /VI
 Northern Railway, Lucknow



Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

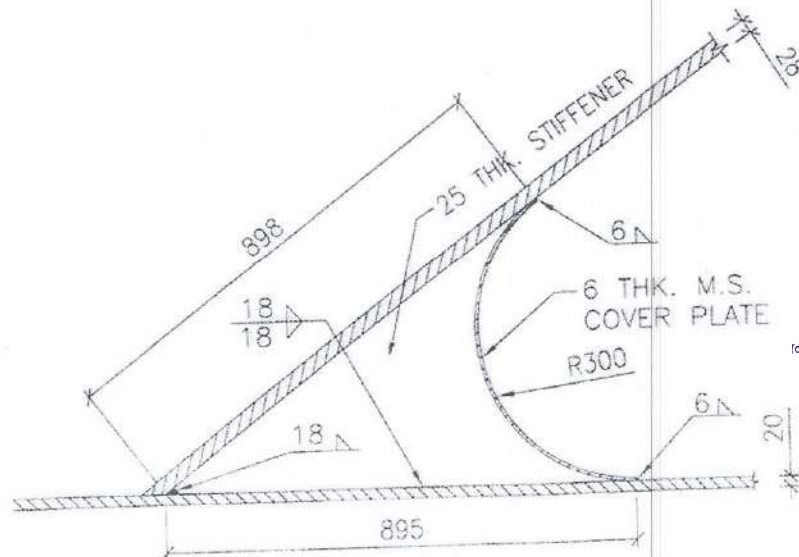
Factory Address-

Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhai Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

| | | |
|-------------------------------------|---|--|
| Welding Procedure Specification No. | : | ARJIT/R&C/NR-LKO/2x56.0m/BSG/Unchahar/WPSS/35 |
| Drawing No. | : | RDSO/B-10428/4 |
| 1.0 Weld Joint Description | : | Fillet - 6mm Cover Plate at LO |
| 1.1 Base Metal | : | IS: 2062, E350B0 Fully Killed and Normalized & Base Metal Thickness |
| 1.2 Welding Process | : | FCAW |
| 1.3 Welding Position | : | Horizontal, Vertical & Overhead |
| 1.4 Weld Location | : | Field |
| 1.5 Weld Size | : | 6mm |
| 1.6 Welding Consumable | : | Class-1 of IRS M46-2013, Grade-E71T-12, Steel Wire Dia. 1.2mm, FCAW Wire |
| a) Electrode Wire | : | N/A |
| b) Drying Method | : | N/A |
| c) Flux Class | : | N/A |
| d) Type | : | N/A |
| e) Drying Method | : | N/A |
| f) Shielding Gas | : | CO2 99.8% Pure, Absolute Dry and Free from N2 as per IS: 307 GR.1 |
| 1.7 Base Metal Preparation | : | Material to be cut straight & square by controlled gas Cutting machine, Edge preparation to be done as per Sketch. All Fusion faces and adjacent surfaces are cleaned, Made free from cracks, notches, mill scale, grease, paint, Rust etc. which may affect weld quality. |



DETAIL - 2

(SCALE 1:10)

सं० अ० अधि० धातु एवं रसा०
Asslt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
१० अ० मा० सं०, लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer, VI
Northern Railway, Lucknow

Page 69 of 78





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

Factory Address-

Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhai Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001 & IS: 9595-20
 1.10 Welding Current : Type, DC, Polarity: Reverse
 1.11 Welder Qualification : FCAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974
 1.12 Welding Parameters & Technique : (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr. /min.) | Travel Speed (mtr. /min.) | Electrode Stick Out (mm) | Gas Flow (Ltr. /min.) |
|---------------|---------------------------|----------------|---------------------|------------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 2 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 3 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 4 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |

- 1.13 Provision of Run-on & Run-off tabs : Yes
 1.14 Cleaning of weld bead before laying of next weld bead : Yes
 1.15 Root preparation before welding other side of groove weld : N/A
 1.16 Pre-heating & Interpass temperature : 100-150°C
 1.17 Peening : N/A
 1.18 Post weld treatment : N/A
 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
 1.20 Inspection of weld : Visual, D.P. Test, weld Size & weld Profile.
 1.21 Any other relevant detail : N/A

सं०अ० अधिकारी एवं रसा०
 Asstt. Research Officer/M&C
 रेल मंत्रालय/Ministry of Railways
 १०अ०मा०सं०, लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer /VI
 Northern Railway, Lucknow



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Handwritten signature

Team Leader, Civil Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office:-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

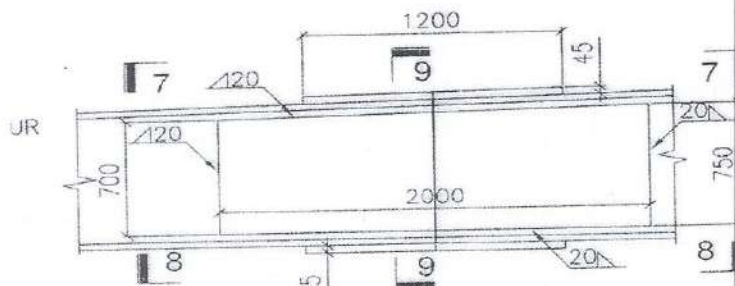
Factory Address:-

Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301



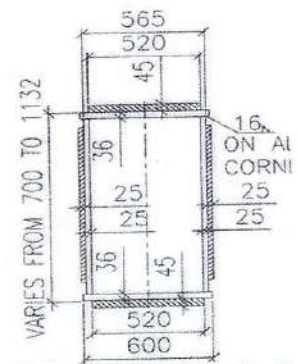
Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- Welding Procedure Specification No. : ARJIT/R&C/NR-LKO/2x56.0m/BSG/Unchahar/WPSS/36
- Drawing No. : RDSO/B-10428/6
- 1.0 Weld Joint Description : Splice Joint in End Bottom Cross Beam (BCB-3)
- 1.1 Base Metal : IS: 2062, E350B0 Fully Killed and Normalized & Base Metal Thickness
- 1.2 Welding Process : FCAW
- 1.3 Welding Position : Horizontal, Vertical & Overhead
- 1.4 Weld Location : Field
- 1.5 Weld Size : 20/25mm
- 1.6 Welding Consumable :
- a) Electrode Wire : Class-1 of IRS M46-2013, Grade-E71T-12, Steel Wire Dia. 1.2mm, FCAW Wire
- b) Drying Method : N/A
- c) Flux Class : N/A
- d) Type : N/A
- e) Drying Method : N/A
- f) Shielding Gas : CO2 99.8% Pure, Absolute Dry and Free from N2 as per IS: 307 GR.1
- 1.7 Base Metal Preparation : Material to be cut straight & square by controlled gas Cutting machine, Edge preparation to be done as per Sketch. All Fusion faces and adjacent surfaces are cleaned, Made free from cracks, notches, mill scale, grease, paint, Rust etc. which may affect weld quality.



**DETAILS OF SPLICE
SP3 - ELEVATION**

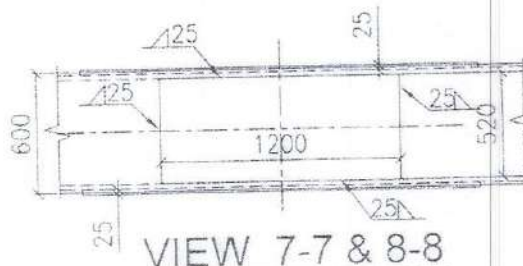
(SCALE 1:25)



SECTION 9-9

(SCALE 1:25)

संशोधन अधिकारी एवं सहायक
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
लखनऊ/R.D.S.O., Lucknow



VIEW 7-7 & 8-8



[Signature]
Sr. Divisional Engineer VI
Northern Railway, Lucknow

Page 71 of 78



[Signature]
Team Leader Cum Sr. Highway Engineer



WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)
M/s ARJIT TRADERS

Head Office:-
19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

Factory Address:-
Khasra No. 844 Kali Paschim Near SGPGI, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001
 1.10 Welding Current : & IS: 9595-20
 1.11 Welder Qualification : Type, DC, Polarity: Reverse
 1.12 Welding Parameters & Technique : FCAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974 (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr. /min.) | Travel Speed (mtr. /min.) | Electrode Stick Out (mm) | Gas Flow (Ltr. /min.) |
|---------------|---------------------------|----------------|---------------------|------------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 2 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 3 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 4 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |

- 1.13 Provision of Run-on & Run-off tabs : Yes
 1.14 Cleaning of weld bead before laying of next weld bead : Yes
 1.15 Root preparation before welding other side of groove weld : N/A
 1.16 Pre-heating & Interpass temperature : 100-150°C
 1.17 Peening : N/A
 1.18 Post weld treatment : N/A
 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
 1.20 Inspection of weld : Visual, D.P. Test, weld Size & weld Profile.
 1.21 Any other relevant detail : N/A

सं०अ० अधिकारी एवं रसा०
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
०३००मा०सं०, लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer/VI
Northern Railway, Lucknow



Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

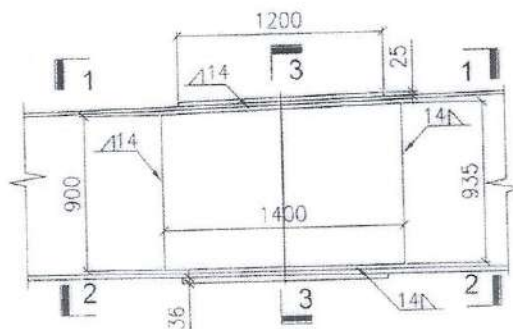
Factory Address-

Khasra No. 844 Kali Paschim Near SGPGL, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

| | | |
|-------------------------------------|---|--|
| Welding Procedure Specification No. | : | ARJIT/R&C/NR-LKO/2x56.0m/BSG/Unchahar/WPSS/37 |
| Drawing No. | : | RDSO/B-10428/6 |
| 1.0 Weld Joint Description | : | Splice Joint in Int. Bottom Cross Beam (BCB-1&2) |
| 1.1 Base Metal | : | IS: 2062, E350B0 Fully Killed and Normalized & Base Metal Thickness |
| 1.2 Welding Process | : | FCAW |
| 1.3 Welding Position | : | Horizontal, Vertical & Overhead |
| 1.4 Weld Location | : | Field |
| 1.5 Weld Size | : | 14/22mm |
| 1.6 Welding Consumable | : | Class-1 of IRS M46-2013, Grade-E71T-12, Steel Wire Dia. 1.2mm, FCAW Wire |
| a) Electrode Wire | : | N/A |
| b) Drying Method | : | N/A |
| c) Flux Class | : | N/A |
| d) Type | : | N/A |
| e) Drying Method | : | CO2 99.8% Pure, Absolute Dry and Free from N2 as per IS: 307 GR.1 |
| f) Shielding Gas | : | Material to be cut straight & square by controlled gas Cutting machine, Edge preparation to be done as per Sketch. All Fusion faces and adjacent surfaces are cleaned, Made free from cracks, notches, mill scale, grease, paint, Rust etc. which may affect weld quality. |
| 1.7 Base Metal Preparation | : | |

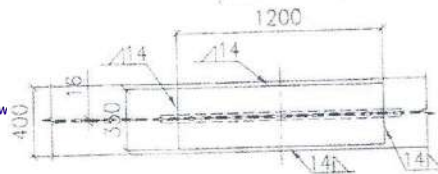


DETAILS OF SPLICE
SP1 - ELEVATION
(SCALE 1:25)

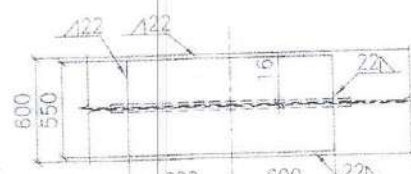


SECTION 3-3
(SCALE 1:25)

संशोधन अधिकारी एवं रसायन
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
लोकमान्य नगर, लखनऊ/R.D.S.O., Lucknow



VIEW 1-1
(SCALE 1:25)



VIEW 2-2
(SCALE 1:25)



Sr. Divisional Engineer /VI
Northern Railway, Lucknow





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

Factory Address-

Khasra No. 844 Kali Paschim Near SGPGL, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001
- 1.10 Welding Current : & IS: 9595-20
- 1.11 Welder Qualification : Type, DC, Polarity: Reverse
- 1.12 Welding Parameters & Technique : FCAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974 (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr. /min.) | Travel Speed (mtr. /min.) | Electrode Stick Out (mm) | Gas Flow (Ltr. /min.) |
|---------------|---------------------------|----------------|---------------------|------------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 2 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 3 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 4 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : Yes
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test, weld Size & weld Profile.
- 1.21 Any other relevant detail : N/A

सं० अ० अधिकारी एवं रसा०
Asslt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer /VI
Northern Railway, Lucknow



Team Leader Cum Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

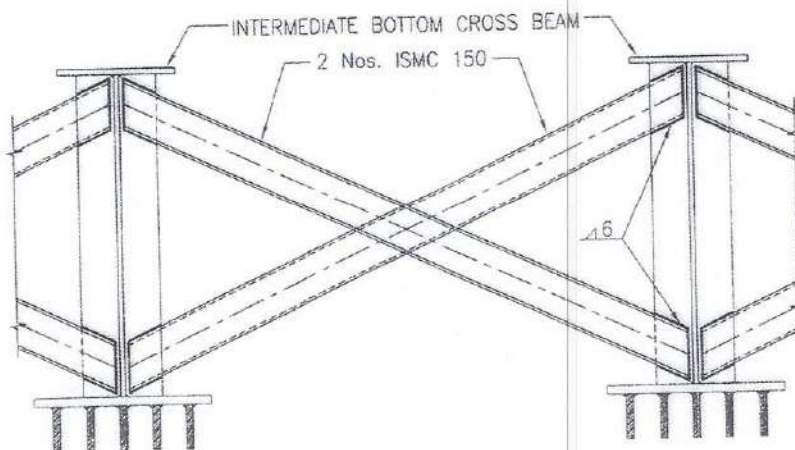
Factory Address-

Khasra No. 844 Kali Paschim Near SGPGL, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

| | | |
|-------------------------------------|---|--|
| Welding Procedure Specification No. | : | ARJIT/R&C/NR-LKO/2x56.0m/BSG/Unchahar/WPSS/38 |
| Drawing No. | : | RDSO/B-10428/1 |
| 1.0 Weld Joint Description | : | ISM-150mm Welding With Bottom Cross Beams |
| 1.1 Base Metal | : | IS: 2062, E350B0 Fully Killed and Normalized & Base Metal Thickness |
| 1.2 Welding Process | : | FCAW |
| 1.3 Welding Position | : | Horizontal, Vertical & Overhead |
| 1.4 Weld Location | : | Field |
| 1.5 Weld Size | : | 6mm |
| 1.6 Welding Consumable | : | |
| a) Electrode Wire | : | Class-1 of IRS M46-2013, Grade-E71T-12, Steel Wire Dia. 1.2mm, FCAW Wire |
| b) Drying Method | : | N/A |
| c) Flux Class | : | N/A |
| d) Type | : | N/A |
| e) Drying Method | : | N/A |
| f) Shielding Gas | : | CO2 99.8% Pure, Absolute Dry and Free from N2 as per IS: 307 GR.1 |
| 1.7 Base Metal Preparation | : | Material to be cut straight & square by controlled gas Cutting machine, Edge preparation to be done as per Sketch. All Fusion faces and adjacent surfaces are cleaned, Made free from cracks, notches, mill scale, grease, paint, Rust etc. which may affect weld quality. |



सं०अ० अधिकारी एवं रसा०
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
लखनऊ/लखनऊ/R.D.S.O., Lucknow

**ELEVATION SHOWING ISMC 150
TO BE PLACED CRISS-CROSS**

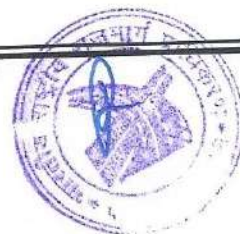
Sr. Divisional Engineer /V
Northern Railway, Lucknow



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Handwritten signature

Team Leader Cum Sr. Highway Engineer





WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

M/s ARJIT TRADERS

Head Office-

19-20A, SARVODAYA NAGARAWADHPURI, Lucknow, UP- 226016

Factory Address-

Khasra No. 844 Kali Paschim Near SGPPI, Raebareli Road, Lucknow, UP-226301



Fabrication, Supply, Transportation, Site Assembly, Field Welding, Erection & Launching of 2x56.0m Span Bow String Steel Girder for Project-"Construction of ROB (6-Lane) at Railway KM. 74/2-3 Between Unchahar-Jalalpur Dhari Station near Unchahar Railway Station on Unchahar-Unnao Section, Northern Railway, Lucknow Division."

- 1.8 Joint Design Details : Sketch Showing arrangements of Parts, Weld Details
- 1.9 Joint Preparation : As per IS: 4353-1995, CL-7, IRS B1-2001, CL-17 & WBC-2001
- 1.10 Welding Current : & IS: 9595-20
- 1.11 Welder Qualification : Type, DC, Polarity: Reverse
- 1.12 Welding Parameters & Technique : FCAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974 (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr. /min.) | Travel Speed (mtr. /min.) | Electrode Stick Out (mm) | Gas Flow (Ltr. /min.) |
|---------------|---------------------------|----------------|---------------------|------------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 2 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 3 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 4 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |

- 1.13 Provision of Run-on & Run-off tabs : Yes
- 1.14 Cleaning of weld bead before laying of next weld bead : Yes
- 1.15 Root preparation before welding other side of groove weld : N/A
- 1.16 Pre-heating & Interpass temperature : 100-150°C
- 1.17 Peening : N/A
- 1.18 Post weld treatment : N/A
- 1.19 Rectification of weld defect : By Grinding of the defective weld And rectifying the weld as per Cl. 32.2 of IS: 9595-96 using B1 Class electrodes of specification IRS M-28.2 after conducting D.P. Test
- 1.20 Inspection of weld : Visual, D.P. Test, weld Size & weld Profile.
- 1.21 Any other relevant detail : N/A

सं०अ० अधिकारी एवं रसा०
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
ल०अ०मार्ग०सं०, लखनऊ/R.D.S.O., Lucknow

Sr. Divisional Engineer /VI
Northern Railway, Lucknow



Team Leader Cum Sr. Highway Engineer



WELDING PROCEDURE SPECIFICATION SHEET

(W.P.S.S.)

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- 1.10 Welding Current : Type, DC, Polarity: Reverse
- 1.11 Welder Qualification : FCAW As per IS: 7310 (Part-I)-1974, IS: 7307 (Part-I)-1974
- 1.12 Welding Parameters & Technique : (As Below)-

| Weld Pass No. | Electrode/ Wire Dia. (mm) | Current (Amp.) | Arc Voltage (Volts) | Wire Feed Speed (mtr. /min.) | Travel Speed (mtr. /min.) | Electrode Stick Out (mm) | Gas Flow (Ltr. /min.) |
|---------------|---------------------------|----------------|---------------------|------------------------------|---------------------------|--------------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
| 2 | 1.2 | 180-270 | 24-31 | 8.6 | N/A | 12 | 16 |
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- 1.16 Pre-heating & Interpass temperature : 100-150°C
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- 1.18 Post weld treatment : N/A
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- 1.20 Inspection of weld : Visual, D.P. Test, weld Size & weld Profile.
- 1.21 Any other relevant detail : N/A

संलग्न अधिकारी एवं रसायन
Asstt. Research Officer/M&C
रेल मंत्रालय/Ministry of Railways
लोकमान्य, लखनऊ/R.D.S O., Lucknow

Sr. Divisional Engineer/VI
Northern Railway, Lucknow



Team Leader Cum. Sr. Highway Engineer