



Amenajarea punctului international de trecere a frontierei de stat romano-ucrainiene pentru pasageri si marfa in regim de bac intre



**STRUCTURA RUTIERA NOU PROPUISA / PROPOSED NEW ROAD STRUCTURE
VERIFICARE LA INGHET-DEZGHET / FROST-DEFROST CHECKING**

Parcari si spatii servicii / Parking and rest areas

Centru de Intretinere si Control / Control and Maintenance Center

1. Stabilirea adancimii de inghet si sensibilitatea pamantului la inghet.

1. Determining the depth frost and earth frost sensitivity

a) Tipul climateric / Climateric type	I	Conform / According STAS 1709/1 - 90
b) Tipul pamantului de fundare / Foundation earth type	P2	
c) Adancimea de inghet (cm) / Frost depth (cm)	90	Conform Studiu Geotehnic / According Geotechnical Study

2. Verificarea la inghet - dezghet a structurii rutiere proiectate.

2. Frost - defrost checking for road designed structure

$H_e = \sum h_i \times C_d$ unde H_e - grosimea echivalenta a structurii rutiere
where equivalent thicknes of road strure
 C_d - coeficienti de echivalare a capacitatii de transmitere a caldurii specifice
equivalence quotients of specific heat transmitting capacity
 h_i - grosimea stratului rutier luat in calcul
road thickness taken into account

STRUCTURA RUTIERA:

Nr. Crt.	Tipul de material / Material type	Grosime strat / Layer thickness (cm)	Coeficientul de echivalare / Equivalent quotient
			-
1	PIATRA SPARTA AMESTEC OPTIMAL / OPTIMAL MIX CRUSHED STONE	30	0,70
2	NISIP / SAND	2	1,00
3	BETON DE CIMENT / CEMENT CONCRETE	20	0,45
Grosime structura rutiera / Road structure thickness		52	$H_e =$ 32,00

Adancimea de inghet Z_{cr} a structurii rutiere se considera egala cu adancimea de inghet a pamantului Z la care se adauga sporul de adancime determinat de capacitatea de transmitere a caldurii prin straturile structurii rutiere ΔZ .

Frost depth Z_{cr} of the road structure is considered equal to frost depth of the earth Z plus the depth addition determined by the capacity of heat transmission through the layers of road structure ΔZ .

$$Z_{cr} = Z + \Delta Z = 110,00$$

$$\Delta Z = H_{sr} - H_e = 20,00$$

Z - adancimea de inghet a pamantului de fundatie / frost depth of foundation earth

Z_{cr} - adancimea de inghet in complexul rutier / frost depth in road complex

ΔZ - spor al adancimii de inghet / frost depth addition

H_{sr} - grosimea structurii rutiere / road structure thickness

H_e - grosimea echivalenta a structurii rutiere / equivalent thicknes of road strure

Se considera ca o structura rutiera este rezistenta la actiunea fenomenului de inghet - dezghet daca gradul de asigurare la patrunderea inghetului in complexul rutier (k) are cel putin valoarea 0.3 (tabel 4, STAS 1709/2, structuri rutiere rigide).

It is considered that a road structure is resistant to frost - defrost phenomenon if the insurance to frost penetration in road complex (k) has the least value 0.3 (table 4, STAS 1709/2, rigid road structures).

Gradul de asigurare la patrunderea inghetului in structura rutiera:

The insurance degree at frost penetration into road structure:

$$K_{ef} = H_e / Z_{cr} = 0,29$$

$$K_{adm} = 0,25 \text{ - conform / according STAS 1709/2-90, tabelul 4 - sistem rutier rigid / rigid road structures}$$

$$K_{ef} > K_{adm}$$

Concluzie:

Conform STAS 1709/1,2 - 90, structura rutiera propusa **SE VERIFICA** la actiunea fenomenului de inghet - dezghet

According STAS 1709/1,2 - 90, the proposed road structure **DO CHECK** at frost - defrost phenomenon

Intocmit,