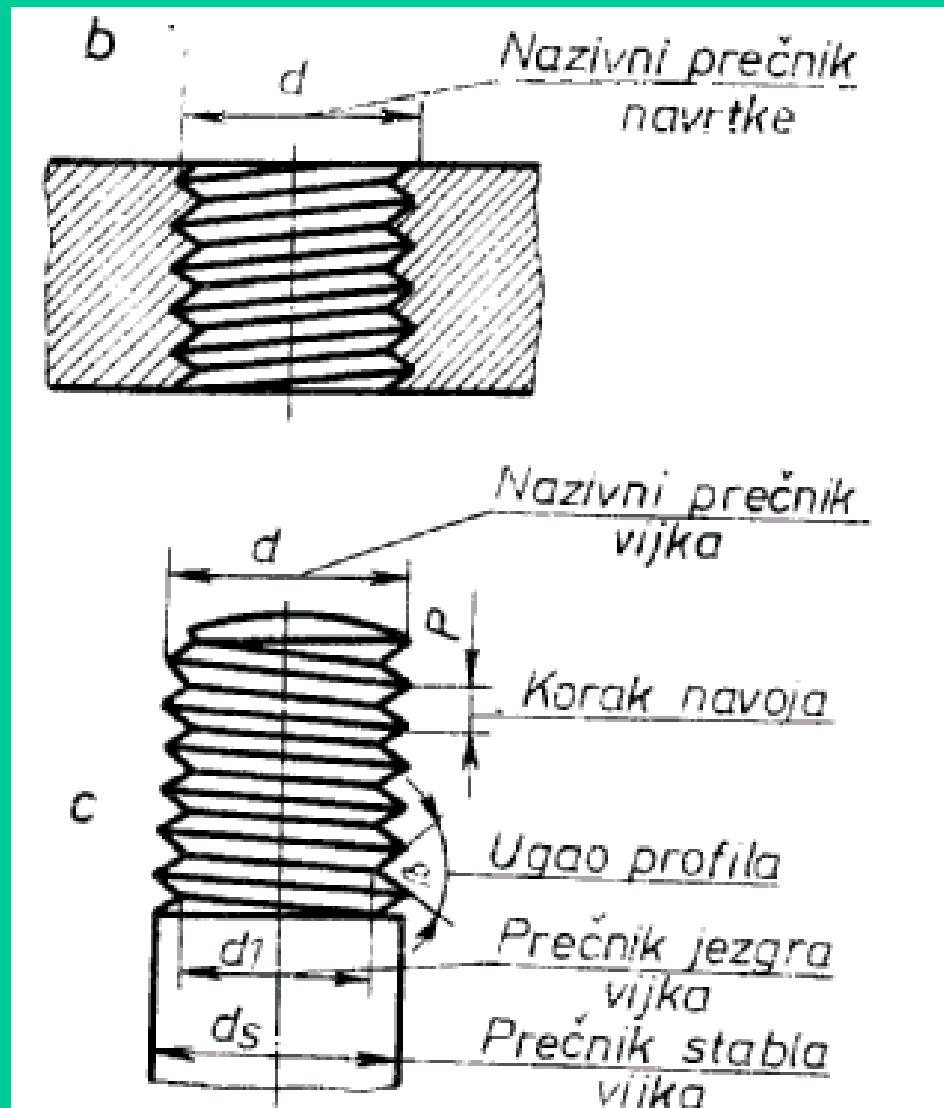


Uprošćeno prikazivanje mašinskih elemenata

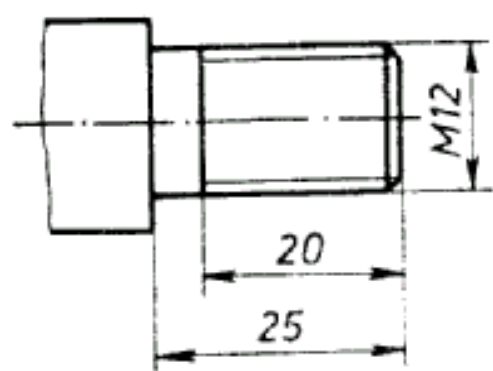
Navoji, vijci i zakovice

Elementi navoja

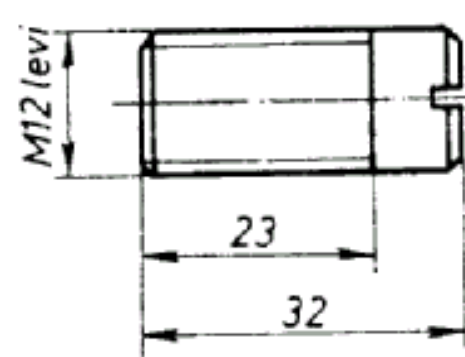
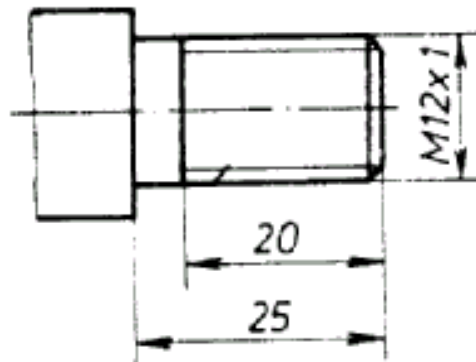


Crtanje, kotiranje i označavanje navoja

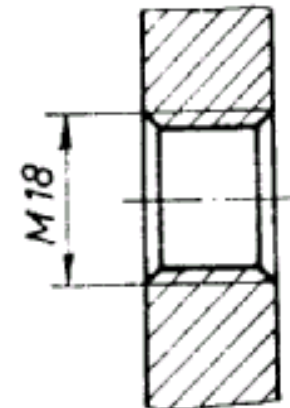
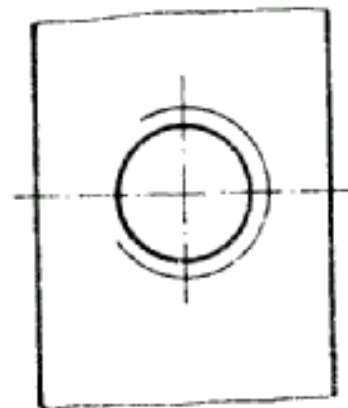
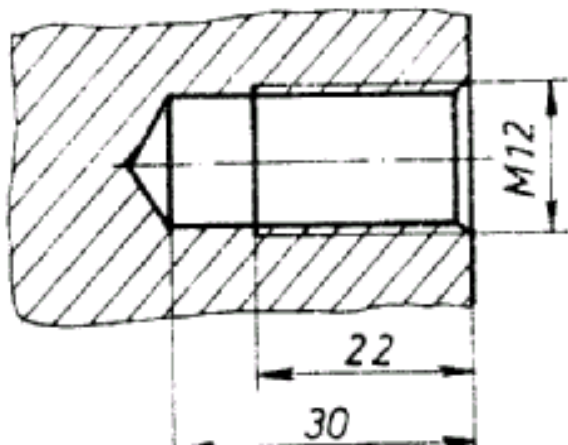
a. Metrički krupni i fini navoj



b. Metrički levi navoj

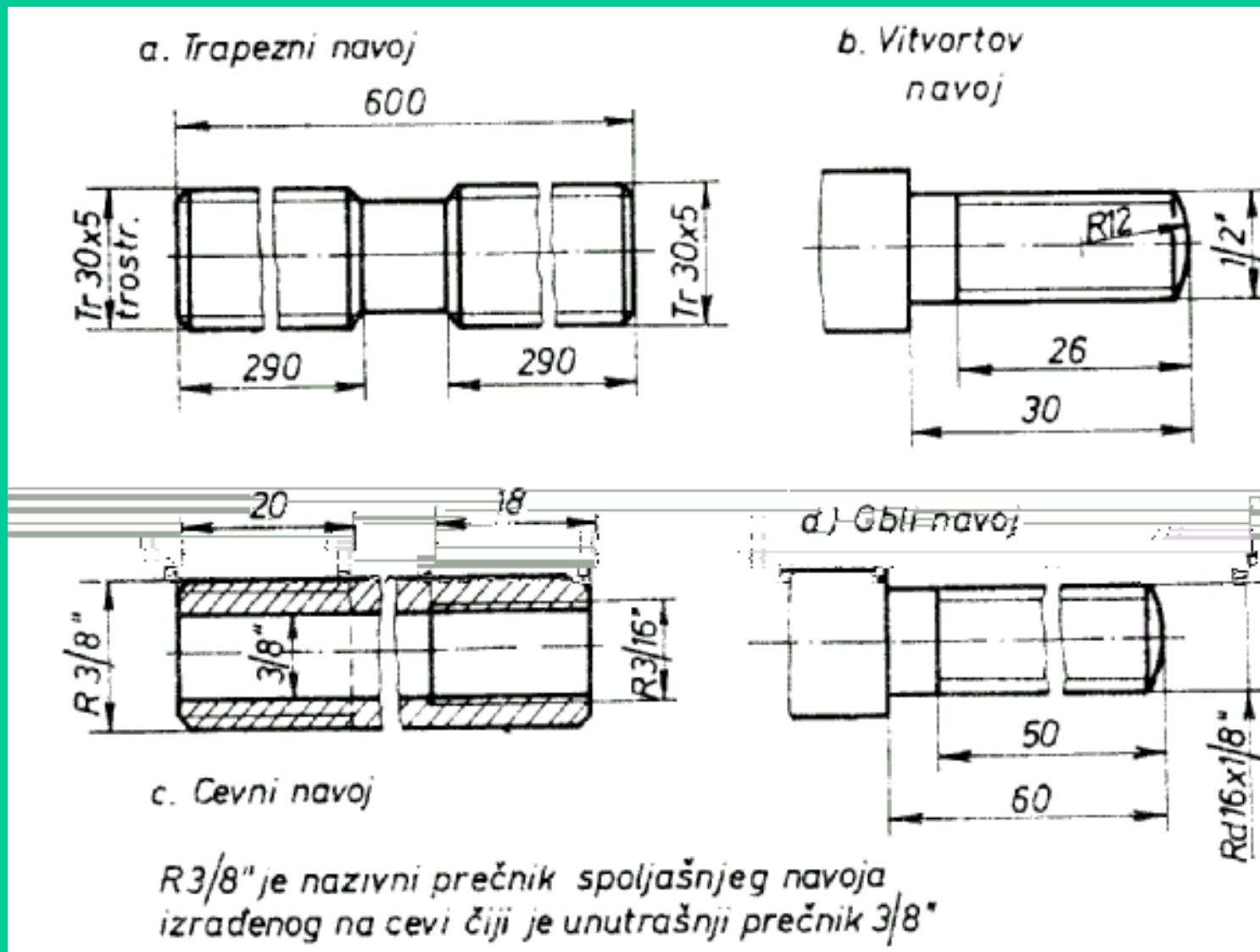


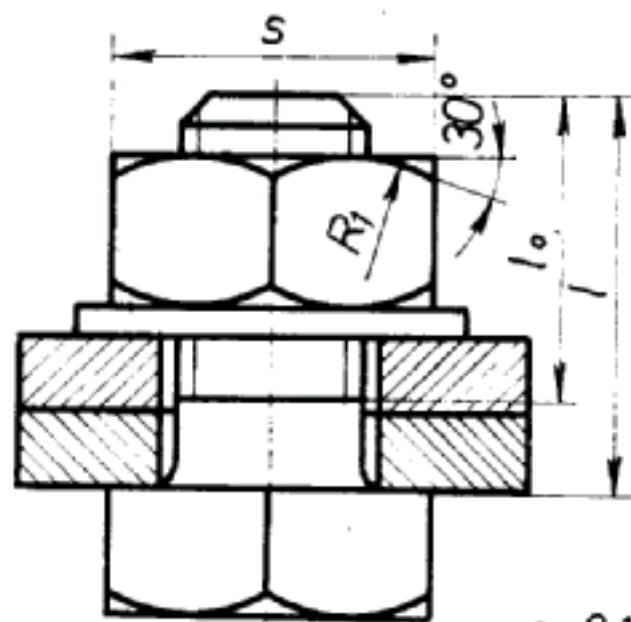
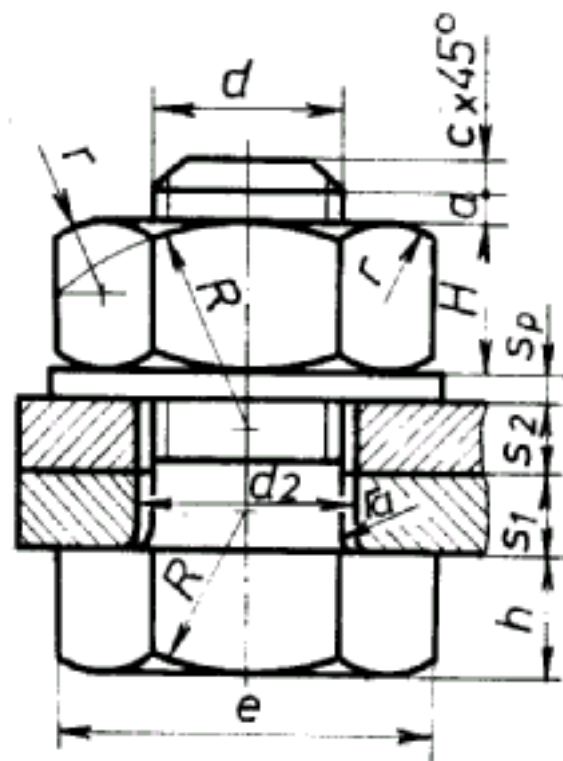
c. Metrički navoj u rupi



d. Metrički navoj u otvoru

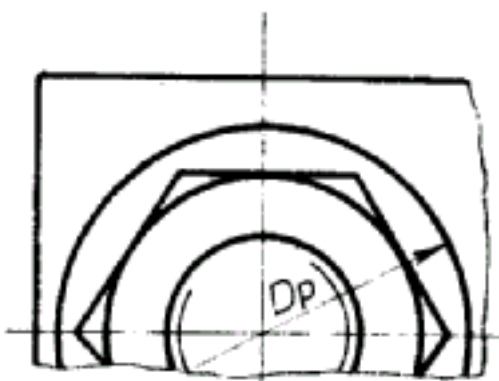
Vrste navoja i označavanje



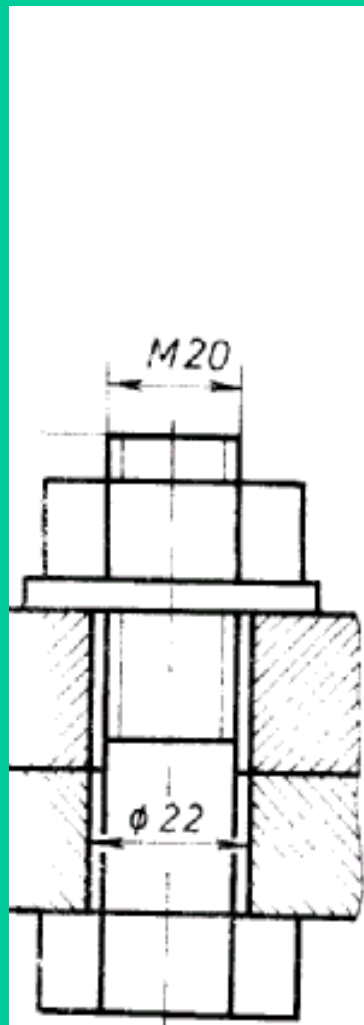


$$\begin{aligned}
 e &= 2d \\
 H &= 0,8d \\
 h &= 0,7d \\
 R &= 1,5d \\
 R_1 &= d \\
 d_2 &= 1,05 \div 1,1d \\
 r_a &= 1,5 \div 3 \text{ mm.}
 \end{aligned}$$

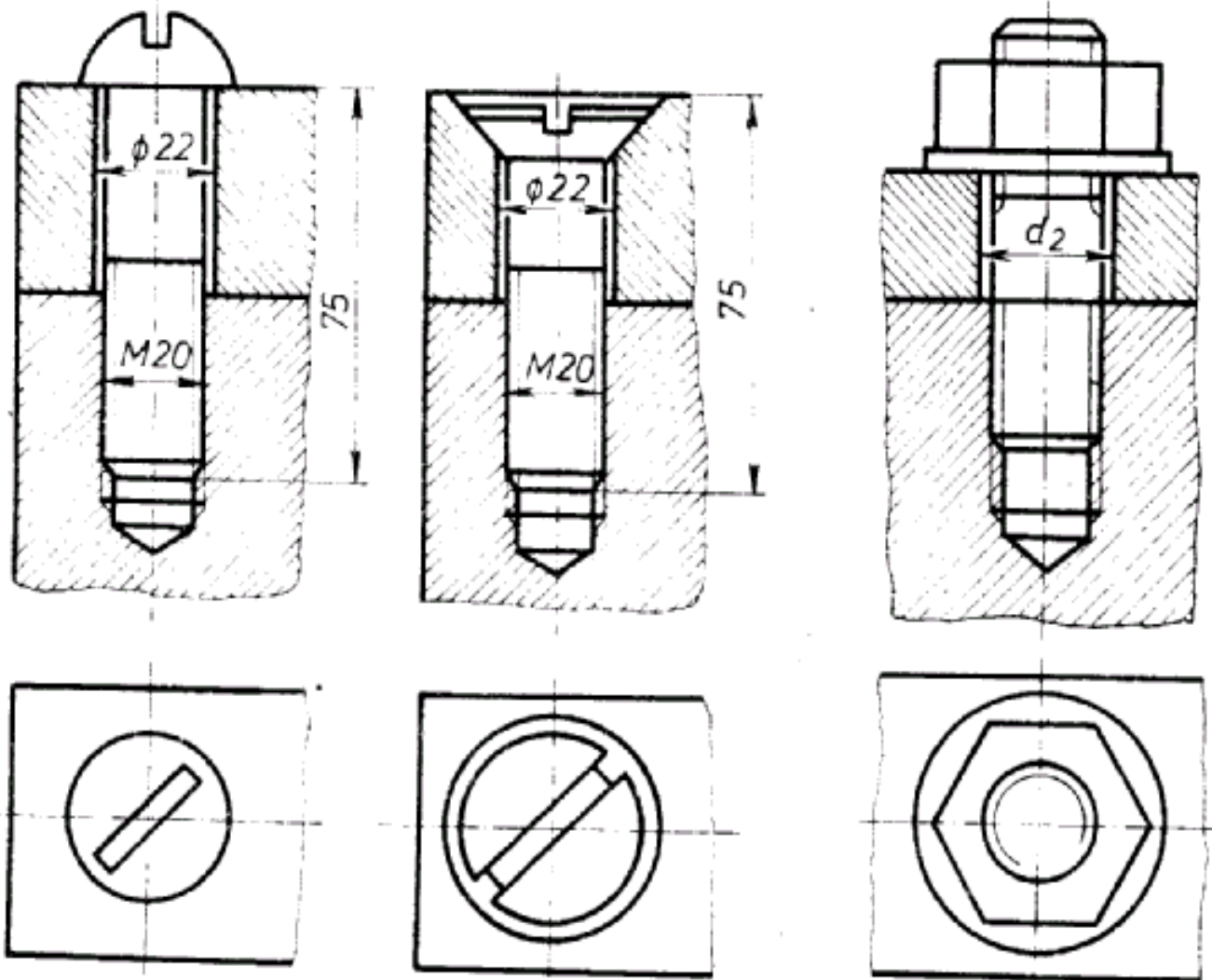
$$\begin{aligned}
 c &= 0,12d \\
 S_p &= 0,15d \\
 a &= 0,25 \div 0,5d \\
 l_0 &= 2d + 6 \text{ mm. za } l \leq 150 \text{ mm.} \\
 &= 2d + 12 \text{ mm. za } l \geq 150 \text{ mm.} \\
 l &= S_1 + S_2 + S_p + H + a + c \\
 r &= \text{određuje se}
 \end{aligned}$$



Vijčane veze

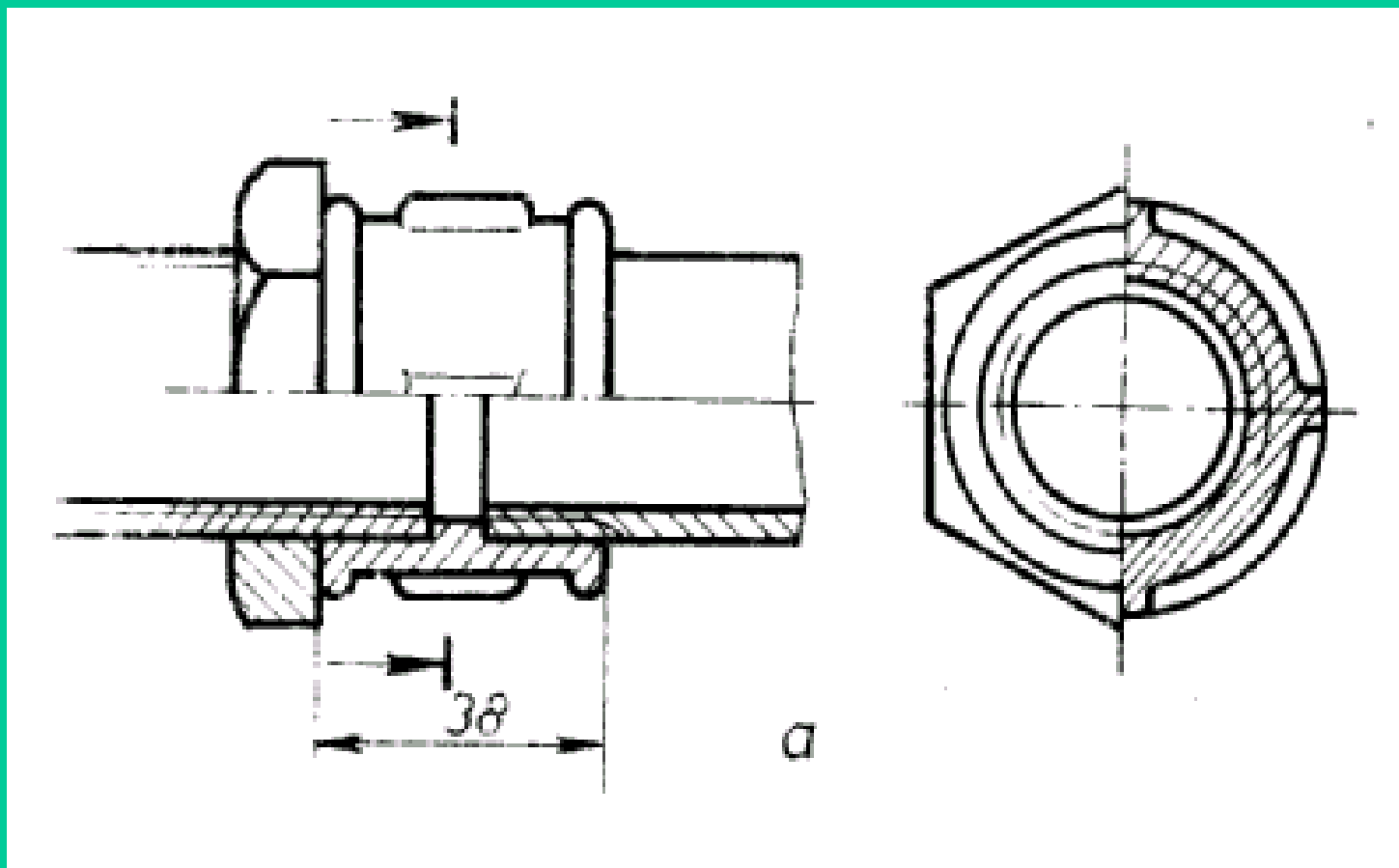


C11.8 Čvrsta razdvojiva
- uprošćeno nacrtana

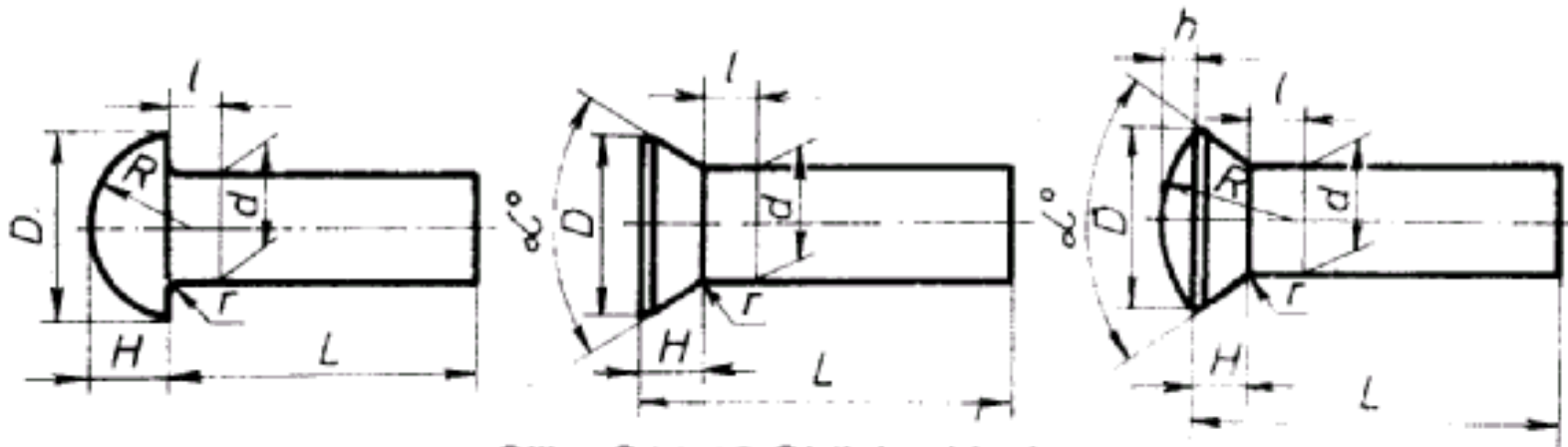


Slika C11.9 Čvrsta razdvojiva veza različitim vijcima

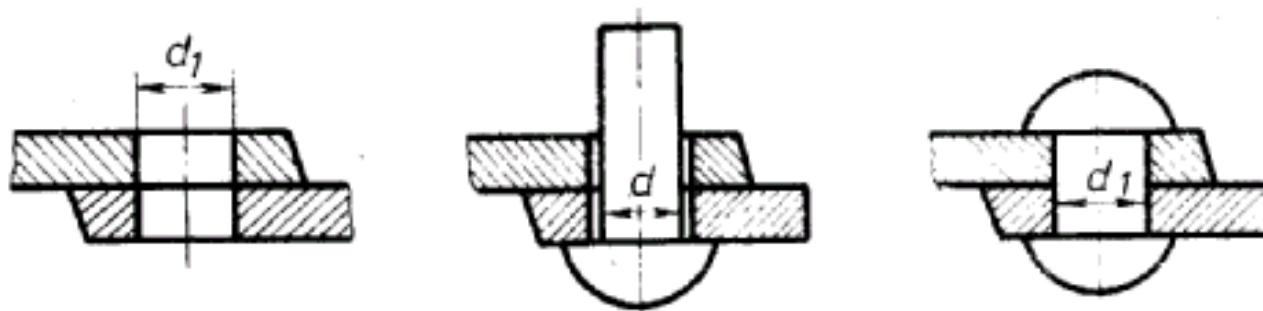
Cevni spoj



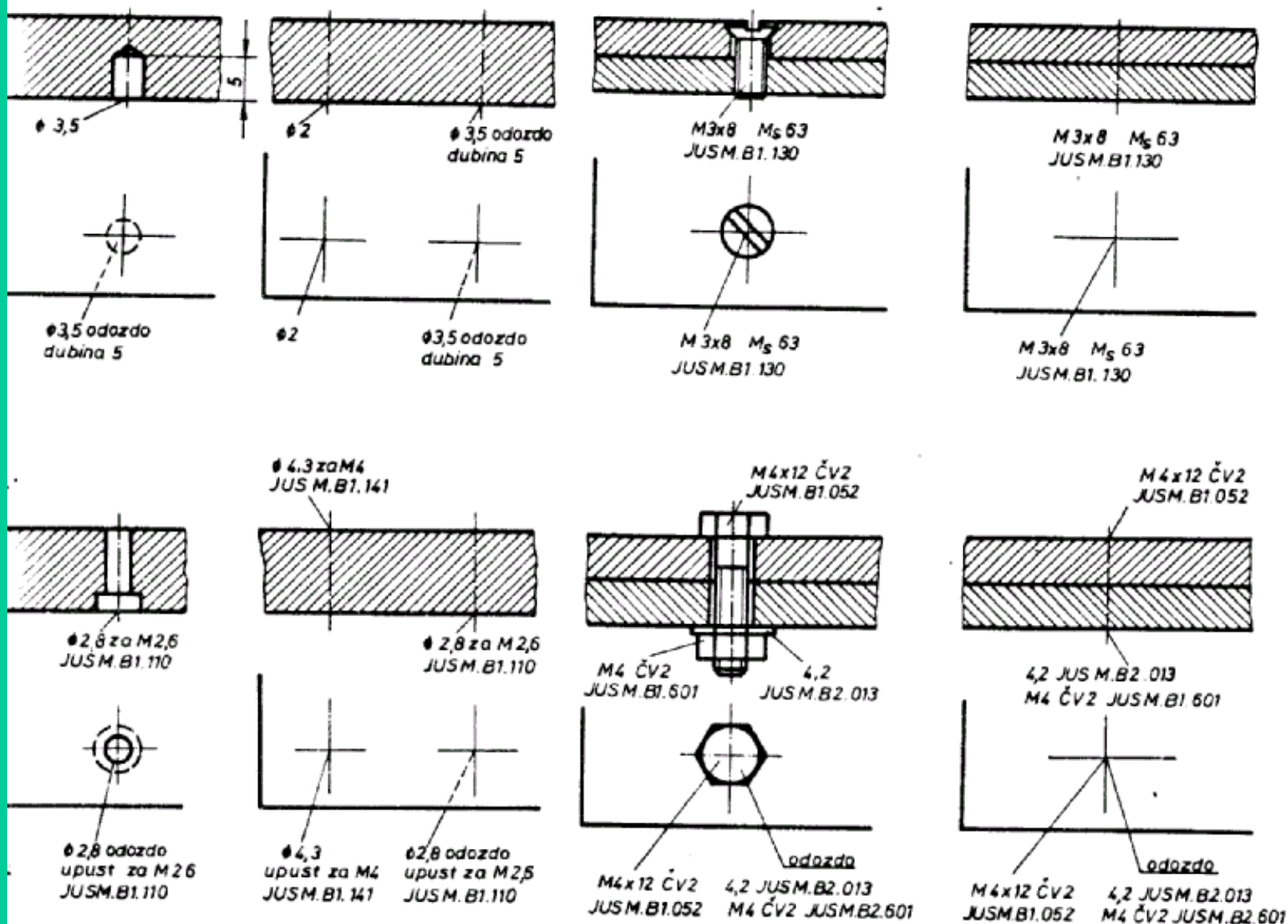
Zakovice i veze zakovicama



Slika C11.12 Oblici zakivaka



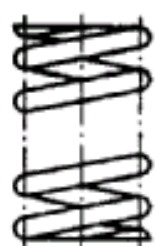
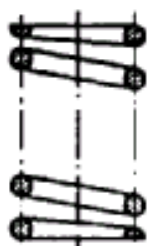

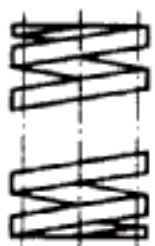
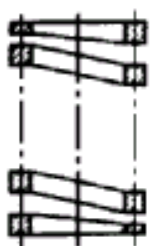
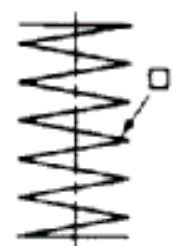
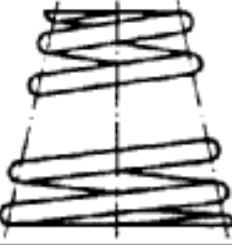
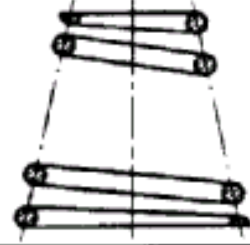
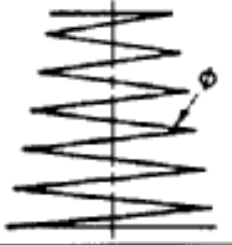
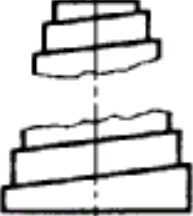
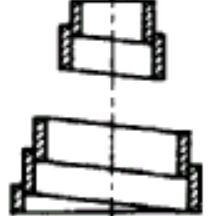
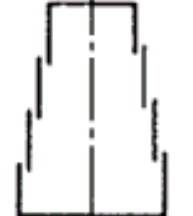
Uprošćeno crtanje i kotiranje




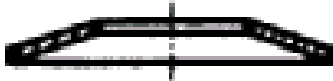




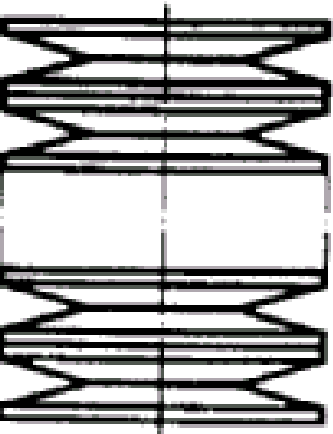
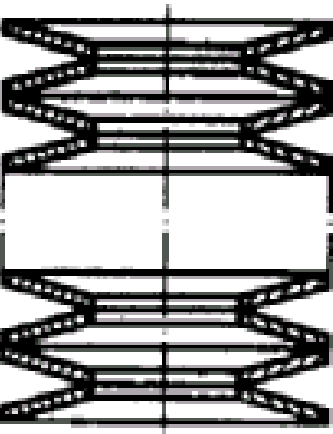
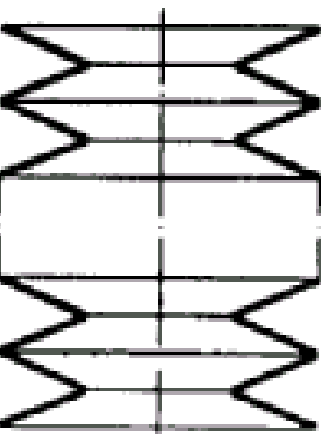
POJEDNOSTAVLJENO PRIKAZIVANJE

OPRUGE


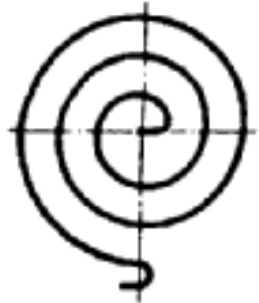
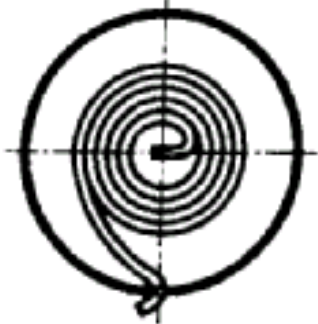
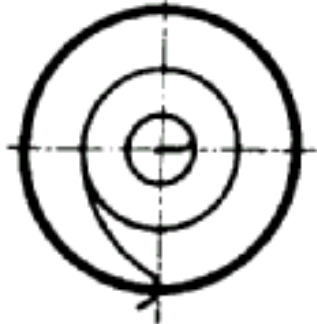
Zavojne opruge

Naziv	Prikaz		
	Pogled	Presjek	Simbol
Cilindrična zavojna tlačna opruga od žice okruglog presjeka			
Cilindrična zavojna tlačna opruga od žice kvadratnog presjeka			
Konična zavojna tlačna opruga od žice okruglog presjeka			
Konična zavojna tlačna opruga od trake pravokutnog presjeka			

Tanjiraste opruge

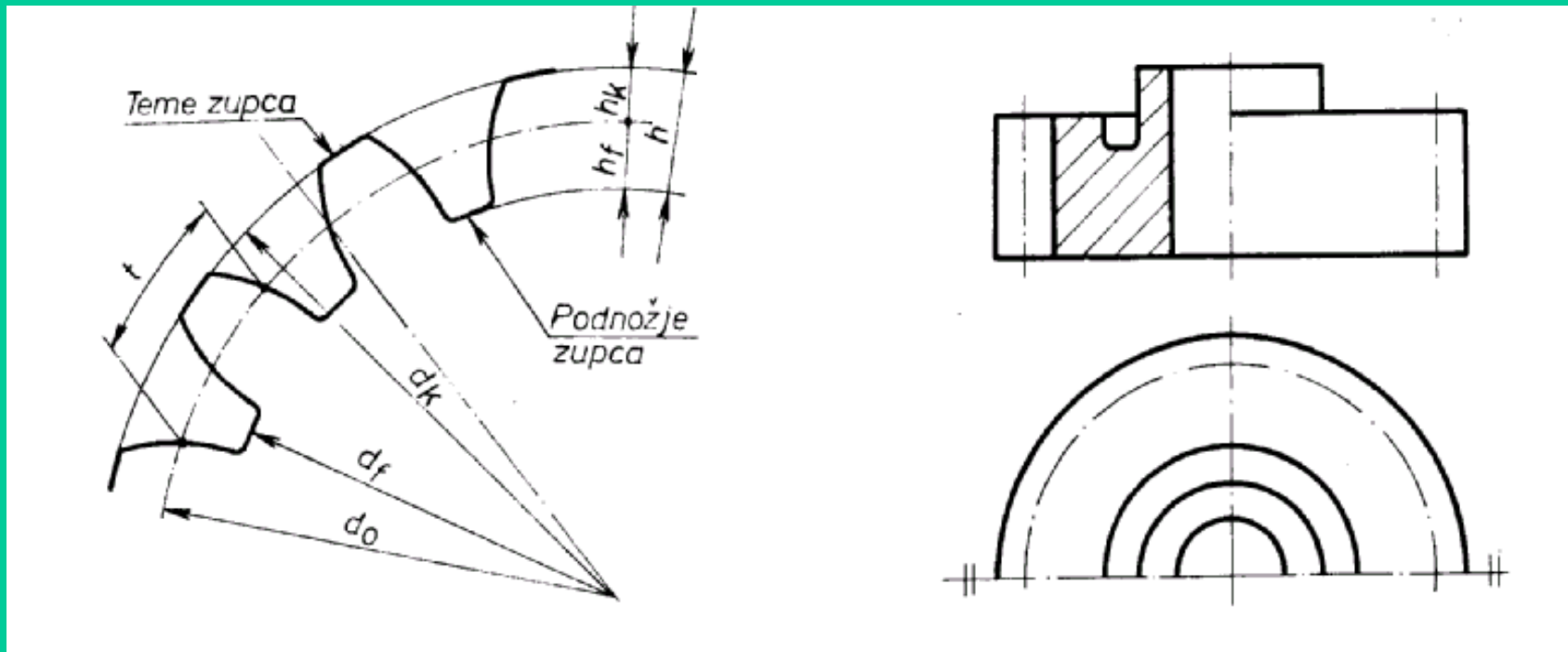
Naziv	Prikaz		
	Pogled	Presjek	Simbol
Tanjurasta opruga			
Paket tanjurastih opruga (jednosmjerno složenih)			
Paket tanjurastih opruga (naizmjenično složenih)			

Spiralne opruge

Naziv	Prikaz	
	Pogled	Simbol
Spiralna opruga		
Spiralna opruga (uvijena i upeta u kucište)		

Pojednostavljeno prikazivanje zupčanika

Ozubljenje

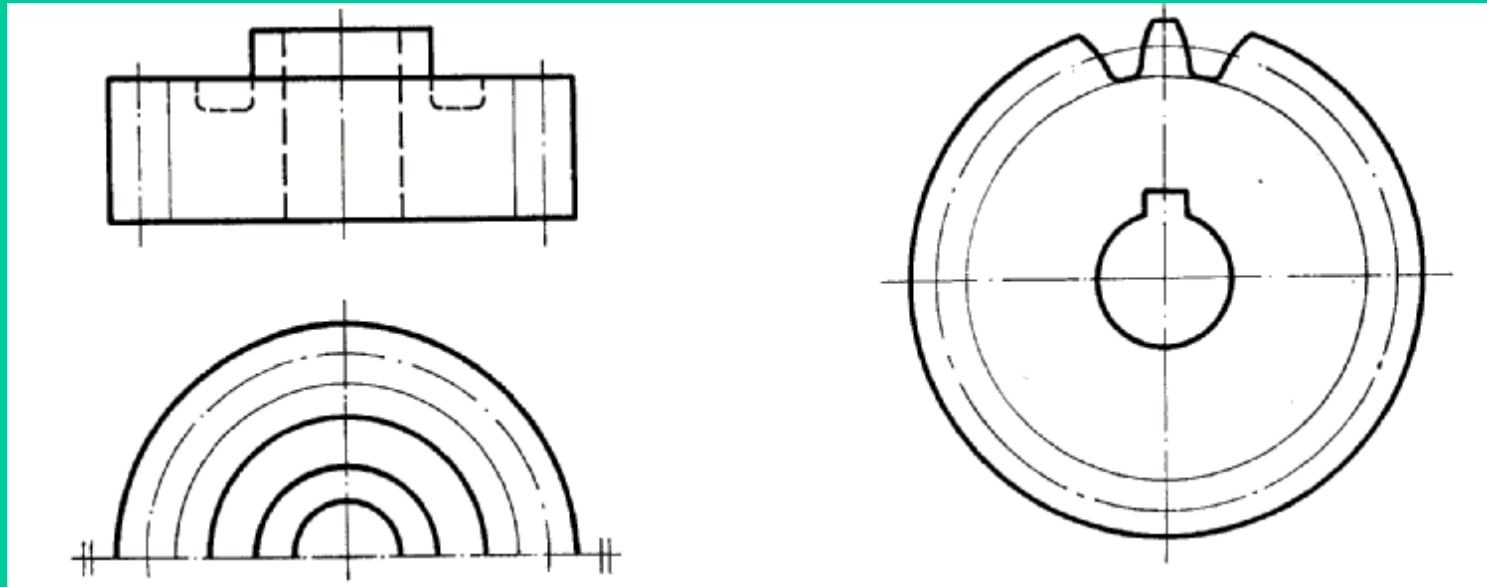


$$d_o = m \cdot z$$

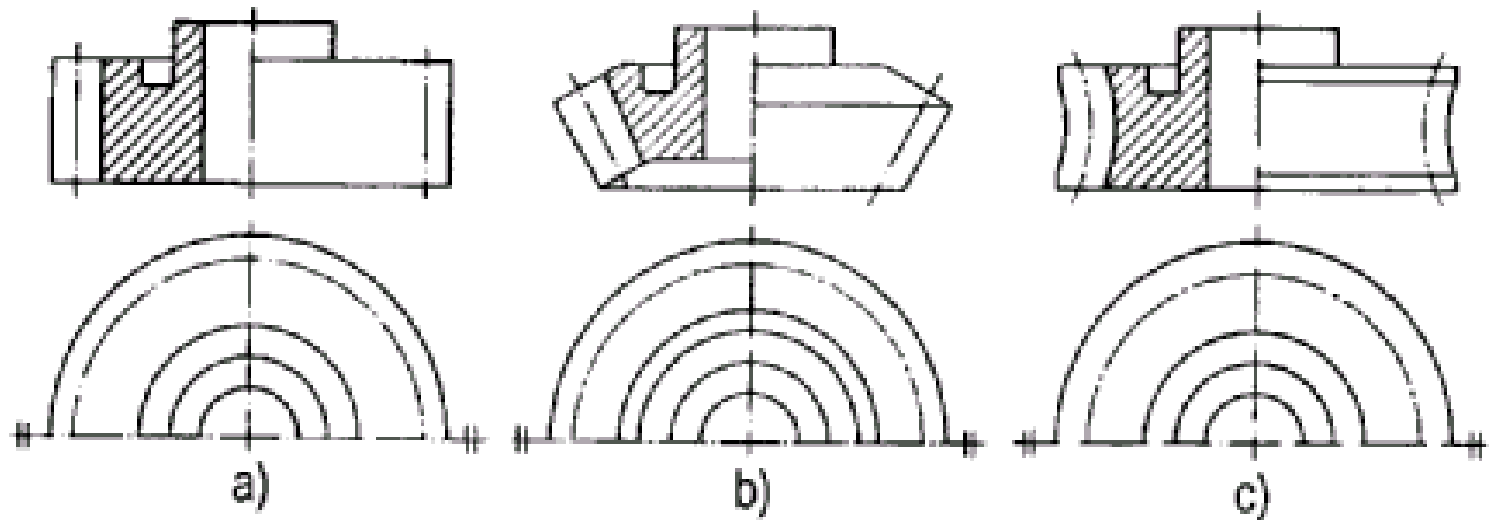
$$d_k = m \cdot (z + 2)$$

$$d_z = m \cdot (z - 2.4)$$

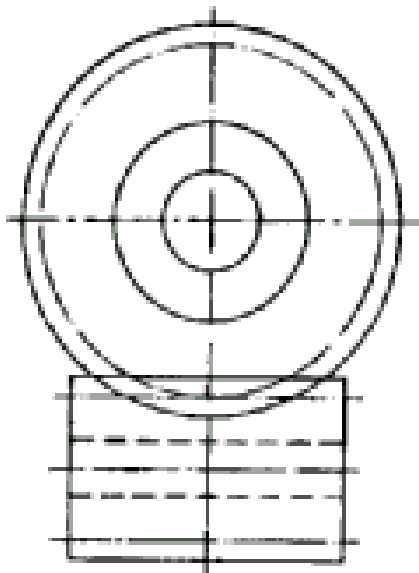
Prikaz profila



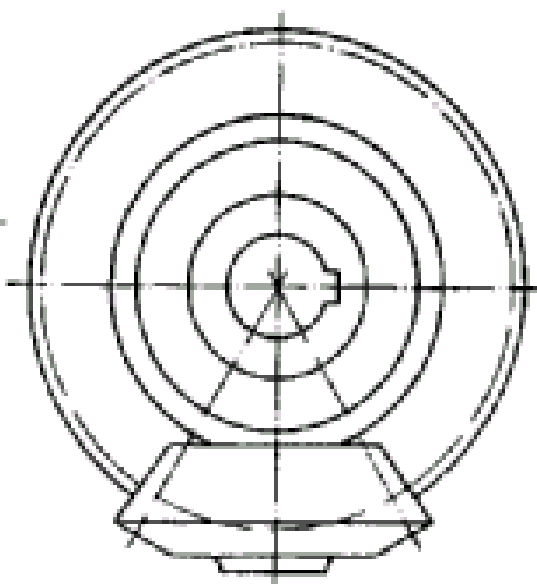
Cilindriční zupčaník, koniční zupčaník i pužni točák



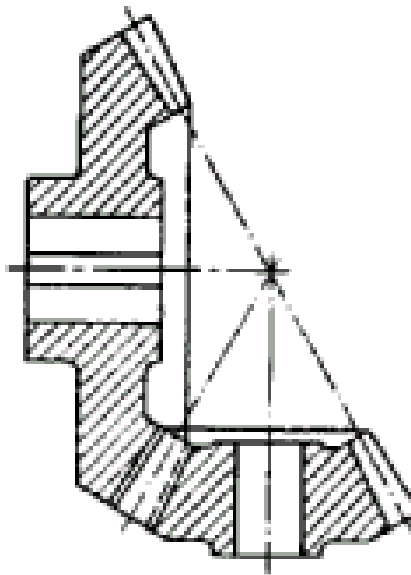
a) Pužni par i b) konični par



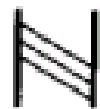
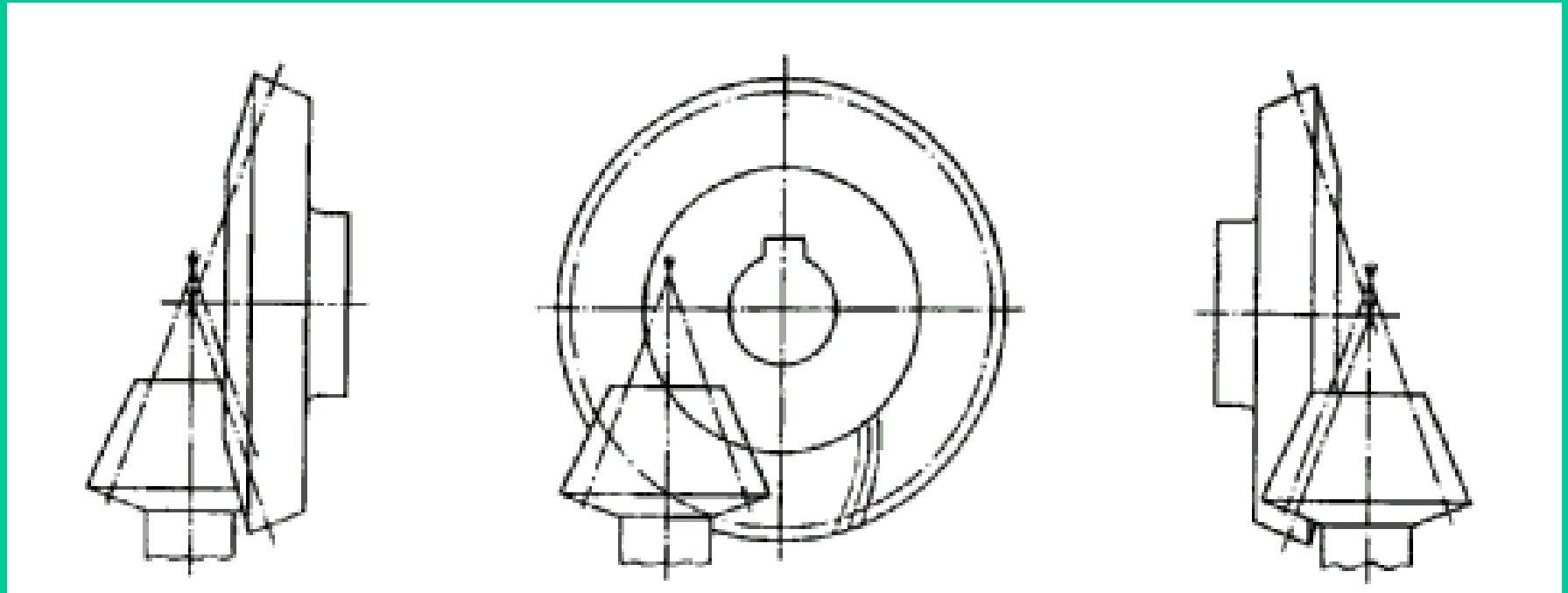
a)



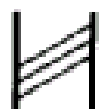
b)



Različita izvodjenja zupčastih parova



kosi desni



kosi lijevi

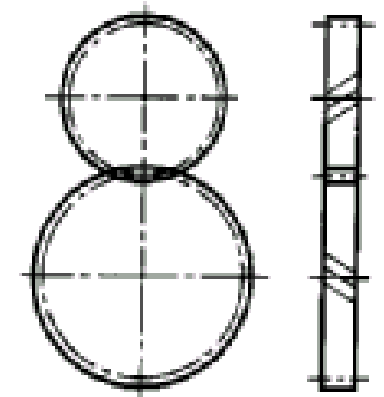
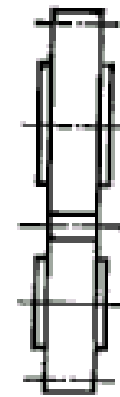
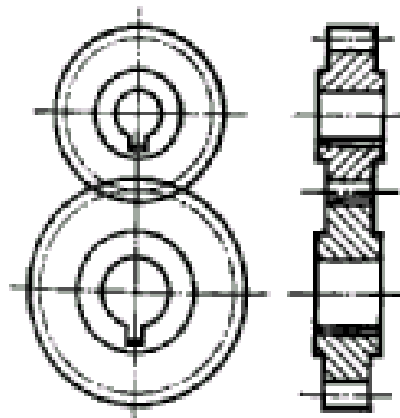
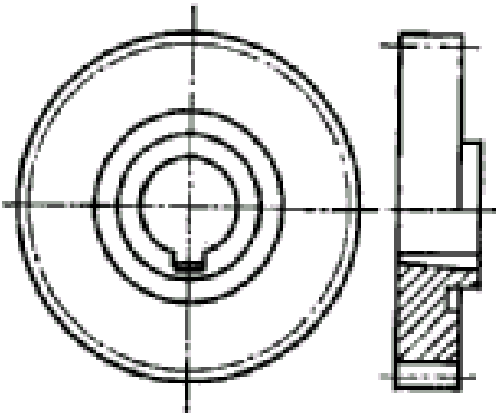


strelasti

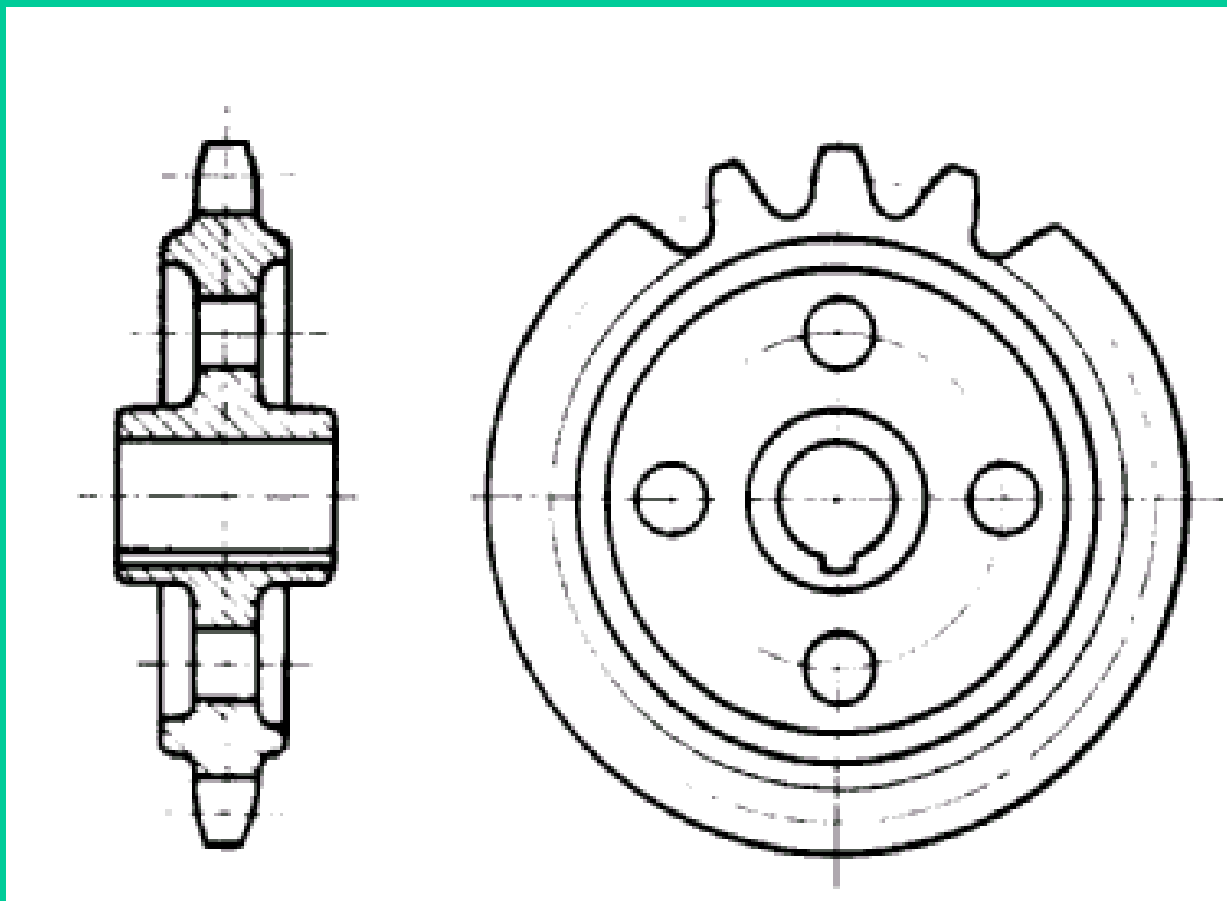


zavojni

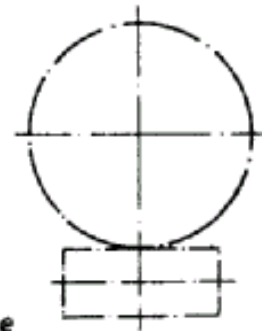
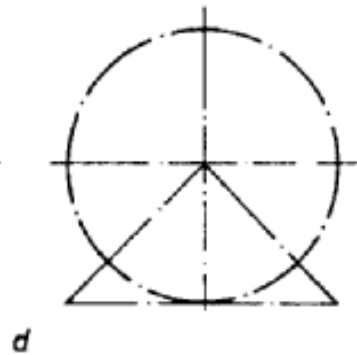
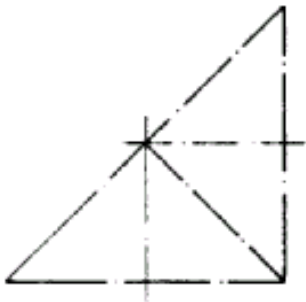
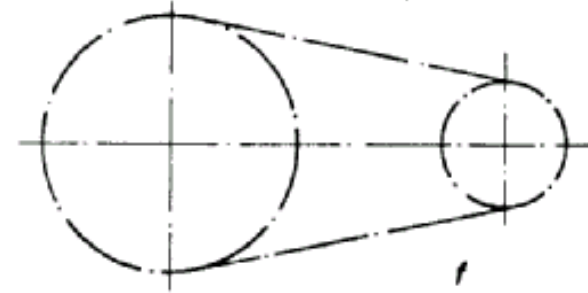
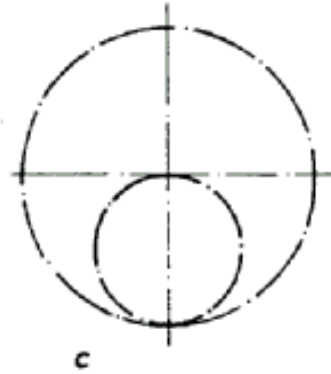
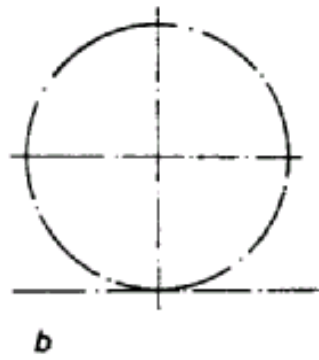
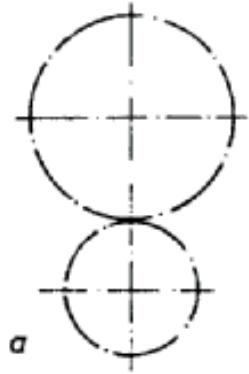
Zupčanici



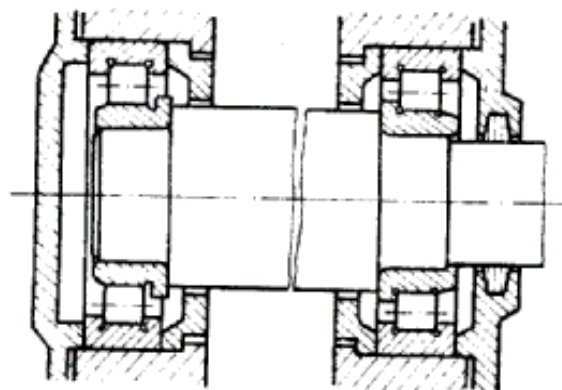
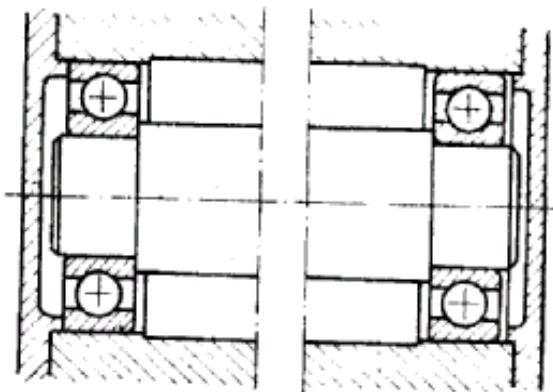
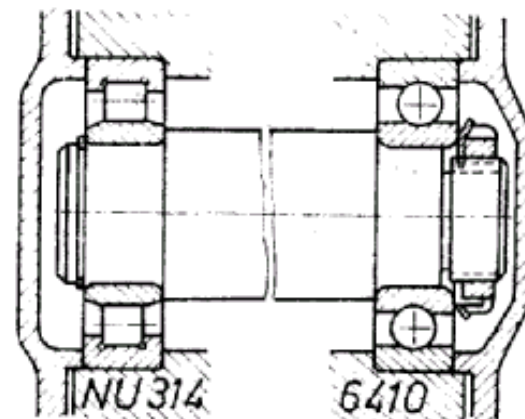
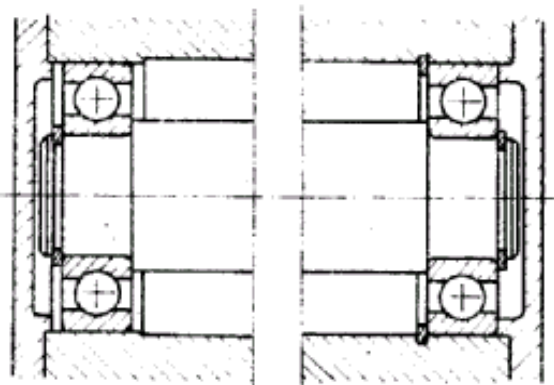
Lančanik







Šematsko prikazivanje







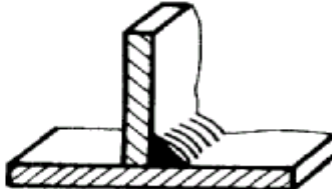

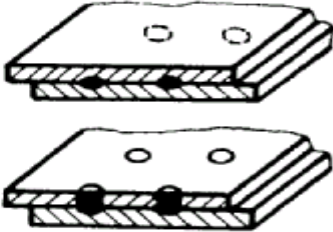

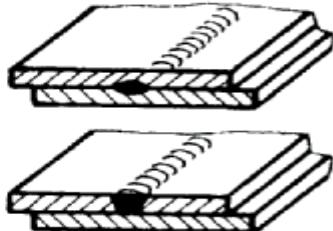

Kotrljajući ležajevi






Zavareni spojevi

R.b.	naziv	izgled šava	oznaka
1.	jednostrani šav		
2.	jednostrani V šav		∨
3.	jednstrani V šav sa jednom zakošenom stranicom		∨
4.	jednostrani Y šav		Y









Vrste varova



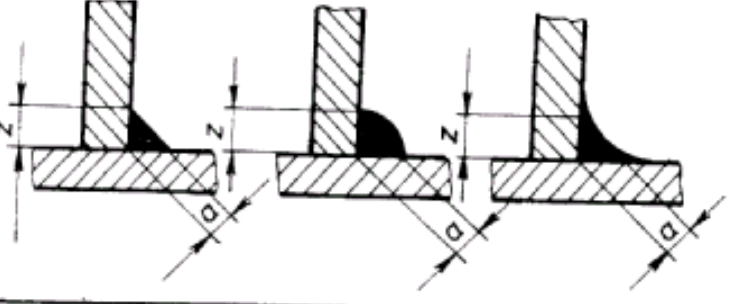

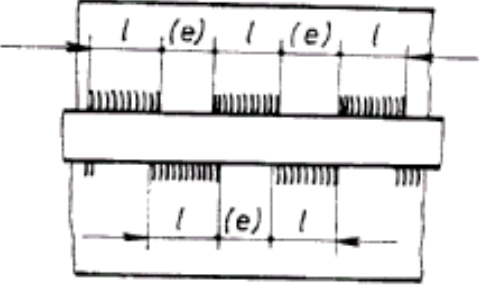
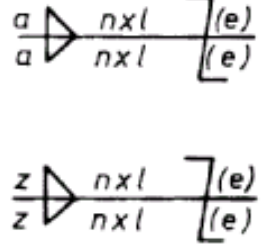
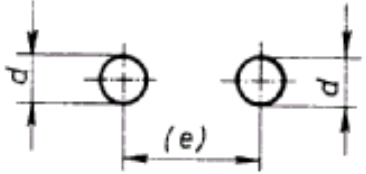

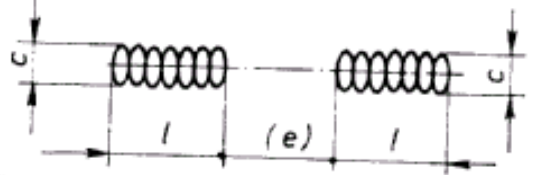
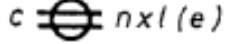
5.	Jednostrani U šav (sa paralelnim ili kosim stranicama)		
6.	potkoreni zavar, odnosno šav		
7.	ugaoni šav		
8.	tačkasti šav		
9.	linijski šav		

Oblik površine vara

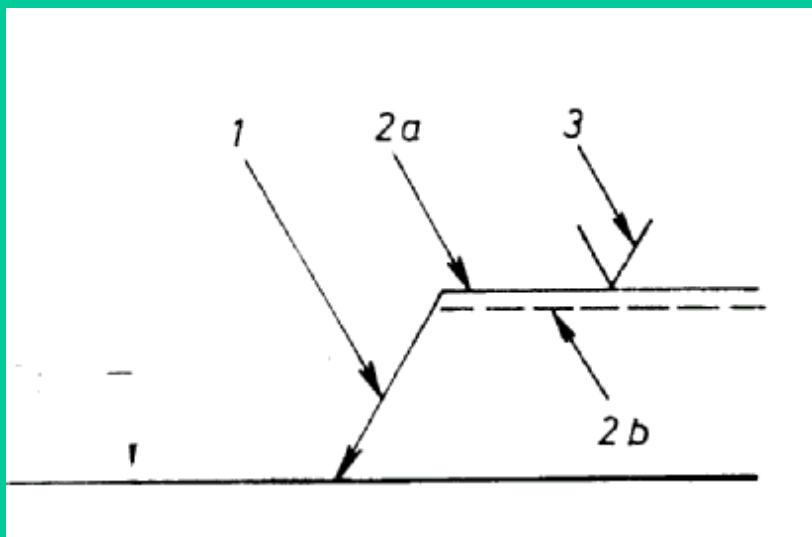
Oblik površine šava	Oznaka
a) ravna (obično obrađena)	
b) ispupčena	
c) izdubljena	

Oblici zavarenih spojeva

naziv	poprečni presek šava	oznaka
jednostrani V ravni šav		
dvostrani V ispupčeni šav		
ugaoni izdubljeni šav		
jednostrani V šav sa potkorenim ravnim zavarom, odnosno šavom		

r.b.	vrste šava	definicija	natpis	
1	sučeoni šav		<p>s: najmanje rastojanje od površine komada do dna provara, koje ne može biti veće od debljine najtanjeg komada</p>	
2	neprekidan ugaoni šav		<p>a: visina najvećeg trougla koji se može ucrtati na preseku z: strana najvećeg trougla koji se može ucrtati na preseku</p>	
3	naizmenični isprekidani ugaoni šav		<p>l: dužina segmenata šava (e): rastojanje između susednih segmenata n: broj segmenata šava a,z: vidi redni broj 2</p>	
4	tačkasti šav		<p>n: broj koraka (e): rastojanje (korak) d: prečnik tačke</p>	
5	linijski šav		<p>l, (e), n: vidi redni broj 3 c: širina šava</p>	

Oznaka vara



1-strelica

2a i 2b-pokazne linije

3-simbol šava i
dimenzije