

Peron nou linia I-II/h=+0,55NSS/L=250m/l=6,05m
New Platform tracks I-II/h=+0,55NSS/L=250m/l=6,05m

Peron nou linia III-4/h=+0,38NSS/L=250m/l=6,05m
New Platform tracks III-4/h=+0,38NSS/L=250m/l=6,05m

Trotuar/h=±0,00NSS/L=56m/l=2,4m
Sidewalk/h=±0,00NSS/L=56m/l=2,4m

NOTA - RECOMANDARI TEHNOLOGICE:

- Toate cotele de trasare longitudinale, transversale si verticale ale copertinelor au ca elemente de referinta: axele liniilor C.F., axa tunelului pietonal si cota ±0,00-NSS proiectata a fiecarei linii.
 - axele longitudinale ale fundatiilor stalpilor copertinelor sunt la jumatatea distantei dintre axele de cale ferata ale liniilor I - II respectiv III - 4 proiectate.
 - transversal, trasarea axelor pentru fundatiile stalpilor copertinelor se va face avand ca reper axa tunelului pietonal; trasarea se va face 6 m stanga, 6 m dreapta fata de aceasta axa.
 - cota de fundare, este data fata de ±0,00-NSS proiectat al fiecarei linii in parte, respectiv pentru copertina la linia I cota de referinta este ±0,00-NSS linia I, pentru copertina la linia I-II cota de referinta este ±0,00-NSS linia II, pentru copertina la linia III-4 cota de referinta este ±0,00-NSS linia III.
- Trebuie avut in vedere ca stii copertinile (cu fundatiile aferente), cat si perisanele nou proiectate, urmaresc profilul longitudinal al liniilor cu panta descendenta (- 0,634 ‰), dinspre capatul X spre capatul Y.
- Acest plan se va ca corelat cu: planul de situatie (amplasament), planurile de suprapunere c.f. ale statiei si planurile de structura ale tunelului si ale peranelor.
- Este importanta corelarea cotelor verticale intre stalpii care se pozitioneaza pe grinzile tunelului (din axele 7 si 8) si stalpii si fundatiile adiacente ale copertinei; astfel incat sa se asigure continuitatea la nivelul superior al grinzilor transversale si a panelor, cat si realizarea gabaritului pe intreaga lungime a copertinei.
- Nu se vor prinde de elementele structurale ale copertinei altele echipamente sau dispozitive in afara celor prevazute in proiect (pentru orice modificare se va cere avizul proiectantului).
- Pentru pozitionare si detalii stalpi linia de contact, vezi: PLAN DE SITUATIE MONTARI L.C. aferent statiei.
- Stalpii linii de contact strapung copertina in zona investitiilor de policarbonat (se va face decuparea si etansarea policarbonatului dupa sectiunea stalpului LC).

MATERIALE
Beton de egalizare : C4/5 - T2/T3 - I 32,5 R/0 - 31
Beton simplu : C8/10 - T2/T3 - I 32,5 R/0 - 31
Beton armat : C18/22,5, C16/20 - T3/T4 - I 32,5 R/0 - 16
Otel beton : PC 52, OB 37
Laminare : S235J2G3 (OL 37.2n), S275J2G3 (OL44.2n)
Anchore de ancorare M30-grupa 6.6

PLAN FUNDATII COPERTINE scara 1:250
CANOPY FOUNDATION PLAN scale 1:250

CARACTERISTICI
• **Categoria de importanta:** Conform H.G. 766-oct 1997 - constructie de importanta normala (C).
• **Clasa de importanta:** Conform Normativului P100 (proiectarea antisismica), clasa de importanta este III.
• **Clasa de risc:** Conform OMT 290/2000: clasa de risc 1A.
• **Conditii seismice:** Conform Normativului P100-12006: perioada de control (col) Tc=0,7s si ag=0,20g.

CONDITII GEOTEHNICE
Conform: Foraje geotehnice FTE 9, FBO 1 si FBO 2 - statia BOD (data tema: ASTALROM / ITALFER)
Forajele geotehnice au urmatoarea stratificatie:
- la suprafata s-a intalnit un strat de pamant vegetal (0,10 m)
- urmasa, pana la adancimea de 2,50 - 4,50 m, un orizont coeziv alcătuit din argila profasa si praf argilos, cafenii, de la plastic moie la plastic consistente. In forajele FBO 2 si FTE 9 a fost interceptat un strat de umplutura pana la 1,00 - 1,30 m
- in continuare, pana la adancimea de investigare (10,00 m), a fost interceptat un orizont necoeziv format din nisip prafos, nisip prafos cu pietris si nisip cu pietris, cenusa, cu indeseare medie.
Adancime nivel apa subterana : FTE 9 : - 2,20 m ; FBO 1 : - 1,30 m ; FBO 2 : - 1,50 m
Pentru orizontul coeziv -argila profasa (ap), cenusie- situat deasupra nivelului apei subterane, pamanturile interceptate se caracterizeaza astfel :
cu plasticitate mare
cu starea de consistenta plastic consistenta
cu gradul de umiditate practic saturat
cu compresibilitate mare
Pentru orizontul coeziv -argila profasa (ap) si praf argilos (ap), cenusa- situat sub nivelul apei subterane, pamanturile interceptate se caracterizeaza astfel :
cu plasticitate mare
cu starea de consistenta plastic moale ... plastic consistenta
cu gradul de umiditate practic saturat
cu compresibilitate mare ... foarte mare

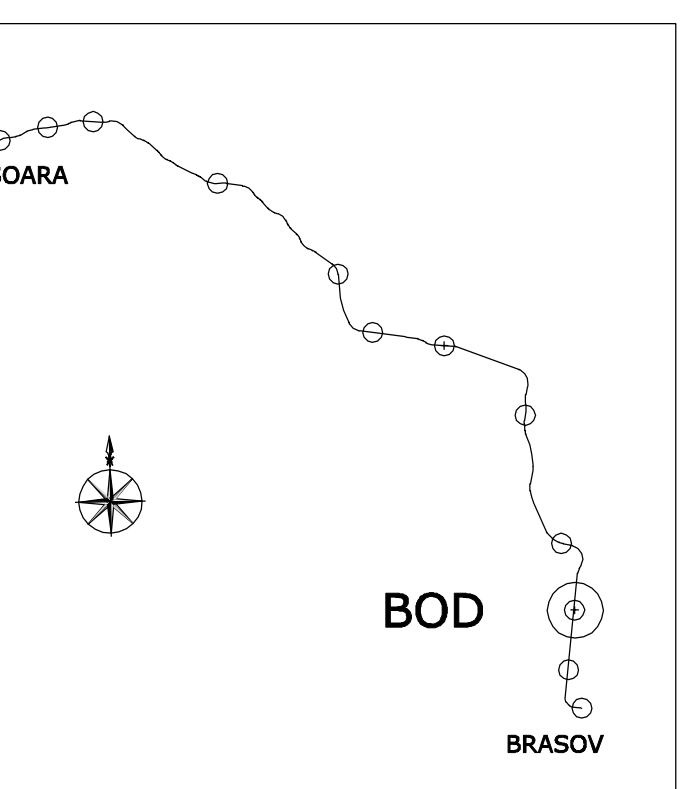
Se va realiza fundarea directa a COPERTINELOR in stratul de argila profasa si praf argilos, cafenii, de la plastic moie la plastic consistente, pe o perna din balast compactat de 30 cm grosime (cu grad de compactare D > 98% si asigurarea unei pccov. = 1,5 daN/cm²)
Este absolut necesara, confirmarea caracteristicilor terenului de fundare si a gradului de compactare de catre proiectantul geotehnician, dupa executarea sapaturilor / umpluturilor (dupa caz).
La executarea sapaturilor / umpluturilor, se va realiza un foraj suplimentar, de verificare, in amplasamentul copertinei pentru a se verifica daca informatiile provenite din forajele pentru proiectare sunt corecte. In cazul in care exista eventuale diferente, lucrarile proiectate se vor adapta conform rezultatului acestor studii geotehnice de verificare.

CHARACTERISTICS
• **Importance category:** According to H.G. 766-oct 1997 : normal importance construction (C).
• **Importance class:** According to Norm P100 (anti-seismic design) : importance class III.
• **Risk class:** According to OMT 290/2000 : risk class 1A.
• **Seismic conditions:** According to Norm P100-12006: control period (corner) Tc=0,7s and ag=0,20g.

GEOTECHNICAL CONDITIONS
According to : Geo-technical drills FTE 9, FBO 1 and FBO 2 - BOD station (subject data: ASTALROM / ITALFER)
The geo-technical drills have the following ground stratification:
- a vegetal soil layer was found at the surface (0.10 m)
- a cohesive horizon was found up to 2.50 - 4.50 m depth, being made of brownish silt clay and clayey silt, soft to heavy-bodied consistency. A filling layer was found during boreholes FBO 2 and FTE 9 up to 1.00 - 1.30 m.
- then a non-cohesive horizon was detected up to the investigation depth (10.00 m), being made of grey silty sand, silty sand with gravel and sand with gravel, medium compaction
The depth of underground water level: FTE 9 : - 2.20 m ; FBO 1 : - 1.30 m ; FBO 2 : - 1.50 m
For the cohesive horizon - grey silty clay (ap) - placed above the underground water level, the soils are characterized as follows :
high plasticity
heavy-bodied consistency
saturated humidity degree
high compressibility
For the cohesive horizon - grey silty clay (ap) and clayey silt (ps) - placed under the underground water level, the soils are characterized as follows :
high plasticity
soft heavy-bodied consistency
saturated humidity degree
high
very high compressibility
The CANOPIES will be directly founded in the soft - heavy-bodied brownish silt clay and clayey silt layer, on a 30 cm thick compacted ballast cushion (compaction degree D > 98% with pccov. = 1.5 daN/cm²).
It is absolutely necessary that the geo-technician confirms the characteristics of the foundation ground and compaction degree, after carrying out the excavations / fillings (depending on the case).
During the excavations / filling works, one supplementary checking borehole will be made in the canopies location to see if the information from the borehole for the design stage are correct. In case there are any differences, the designed works shall be adapted based on the results of these checking geo-technical studies.

NOTE - TECHNOLOGICAL RECOMMENDATIONS:
1. All longitudinal, transversal and vertical levels of the canopy have as a reference: the railway axis, the axis of the pedestrian tunnel and the RUL designed at ± 0,00 level of the rail (for each one).
2. The longitudinal axis of the canopy poles is at the half distance between the railway axis of designed lines I - II, respectively III - 4.
3. The axis of the passengers tunnel shall be used as a guide mark when lining the transversal axis of the canopy poles; the lining shall be made from 6 m left and 6 m to right given the above-mentioned axis.
4. The foundation level refers to ±0,00-RUL, designed for each one, respectively: for canopy to line I, the reference level is ±0,00-RUL, line I, for canopy to lines I-II, the reference level is ±0,00-RUL, line II, for canopy to lines III-4, the reference level is ±0,00-RUL, line III.
5. It is important that both the three canopy (with corresponding foundations) as well as new platforms, follow the longitudinal profile of the new designed lines with downward slope (-0,634 ‰) from the X end towards the Y end of the station.
This plan shall be read in correlation with: site layout plan, the drawings for railway station superstructure, and the structural drawings of the tunnel, and of the platforms.
6. It is important to ensure the compliance of the vertical levels between the canopy poles resting on the tunnel beams (axis 7 and 8) and the adjacent poles (and corresponding foundations) of the canopy. So, it will be ensured the continuous level of transversal beams and purlins, and of the clearance for the entire canopy.
7. No other equipment or device, apart those foreseen in the project, shall be attached to the structural elements of the canopy.
8. For positioning and details of contact line poles, see: LAYOUT MOUNTING PLAN LC afferent to the station.
9. The contact line poles pierce through the canopy in the central area of the polycarbonate covering (the polycarbonate will be cut off and sealed around the LC pole section).

MATERIALS
Leveling concrete : C4/5 - T2/T3 - I 32,5 R / 0 - 31
Plain concrete : C8/10 - T2/T3 - I 32,5 R / 0 - 31
Reinforced concrete : C18/22,5, C16/20 - T3/T4 - I 32,5 R / 0 - 16
Steel concrete : PC 52, OB 37
Laminated : S235J2G3 (OL 37.2n), S275J2G3 (OL44.2n)
Anchoring bolts M30 , resistance group 6.6



Copertina noua linie I-II/L=159m
New Canopy tracks I-II/L=159m
Copertina noua linie III-4/L=159m
New Canopy tracks III-4/L=159m

OBSERVATIE
Pozitionarea copertinelor in amplasamentul statiei se va face conform PLAN DE SITUATIE PROPUS statia BOD, avand ca reper kilometrajul firului I proiectat.

OBSERVATION
The canopies will be positioned in the station location according to PROPOSED LAYOUT PLAN station BOD, having the kilometer positions of designed track I as reference.

D					
C					
B					
A					
Inchei	Data	Modificari	Proiectant	Approbat	Approbat CFR
Intoc	Date	Modificari	Designer	Approved	Approved CFR
				GUVERNUL ROMANIEI ROMANIAN GOVERNMENT	
		PROIECT FINANTAT DE UNIUNEA EUROPEANA A EUROPEAN UNION FINANCED PROJECT			
		C.N.C.F. "C.F.R." - S.A.			
CLIENT / CLIENT					
CONSULTANT / CONSULTANT		DATE		SEMELURARE	
Approbat	Subproiectant	R. Liuzza	12.2011		
Approbat	Coordonator Sectiuni	C. Gambelli	12.2011		
Verificat	Verificator	Giuseppe Fratavanti	12.2011		
SUBCONTRACTANT / SUBCONTRACTOR		DATE		SEMELURARE	
Approbat	Responsabil Subcontractant	A. Stancu - Dinulescu	12.2011		
Intoc	Proiectant	Hng. Ing. Tudor ALMALEH	12.2011		
Reabilitarea liniei de cale ferata Brasov - Sibiu, parte componenta a coridorului IV Pan-European, pe ruta orizontala in jurul cu viteza maxima de 160 km/h, Tronsoani : Brasov - Sighisoara		Project/Project		2004/RO/IT/PPA003	
Rehabilitation of the railway line Brasov - Sibiu, component Part of the IV Pan-European Corridor, for the trains circulation with maximum speed of 160 km/h, Section : Brasov - Sighisoara		Faza / Phase:		P.1n. / I.T.D.	
Denumire desen / Drawing Title : COPERTINE statia BOD - PLAN FUNDATII CANOPY BOD station - FOUNDATION PLAN					
Codificare / Codification System		Scara / Scale 1:250		LOT / LOT	
E	A	5	1	0	1
		0	1	C	0
		0	5	P	2
		C	C	0	0
		3	3	0	0
		3	3	0	0
		0	0	3	1