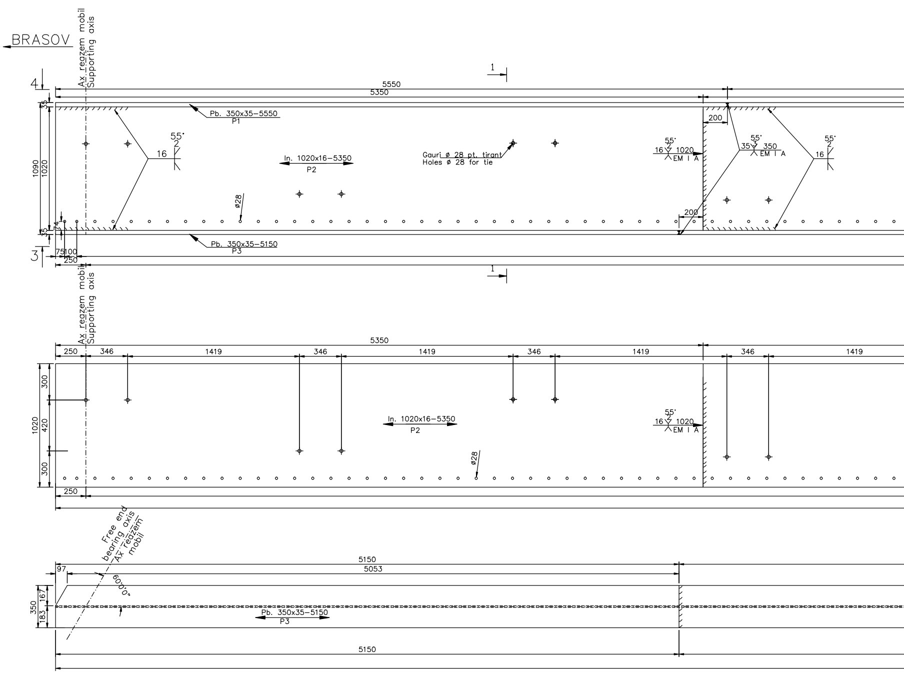
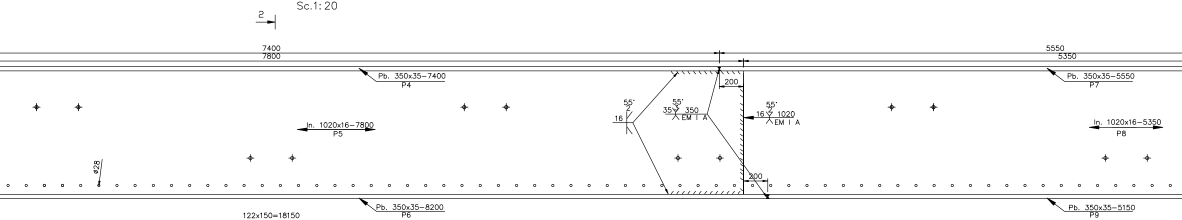

BRASOV
Ax reazem mobil
Supporting axis
1
5550
5350
4
3
35
1090
1020
74
Pb. 350x35-5550
P1
55°
2
16
In. 1020x16-5350
P2
Gauri ø 28 pt. tirant
Holes ø 28 for tie
ø28
55°
2
16
1020
EM I A
200
55°
3
35
350
EM I A
55°
2
16
200
Pb. 350x35-5150
P3
75
100
250
5350
250
346
1419
346
1419
346
1419
346
1419
300
420
300
1020
In. 1020x16-5350
P2
ø28
55°
2
16
1020
EM I A
250
Free end
bearing axis
Ax reazem
mobil
5150
97
5053
60°0'0"
350
167
183
Pb. 350x35-5150
P3
5150

ELEVATIE GRINDA METALICA TIP 1
ELEVATION OF THE METALLIC GIRDER TYPE 1

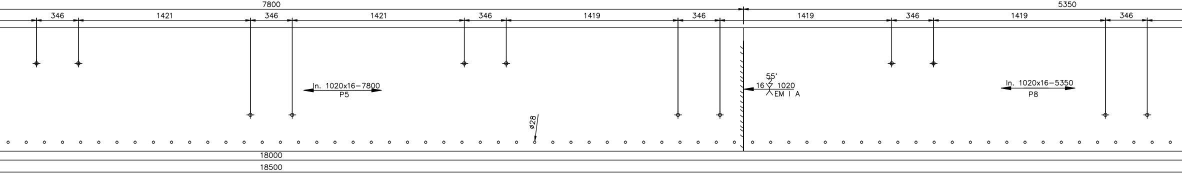
Sc.1:20



2
7400
7800
5550
5350
Pb. 350x35-7400
P4
Pb. 350x35-5550
P7
200
55°
2
16
55°
3
35
350
EM I A
55°
2
16
1020
EM I A
In. 1020x16-7800
P5
In. 1020x16-5350
P8
ø28
200
Pb. 350x35-8200
P6
Pb. 350x35-5150
P9
122x150=18150
18000
2

DETALII PENTRU INIMA GRINZII METALICE TIP 1
DETAILS FOR THE METALLIC GIRDER WEB TYPE 1

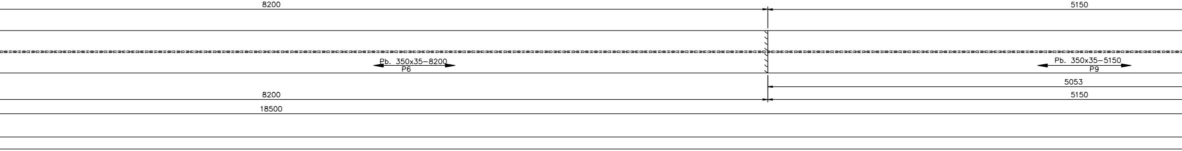
Sc.1:20



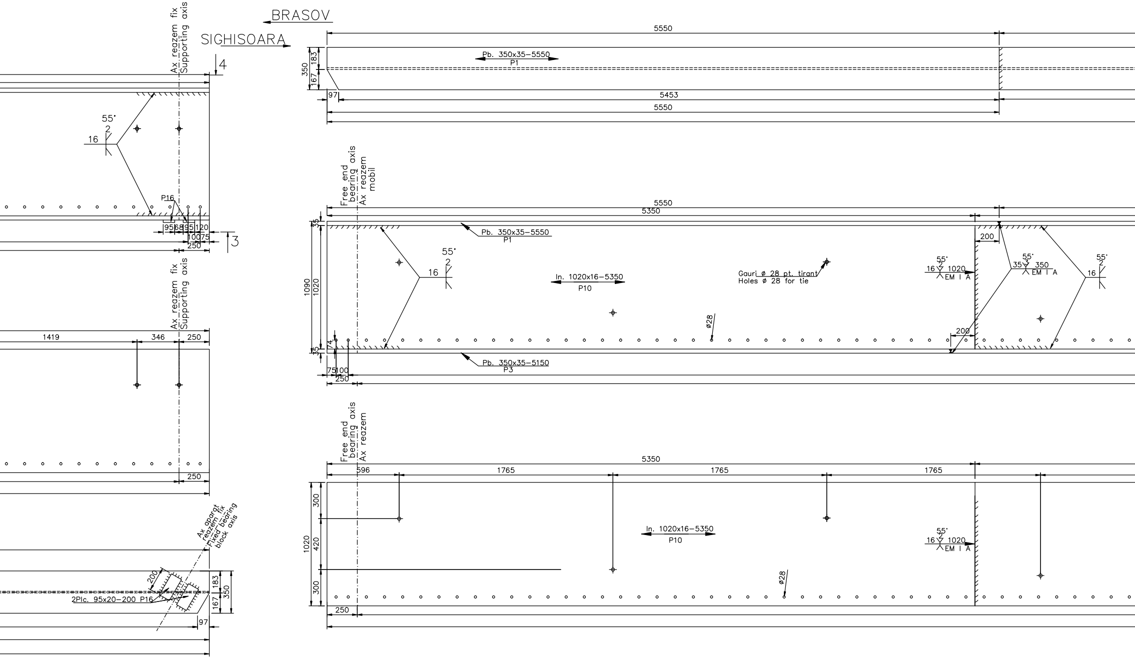
7800
5350
346
1421
346
1421
346
1419
346
1419
346
1419
346
55°
2
16
1020
EM I A
In. 1020x16-7800
P5
In. 1020x16-5350
P8
ø28
18000
18500

VEDERE 3-3 / VIEW 3-3

Sc.1:20

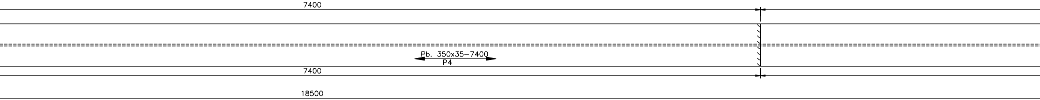


8200
5150
Pb. 350x35-8200
P6
Pb. 350x35-5150
P9
5053
8200
5150
18500


BRASOV
SIGHISOARA
Ax reazem fix
Supporting axis
4
55°
2
16
P16
95 68 35 120
100 75
250
3
Ax reazem fix
Supporting axis
1419
346
250
250
Ax aparat reazem fix
Fixed bearing block axis
200
2Plc. 95x20–200 P16
183
350
167
97
5550
Pb. 350x35–5550
P1
350
183
167
97
5453
5550
Free end bearing axis
Ax reazem mobil
5550
5350
35
Pb. 350x35–5550
P1
55°
2
16
In. 1020x16–5350
P10
Gauri ø 28 pt. tirant
Holes ø 28 for tie
ø28
55°
16
1020
EM I A
200
35
350
200
1090
1020
74
35
75 100
250
Pb. 350x35–5150
P3
Free end bearing axis
Ax reazem
5350
596
1765
1765
1765
300
420
300
1020
In. 1020x16–5350
P10
55°
16
1020
EM I A
ø28
250

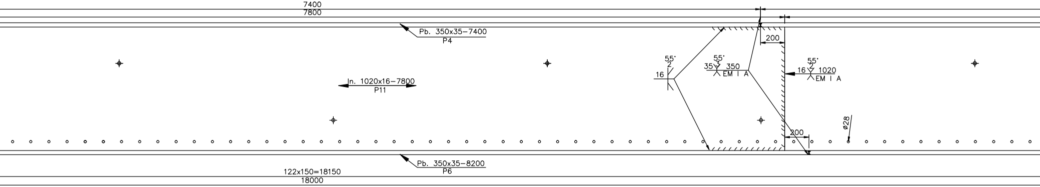
VEDERE 4–4/ VIEW 4–4

Sc.1:20


7400
Pb. 350x35–7400
P4
7400
18500

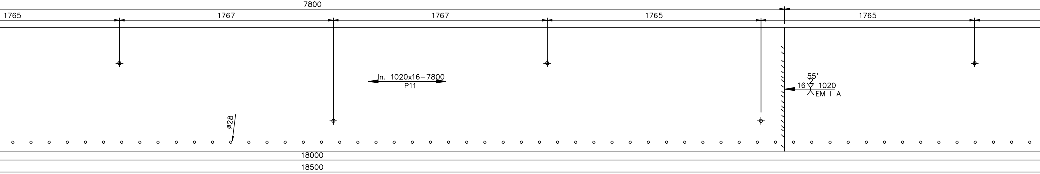
ELEVATIE GRINDA METALICA TIP 2
ELEVATION OF THE METALLIC GIRDER TYPE 2

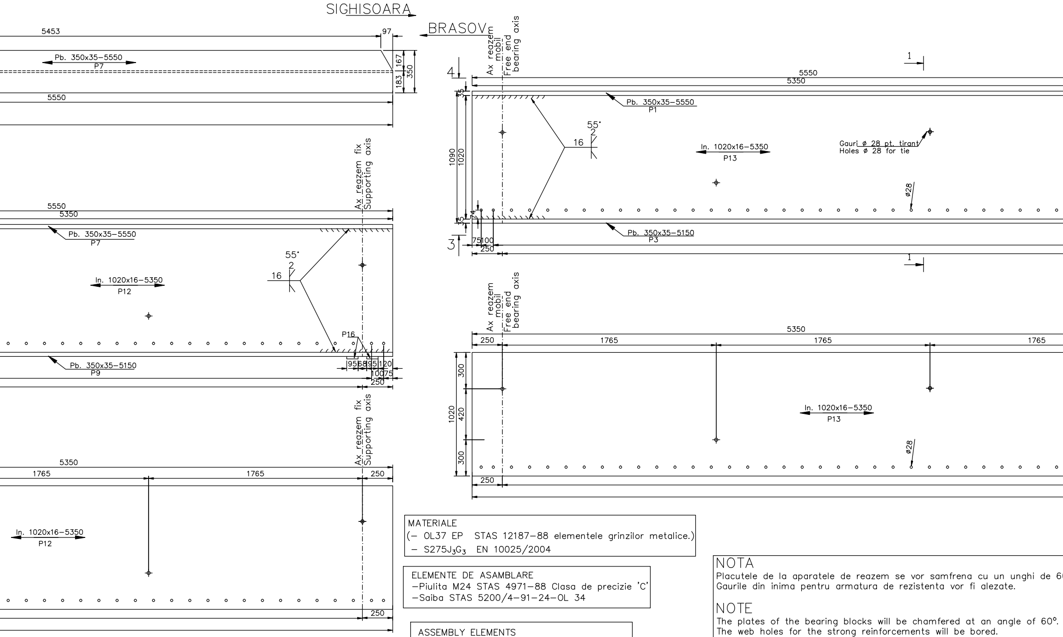
Sc.1:20


7400
7800
Pb. 350x35–7400
P4
200
55°
2
16
55°
3
35
350
EM I A
55°
2
16
1020
EM I A
In. 1020x16–7800
P11
ø28
200
Pb. 350x35–8200
P6
122x150=18150
18000

DETALII PENTRU INIMA GRINZII METALICE TIP 2
DETAILS FOR THE METALLIC GIRDER WEB TYPE 2

Sc.1:20


7800
1765
1767
1767
1765
1765
In. 1020x16–7800
P11
55°
2
16
1020
EM I A
ø28
18000
18500


SIGHISOARA
BRASOV
5453
97
Pb. 350x35–5550
P7
167
183
350
5550
Ax reazem fix
Supporting axis
5550
5350
Pb. 350x35–5550
P7
55°
2
16
In. 1020x16–5350
P12
P16
Pb. 350x35–5150
P9
95
68
95
120
100
75
250
Ax reazem fix
Supporting axis
5350
1765
1765
250
In. 1020x16–5350
P12
250
Ax reazem mobil
Free end bearing axis
4
5550
5350
1
35
1090
1020
Pb. 350x35–5550
P1
55°
2
16
In. 1020x16–5350
P13
Gauri ø 28 pt. tirant
Holes ø 28 for tie
ø28
74
35
Pb. 350x35–5150
P3
3
75
100
250
1
Ax reazem mobil
Free end bearing axis
5350
250
1765
1765
1765
300
420
300
1020
In. 1020x16–5350
P13
ø28
250

MATERIALE
(– OL37 EP STAS 12187–88 elementele grinzilor metalice.)
– $S275J_3G_3$ EN 10025/2004

ELEMENTE DE ASAMBLARE
–Piulita M24 STAS 4971–88 Clasa de precizie 'C'
–Saiba STAS 5200/4–91–24–OL 34

ASSEMBLY ELEMENTS
–Nut M24 STAS 4971–88 Precision class 'C'
–Washer STAS 5200/4–91–24–OL 34

NOTA

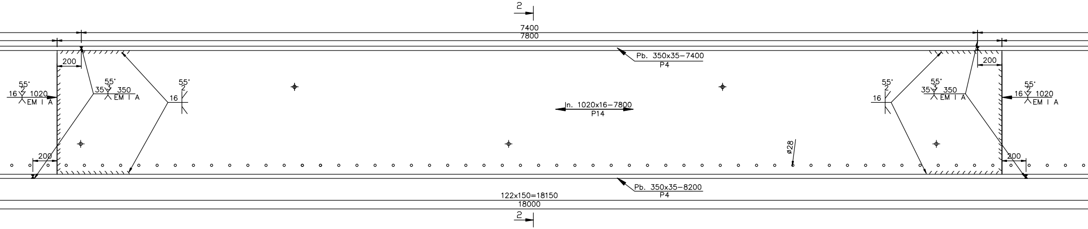
Placutele de la aparatele de reazem se vor samfrena cu un unghi de 6
Gaurile din inima pentru armatura de rezistenta vor fi alezate.

NOTE

The plates of the bearing blocks will be chamfered at an angle of 60°.
The web holes for the strong reinforcements will be bored.

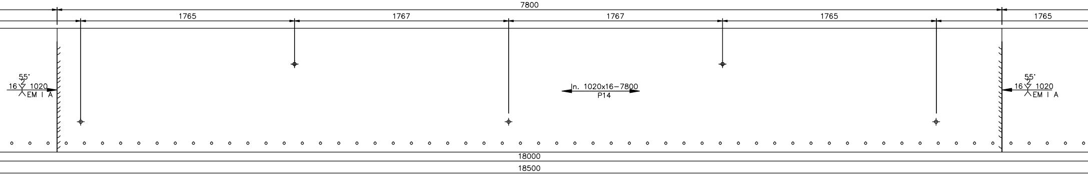
ELEVATIE GRINDA METALICA TIP 3
ELEVATION OF THE METALLIC GIRDER TYPE 3

Sc.1: 20


2
7400
7800
200
55°
16
2
1020
EM I A
55°
35
3
350
EM I A
55°
2
16
Pb. 350x35–7400
P4
In. 1020x16–7800
P14
ø28
200
Pb. 350x35–8200
P4
122x150=18150
18000
2

DETALII PENTRU INIMA GRINZII METALICE TIP 1
DETAILS FOR THE METALLIC GIRDER WEB TYPE 1

Sc.1: 20


7800
1765
1767
1767
1765
1765
55°
16
2
1020
EM I A
In. 1020x16–7800
P14
18000
18500

0°.

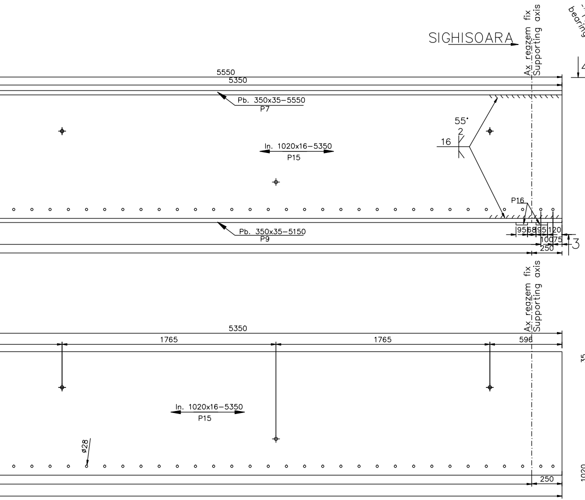
NOTA

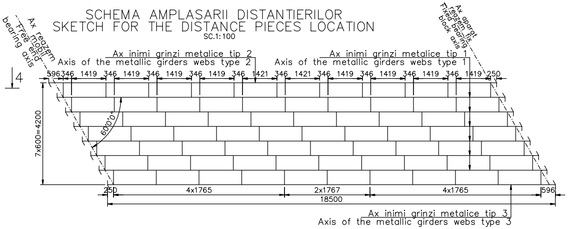
1.La executia in uzina a grinzilor metalice sudate se vor respecta cu strictete prevederile STAS 9407–75.
2.In uzina se va aplica o protectie anticoroziva pe talpile inferioare si pe o treime din inima grinzilor metalice.
3.Protectia anticoroziva se va executa dintr–un strat de baza alcatuit dintr–o pelicula de zinc de 80µm grosime si doua straturi de invelis poliuretanic, fiecare de 85µm.
Stratul de baza si un invelis poliuretanic se vor aplica in uzina, urmand ca ultimul strat poliuretanic sa fie aplicat pe santier dupa finalizarea lucrarilor la suprastructura.

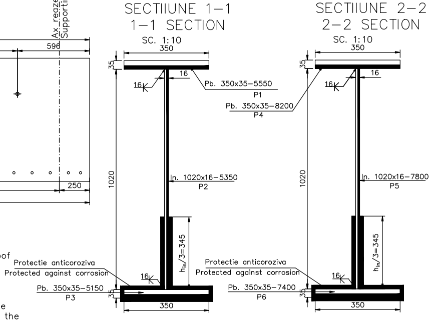
4.Pregatirea suprafetelor metalice in vederea aplicarii procedeelor de protectie anticoroziva se face prin:
–Perierea de rugina cu ajutorul unor perii de sarma.
–Spalarea suprafetelor metalice.
–Degresarea cu solventi organici prin stergere sau cu emulsii.
–Dupa degresare se spala cu jet de apa pentru indepartarea urmelor de detergent. Solutia pentru degresare va fi aleasa astfel incat sa nu afecteze mediul.
Curatirea suprafetelor se va face conform gradului SA 1 1/2.

NOTE

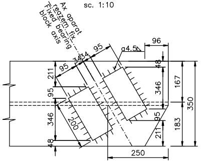
1.The prvisions STAS 9407–75 will be stricthy obser
metallic girders are manufactered in the factory.
2.In the plant, corrosion protection will be applied o
on one third of the web of metallic girders.
3.The protection against corrosion will consist in a
zinc membrane (80µm thickness) and two polyureth
of 85µm thickness. The primary layer and the first
layer will be applied in the factory and the second
applied on site, after completing the superstructure
finalizarea lucrarilor la suprastructura.


SIGHISOARA
Ax reazem fix
Supporting axis
5550
5350
Pb. 350x35-5550
P7
In. 1020x16-5350
P15
55°
2
16
P16
Pb. 350x35-5150
P9
95
68
95
120
100
75
250
4
3
1765
1765
596
ø28
250

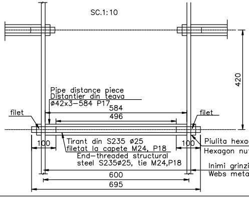

SCHEMA AMPLASARII DISTANTIERILOR
SKETCH FOR THE DISTANCE PIECES LOCATION
SC.1:100
Ax reazem mobil
Free end bearing axis
Ax aparat reazem fix
Fixed bearing block axis
Ax inimi grinzi metalice tip 2
Axis of the metallic girders webs type 2
Ax inimi grinzi metalice tip 1
Axis of the metallic girders webs type 1
596 346 1419 346 1419 346 1419 346 1419 346 1421 346 1421 346 1419 346 1419 346 1419 346 1419 250
7x600=4200
60°0'0"
250
4x1765
2x1767
4x1765
596
18500
Ax inimi grinzi metalice tip 3
Axis of the metallic girders webs type 3


SECTIIUNE 1-1
1-1 SECTION
SC. 1:10
350
35
16
16
Pb. 350x35-5550
P1
1020
In. 1020x16-5350
P2
$h_{in}/3=345$
Protectie anticoroziva
Protected against corrosion
16
Pb. 350x35-5150
P3
35
350
SECTIIUNE 2-2
2-2 SECTION
SC. 1:10
350
35
16
16
Pb. 350x35-8200
P4
1020
In. 1020x16-7800
P5
$h_{in}/3=345$
Protectie anticoroziva
Protected against corrosion
16
Pb. 350x35-7400
P6
35
350

DETALIU DE MONTARE PLACUTE/DETAIL TO MOUNT
APARAT DE REAZEM FIX/ BEARING BLOCK PL
sc. 1:10


Ax aparat reazem fix
Fixed bearing block axis
96
ø4.5
95
34
34
95
211
95
346
48
200
346
95
211
48
167
350
183
250

DETALIU DE PRINDERE
A GRINZILOR METALICE
DETAIL FOR METALLIC
GIRDERS FASTENING


SC.1:10
420
Pipe distance piece
Distantier din teava
ø42x3-584 P17
584
496
filet
filet
100
100
Tirant din S235 ø25
filetat la capete M24, P18
End-threaded structural
steel S235ø25, tie M24,P18
Piulita hexa
Hexagon nu
Inimi grinzi
Webs meta
600
695

rved when the welded

on the lower flanges and

primary layer made of a
ane covering layer, each
polyurethane covering
polyurethane layer will be
works.

4.Preparing the metallic surfaces in order to apply the corrosion-proof procedures shall be made by:
- Rust removal using wire brushes.
- Washing the metallic surfaces.
- Organic solvent degreasing by wiping or using emulsions.
- After degreasing, the surface is washed by water jet to eliminate the detergent stains. The solution selected for degreasing shall not affect the environment. Cleaning the surfaces is made according to the SA 1 1/2.

EXTRAS DE MATERIAL PENTRU SOLIDARIZAREA GRINZILOR METALICE PENTRU UN TABLIER DE CALE FERATA SIMPLA
TABLE OF MATERIALS TO JOIN THE METALLIC GIRDERS FOR SINGLE TRACK RAILWAY BRIDGE DECK

Poz. Pos.	Denumire Name	Dimensiuni Dimension	Nr. buc. asemenea Pieces	Greutate,Weight S 245 J_3 G_3		
				kg/ml	kg/buc.	Total(kg)
P17	Distantier teava	ø42x3–584	77	2.88	1.68	129.50
P18	Tirant S235	ø25, L=695	77	3.85	2.68	206.10
P19	Piulite	M24	154	–	0.10	15.40
P20	Saibe	M24	154	–	0.023	3.60
					Total (kg)	360.00

TOTAL POD (2 TABLIERE): 2 x 360.00kg=720.00kg
TOTAL BRIDGE (2 DECKS): 2 x 360.00kg=720.00kg

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ATES

EXTRAS DE MATERIAL PENTRU O GRINDA METALICA TIP 1
MEASURING MATERIAL FOR UNE METALLIC GIRDERS TYPE 1

Poz. Pos.	Denumire Name	Dimensiuni Dimension	Nr. buc. asemenea Pieces	Greutate,Weight S 245 J_3 G_3		
				kg/ml	kg/buc.	Total(kg)
P1	Pb. superioara Upper band steel	350x35–5550	1	96.163	533.705	533.70
P2	Inima Web	1020x16–5350	1	128.11	685.40	685.40
P3	Pb. inferioara Lower band steel	350x35–5150	1	96.163	495.240	495.25
P4	Pb. superioara Upper band steel	350x35–7400	1	96.163	711.610	711.61
P5	Inima Web	1020x16–7800	1	128.11	999.30	999.30
P6	Pb. inferioara Lower band steel	350x35–8200	1	96.163	788.540	788.540
P7	Pb. superioara Upper band steel	350x35–5550	1	96.163	533.705	533.70
P8	Inima Web	1020x16–5350	1	128.11	685.40	685.40
P9	Pb. inferioara Lower band steel	350x35–5150	1	96.163	495.240	495.25
P16	Placute ap.fix	95x20–200	2	14.915	2.983	6.00
					Total partial	5934.10
					Spor 3% pt. sudura	178.00
					Total pt. 1buc. grinda	6150.00

gonala M24, P19
t M24, P19

metalice
llic girders

TOTAL PENTRU UN TABLIER: 6 grinzi x 6150kg=36900kg
TOTAL PENTRU 2 TABLIERE: 2 x 6 grinzi x 6150kg=73800kg
TOTAL FOR 1 DECK: 6 girders x 6150kg=36900kg
TOTAL FOR 2 DECKS: 2 x 6 girders x 6150kg=73800kg

EXTRAS DE MATERIAL PENTRU O GRINDA METALICA TIP 2
MEASURING MATERIAL FOR UNE METALLIC GIRDERS TYPE 2

Poz. Pos.	Denumire Name	Dimensiuni Dimension	Nr. buc. asemenea Pieces	Greutate,Weight S 245 J_3 G_3		
				kg/ml	kg/buc.	Total(kg)
P1	Pb. superioara Upper band steel	350x35–5550	1	96.163	533.705	533.70
P10	Inima Web	1020x16–5350	1	128.11	685.40	685.40
P3	Pb. inferioara Lower band steel	350x35–5150	1	96.163	495.240	495.25
P4	Pb. superioara Upper band steel	350x35–7400	1	96.163	711.610	711.61
P11	Inima Web	1020x16–7800	1	128.11	999.30	999.30
P6	Pb. inferioara Lower band steel	350x35–8200	1	96.163	788.540	788.540
P7	Pb. superioara Upper band steel	350x35–5550	1	96.163	533.705	533.70
P12	Inima Web	1020x16–5350	1	128.11	685.40	685.40
P9	Pb. inferioara Lower band steel	350x35–5150	1	96.163	495.240	495.25
P16	Placute ap.fix	95x20–200	2	14.915	2.983	6.00
					Total partial	5934.10
					Spor 3% pt. sudura	178.00
					Total pt. 1buc. grinda	6150.00

TOTAL PENTRU UN TABLIER: 1 grinzi x 6150kg=6150kg/ TOTAL FOR 1 DECK: 1 girders x 6150kg=6150kg
TOTAL PENTRU 2 TABLIERE: 2 x 1 grinzi x 6150kg=12300kg/ TOTAL FOR 2 DECKS: 2 x 1 girders x 6150kg=12300kg

EXTRAS DE MATERIAL PENTRU O GRINDA METALICA TIP 3
MEASURING MATERIAL FOR UNE METALLIC GIRDERS TYPE 3

Poz. Pos.	Denumire Name	Dimensiuni Dimension	Nr. buc. asemenea Pieces	Greutate,Weight S 245 J_3 G_3		
				kg/ml	kg/buc.	Total(kg)
P1	Pb. superioara Upper band steel	350x35–5550	1	96.163	533.705	533.70
P13	Inima Web	1020x16–5350	1	128.11	685.40	685.40
P3	Pb. inferioara Lower band steel	350x35–5150	1	96.163	495.240	495.25
P4	Pb. superioara Upper band steel	350x35–7400	1	96.163	711.610	711.61
P14	Inima Web	1020x16–7800	1	128.11	999.30	999.30
P6	Pb. inferioara Lower band steel	350x35–8200	1	96.163	788.540	788.540
P7	Pb. superioara Upper band steel	350x35–5550	1	96.163	533.705	533.70
P15	Inima Web	1020x16–5350	1	128.11	685.40	685.40
P9	Pb. inferioara Lower band steel	350x35–5150	1	96.163	495.240	495.25
P16	Placute ap.fix	95x20–200	2	14.915	2.983	6.00
					Total partial	5934.10
					Spor 3% pt. sudura	178.00
					Total pt. 1buc. grinda	6150.00

TOTAL PENTRU UN TABLIER: 1 grinzi x 6150kg=6150kg/ TOTAL FOR 1 DECK: 1 girders x 6150kg=6150kg
TOTAL PENTRU 2 TABLIERE: 2 x 1 grinzi x 6150kg=12300kg/ TOTAL FOR 2 DECKS: 2 x 1 girders x 6150kg=12300kg

(TOTAL OL37–EP=98400kg)
TOTAL $S275J_3G_3$=98400kg

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C					
B					
A	12.2011	Revizia 1 1 Revision	Campan Maria		
Indice Index	**Data Date**	**Modificare Modification/Revision**	**Proiectant Designer**	**Aprobat Consultant Approved Consultant**	**Aprobat CFR Approved CFR**

GUVERNUL ROMANIEI
ROMANIAN GOVERNMENT

PROIECT FINANȚAT DE UNIUNEA EUROPEANĂ
EUROPEAN UNION FINANCED PROJECT

CLIENT / CLIENT

CFR

C.N.C.F. "C.F.R." - S.A.

ITALFERR
GRUPPO FERROVIE DELLO STATO
Joint Venture leader

Scott Wilson

OBERMEYER
PLANEN + BERATEN GmbH

TECNIC
Consulting Engineers

CONSULTANT / CONSULTANT			**Data Date**	**Semnătură Signature**
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Aprobat Approved	Coordonator Secțiune 1 Section 1 Coordinator	C. Gambelli		
Verificat Checked	Expert Chele Checking Expert	V. Kallidromitis		VK

SUBCONTRACTANT / SUBCONTRACTOR

AREX Lider COMPANY

Aprobat Approved	Responsabil Subconsultant Subconsultant Responsible	A. Dinulescu Stanciu	11.2011	
Întocmit Elaborated	Proiectant Designer	Campan Maria	11.2011	

Reabilitarea liniei de cale ferata Braşov - Simeria, parte componentă a coridorului IV Pan European, pentru circulația trenurilor cu viteza maximă de 160 km/h,
Tronsonul : Braşov - Sighişoara
Rehabilitation of the railway line Braşov - Simeria, component Part of the IV Pan-European Corridor, for the trains circulation with maximum speed of 160 km/h,
Section : Braşov - Sighişoara

Proiect/Project
2004/RO/16/P/PA/003

Faza / Phase:
D.E. / E.D.

Denumire desen / Drawing Title : STATIA / STATION ARCHITA

POD / BRIDGE Km 257+483.300 D=18.00m

GRINZI METALICE / METALLIC GIRDERS

Codificare / Codification System	Scara / Scale 1:20;1:10;1:100	LOT / LOT	Nr. / No 01 / 01

E A 5 1 | 0 1 | E | 1 5 | B C | P V | 0 3 | 6 | 3 | 0 0 5 | 1

297X3640