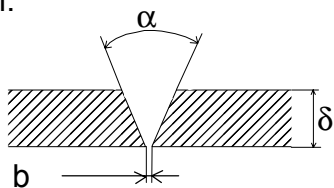
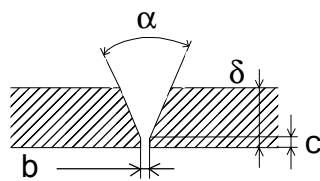


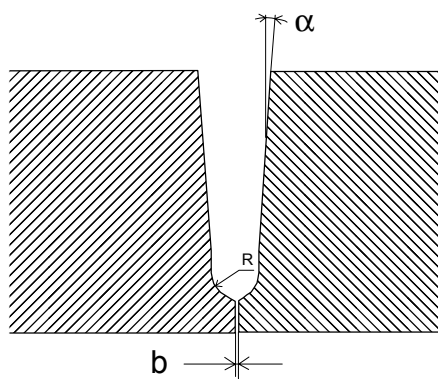
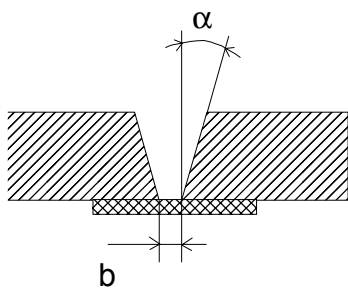
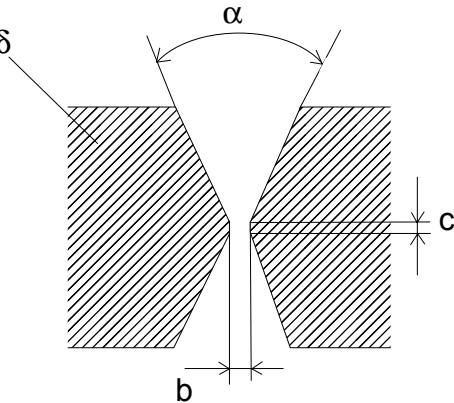
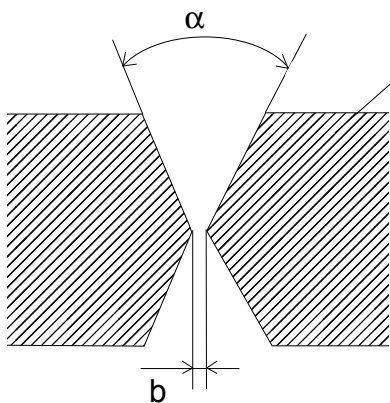
Sučeonni:



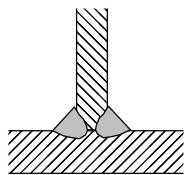
(sa žljebljenjem korijena)



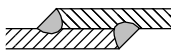
(sa provarom korijena)



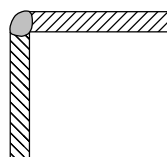
Kutni:



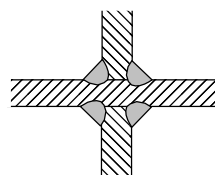
T-spoj



Preklopni



Rubni

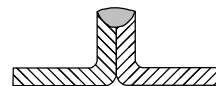


Križni

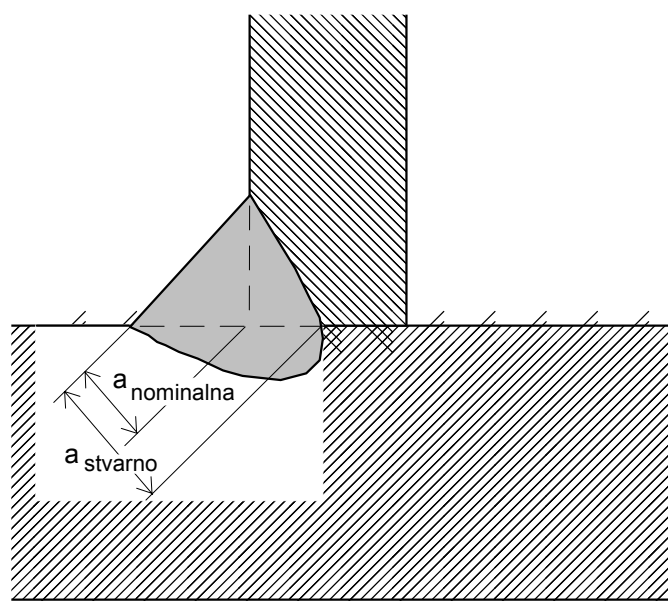
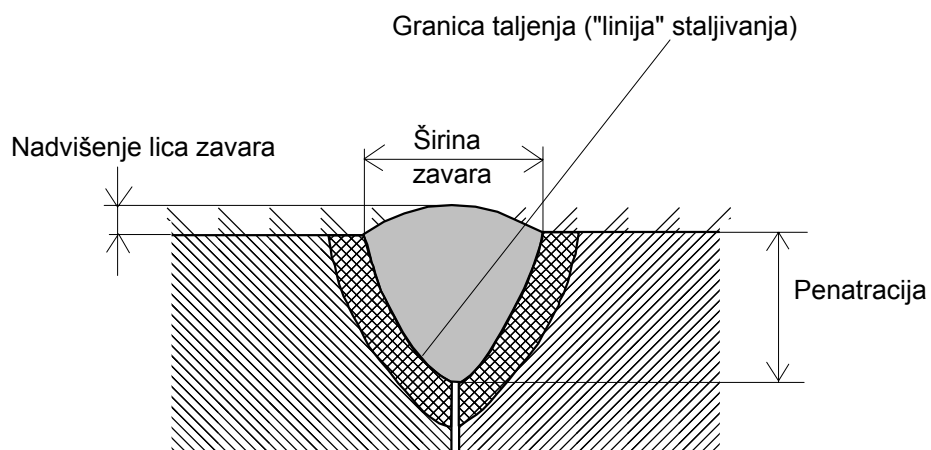
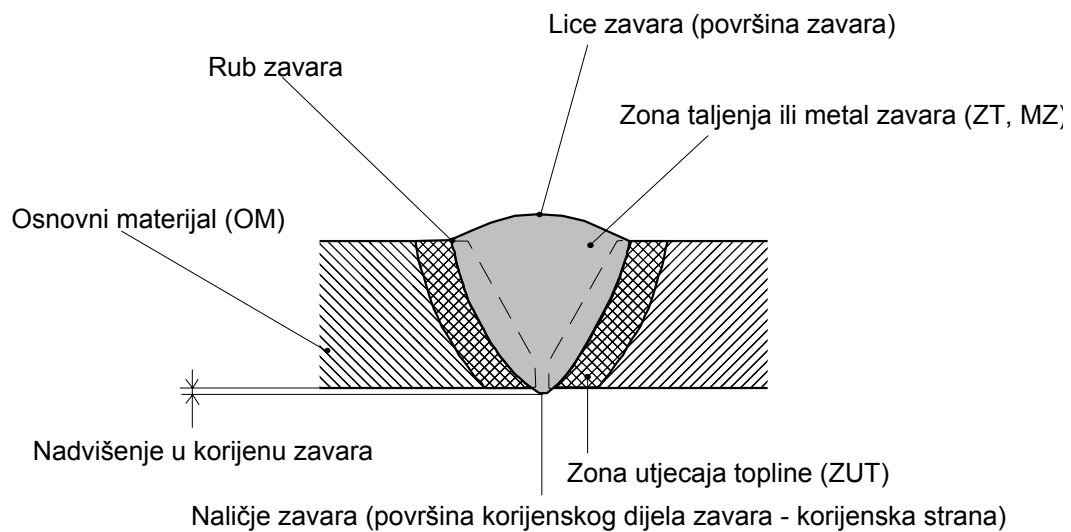
Naliježući



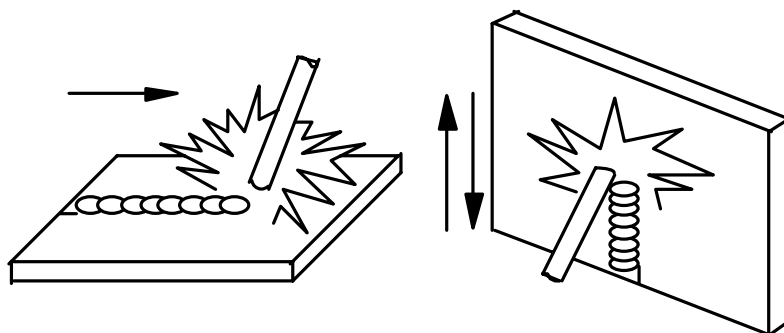
Prirubni



Primjeri spojeva i žljebova za zavarivanje

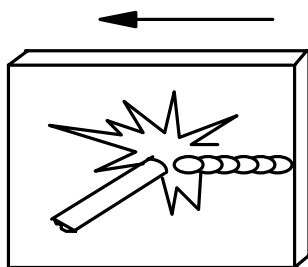


Elementi spoja zavarenog taljenjem

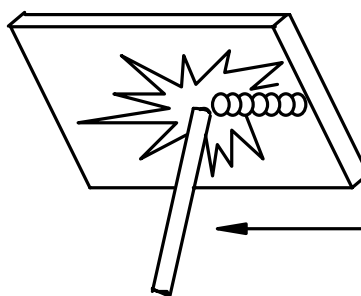


Položeni, horizontalni (P,H)

Vertikalni (V)

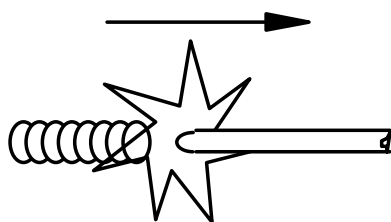


Horizontalno-vertikalni, zidni (HV)

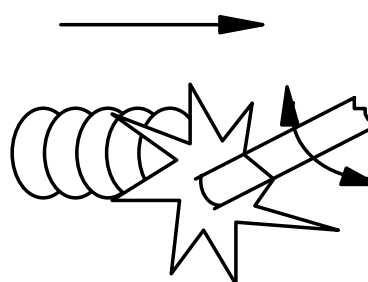


Nadglavni (NG)

Položaji zavarivanja



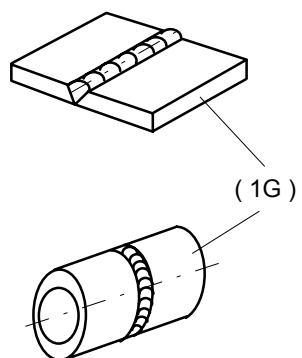
POVLAČENJE



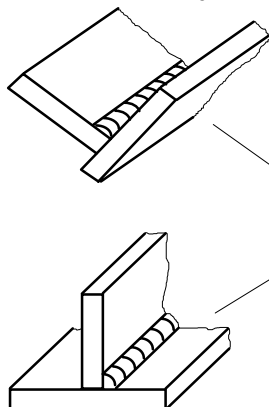
NJIHANJE

Osnovne tehnike polaganja prolaza

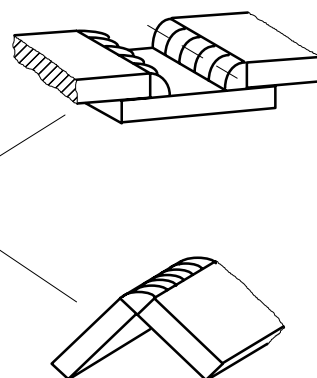
Sučeonni spoj



Kutni spoj

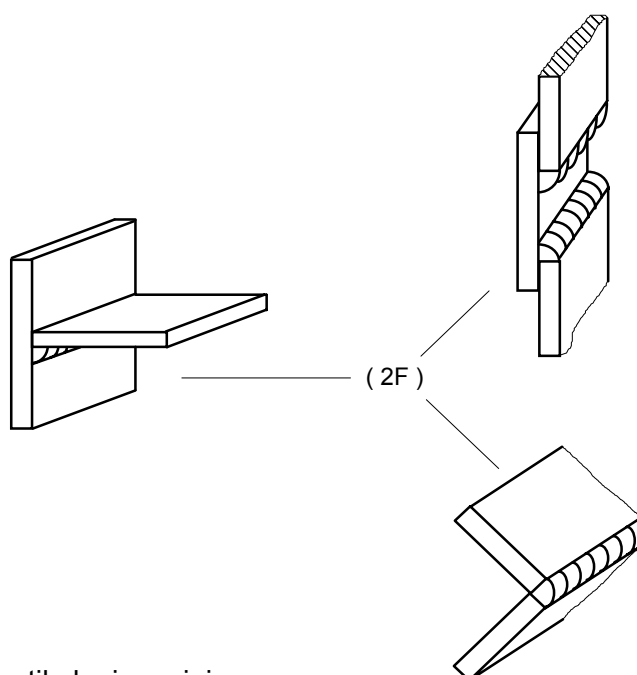
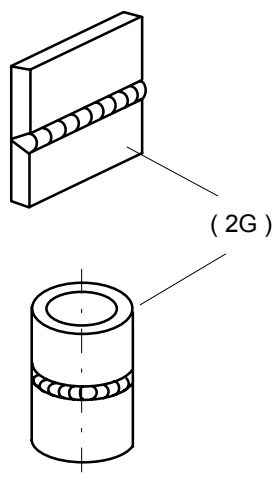


Preklopni i rubni spoj



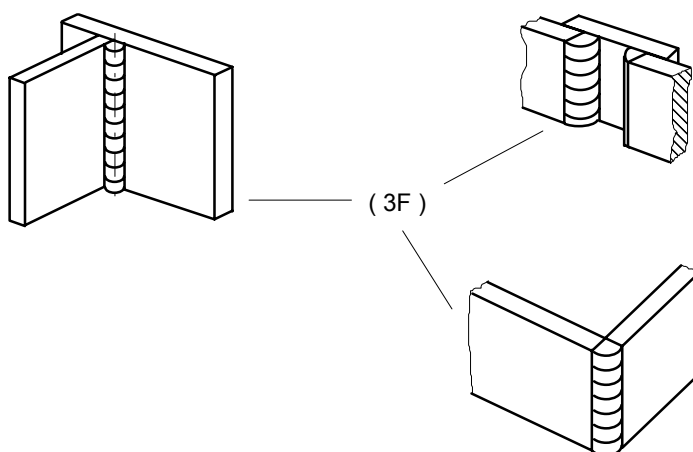
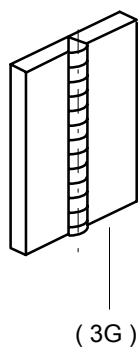
- osi zavora na limu i os cijevi su horizontalni
- cijev se okreće pri zavarivanju

a) Horizontalan položaj



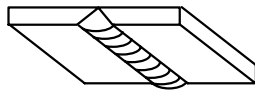
- osi zavora su horizontalne na vertikalnoj ravnini

b) Horizontalno vertikalni položaj



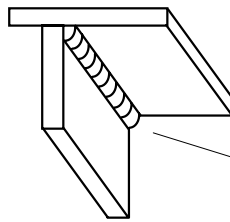
- osi zavora su vertikalne

Sučeonni spoj

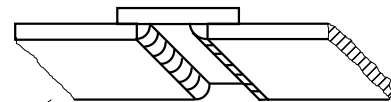


(4G)

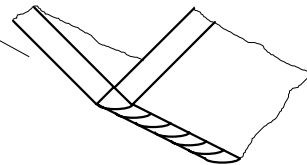
Kutni spoj



Preklopni i rubni spoj

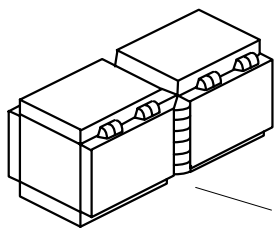


(4F)

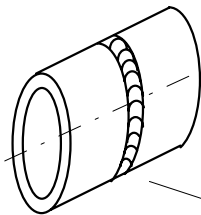


- osi zavora su horizontalne

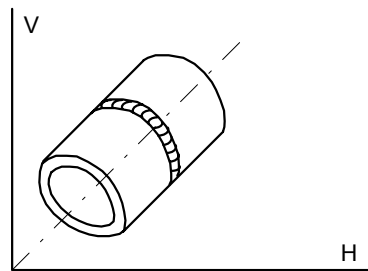
d) Položaj iznad glave



(5F)



(5G)



(6G)

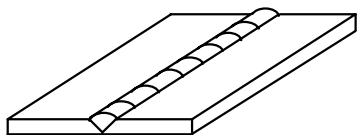
- cijev i predmet se ne rotiraju

e) Svi položaji - predmeti se ne rotiraju

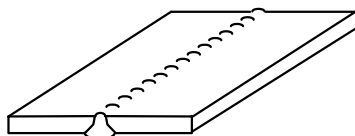
Položaji zavarivanja za sučeone i kutne spojeve limova i cijevi. Oznaka u zagradi se odnosi na sučeone spojeve sa žlijebom (G - Groove Weld ... zavar u žlijebu) i za kutne spojeve (F - Fillet Weld ... kutni spoj) prema ASME propisima, koji su kod nas često u upotrebi.

ASME - the AMERICAN SOCIETY OF MECHANICAL ENGINEERS

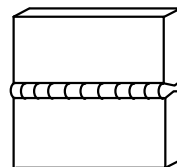
(Savez strojarskih inženjera u SAD)



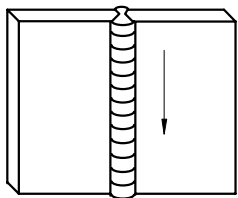
PA - Vodoravni položaj



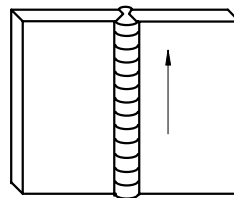
PE - Nadglavni položaj



PC - Horizontalni položaj

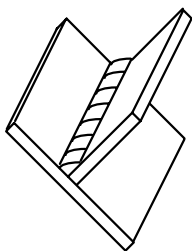


PG - Vertikala prema dolje

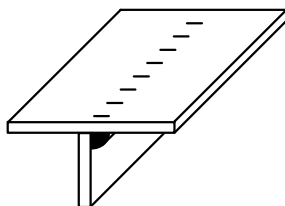


PG - Vertikala prema gore

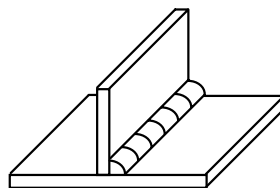
a) Sučeljeni spojevi



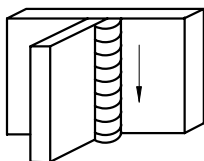
PA - Vodoravni položaj



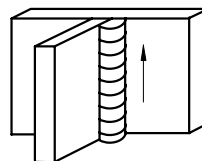
PD - Horizontalno nadglavni položaj



PB - Horizontalno - vertikalni položaj



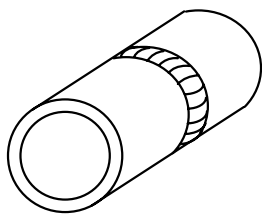
PG - Vertikala prema dolje



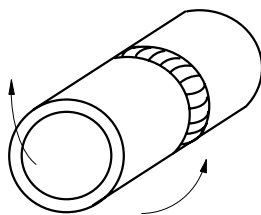
PG - Vertikala prema gore

b) Kutni spojevi

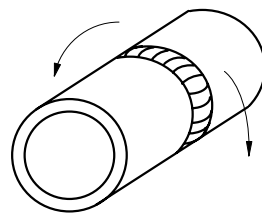
Položaji zavarivanja za limove



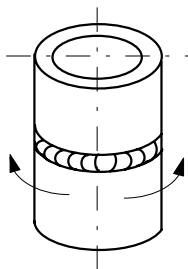
Cijev : rotirajuća
PA Os : vodoravana
Zavarivanje : vodoravno



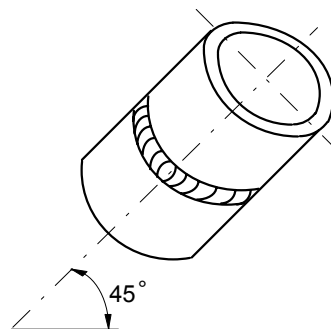
Cijev : fiksna
PF Os : vodoravana
Zavarivanje : prema gore



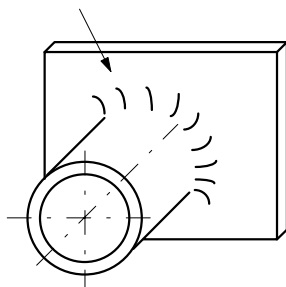
Cijev : fiksna
PG Os : vodoravana
Zavarivanje : prema dolje



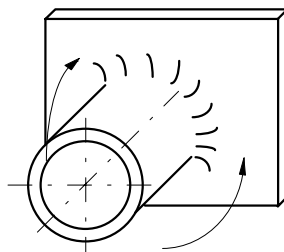
Cijev : fiksna
PC Os : okomita
Zavarivanje : zidno



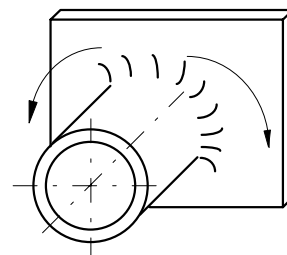
Cijev : fiksna
PC Os : nagnuta
Zavarivanje : prema gore



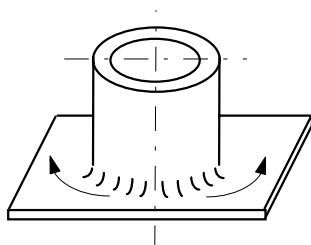
Cijev : rotirajuća
PA Os : vodoravana
Zavarivanje : horizontalno - vertikalno



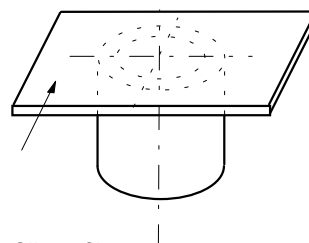
Cijev : fiksna
PA Os : vodoravana
Zavarivanje : prema gore



Cijev : fiksna
PA Os : vodoravana
Zavarivanje : prema dolje

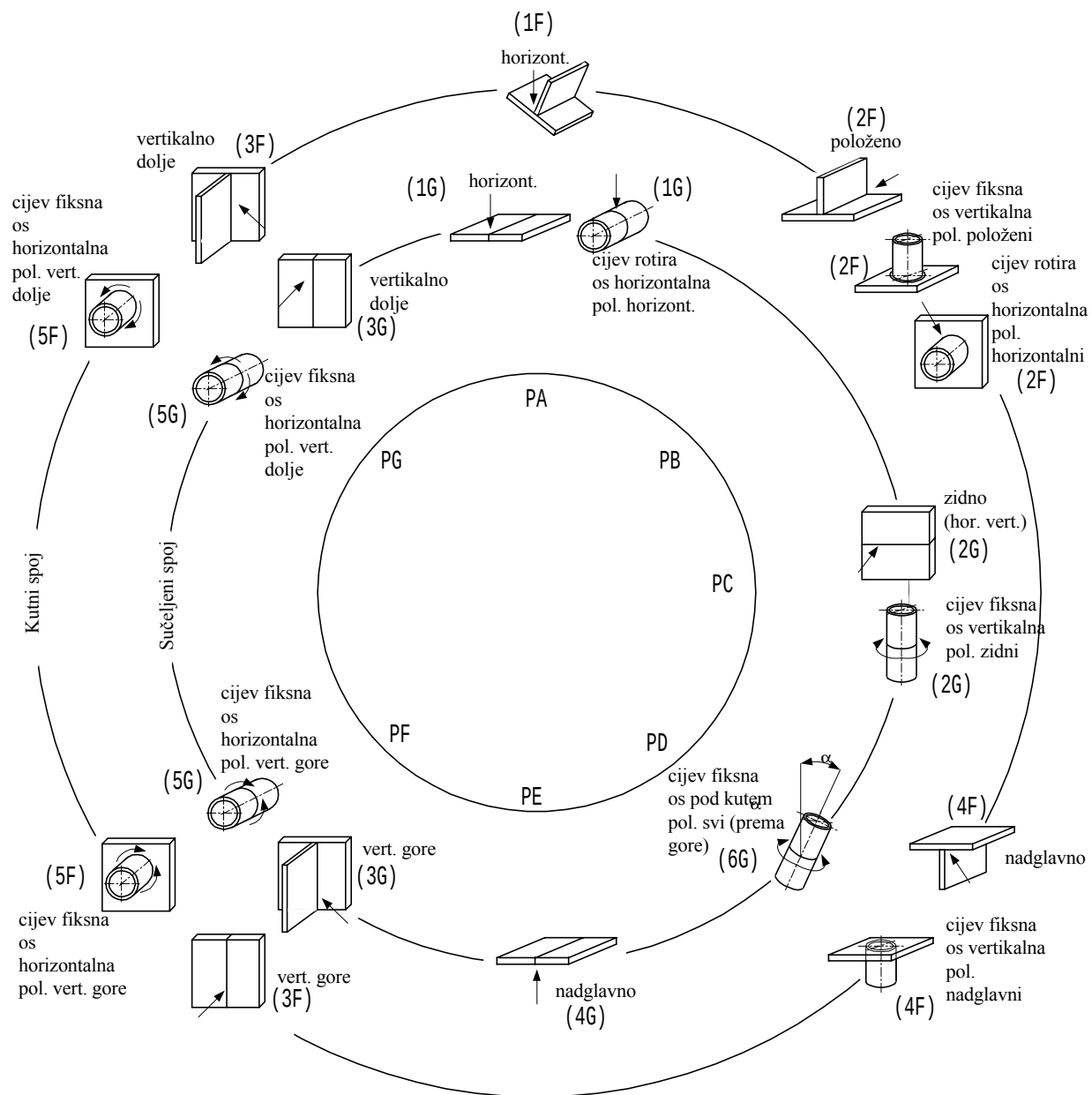


Cijev : fiksna
PC Os : okomita
Zavarivanje : horizontalno - vertikalno



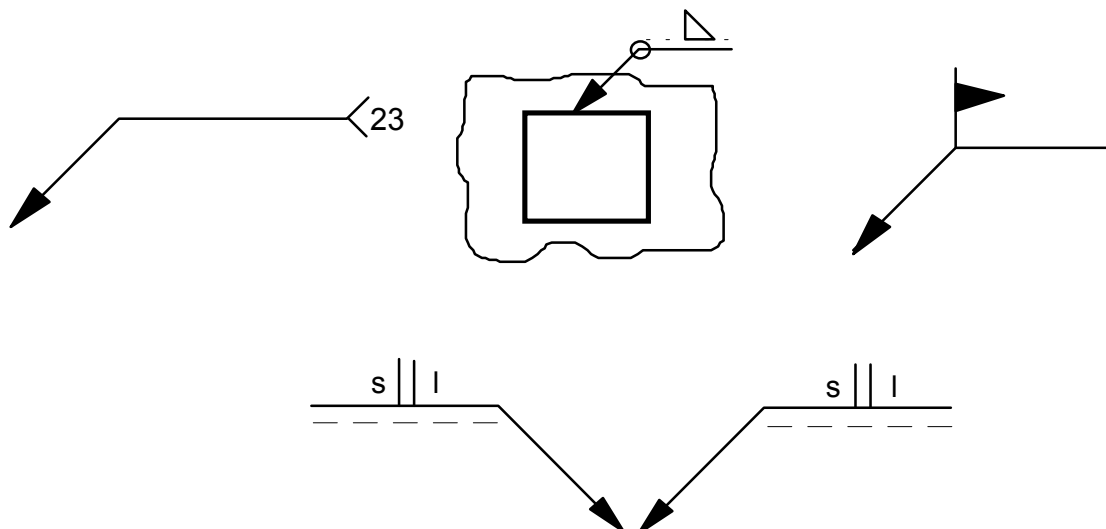
Cijev : fiksna
PC Os : okomita
Zavarivanje : horizontalno - nadglavno

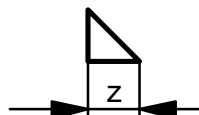
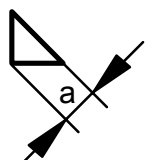
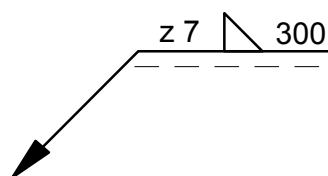
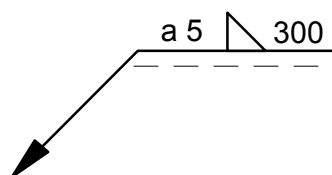
Slika: Položaji zavarivanja na cijevi





Dopunske oznake oblika površine šava





$$z = a\sqrt{2}$$

visina šava

Red broj	Vrsta šava	Definicija		Natpis
1	Isprekidani kutni šav		l - duljina segmenata šava e - rastojanje između susjednih segmenata šava n - broj segmenata šava a - visina najvećeg trkuta koji se može ucrtati na presjeku z - strana najvećeg trokuta koji se može ucrtati na presjeku	$a \nabla n \times l (e)$ $z \nabla n \times l (e)$
2	Naizmjenični isprekidani kutni šav		l e n a z isto kao kod 1	$a \nabla n \times l (e)$ $a \nabla n \times l (e)$ $z \nabla n \times l (e)$ $z \nabla n \times l (e)$
3	Šav u duguljastom otvoru		l e n c - širina otvora isto kao kod 1	$c \sqcap n \times l (e)$
4	Linijski šav		l e n c - širina šava isto kao kod 1	$c \bigcirc n \times l (e)$
5	Šav u okruglom otvoru		n - (isto kao kod 1) e - rastojanje (korak) d - prečnik otvora	$d \sqcap n \times l (e)$
6	Točkasti šav		n - (isto kao kod 1) e - rastojanje korak d - promjer točke	$d \bigcirc n \times (e)$