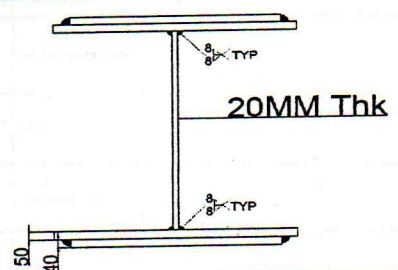
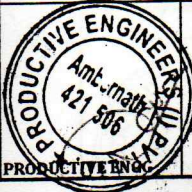


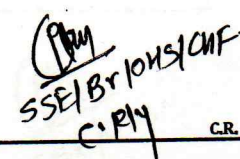


K.K.ENGINEERING		WELDING PROCEDURE & SPECIFICATION SHEET	
		Name of project :-Proposed extension of end FOB at Prabhadevi station of Western Railway towards Parel station of Central Railway workshop. Proposed 6.0M wide FOB.	
Name of Fabricator :-		PRODUCTIVE ENGINEERS	
Name of Client		CENTRAL RAILWAY	
Name of Contractor :-		K.K.ENGINEERING	
Welding Procedure Specification No.		WPSS/AMIL/ KKE / PRD/PRL/ FOB /SAW-001	
WELDING PROCEDURE SPECIFICATION SHEET FOR BUILT UP GIRDERS			
1	Drawing No.	G.M.W B B /10553	
2	Weld Joint Description	Fillet 8 MM (Main I Section) (Web 20MM to Flange 50MM)	
3	Base Metal	IS:2062:2011 , Grade E-250 B0/ BR	
4	Welding Process	SAW	
5	Welding Position	Flat inclined at 45°	
6	Welding Consumable		
6.1	Electrod / Wire Class	W1 of IRS M39	
	Type	Copper Coated Mild Steel Wire	
	Drying Method	N/A	
6.2	Flux		
	Class	F1 of IRS M39	
	Type	Agglomerated	
	Drying Method	250°C for One Hour before uses OR Recommendation as per Manufacturer	
6.3	Shielding Gas	N/A	
7	Base Metal preparation	Fusion Faces and adjacent surfaces are cleaned and made free from crackes, Notches , mill scale , Grease , Paint , rust etc. which may affect weld quality	
7.1	Joint Design Detail		
7.2	Joint Preparation	As per IS 4353-1995 , C17 , IRS B1- , Clause 17.3 , & WBC -2001	
8	Welding Current	As Per page No-02	
	Type	D. C.	
	Polarity	Reverse	
9	Welder Qualification	As Per IS : 7310 (Part-1)-1974	
10	Welding Parameter and techniques	As Per page No-02	
10.1	Welding Parameter	As Per page No-02	
			
			
			

K.K.ENGINEERING		WELDING PROCEDURE & SPECIFICATION SHEET				
		Name of project :- Proposed extension of end FOB at Prabhadevi station of Western Railway towards Parel station of Central Railway workshop. Proposed 6.0M wide FOB.				
Name of Fabricator :-		PRODUCTIVE ENGINEERS				
Name of Client		CENTRAL RAILWAY				
Name of Contractor :-		K.K.ENGINEERING				
Welding Procedure Specification No.		WPSS/AMIL/ KKE / PRD/PRL/ FOB /SAW-001				
WELDING PROCEDURE SPECIFICATION SHEET FOR BUILT UP GIRDERS						
Sr No	Electrode Wire Dia	Current (AMPS) DC	Arc. Voltage (DCX)	Travel Speed in (M/MM)	Electrical Sticks out (MM)	Gas Flow (L/Min)
1	4	475 - 600	28 - 34	0.35 - 0.45	20-30	N/A
*For Subsequent Passes Same Parameters shall be followed						
WELDING SEQUENCE AND TECHNIQUE						
11	Provision of Run-on / Run-off tabs			Yes		
12	Cleaning of weld bed before lying of next weld bed			Yes for multi pass		
13	Root preparation before welding other side of groove weld			N/A		
14	Pre-Heating and interpass temperature			Minimum 150°		
15	Peening			N/A		
16	Post weld Treatment			N/A		
17	Rectification of weld defects			By Rewelding after complete removal of defective weld as per IS: 9595 of Clause 32.2 by A2 electrode		
18	Inspection of Weld defects			Virtual DP Test & Macro		
19	Any other Relevant detail			Using Tendem welding technology		
						<p>CPM SSE/oms. C.P.M. C.R.</p>

Vijay Venk
Am/1993

K.K.ENGINEERING

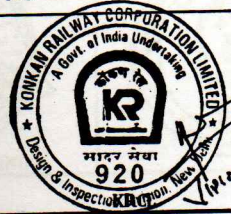
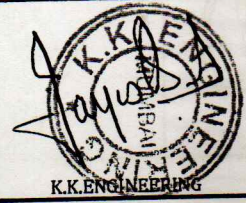
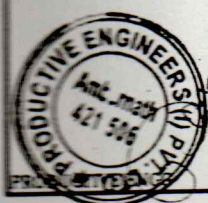
WELDING PROCEDURE & SPECIFICATION SHEET

Name of project :-Proposed extension of end FOB at Prabhadevi station of Western Railway towards Parel station of Central Railway workshop. Proposed 6.0M wide FOB.

Name of Fabricator :-	PRODUCTIVE ENGINEERS
Name of Client	CENTRAL RAILWAY
Name of Contractor :-	K.K.ENGINEERING
Welding Procedure Specification No.	WPSS/AMIL/ KKE / PRD/PRL/ FOB /SAW-002

WELDING PROCEDURE SPECIFICATION SHEET FOR BUILT UP GIRDERS

1	Drawing No.	G.M.W B B/10553
2	Weld Joint Description	Fillet 8 MM (Main I Section) (Flange 50MM to Flange 40MM)
3	Base Metal	IS:2062:2011, Grade E-250 B0/ BR
4	Welding Process	SAW
5	Welding Position	Flat inclined at 45°
6	Welding Consumable	
6.1	Electrod / Wire Class	W1 of IRS M39
	Type	Copper Coated Mild Steel Wire
	Drying Method	N/A
6.2	Flux	
	Class	F1 of IRS M39
	Type	Agglomerated
	Drying Method	250°C for One Hour before uses OR Recommendation as per Manufacturer
6.3	Shielding Gas	N/A
7	Base Metal preparation	Fusion Faces and adjacent surfaces are cleaned and made free from cracks, Notches , mill scale , Grease ,
7.1	Joint Design Detail	
	Sketch Showing arrangement of Built up Plate Girder detail	
7.2	Joint Preparation	As per IS 4353-1995, C17, IRS B1-, Clause 17.3 , & WBC -2001
8	Welding Current	As Per page No-02
	Type	D. C.
	Polarity	Reverse
9	Welder Qualification	As Per IS : 7310 (Part-1)-1974
10	Welding Parameter and techniques	As Per page No-02
10.1	Welding Parameter	As Per page No-02



Vijay V...
MM/19/15

(P.M.)
SSE/BY/OHS/CH
C.R.M.
C.R.

K.K.ENGINEERING		WELDING PROCEDURE & SPECIFICATION SHEET				
		Name of project :-Proposed extension of end FOB at Prabhadevi station of Western Railway towards Parel station of Central Railway workshop. Proposed 6.0M wide FOB.				
Name of Fabricator :-	PRODUCTIVE ENGINEERS					
Name of Client	CENTRAL RAILWAY					
Name of Contractor :-	K.K.ENGINEERING					
Welding Procedure Specification No.	WPSS/AMIL/ KKE / PRD/PRL/ FOB /SAW-002					
WELDING PROCEDURE SPECIFICATION SHEET FOR BUILT UP GIRDERS						
Sr No	Electrode Wire Dia	Current (AMPS) DC	Arc. Voltage (DCX)	Travel Speed in (M/MM)	Electrical Sticks out (MM)	Gas Flow (L/Min)
1	4	475 - 600	28 - 34	0.35 - 0.45	20-30	N/A
*For Subsequent Passes Same Parameters shall be followed						
WELDING SEQUENCE AND TECHNIQUE						
11	Provision of Run-on / Run-off tabs				Yes	
12	Cleaning of weld bed before lying of next weld bed				Yes for multi pass	
13	Root preparation before welding other side of groove weld				N/A	
14	Pre-Heating and interpass temperature				Minimum 150°	
15	Peening				N/A	
16	Post weld Treatment				N/A	
17	Rectification of weld defects				By Rewelding after complete removal of defective weld as per IS: 9595 of Clause 32.2 by A2 electrode	
18	Inspection of Weld defects				Virtual ,DP Test & Macro	
19	Any other Relevant detail				Using Tendem welding technology	

K.K.ENGINEERING

WELDING PROCEDURE & SPECIFICATION SHEET

Name of project :-Proposed extension of end FOB at Prabhadevi station of Western Railway towards Parel station of Central Railway workshop. Proposed 6.0M wide FOB.

Fabricator :-	PRODUCTIVE ENGINEERS
Client	CENTRAL RAILWAY
Contractor :-	K.K.ENGINEERING
Procedure Specification No.	WPSS/AMIL/ KKE / PRD/PRL/ FOB /GMAW/CO2-003

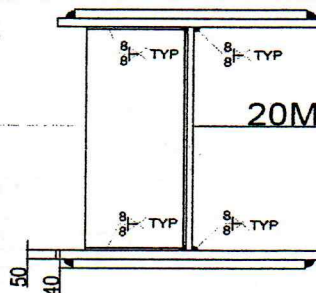
WELDING PROCEDURE SPECIFICATION SHEET FOR BUILT UP GIRDERS

1	Drawing No.	G.M.W B B/10553
2	Weld Joint Description	Fillet Weld (Stiffner (12mm) to Web (20mm))
3	Base Metal	IS:2062:2011 , Grade E-250 BR/B0
4	Welding Process	CO2/ GMAW
5	Welding Position	2F (Horizontal)
6	Welding Consumable	
6.1	Electrod / Wire Class	IRS M46 - Class 1
	Type	Copper Coated Mild Steel Wire
	Drying Method	N/A
6.2	Flux	
	Class	N/A
	Type	N/A
	Drying Method	N/A
6.3	Shielding Gas	CO2
7	Base Metal preparation	Fusion Faces and adjacent surfaces are cleaned and made free from crackes, Notches , mill scale , Grease , Paint , rust etc. which may affect weld quality
7.1	Joint Design Detail	

Sketch Showing arrangement of Built up Plate Girder detail

12MM Thk

20MM Thk



7.2	Joint Preparation	As per IS 10178 : 1995 , C17 , IRS B1- , Clause 17.3 , & WBC-2001
8	Welding Current	
	Type	D. C.
	Polarity	Reverse
9	Welder Qualification	As Per IS : 7310 (Part-1)-1974
10	Welding Parameter and techniques	As Per page No-02
10.1	Welding Parameter	As Per page

<p>K.K.ENGINEERING</p>	<p>KRCL</p>	<p>Copy SSE/BRI/ONS/CHE C.R.M</p>
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C.R.

WELDING PROCEDURE & SPECIFICATION SHEET

K.K.ENGINEERING

Name of project :- Proposed extension of end FOB at Prabhadevi station of Western Railway towards Parel station of Central Railway workshop. Proposed 6.0M wide FOB.

Name of Fabricator :-	PRODUCTIVE ENGINEERS
Name of Client	CENTRAL RAILWAY
Name of Contractor :-	K.K.ENGINEERING
Welding Procedure Specification No.	WPSS/AMIL/ KKE / PRD/PRL/ FOB /GMAW/CO2-003

WELDING PROCEDURE SPECIFICATION SHEET FOR BUILT UP GIRDERS

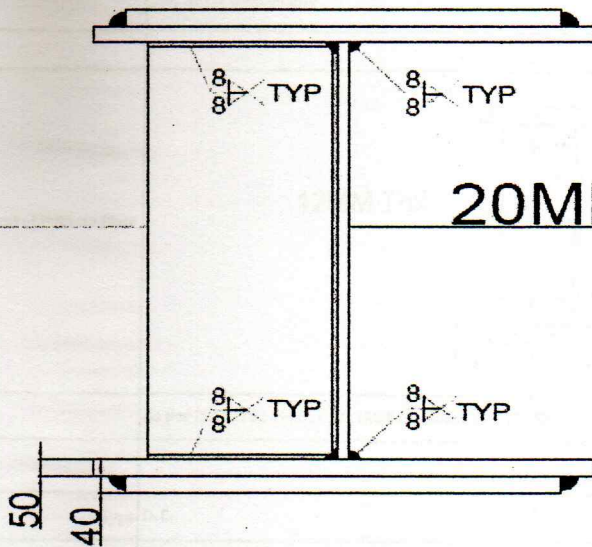
Sr No	Electrode Wire Dia	Current (AMPS) DC	Arc. Voltage (DCX)	Wire Feed Speed in (M/MM)	Travel Speed in (M/MM)	Electrical Sticks out (MM)	Gas Flow (L/Min)
1	1.2	200-375	25-32	4-7	2-3	10-20	12-18
2	1.2	200-375	25-32	4-7	2-3	10-20	12-18
3	1.2	200-375	25-32	4-7	2-3	10-20	12-18

*For Subsequent Passes Same Parameters shall be followed

WELDING SEQUENCE AND TECHNIQUE

12MM Thk

20MM Thk



11	Provision of Run-on / Run-off tabs	N/A
12	Cleaning of weld bed before lying of next weld bed	Yes
13	Root preparation before welding other side of groove weld	N/A
14	Pre-Heating and interpass temperature	150 C (MIN)
15	Peening	N/A
16	Post weld Treatment	N/A
17	Rectification of weld defects	By Rewelding after complete removal of defective weld as per IS: 9595 of Clause 32.2 by A2 electrode or by class 1 GMAW Electrode
18	Inspection of Weld defects	Virtual & DP Test
19	Any other Relevant detail	

<p>PRODUCTIVE ENGG</p>	<p>K.K.ENGINEERING</p>	<p>KRCL</p>	<p><i>Prady</i> SSE/B/Loms. C.P.K.</p> <p style="text-align: right;">C.R.</p>
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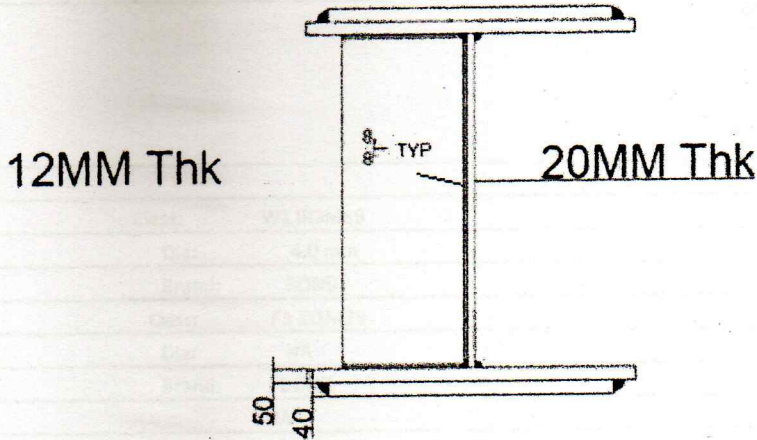
K.K.ENGINEERING	WELDING PROCEDURE & SPECIFICATION SHEET	
	Name of project :- Proposed extension of end FOB at Prabhadevi station of Western Railway towards Parel station of Central Railway workshop. Proposed 6.0M wide FOB.	
Name of Fabricator :-	PRODUCTIVE ENGINEERS	
Name of Client	CENTRAL RAILWAY	
Name of Contractor :-	K.K.ENGINEERING	
Welding Procedure Specification No.	WPSS/AMIL/ KKE / PRD/PRL/ FOB /GMAW/CO2-004	

WELDING PROCEDURE SPECIFICATION SHEET FOR BUILT UP GIRDERS

Sr No	Electrode Wire Dia	Current (AMPS) DC	Arc. Voltage (DCX)	Wire Feed Speed in (M/MM)	Travel Speed in (M/MM)	Electrical Sticks out (MM)	Gas Flow (L/Min)
1	1.2	200-375	25-32	4-7	2-3	10-20	12-18
2	1.2	200-375	25-32	4-7	2-3	10-20	12-18
3	1.2	200-375	25-32	4-7	2-3	10-20	12-18

*For Subsequent Passes Same Parameters shall be followed

WELDING SEQUENCE AND TECHNIQUE



11	Provision of Run-on / Run-off tabs	N/A
12	Cleaning of weld bed before lying of next weld bed	Yes
13	Root preparation before welding other side of groove weld	N/A
14	Pre-Heating and interpass temperature	150 C (MIN)
15	Peening	N/A
16	Post weld Treatment	N/A
17	Rectification of weld defects	By Rewelding after complete removal of defective weld as per IS: 9595 of Clause 32.2 by A2 electrode or by class 1 GMAW Electrode
18	Inspection of Weld defects	Virtual & DP Test
19	Any other Relevant detail	

<p>PRODUCTIVE ENGS</p>	<p>K.K.ENGINEERING</p>	<p>KRCL</p>	<p><i>Copy</i> SSE Byron's/cyf G.P/y. C.R.</p> <p>C.R.</p>
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