

Grupa A**Zadatak 1**

b	30 cm
h	50 cm
d ₁ , d ₂	5 cm
d	45 cm
f _{ck}	30 Mpa
f _{cd}	20 Mpa
f _{yk}	500 Mpa
f _{yd}	434.78 Mpa

τ_{Rd} 0.34 MpaM_{sd,c} 120.0 kNmε_{s1} 10.0 ‰μ_{sd} 0.099ε_{c2} 2.2 ‰

x 8.10 cm

ξ 0.18

z 41.90 cm

ζ 0.931

A_{s1} 6.59 cm²A_{s1,od} 7.63 cm²

3Ø18

A_{s2,od} 3.08 cm²

2Ø14

k 1.15

ρ_l 0.0071V_{sd,a} 180.0 kNV_{Rd1} 78.42 kNV_{sd,b} 95.0 kN

v 0.55

V_{Rd2} 668.25 kN**Poprečna sila - Spone**

V _{sd,a} /V _{Rd2}	0.26936
S _{w,max}	27 cm
S _{w,od}	25 cm
ρ _{min}	0.0011
m	2
A _{sw,min}	0.4125 cm ²
A _{sw,od}	0.5 Ø8

Spone Ø8/ 25

V _{wd}	70.43 kN
V _{Rd1} +V _{wd}	148.85 kN

Ležaj aS_{w,pot} 17.33436 cm**Spone Ø8/ 17****TORZIJA**

T _{sd}	20.0 kN
A	1500 cm ²
u	160 cm
t	9.38 cm
v'	0.385
A _k	837.9 cm ²
T _{Rd1}	60.5 kNm

Spone Ø8/ 18

S _{w,pot}	18.21501 cm
u _k	122.5 cm
A _{sl}	3.36 cm
A _{s1,od}	4.71 cm ²

Zajedno

S _{w,a}	8.7
S _{w,b}	10.5
V' _{Rd2}	467.775
()+()	0.26

6Ø10

Grupa B**Zadatak 1**

b	30 cm
h	50 cm
d ₁ , d ₂	5 cm
d	45 cm
f _{ck}	30 Mpa
f _{cd}	20 Mpa
f _{yk}	500 Mpa
f _{yd}	434.78 Mpa

 τ_{Rd} 0.34 Mpa $M_{sd,c}$ 125.0 kNm ϵ_{s1} 10.0 ‰ μ_{sd} 0.103 ϵ_{c2} 2.3 ‰

x 8.42 cm

 ξ 0.187

z 41.76 cm

 ζ 0.928 A_{s1} 6.88 cm² $A_{s1,od}$ 7.63 cm²

3Ø18

 $A_{s2,od}$ 3.08 cm²

2Ø14

k 1.15

 ρ_l 0.0071 $V_{sd,a}$ 190.0 kN V_{Rd1} 78.42 kN $V_{sd,b}$ 85.0 kN

v 0.55

 V_{Rd2} 668.25 kN**Poprečna sila - Spone** $V_{sd,a}/V_{Rd2}$ 0.284325 $s_{w,max}$ 27 cm $s_{w,od}$ 25 cm ρ_{min} 0.0011

m 2

 $A_{sw,min}$ 0.4125 cm² $A_{sw,od}$ 0.5 Ø8**TORZIJA** T_{sd} 22.0 kNA 1500 cm²

u 160 cm

t 9.38 cm

v' 0.385

 A_k 837.9 cm² T_{Rd1} 60.5 kNm**Zajedno** $s_{w,a}$ 7.7 $s_{w,b}$ 9.8 V'_{Rd2} 467.775

()+() 0.30

Spone Ø8/ 25 V_{wd} 70.43 kN $V_{Rd1}+V_{wd}$ 148.85 kN $s_{w,pot}$ 16.5591 cm**Spone Ø8/ 16** u_k 122.5 cm A_{sl} 3.70 cm**Ležaj a** $s_{w,pot}$ 15.78086 cm $A_{s1,od}$ 4.71 cm²

6Ø10

Spone Ø8/ 15

Grupa C**Zadatak 1**

b	30 cm
h	50 cm
d ₁ , d ₂	5 cm
d	45 cm
f _{ck}	30 Mpa
f _{cd}	20 Mpa
f _{yk}	500 Mpa
f _{yd}	434.78 Mpa

 τ_{Rd} 0.34 Mpa $M_{sd,c}$ 130.0 kNm ϵ_{s1} 10.0 ‰ μ_{sd} 0.107 ϵ_{c2} 2.4 ‰

x 8.73 cm

 ξ 0.194

z 41.63 cm

 ζ 0.925 A_{s1} 7.18 cm² $A_{s1,od}$ 7.63 cm²

3Ø18

 $A_{s2,od}$ 3.08 cm²

2Ø14

k 1.15

 ρ_l 0.0071 $V_{sd,a}$ 200.0 kN V_{Rd1} 78.42 kN $V_{sd,b}$ 70.0 kN

v 0.55

 V_{Rd2} 668.25 kN**Poprečna sila - Spone** $V_{sd,a}/V_{Rd2}$ 0.299289 $s_{w,max}$ 27 cm $s_{w,od}$ 25 cm ρ_{min} 0.0011

m 2

 $A_{sw,min}$ 0.4125 cm² $A_{sw,od}$ 0.5 Ø8**TORZIJA** T_{sd} 24.0 kNA 1500 cm²

u 160 cm

t 9.38 cm

v' 0.385

 A_k 837.9 cm² T_{Rd1} 60.5 kNm**Zajedno** $s_{w,a}$ 7.2 $s_{w,b}$ 9.4 V'_{Rd2} 467.775

()+() 0.34

Spone Ø8/ 25 V_{wd} 70.43 kN $V_{Rd1}+V_{wd}$ 148.85 kN $s_{w,pot}$ 15.17918 cm**Spone Ø8/ 15** u_k 122.5 cm A_{sl} 4.04 cm**Ležaj a** $s_{w,pot}$ 14.48291 cm $A_{s1,od}$ 4.71 cm²

6Ø10

Spone Ø8/ 14

Grupa D**Zadatak 1**

b	30 cm
h	50 cm
d ₁ , d ₂	5 cm
d	45 cm
f _{ck}	30 Mpa
f _{cd}	20 Mpa
f _{yk}	500 Mpa
f _{yd}	434.78 Mpa

 τ_{Rd} 0.34 Mpa $M_{sd,c}$ 135.0 kNm ϵ_{s1} 10.0 ‰ μ_{sd} 0.111 ϵ_{c2} 2.5 ‰

x 9.00 cm

 ξ 0.2

z 41.49 cm

 ζ 0.922 A_{s1} 7.48 cm² $A_{s1,od}$ 7.63 cm²

3Ø18

 $A_{s2,od}$ 3.08 cm²

2Ø14

k 1.15

 ρ_l 0.0071 $V_{sd,a}$ 210.0 kN V_{Rd1} 78.42 kN $V_{sd,b}$ 110.0 kN

v 0.55

 V_{Rd2} 668.25 kN**Poprečna sila - Spone** $V_{sd,a}/V_{Rd2}$ 0.314254 $s_{w,max}$ 27 cm $s_{w,od}$ 25 cm ρ_{min} 0.0011

m 2

 $A_{sw,min}$ 0.4125 cm² $A_{sw,od}$ 0.5 Ø8**TORZIJA** T_{sd} 26.0 kNA 1500 cm²

u 160 cm

t 9.38 cm

v' 0.385

 A_k 837.9 cm² T_{Rd1} 60.5 kNm**Zajedno** $s_{w,a}$ 6.7 $s_{w,b}$ 9.0 V'_{Rd2} 467.775

()+() 0.39

Spone Ø8/ 25 V_{wd} 70.43 kN $V_{Rd1}+V_{wd}$ 148.85 kN $s_{w,pot}$ 14.01155 cm**Spone Ø8/ 14** u_k 122.5 cm A_{sl} 4.37 cm**Ležaj a** $s_{w,pot}$ 13.38224 cm $A_{s1,od}$ 4.71 cm²

6Ø10

Spone Ø8/ 13