

## AJRALUVCHI BIRIKMALAR

Ajraluvchi birikmalar mavzusi mashinasozlik chizmachiligidagi talabani dastlabki yig‘ish chizmalarini tuzishga o‘rgatuvchi material hisoblanadi. Mashina mexanizmlari, turli moslamalarni tarkibida uchraydigan har xil birikmalarni sozlash, ta’mirlash, yangisiga almashtirishga to‘g‘ri keladi.

Agar birikma tarkibidagi detallarni bir-biridan ajratish jarayonida ularning sifati buzilmasa, yaroqsiz holatga kelib qolmasa, detallar hamda birikmadan yana qayta foydalanish mumkin bo‘lsa, u holda bunday birikmalar *ajraluvchi birikma* deyiladi.

Ajraluvchi birikmalarni hosil qilishda asosiy o‘rinni biriktirish detallari egallaydi. Biriktirish detallariga esa quyidagi detallar kiradi: *boltlar, shpilkalar, vintlar, shuruplar, shponkalar, shtiftlar, shplintlar*. Ushbu biriktirish detallari yordamida ajraluvchi birikmalar hosil qilinadi.

**Ajraluvchi birikmalarning turlari ham biriktirish detallari nomi bilan ataladi. Ular quyidagilar:**

**1. Rezbali birikmalar.**

- 1.1. Boltli birikmalar.*
- 1.2. Shpilkali birikmalar.*
- 1.3. Vintli birikmalar.*
- 1.4. Shurupli birikmalar.*
- 1.5. Fitingli (truba rezbali) birikmalar.*

**2. Shtiftli birikmalar.**

- 2.1. Konus shtiftli birikma.*
- 2.2. Silindrik shtiftli birikma.*

**3. Shponkali birikmalar.**

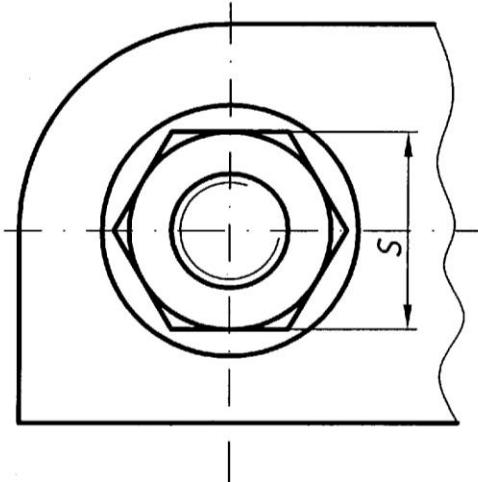
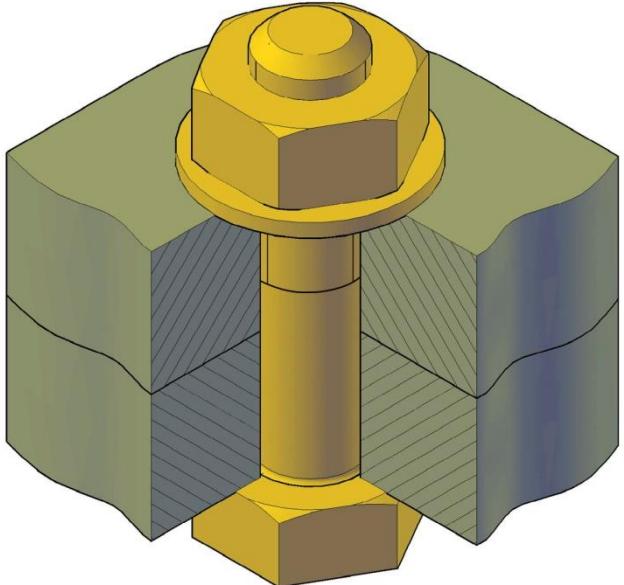
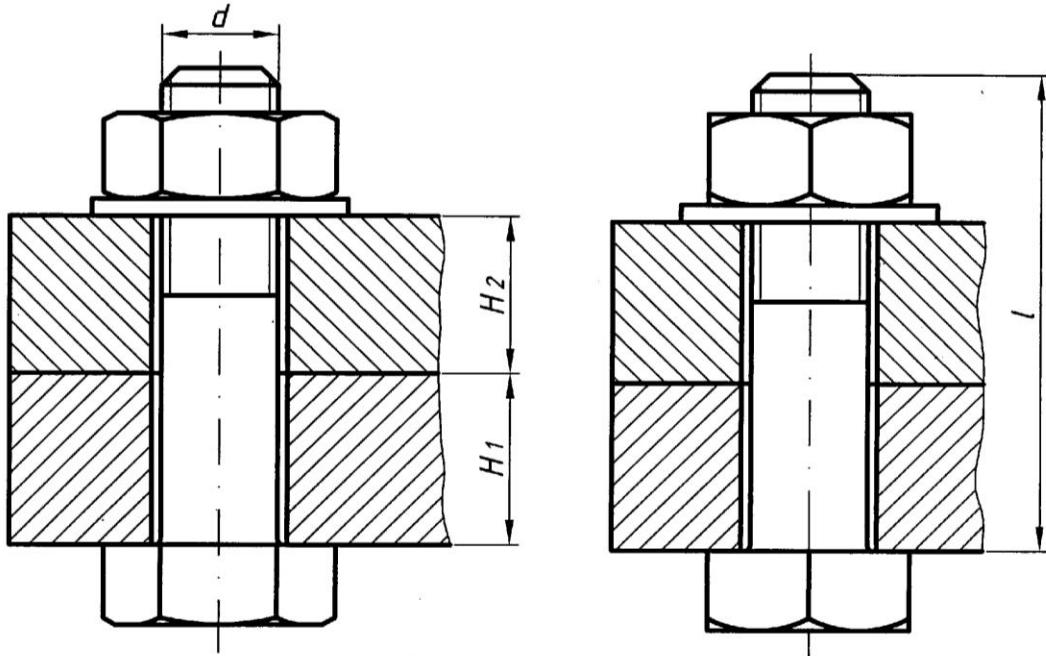
- 3.1. Prizmatik shponkali birikmalar.*
- 3.2. Segmentsimon shponkali birikmalar.*
- 3.3. Ponasimon shponkali birikmalar.*

**4. Shlitsali birikmalar.**

**5. Shplintli birikmalar.**

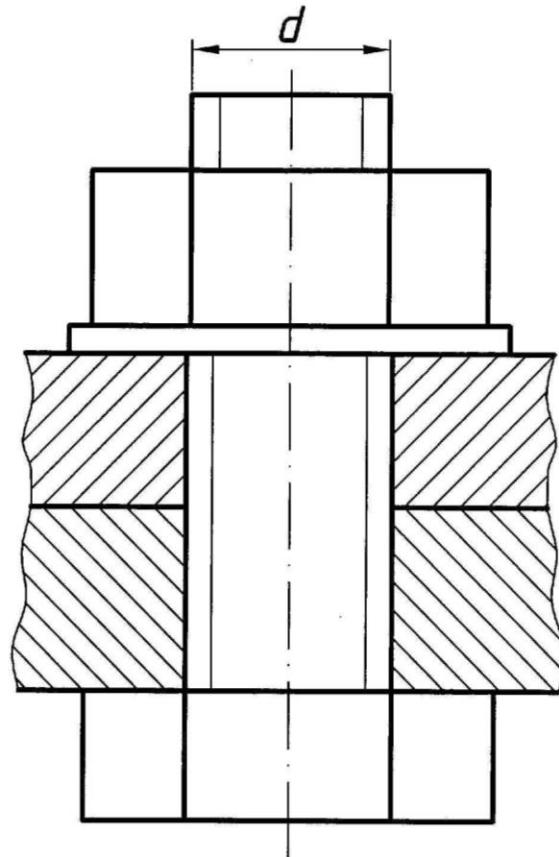
## 2. BOLTLI BIRIKMALARGA OID GRAFIK VAZIFALAR VA UNING METODIK TA'MINOTI

Boltli birikmada biriktiriluchi (ikki va undan ortiq) detallar bolt, gayka va shaybalar yordamida o'zaro biriktiriladi. Quyida boltli birikmaning yaqqol tasviri va ortogonal proyeksiyasi ko'rsatilgan. Boltli birikmalar o'zining mustahkamligi bilan ajralib turadi.

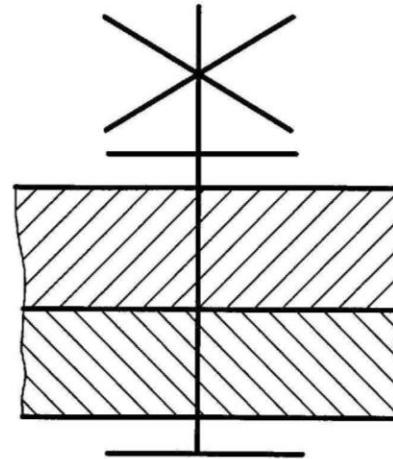


## 2. BOLTLI BIRIKMALARGA OID GRAFIK VAZIFALAR VA UNING METODIK TA'MINOTI

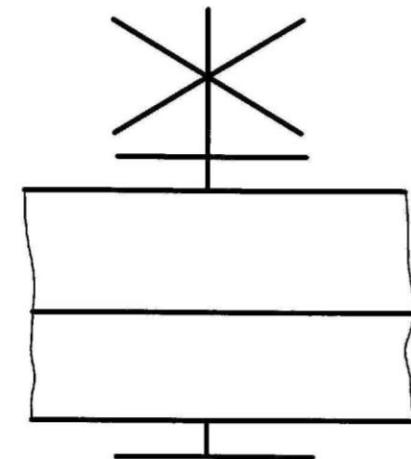
Boltli birikmani quyidagidek, soddalashtirib tasvirlash ham mumkin.



a)



b)



c)

# BOLTLI BIRIKMALARGA OID GRAFIK VAZIFALAR

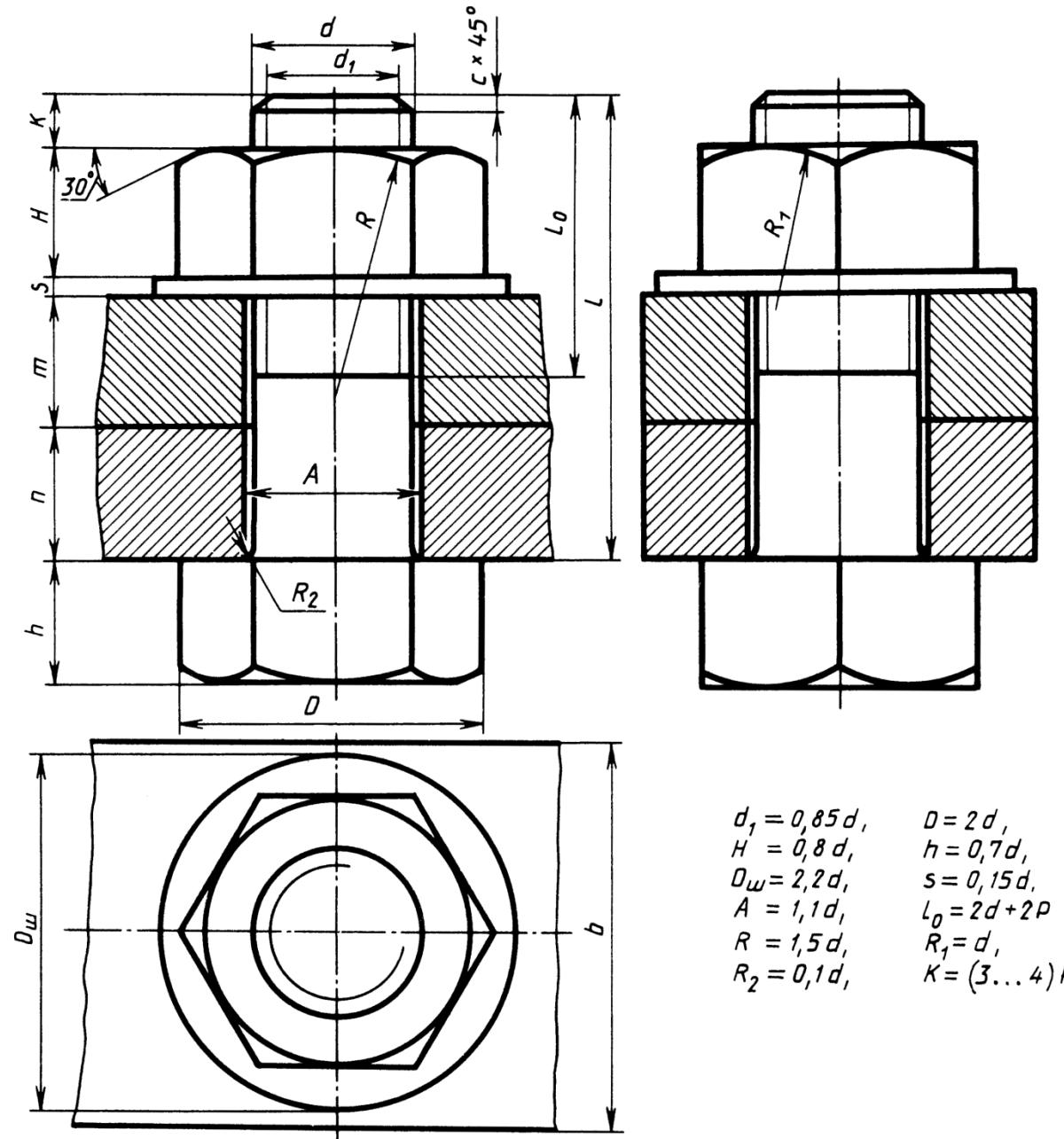
VA

## UNING METODIK TA'MINOTI

Boltli birikmani  
bajarishda quyidagi  
tasvirda keltirilgan

parametrik  
formulalardan  
foydalaniladi.

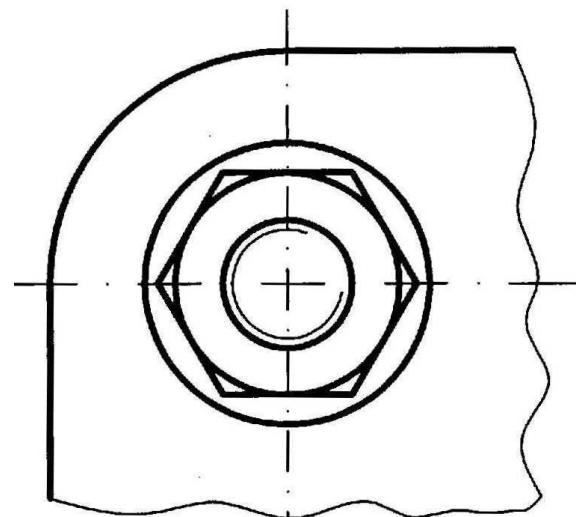
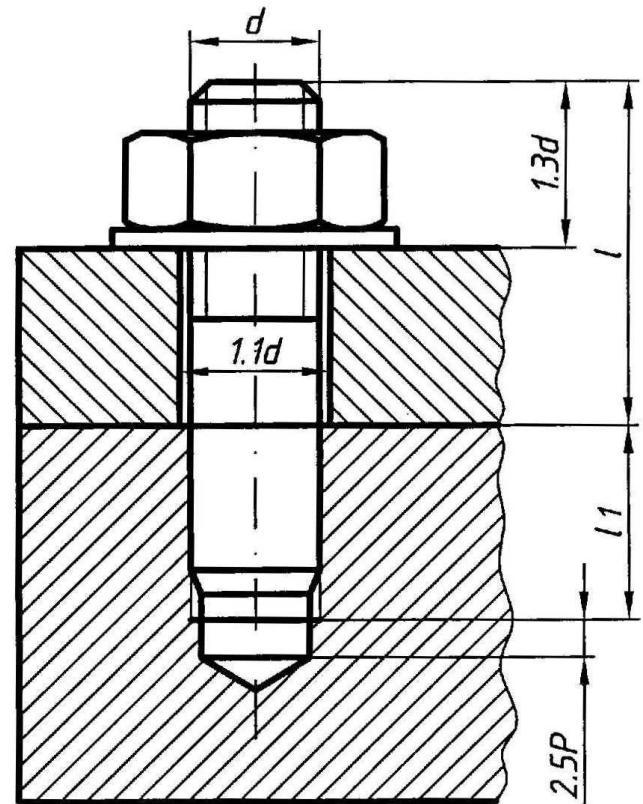
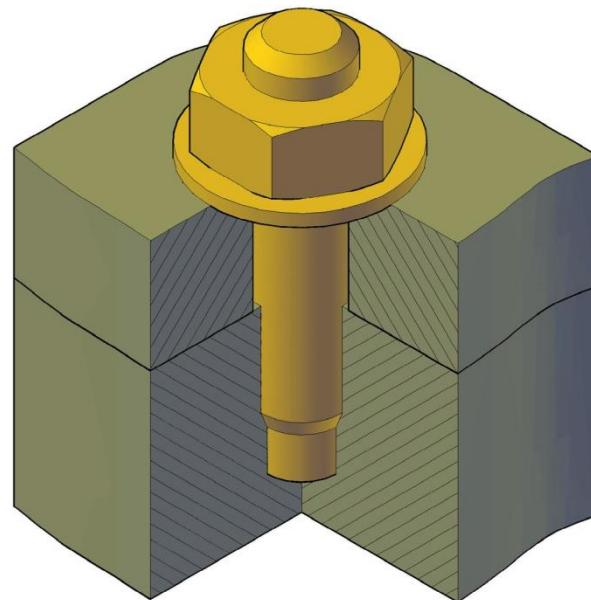
BMIning  
qo'lyozmasida  
talabalar uchun  
variantlar mavjud.



# **SHPILKALI BIRIKMALARGA OID GRAFIK VAZIFALAR VA UNING METODIK TA'MINOTI**

**Bolt kallagi halaqit  
beradigan joylarda  
shpilkali birikmadan  
foydalanaladi.**

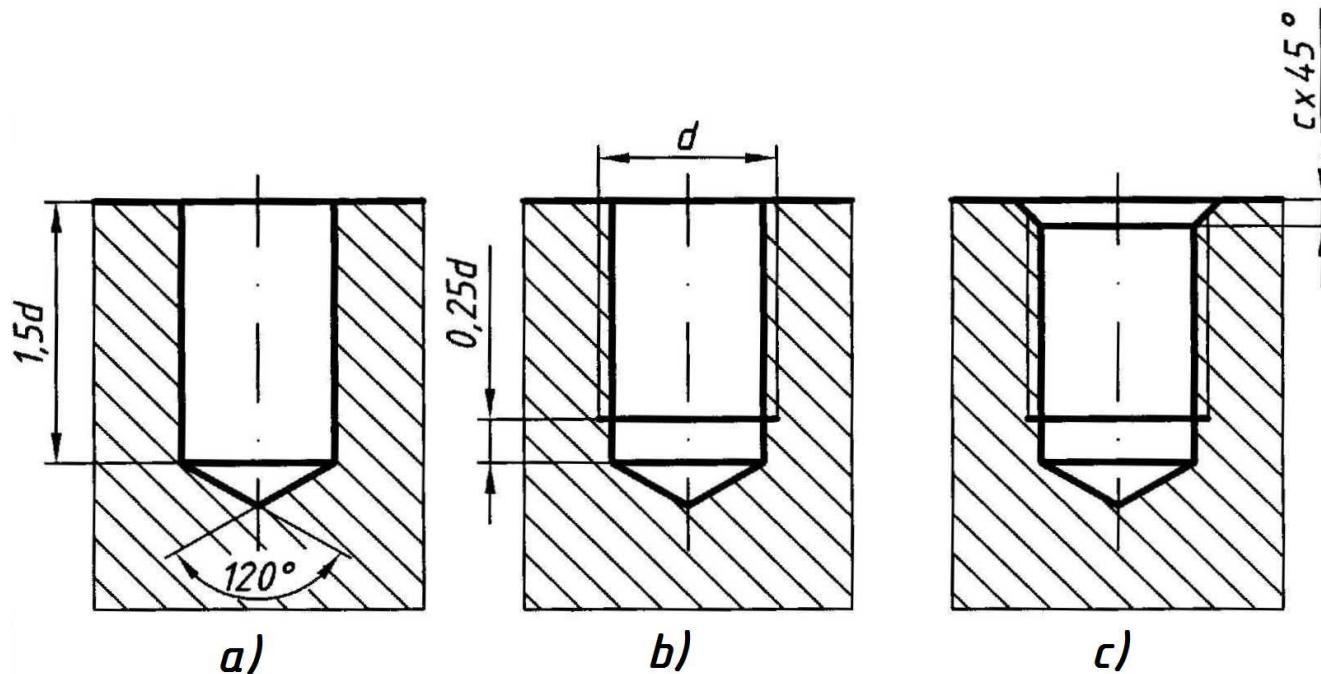
**Shpilkali birikma  
biriktirish detallari  
shpilka, gayka va  
shaybalarning o'zaro  
birikuvidan hosil  
qilinadi.**



## SHPILKALI BIRIKMALARGA OID GRAFIK VAZIFALAR VA UNING METODIK TA'MINOTI

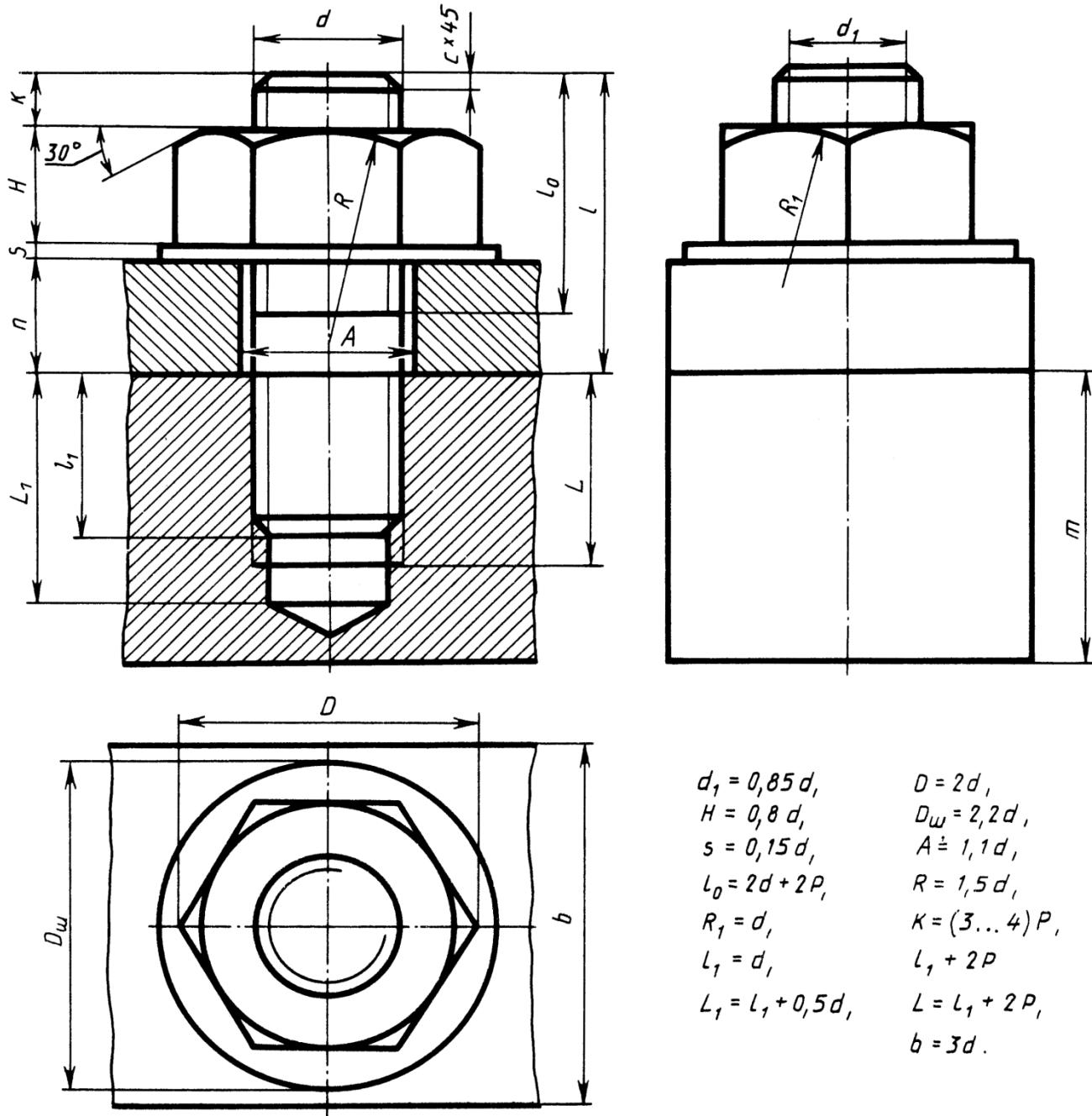
Shpilka ikki uchiga rezba ochilgan silindrik sterjen bo'lib, uning bir uchi biriktiriluvchi detal (shpilka uyasi)ga burab kirkaziladi. Ikkinci uchiga keyingi biriktiriluvchi detal kiygizilib, shayba va gayka bilan mos kalit (klyuch) orqali mahkamlanadi.

Shpilka uyasi deb birikuvchi detallardan biriga ochilgan uchi berk rezbali teshikka aytiladi. Uya avval parma bilan rezba diametrining ichki diametriga, ya'ni  $d = 0,85 D$  ga teng qilib o'yiladi (a). Uyaning tubidagi konus parma uchidagi konus izi bo'lib, u  $120^\circ$  ga teng. Keyin bu uyaga matchik yordamida rezba o'yiladi (b). So'ngra shpilkani burab kirkazish qulay bo'lishi uchun uya og'ziga faska ochiladi (c).



# SHPILKALI BIRIKMALARGA OID GRAFIK VAZIFALAR VA UNING METODIK TA'MINOTI

Shpilkali birikmani bajarishda quyidagi tasvirda keltirilgan parametrik formulalardan foydalaniladi. BMIning qo'lyozmasida talabalar uchun variantlar mavjud.



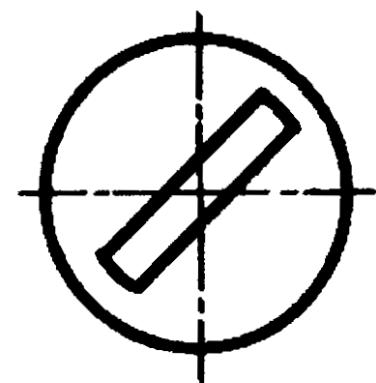
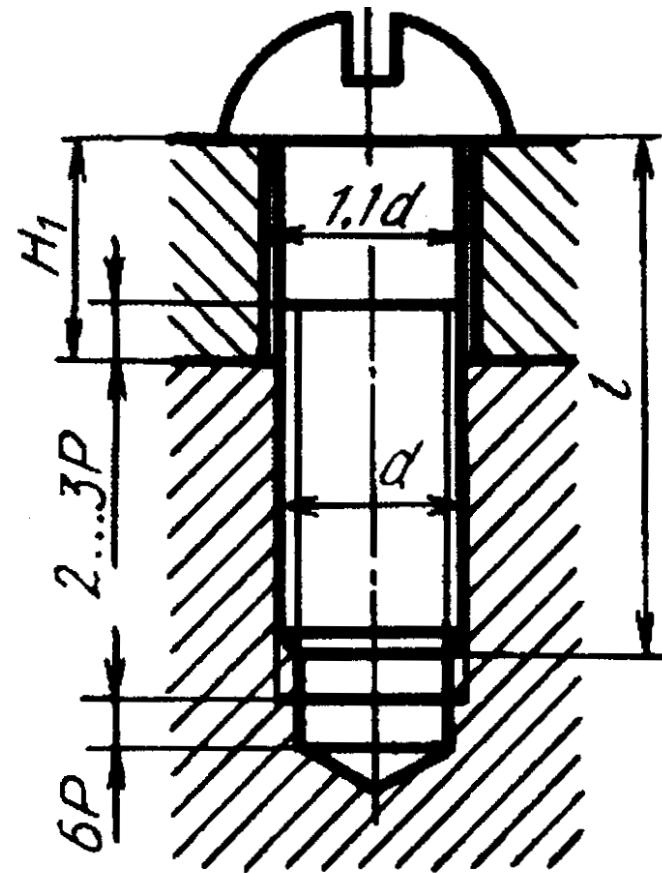
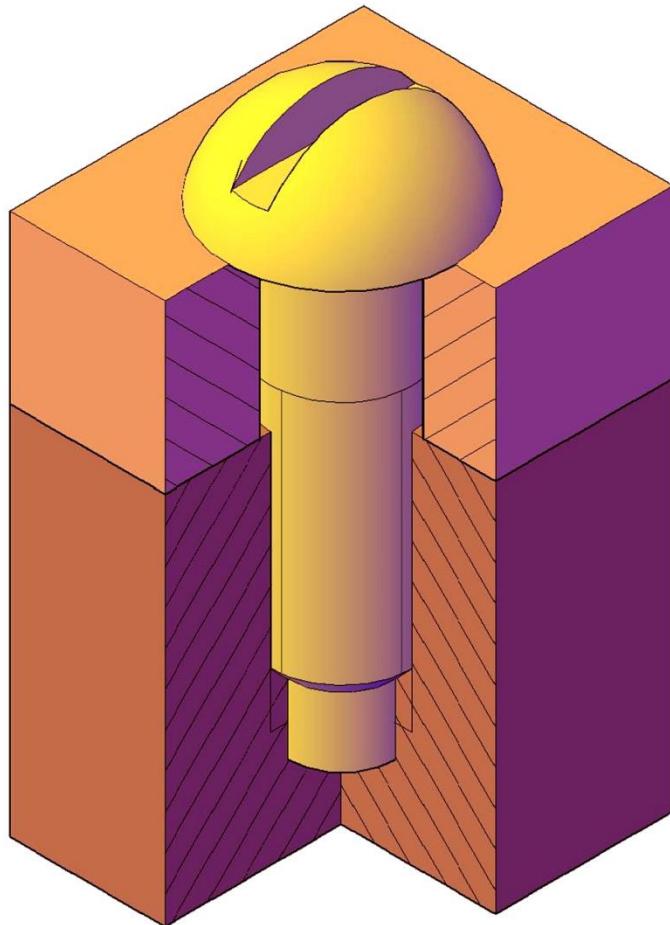
# VINTLI VA SHURUPLI BIRIKMALARGA OID GRAFIK VAZIFALAR HAMDA UNING METODIK TA'MINOTI

**Vintli birikmalar.** Mashina va mexanizmlardagi yirik bo'Imagan detallarni vint yordamida biriktirishga amaliyotda ko'p duch kelamiz. Vintni birikmada biriktiriluvchi detallardan biriga silindrik ochiq teshik, ikkinchisiga rezba ochiladi. Vintli birikmalarda mustahkamlanadigan detallarda vintning kallagiga moslashtirilgan chuqurchalar ishlanadi.

Yarim yumaloq, silindrik, yashirin va yarim yashirin kallakli vintli birikmalarda biriktiriluvchi detalga vint erkin kirishi uchun **GOST 12876-96** ga muvofiq maxsus o'yiq va uning davomida  $1,1 \times d$  o'Ichamda silindrik teshik ochiladi. Biriktiriluvchi detallarning ochilgan silndrik teshik va rezbalari mos ravishda o'rnatiladi. So'ngra vint silindrik teshikdan o'tkazilib, rezba ochilgan detalga burab kiritiladi va vint kallagi rezbasiz detalni siqib vintli birikmani hosil bo'ladi.

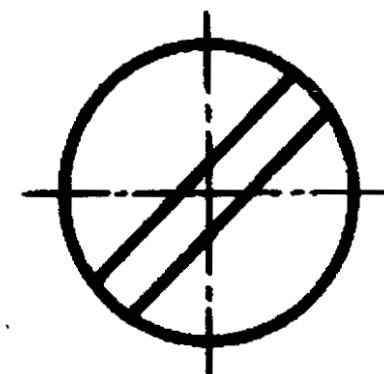
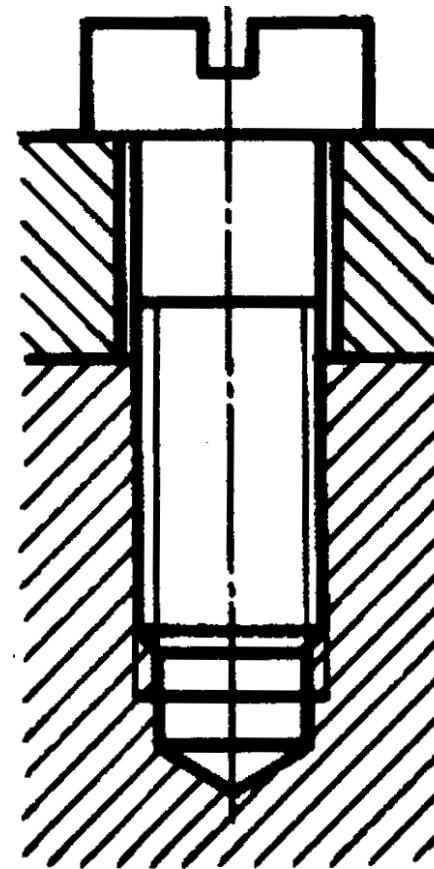
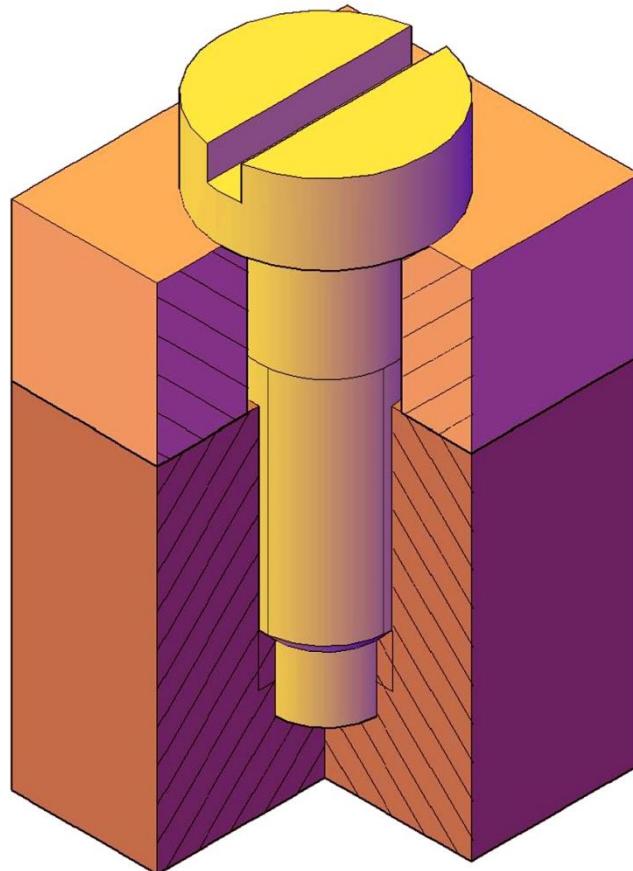
**VINTLI  
BIRIKMALARGA OID  
GRAFIK VAZIFALAR  
HAMDA UNING  
METODIK  
TA'MINOTI**

**Yarim sferik  
kallakli vintli  
birikmaning  
yaqqol tasviri va  
ko'rinishlari.**



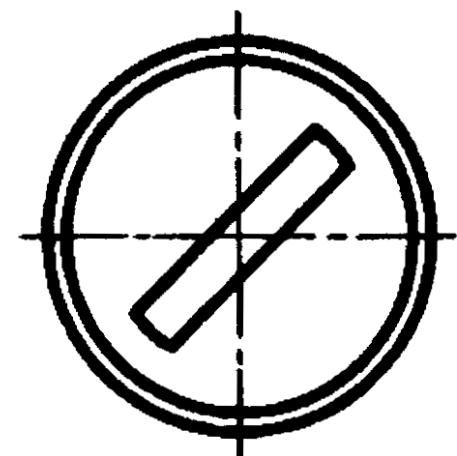
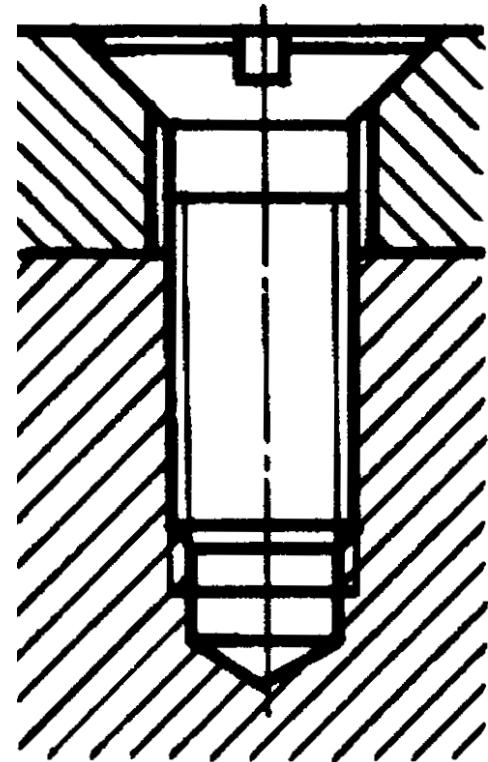
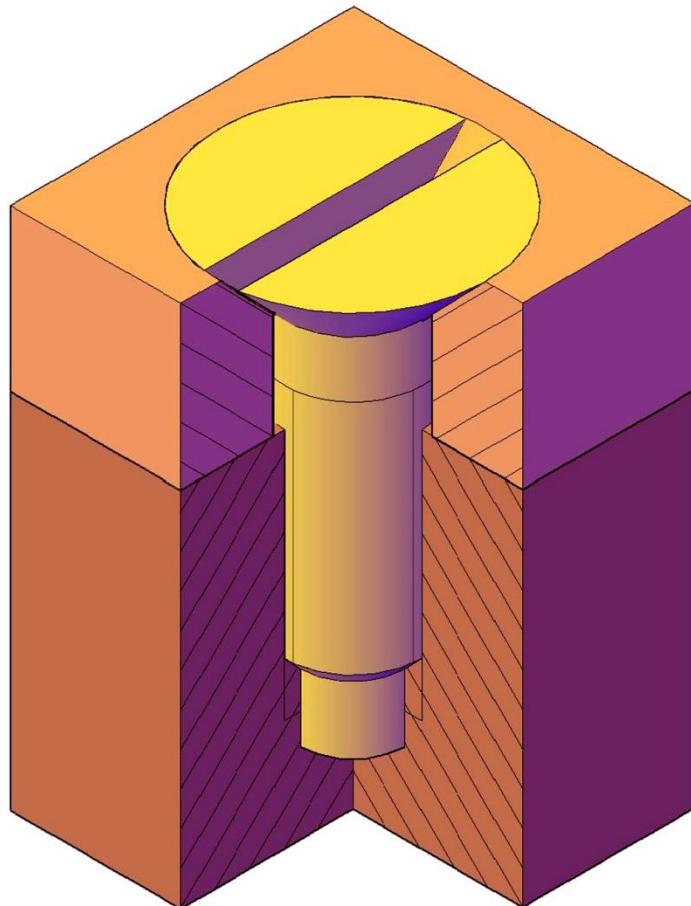
**VINTLI  
BIRIKMALARGA OID  
GRAFIK VAZIFALAR  
HAMDA UNING  
METODIK  
TA'MINOTI**

**Silindrik kallakli  
vintli  
birikmaning  
yaqqol tasviri va  
ko'rinishlari.**



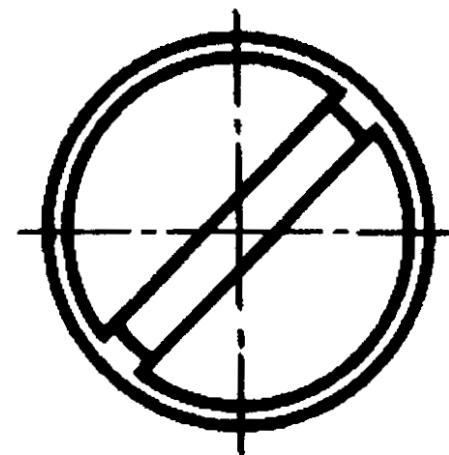
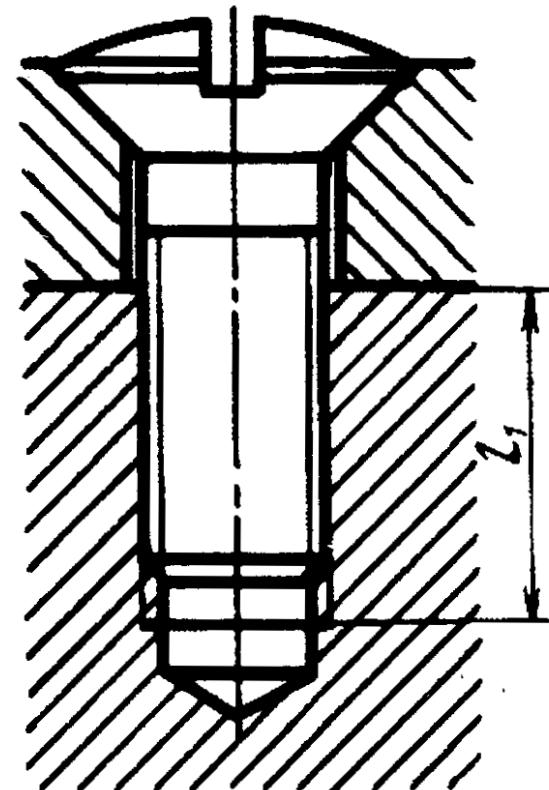
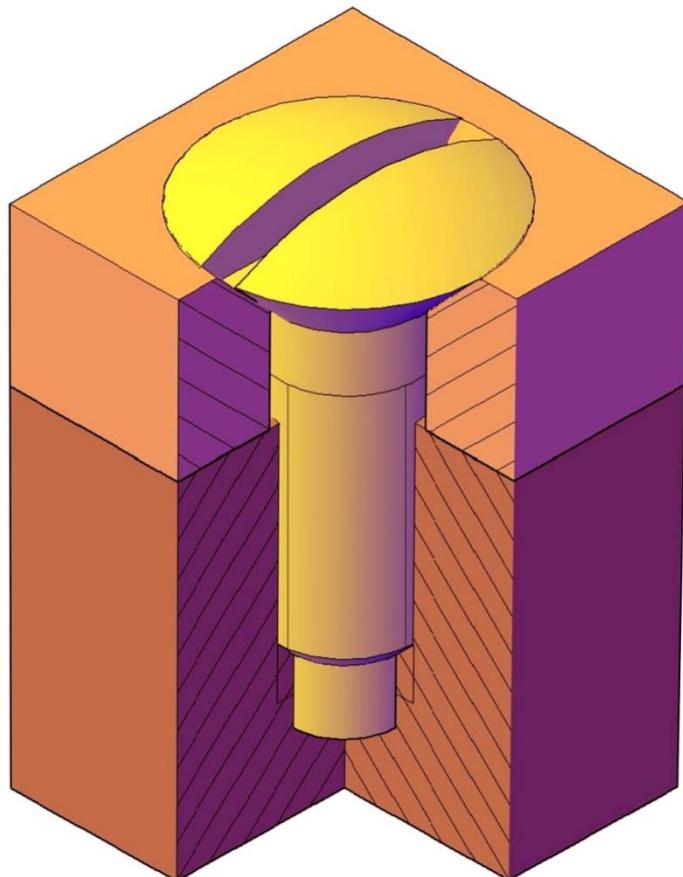
**VINTLI  
BIRIKMALARGA OID  
GRAFIK VAZIFALAR  
HAMDA UNING  
METODIK  
TA'MINOTI**

**Yashirin kallakli  
vintli  
birikmaning  
yaqqol tasviri va  
ko'rinishlari.**



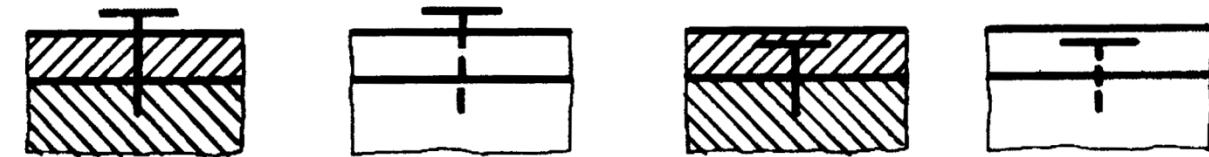
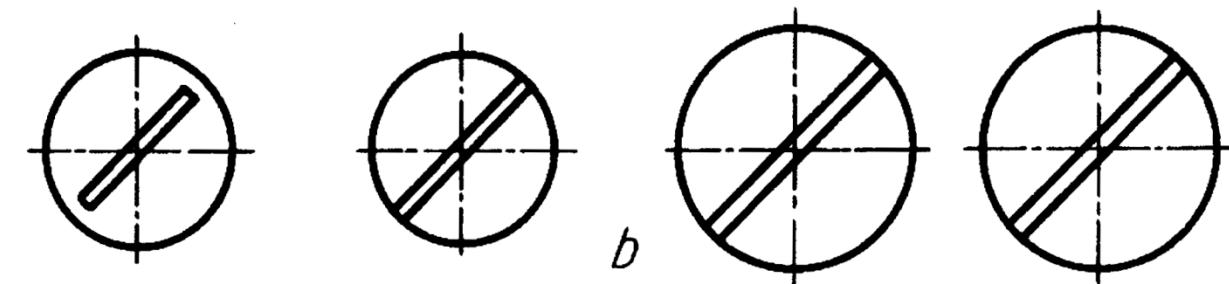
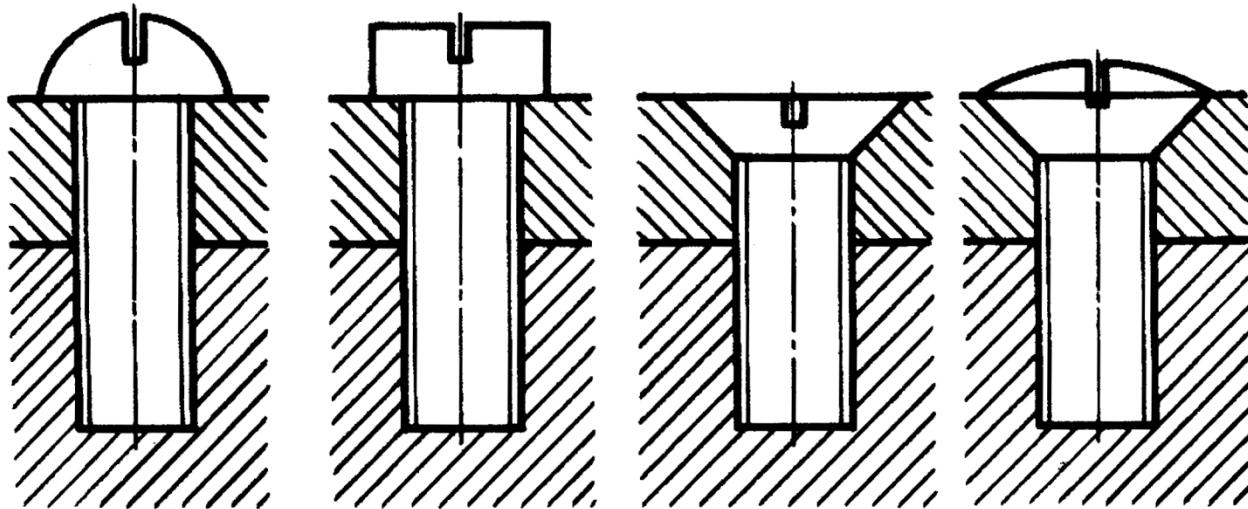
**VINTLI  
BIRIKMALARGA OID  
GRAFIK VAZIFALAR  
HAMDA UNING  
METODIK  
TA'MINOTI**

**Yarim yashirin  
kallakli vintli  
birikmaning  
yaqqol tasviri va  
ko'rinishlari.**



**VINTLI  
BIRIKMALARGA OID  
GRAFIK VAZIFALAR  
HAMDA UNING  
METODIK  
TA'MINOTI**

**Vintlarning  
ko'rinishlari  
yig'ish chizmada  
soddalashtirilib  
ko'rsatilishi  
mumkin.**



*c*

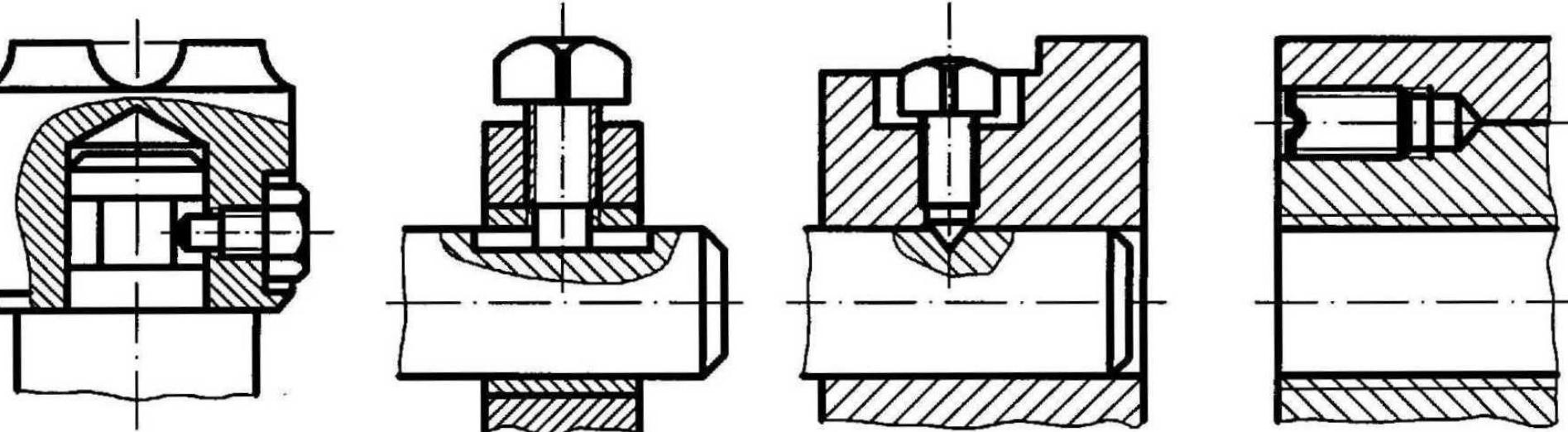
# VINTLI BIRIKMALARGA OID GRAFIK VAZIFALAR HAMDA UNING METODIK TA'MINOTI

Vintlar mustahkamlovchi va o'rnatish vintlariga bo'linadi. Yuqorida mustahkamlovchi vintli birikmalar ko'rsatildi.

O'rnatish vintlari mashina va asboblarning ma'lum bir detallarini birini ikkinchisiga moslash (o'rnatis) va mustahkamlash uchun ishlataladi.

O'rnatish vintlarining yig'ish chizmalaridagi konstruksiyasi to'liq ko'rsatilgan tasviri quyidagi shaklda berilgan.

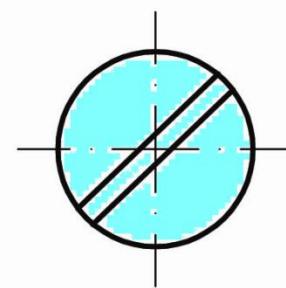
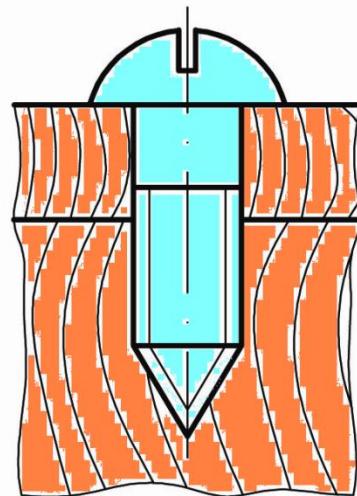
O'rnatish vintlarining kallagi va uchi turli shaklda qilib ishlanadi.



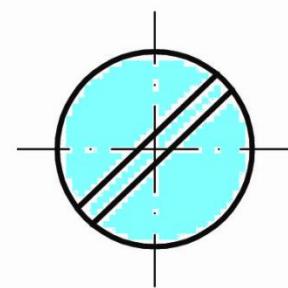
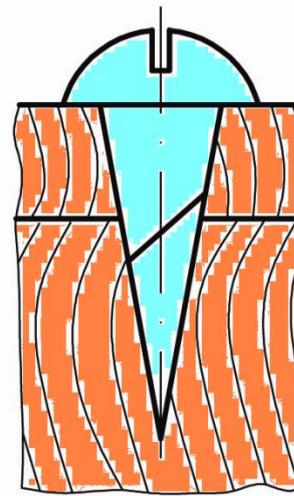
# SHURUPLI BIRIKMALARGA OID GRAFIK VAZIFALAR HAMDA UNING METODIK TA'MINOTI

**Shurupli birikmalar.** Yog'ochni metalga yoki yog'ochni yog'ochga biriktirishda shuruplardan foydalaniladi. Bunday birikmalar *shurupli birikmalar* deyiladi.

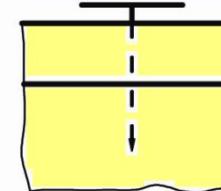
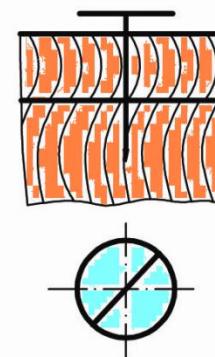
Shuruplarning ham kallagi vintlarniki kabi turli shaklda bo'ladi. Shuruplarning uchi  $40^{\circ}$  dagi burchak bilan yakunlanadi. Shuning uchun u otvyortka bilan buralganda o'ziga uya ochib ketadi, yani shurupga alohida rezbali uya ochish shart emas.



*a*



*b*



*c*

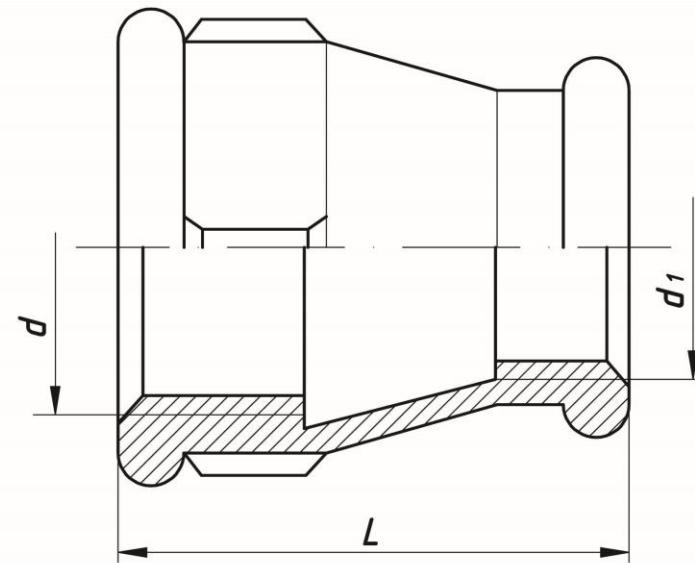
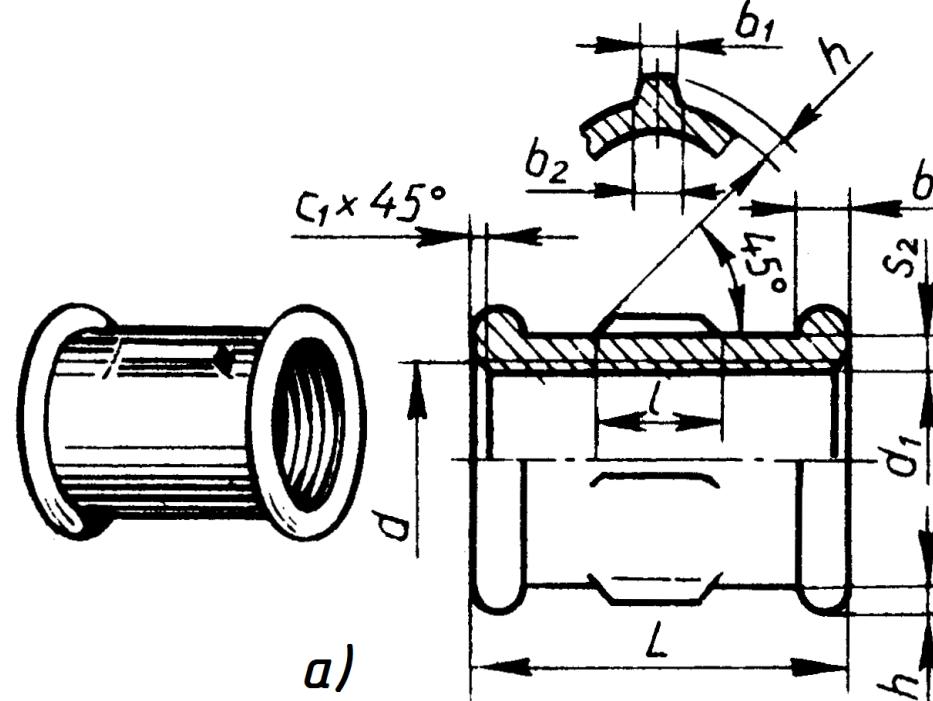
# TRUBA REZBALI BIRIKMALARGA OID GRAFIK VAZIFALAR VA UNING METODIK TA'MINOTI

## 1. To'g'ri muftalar.

To'g'ri muftalar kalta (GOST 8954-75), uzun (GOST 8955-75) va konpensatsiya qiluvchi (GOST 8956-75) muftalar ko'rinishida ishlanadi.

## 2. O'tish muftalari (GOST 8957-75).

Turli diametrдagi trubalarni biroriga ularshda o'tish muftalaridan foydalaniladi. Shuning uchun uning bir tomoni ikkinchi tomoniga nisbatan katta (yoki kichik) diametrda tayyorlanadi.

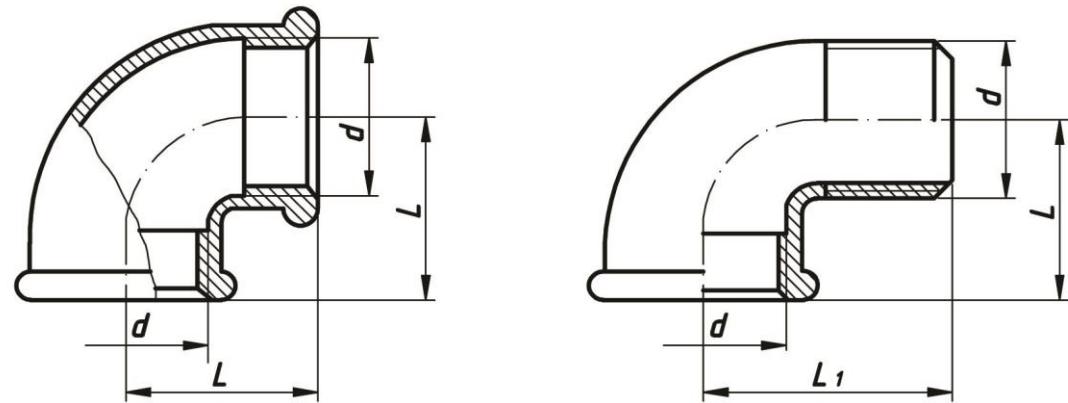


# TRUBA REZBALI BIRIKMALARGA OID

## GRAFIK VAZIFALAR VA UNING METODIK TA'MINOTI

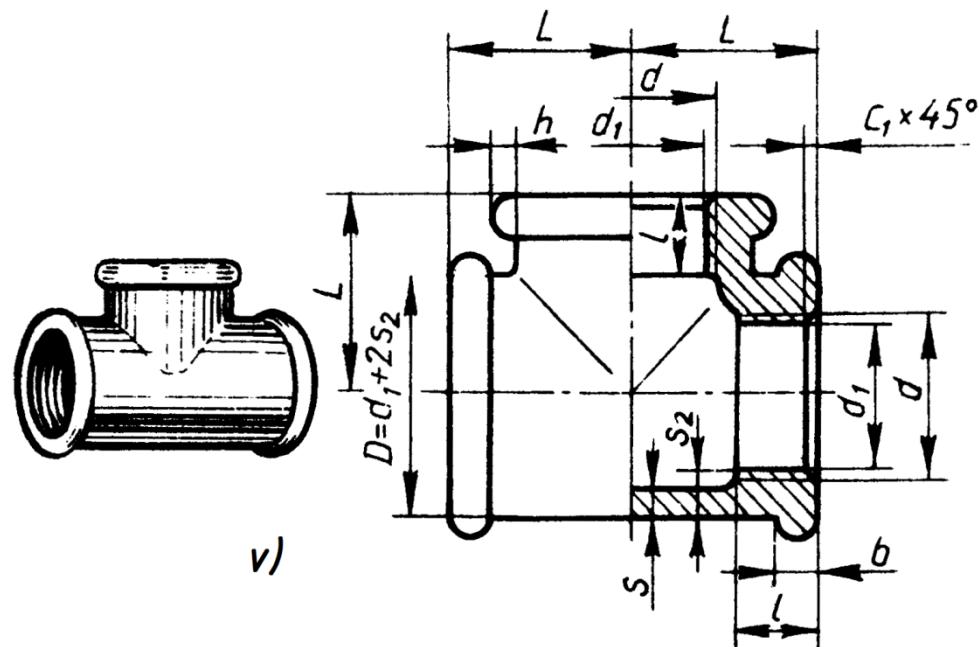
### 3. Tirsakli muftalar (ugolnik) (GOST 8947-75).

Bunday muftalar ikki xil ko'rinishda ishlanadi. 1- bajarilishida tirsakning ikkala uchiga truba burab, 2- bajarilishining bir tomoniga truba, ikkinchi uchiga fitting burab kiritiladi. To'g'ri tirsaklardan tashqari o'tkir hamda o'tmas burchakli tirsaklar ishlab chiqariladi.



### 4. Troyniklar.

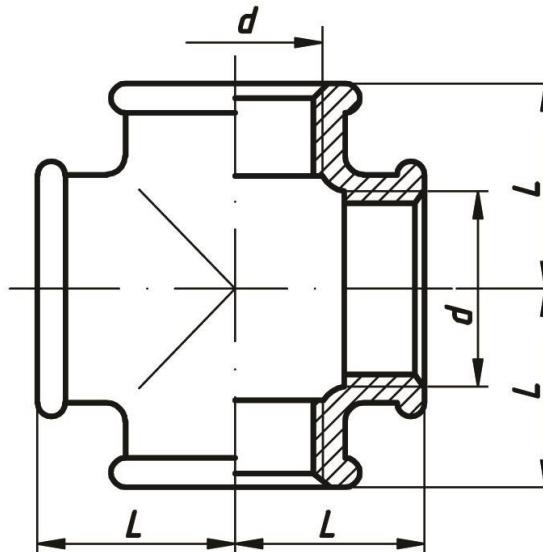
Troyniklar to'g'ri (GOST 8948-75) va o'tish troyniklari (GOST 8950-75) ko'rinishida tayyorlanadi. Bir xil diametrli 3ta trubani o'zaro biriktirishda to'g'ri troyniklardan, uchala rezbali teshiklarining o'lchamlari har xil bo'lsa o'tish troyniklaridan foydalilanildi.



# TRUBA REZBALI BIRIKMALARGA OID GRAFIK VAZIFALAR VA UNING METODIK TA'MINOTI

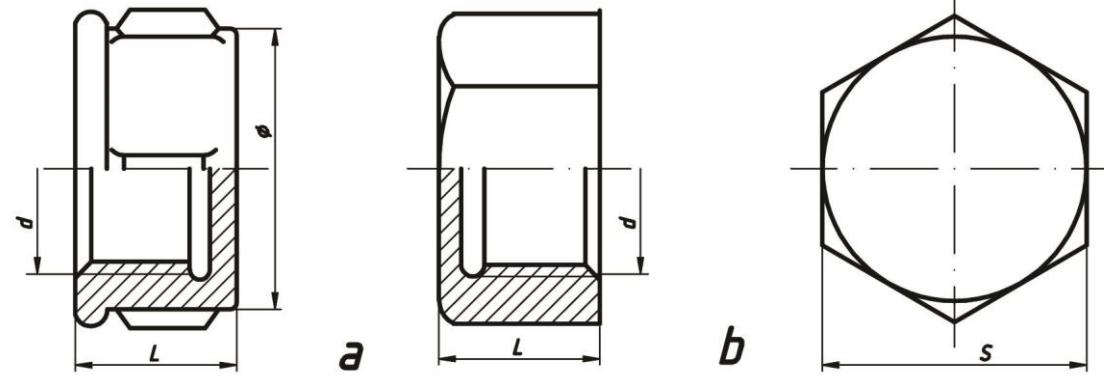
## 5. Krestlar.

To'g'ri (GOST 8951-75), o'tish (GOST 8952-75) krestlari ishlab chiqariladi. To'g'ri krestlarda to'rttala rezbalni teshik o'lchamlari oibir xil bo'lsa, o'tish krestlarida har xil bo'ladi.



## 6. Qopqoqlar.

Trubalarining uchlarini berkitish uchun qopqoqlar (GOST 8962-75) ishlanadi, ular ikki xil ko'rinishda bajariladi. 1-bajarilishida yumaloq yopiq gayka , 2-bajarilishida olti qirrali yopiq gayka kabi ishlab chiqariladi.



## 5. TRUBA REZBALI BIRIKMALARGA OID GRAFIK VAZIFALAR VA UNING METODIK TA'MINOTI

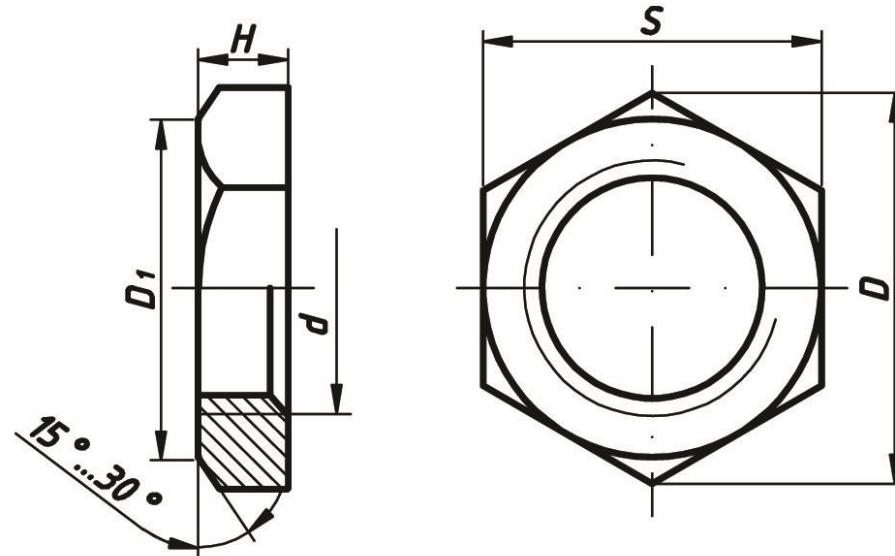
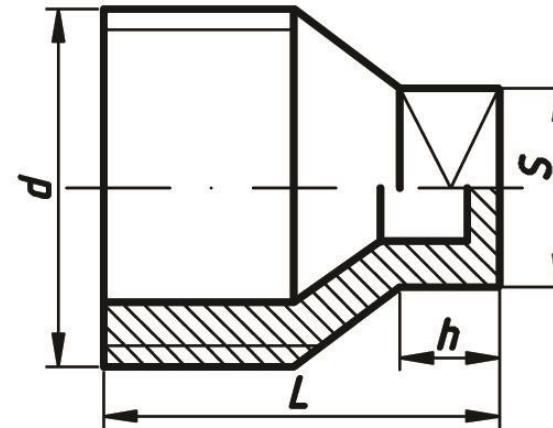
### 7. Tiqinlar.

Fitinglarning teshiklarini berkitish uchun tiqinlardan (GOST 8963-75) ham foydalaniladi.

### 8. Kontrgaykalar.

Trubali birikmalarda gaz yoki suyuqlik sizib chiqishining oldini olish maqsadida kanop tolasidan o'ralgan moyli zichlagichlarni zichlash uchun kontrgaykalar (GOST 8961-75) ishlataladi.

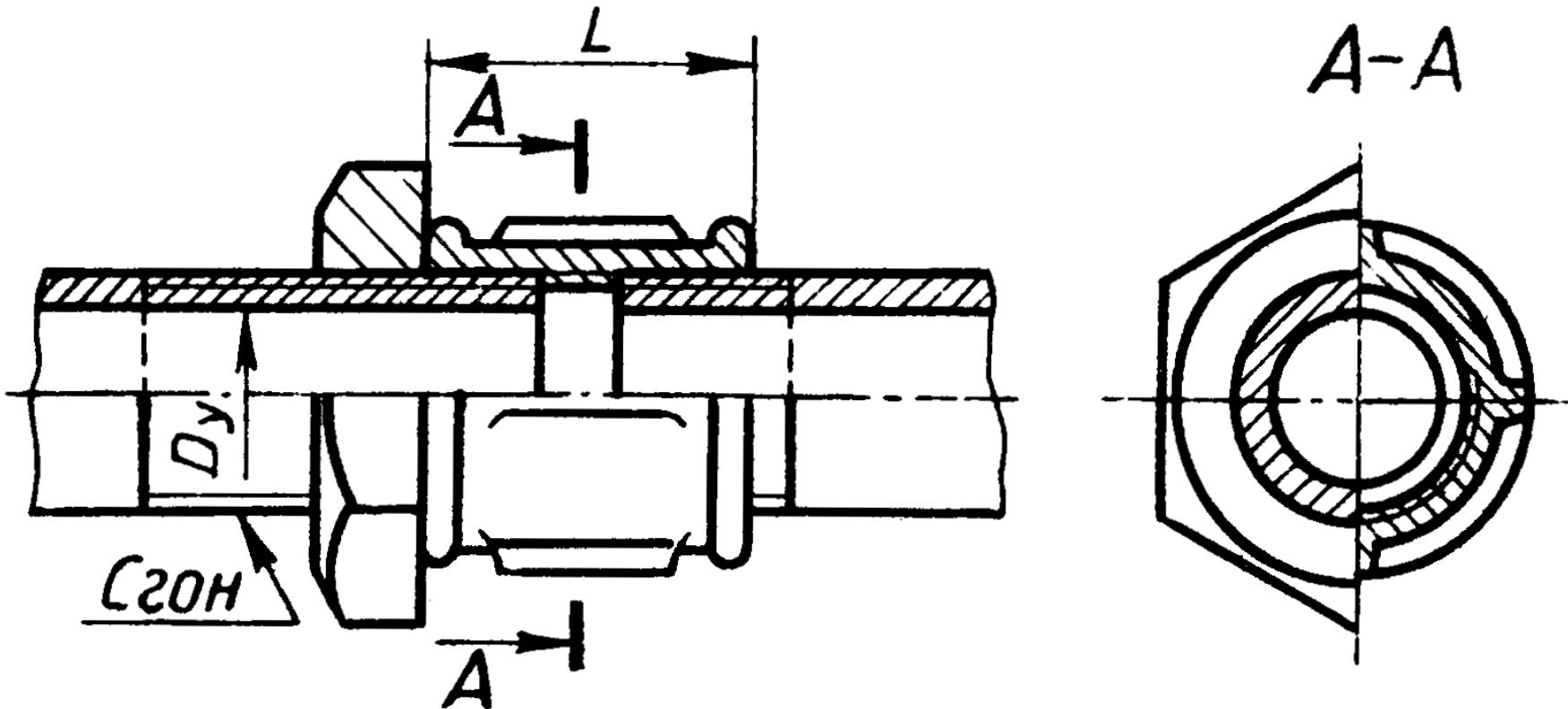
Kontrgaykaning o'lchamlari fittinglar kabi standartlashtirilgan.



# TRUBA REZBALI BIRIKMALARGA OID GRAFIK VAZIFALAR VA UNING METODIK TA'MINOTI

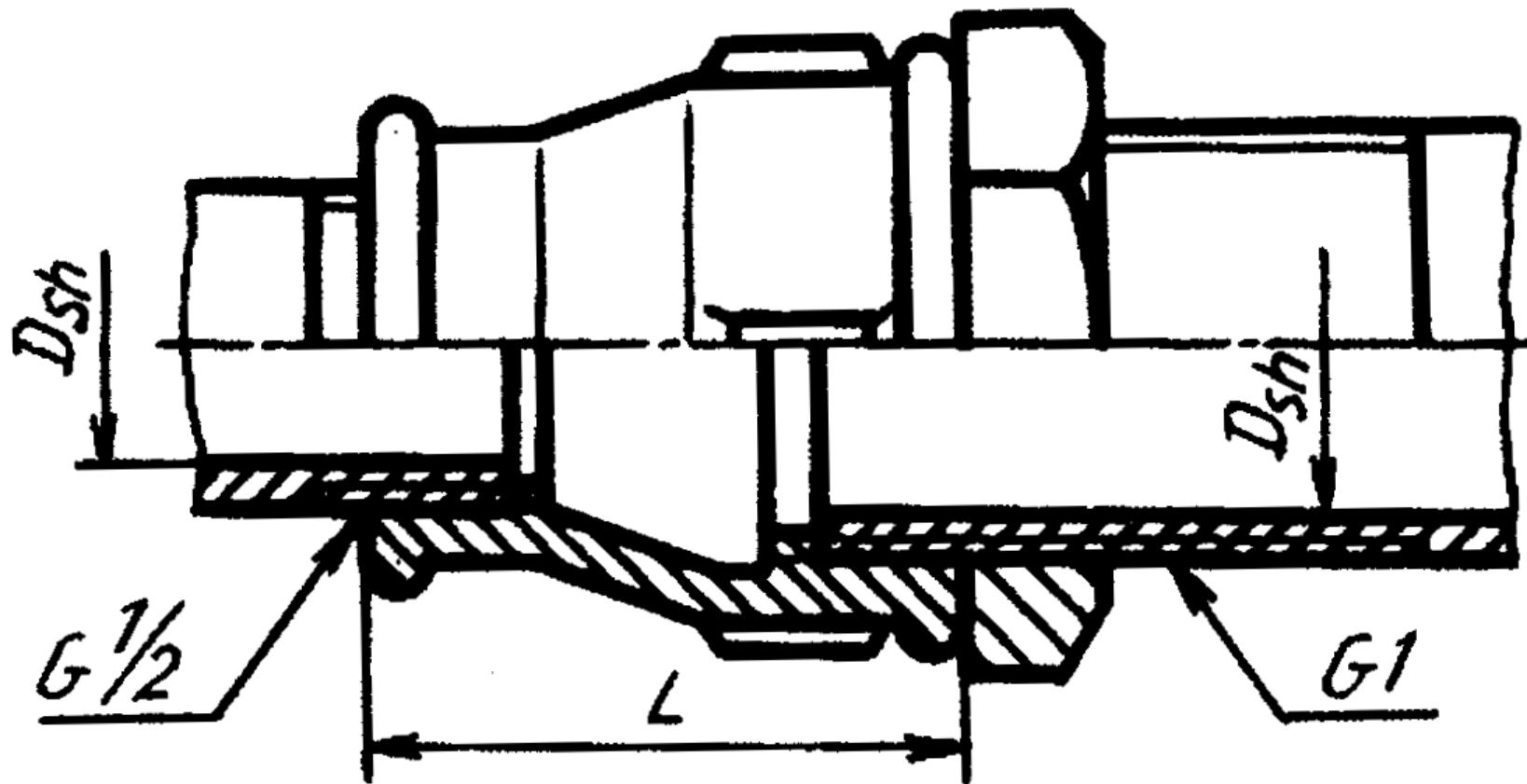
To'g'ri muftali birikma ishchi chizmasi.

b) Trubani mufta bilan birlashtirish GOST 8954-75



# TRUBA REZBALI BIRIKMALARGA OID GRAFIK VAZIFALAR VA UNING METODIK TA'MINOTI

O'tish muftali birikma ishchi chizmasi.



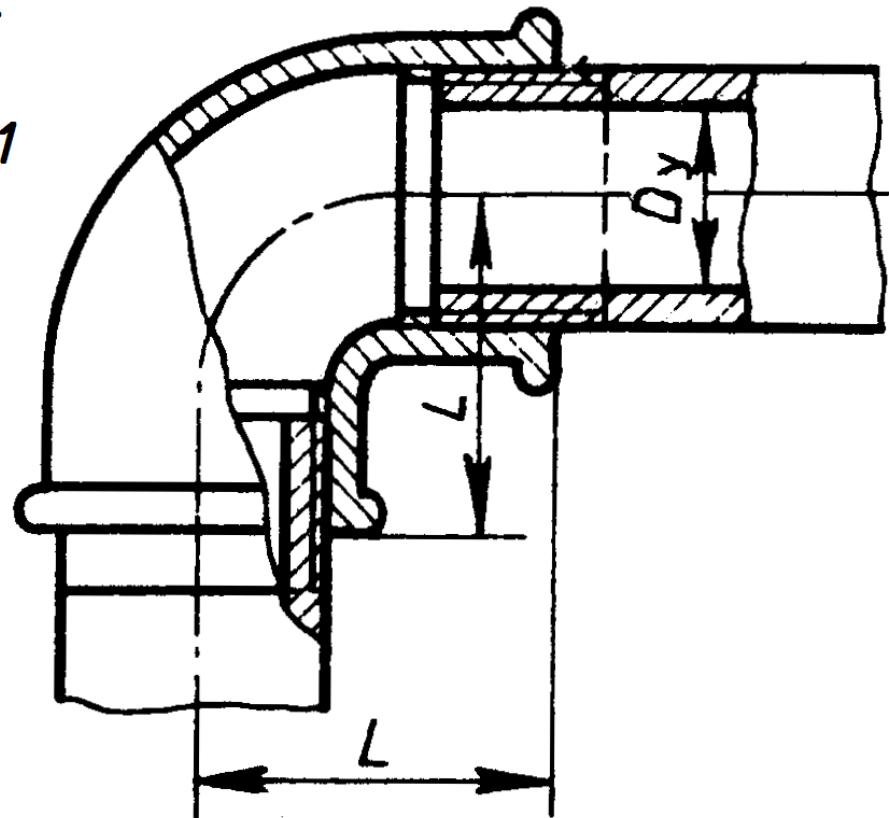
# TRUBA REZBALI BIRIKMALARGA OID GRAFIK VAZIFALAR VA UNING METODIK TA'MINOTI

Burchakli (ugolnik) birikma ishchi chizmasi.

v) Trubani ugolnik bilan birlashtirish

GOST 8946-75

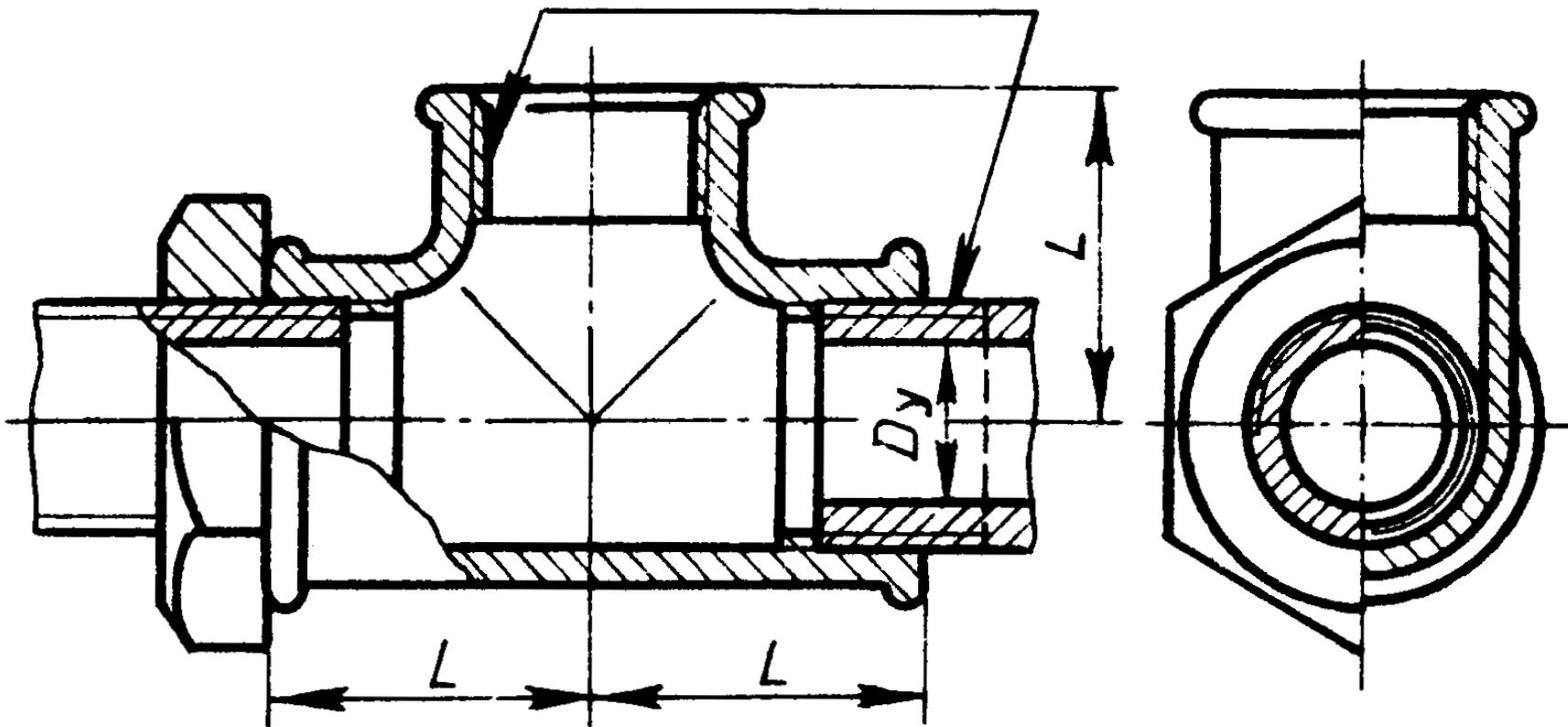
ST SEV 3298-81



# TRUBA REZBALI BIRIKMALARGA OID GRAFIK VAZIFALAR VA UNING METODIK TA'MINOTI

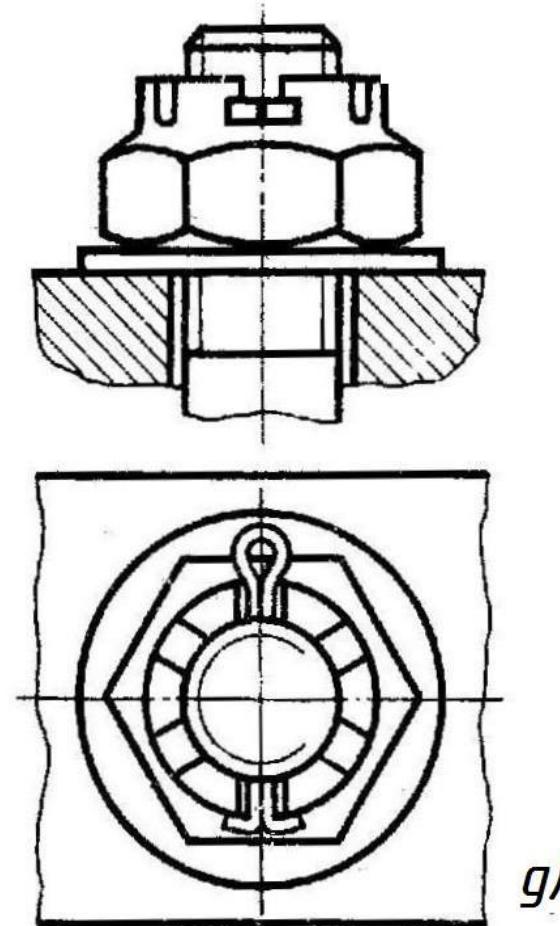
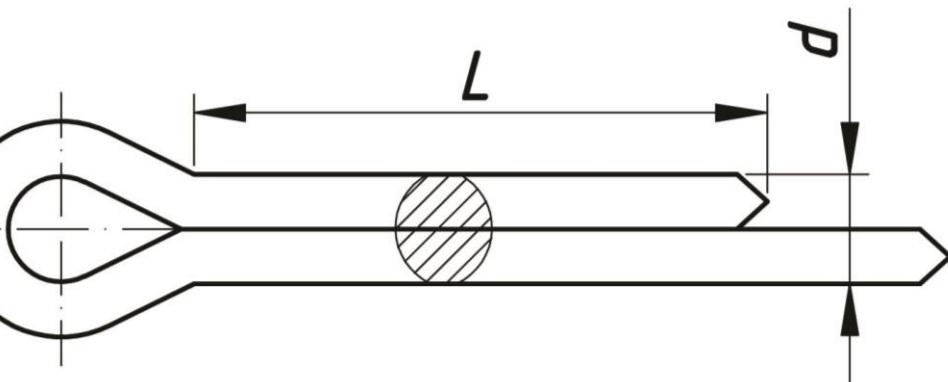
Troynikli (uchtalik) birikma ishchi chizmasi.

a) Trubani troynik bilan birlashtirish GOST 8948-75  
(CT C3B 3300-81) Truba rezba



## HTIFTLI VA SHPLINTLI BIRIKMALAR

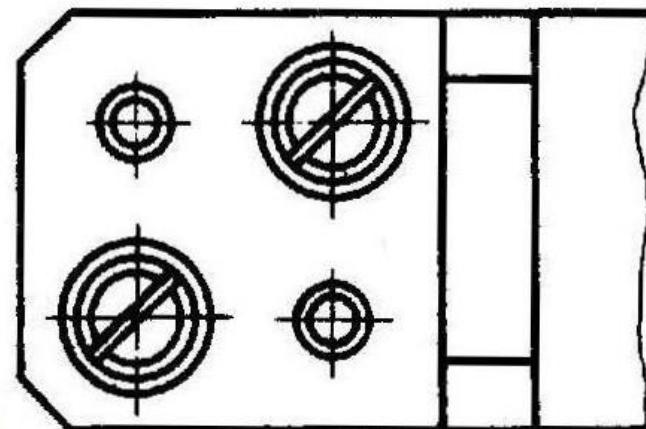
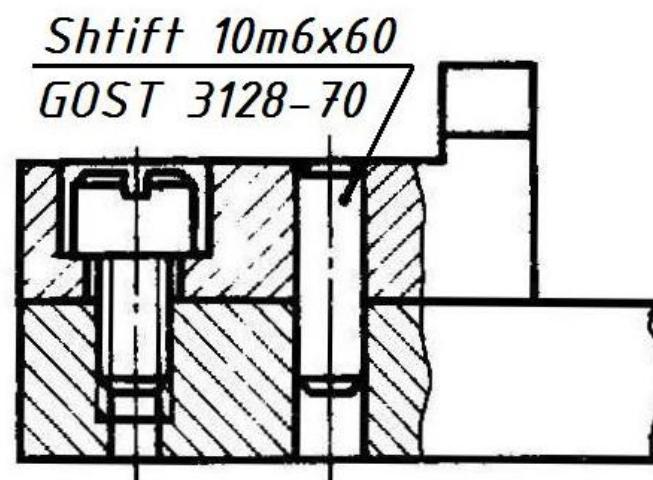
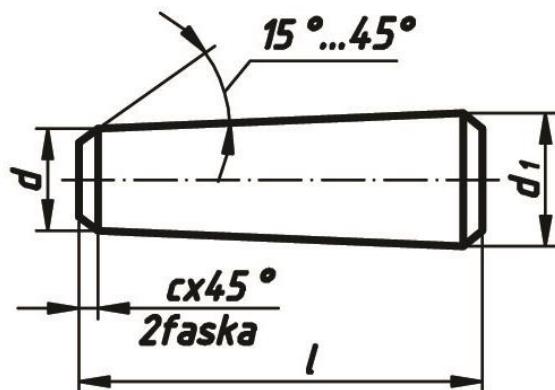
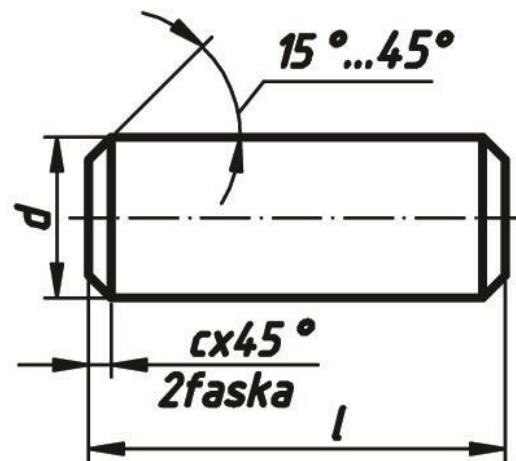
Shplintlar (GOST 397-79). Shplintlar po'lat sim bo'laklaridan ikkiga bukib tayyorlanadi. Shplintlar gaykalarning o'z-o'zidan buralib ketishini oldini olish uchun ishlataladi. Shplintlar tojsimon yoki o'yiqli gaykalarning o'yig'i va bolt yoki shpilka teshiklari orqali ishlatalib, uchlari ikki tomonga qayirib qo'yiladi. Shplintning asosiy o'Ichamlari – shartli diametri  $d$  va uzunligi  $l$ .



## SHTIFTLI VA SHPLINTLI BIRIKMALAR

**Shtiftlar**. Shtiftlardan ajralmas birikma detallarini biriktirishda foydalaniлади.

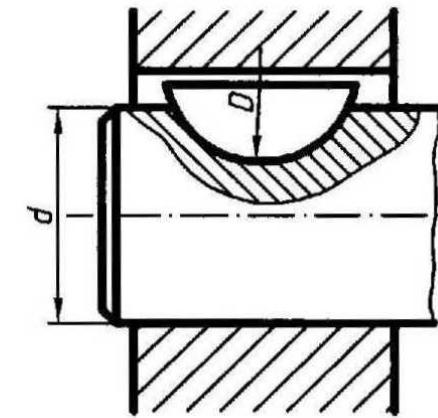
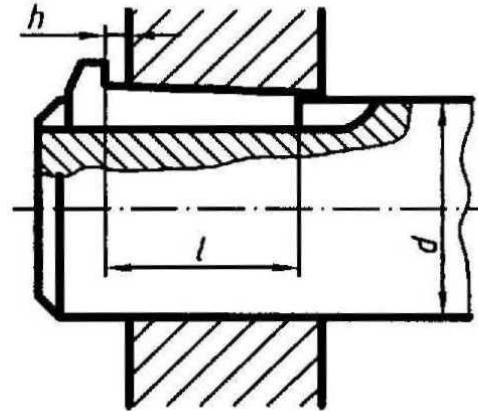
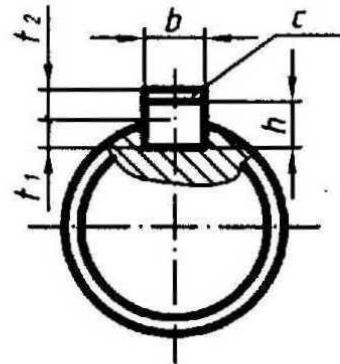
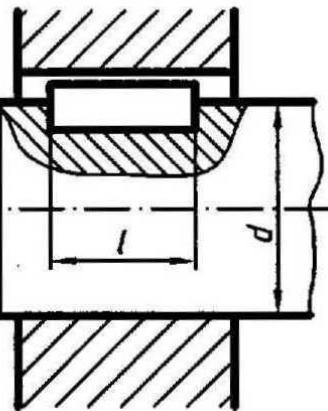
Maliyotda shtiftlarning silindrik (GOST 3128-70), konussimon(GOST 3129-70) va sonli (GOST 10773-80) turlari bo'lib, diametri 0,6 mm dan 50 mm gacha 45 markali bo'latdan, qoplamasiz tayyorlanadi. Shtiftlar ham saqlovchi vazifasini bajaradi. Ularning konstruksiyasi va o'lchamlari standartlashtirilgan.



## SHPONKALI VA SHLITSALI BIRIKMALAR

**Shponkali birikmalar.** Val bilan unga kiydirilgan detallar (tishli g'ildirak, shkif, mufta)ning shponka vositasida hosil qilingan qo'zgalmas, ba'zan suriladigan birikmasi *shponkali birikma* deyiladi.

Shponkali birikmalar prizmatik (*a*), ponasimon (*b*) va segment (*c*) shponkalar vositasida bajariladi. Shponka (pona)larning o'lchamlari valning diametriga qarab tanlanadi.

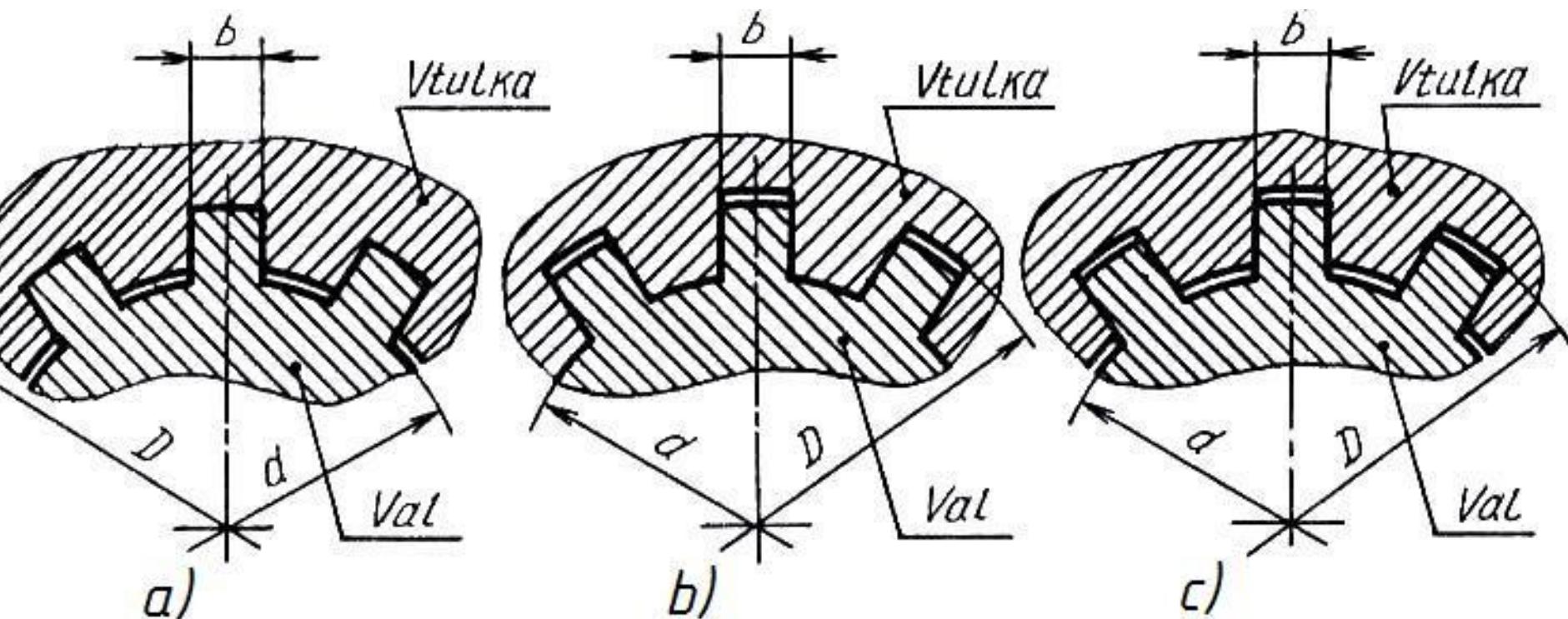


## SHPONKALI VA SHLITSALI BIRIKMALAR

2. Shlitsali birikmalar. Mashinasozlikda tishli birikmalar keng ishlatiladi. Tishli birikmalarda tishlar soni ko'p bo'lganligi uchun, shponkali birikmalarga nisbatan katta uchga ega bo'lgan aylanma harakatlarni uzatish mumkin.

Shlitsali birikmalar mustahkam bo'lib, yaxshi markazlanadi va o'q bo'yicha osongina quljiydi. Tishlar soni, asosan, birikmaga tushadigan kuchlanish va ularning ish sharoitiga qarab aniqlanadi.

Mashinasozlikda to'g'ri yonli (GOST 1139-80), evolventasimon (GOST 6033-80), shchburchak (standartlashtirilmagan) profilli tishli birikmalar eng ko'p tarqalgan.



## AJRALMAS BIRIKMALAR

Mashina mexanizmlari, turli moslamalarni tarkibida uchraydigan har xil birikmalarni sozlash, ta'mirlash, yangisiga almashtirishga to'g'ri keladi.

*Agar birikma tarkibidagi detallarni bir-biridan ajratish jarayonida ularning sifati buzilsa, ular yaroqsiz holatga kelib qolsa, detallar hamda birikmadan yana qayta foydalanish mumkin bo'lmasa, u holda bunday birikmalar ajralmas birikma deyiladi.*

Ajralmas birikmalar o'zining mustahkamligi, chidamliligi bilan ajralib turadi. Biroq detallarni ajratish natijasida undan qayta foydalanish imkoniyati yo'qoladi yoki qaytadan birikma holatiga keltirish uchun qo'shimcha mehnat, sarf-harajat qilishga to'g'ri keladi. Amaliyotda ajralmas birikmalarning payvand chokli, parchin chokli, yelimli, kavsharli, metall changakli, tikilgan chokli birikma turlaridan keng foydalaniladi.

# AJRALMAS BIRIKMALAR

Ajralmas birikmalar o'zining mustahkamligi, chidamliligi bilan ajralib turadi. Uning quyidagi turlari mavjud.

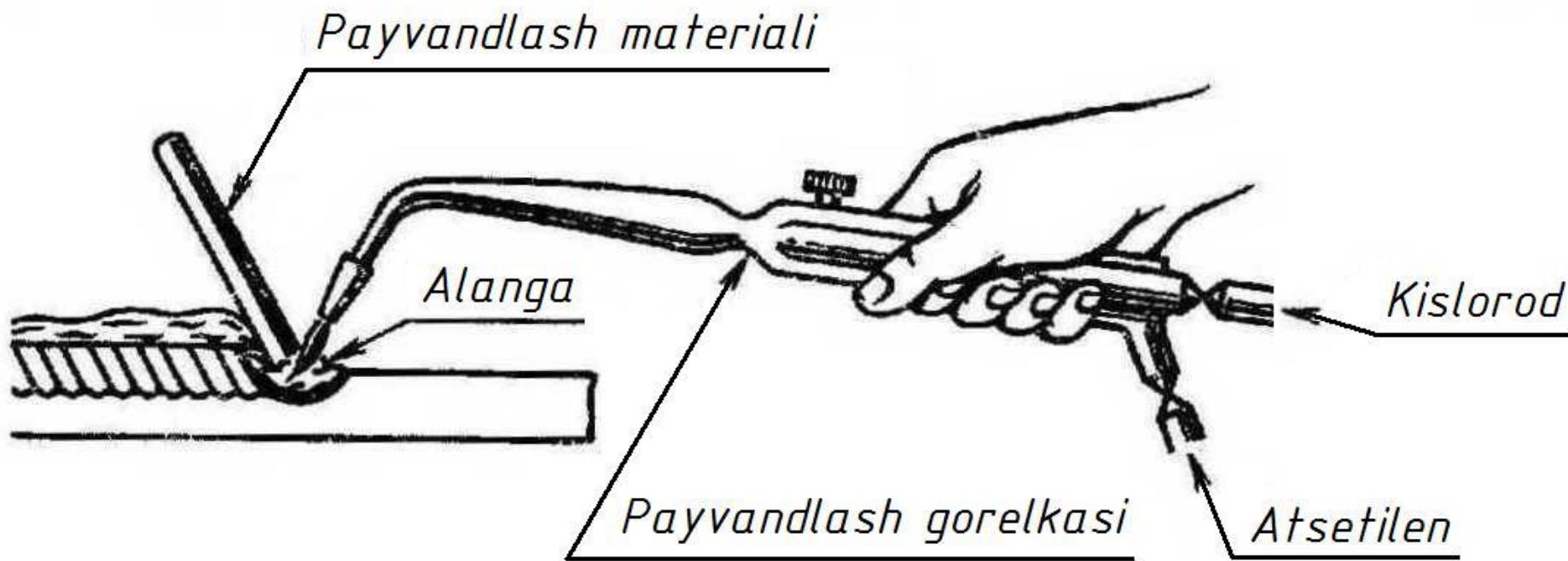
- 1. Payvand chokli birikmalar.**
- 2. Parchin chokli birikmalar.**
- 3. Yelimli birikmalar.**
- 4. Kavsharli birikmalar.**
- 5. Metall changakli birikmalar.**
- 6. Tikilgan birikmalar.**

# PAYVAND CHOKLI BIRIKMALAR

Payvand chokli birikma chizmalari O'zDSt 2.312:97 ga muvofiq bajariladi. Ikki va undan ortiq detalni bir-biriga payvandlash yo'li bilan hosil qilingan ajralmas birikmaga *payvand birikma* deyiladi. Birikuvchi detallarning payvand birikmalari quyidagi *suyuqlantirib payvandlash* yoki *bosim ostida payvandlash* usullarida bajarilishi mumkin.

## PAYVAND CHOKLI BIRIKMALAR

Suyuqlantirib payvandlashning **gazli payvandlash** turida gaz (masalan, atsetilen) atmosferadagi kislorod yordamida yonib olov hosil qiladi va metallni eritadi. Erigan joyga biriktiruvchi material (metall xivich) qo'yiladi va u soviganidan keyin payvand chok hosil bo'ladi. Bunday payvand birikmadan apparaturalardagi rangli metalldan, chugundan va plastmassadan tayyorlangan ingichka va trubasimon elementlarni biriktirishda foydalaniladi.



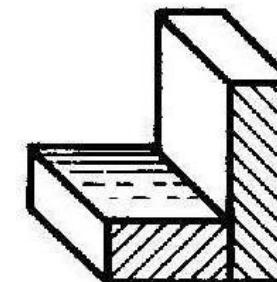
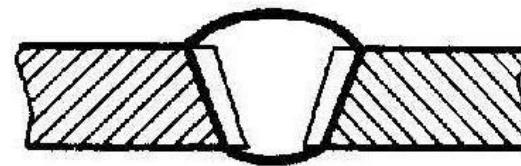
## PAYVAND CHOKLI BIRIKMALAR

Payvandlanuvchi detallarning o'zaro vaziyatiga qarab payvand birikmalar quyidagi turlarga bo'linadi.

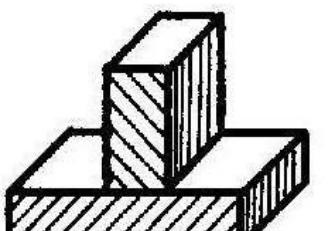
1. *Uchma-uch payvand birikma (C, a).*
2. *Burchakli payvand birikma (Y, b).*
3. *Tavrli payvand birikma (T, v).*
4. *Ustma-ust payvand birikma (H, g).*



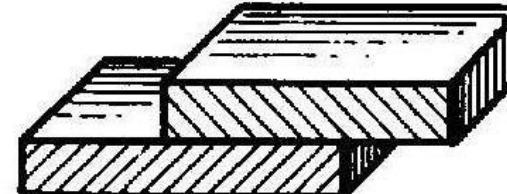
a)



b)



v)

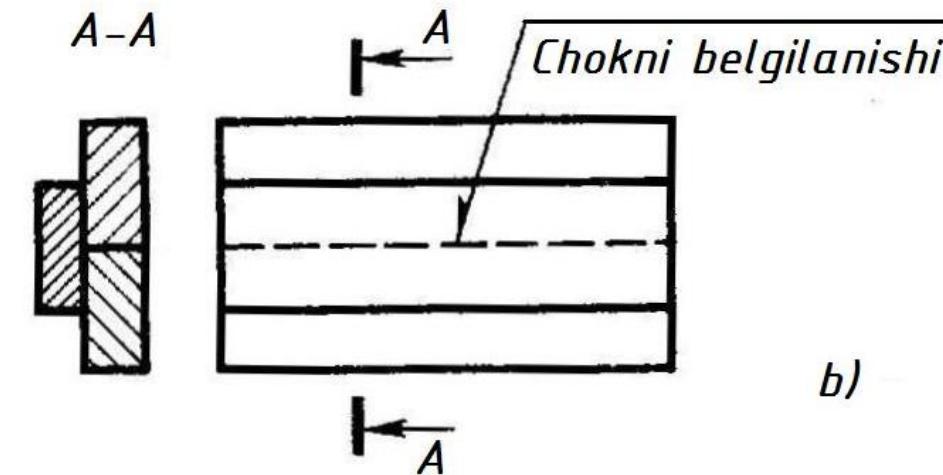
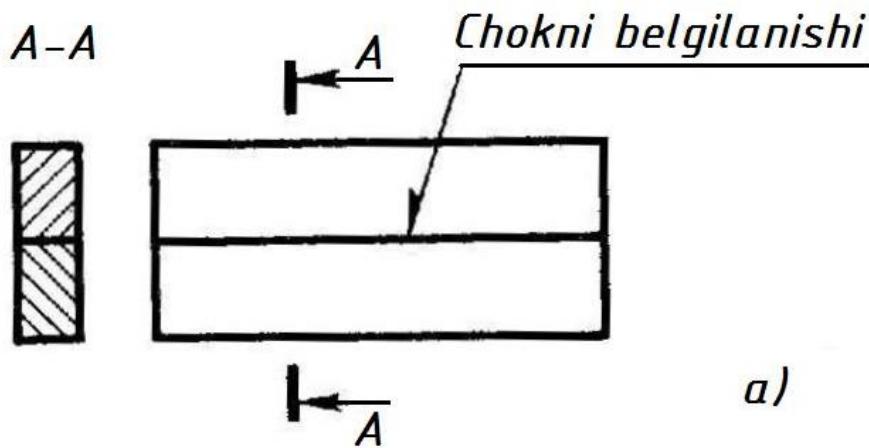


g)



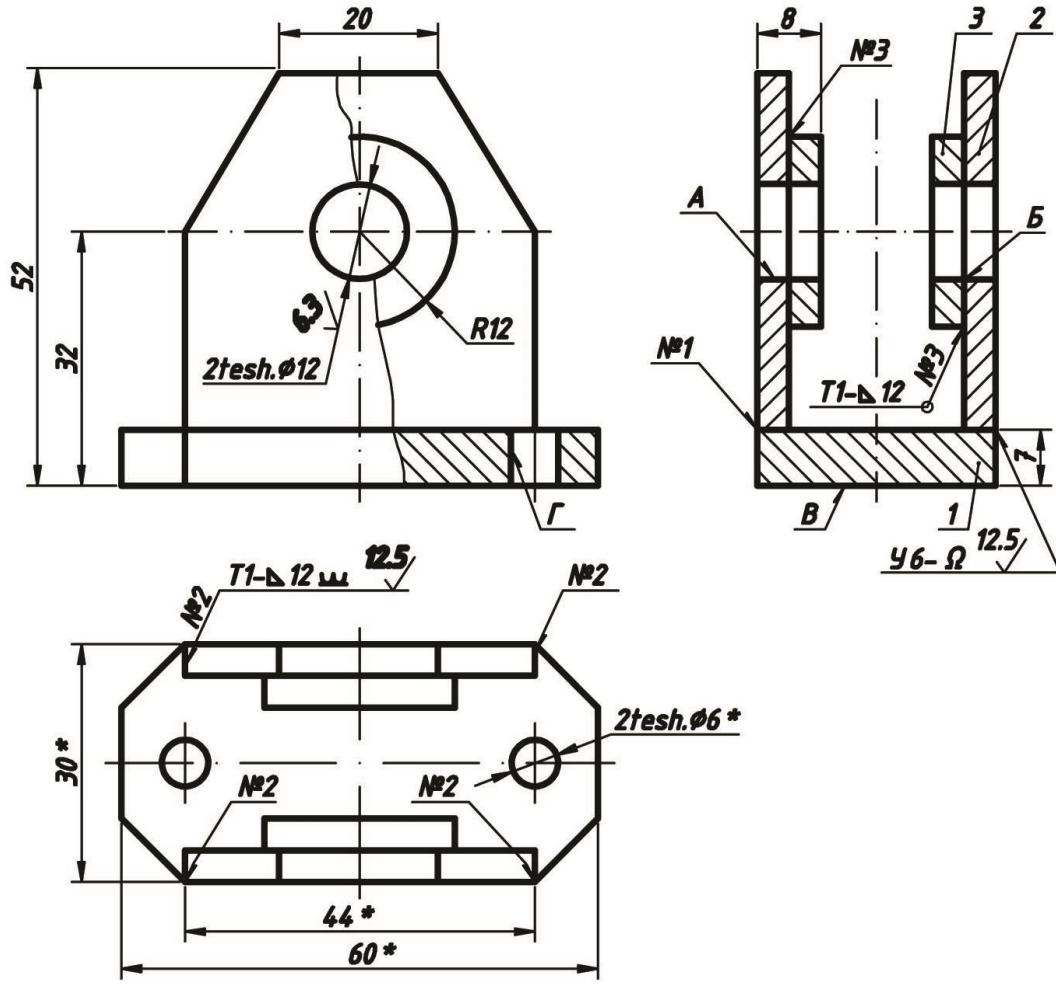
## PAYVAND CHOKLI BIRIKMALAR

Payvand chokli birikma chizmada chetga chiqarish chizig'i yo'nalishining vaziyatiga qarab shartli belgilar quyidagicha qo'yiladi: tokchaning ustiga qo'yilsa, chetga chiqarish chizig'i chokning old (o'ng) tomonidan chiqarilgan bo'ladi (a). Chetga chiqarish chizig'i chokning orqa tomonidan chiqarilgan bo'lisa, tokchaning ostiga qo'yiladi (b).

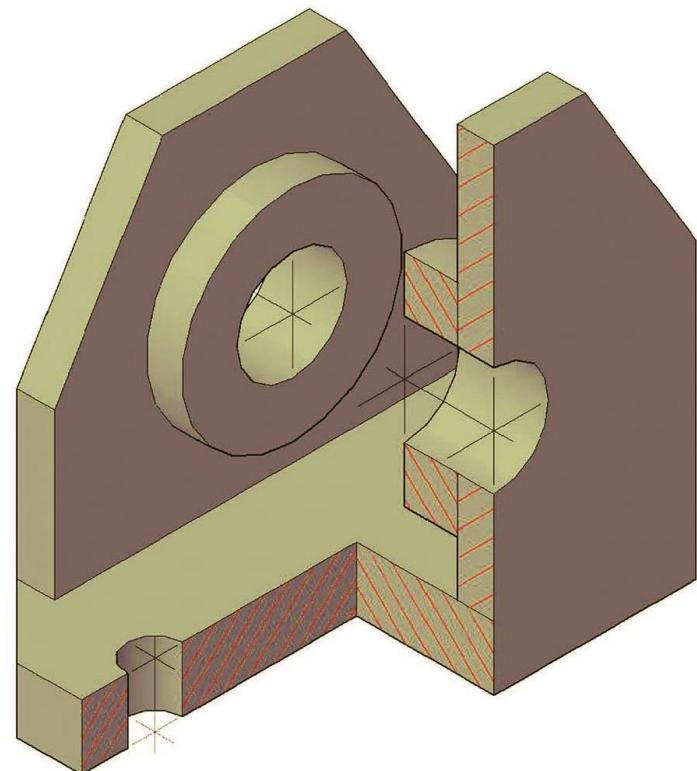


# PAYVAND CHOKLI BIRIKMALAR

Payvand chokli birikmaga oid grafik vazifaga namuna chizma.

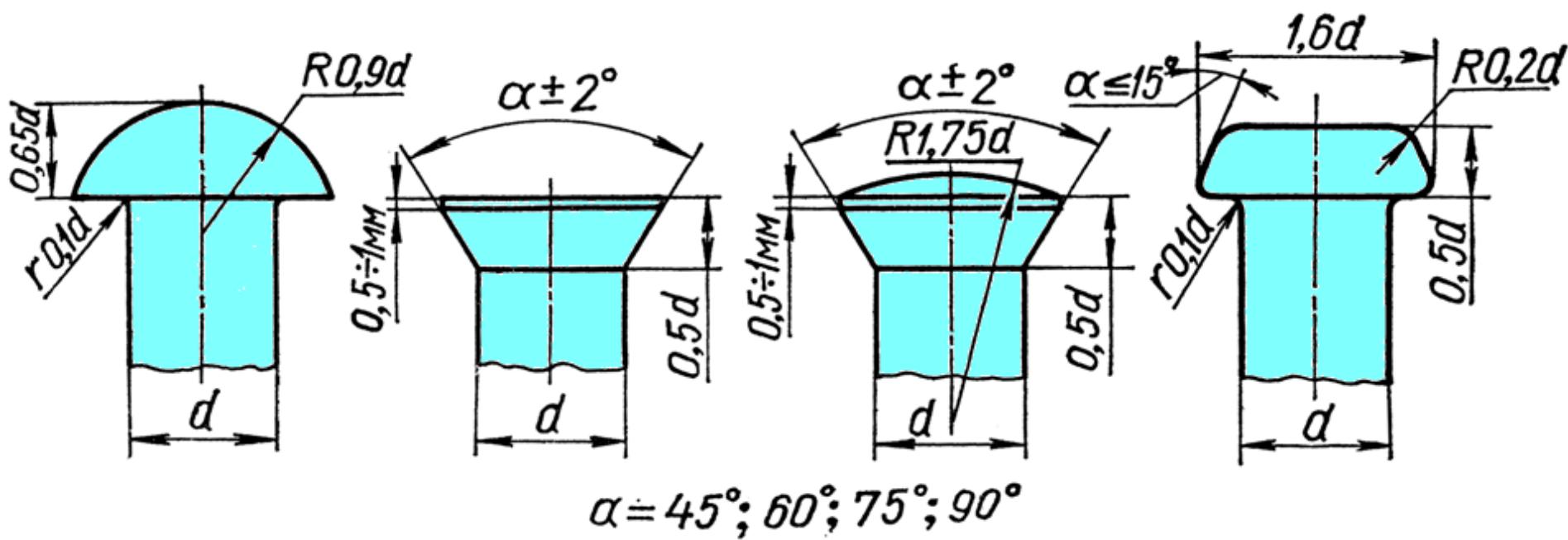


Izometriya  $a:b:c=1:1:1$



## PARCHIN CHOKLI BIRIKMALAR

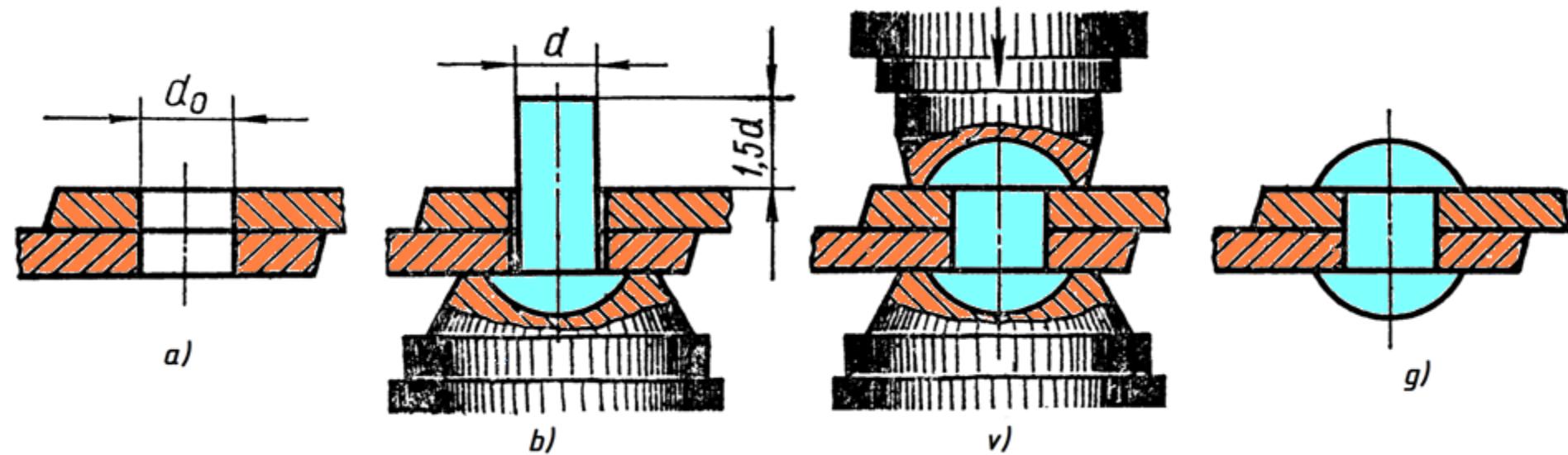
Parchin chokli birikmani hosil qiluvchi asosiy detallardan biri - parchin mix silindrik sterjen bo'lib, uning bir uchi kallak (qalpoq) bilan yakunlanadi. Parchin mix qalpog'i *yarim yumaloq, yashirin, yarim yashirin* va *kesik konus* shaklida tayyorlanishi mumkin. Parchin chokli birikmalarning ish chizmasi parchin mixlar (zaklepkalar) vositasida hosil qilinadi.



## PARCHIN CHOKLI BIRIKMALAR

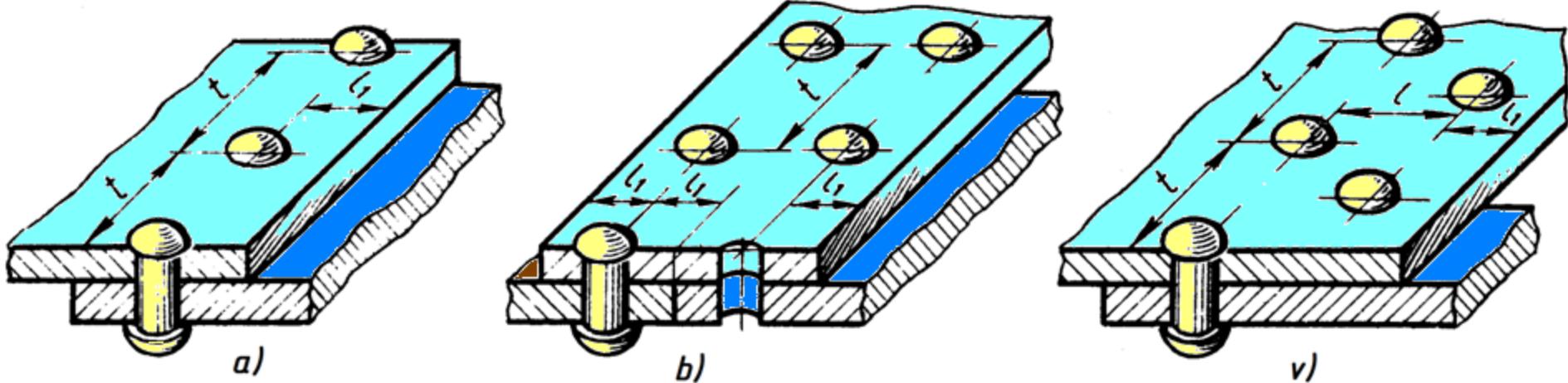
Parchinlash jarayoni quyidagi tartibda amalga oshiriladi.

1. Dastlab, biriktiriladigan detallarga silindrik teshik ochiladi.
2. Oldindan qizdirilgan parchin mix (diametri  $10 \text{ mm}$  dan kichik parchin mixlar qizdirilmaydi) bu teshikka qo'yiladi va uning qalpoq tomoni pastga qaratiladi va qalpoq formasiga mos taglik qo'yiladi.
3. Maxsus mashinada (yoki pressda) parchin mixning uchi pachoqlanadi (parchinlanadi). Maxsus mashina yoki pressda ham parchin mix qalpog'i formasiga mos o'yiq bo'ladi.



## PARCHIN CHOKLI BIRIKMALAR

*Parchin chokli birikmalarning turlari va chizilishi.* Parchin mixlar chokda bir yoki bir necha (besh qatorgacha) qator bo'lishi mumkin. Parchin choklar parchin mixlarning o'zaro joylashishiga qarab, *shaxmat tartibli* va *parallel choklarga* bo'linadi. Birikuvchi detal (list)larning bir-biriga nisbatan o'zaro joylashishiga qarab parchin chokli birikmalar: *ustma-ust* (*a*, *v*) va *uchma-uch birikmalarga* (*b*) bo'linadi. Uchma-uch choklarga bir yoki ikki tomonlama tagliklar qo'yiladi. Kesuvchi tekislik parchin mix o'qi orqali o'tsa, ular qirqimda kesmasdan, ya'ni shtrixovkalanmasdan ko'rsatiladi.



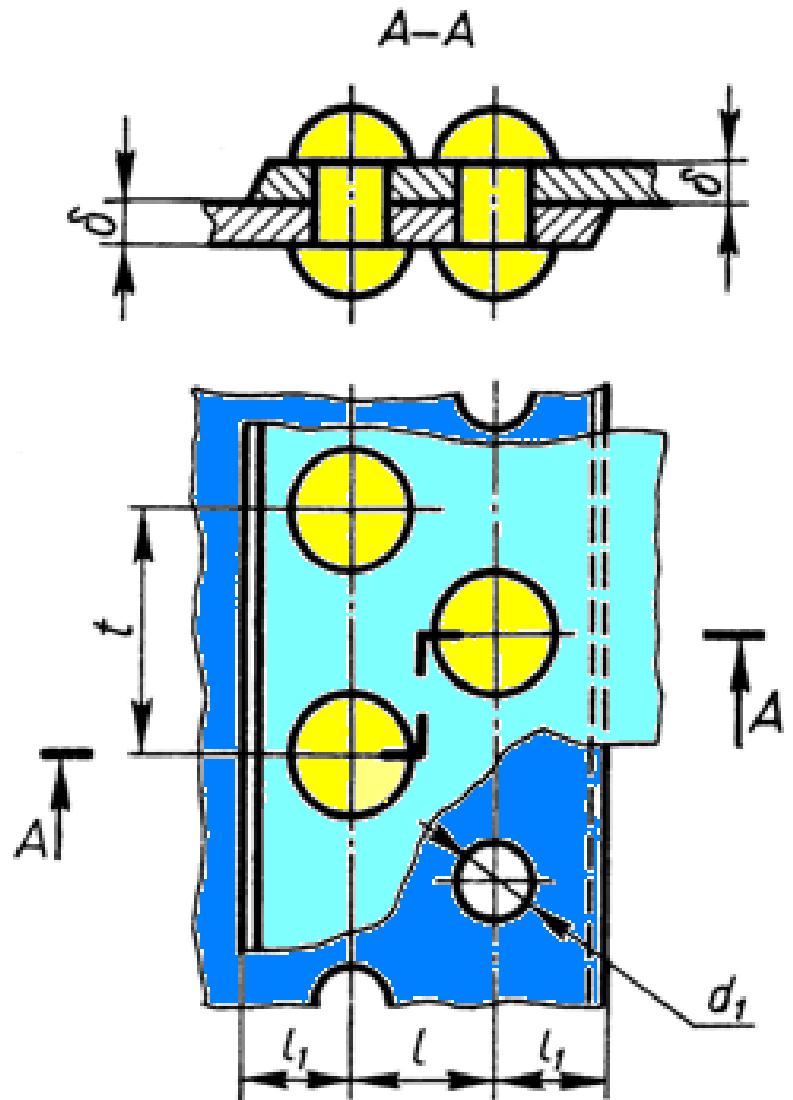
## PARCHIN CHOKLI BIRIKMALAR OID

Parchin mixlar chokda bir yoki bir necha (besh qatorgacha) qator bo'lishi mumkin. Parchin choklar parchin mixlarning o'zaro joylashishiga qarab, *shaxmat tartibli* va *parallel choklarga* bo'linadi.

Birikuvchi detal (list)larning bir-biriga nisbatan o'zaro joylashishiga qarab parchin chokli birikmalar: *ustma-ust (a, v)* va *uchma-uch birikmalarga ( b)* bo'linadi.

**Uchma-uch choklarga bir yoki ikki tomonlama tagliklar qo'yiladi.**

Kesuvchi tekislik parchin mix o'qi orqali o'tsa, ular qirqimda kesmasdan, ya'ni shtrixovkalanmasdan ko'rsatiladi.

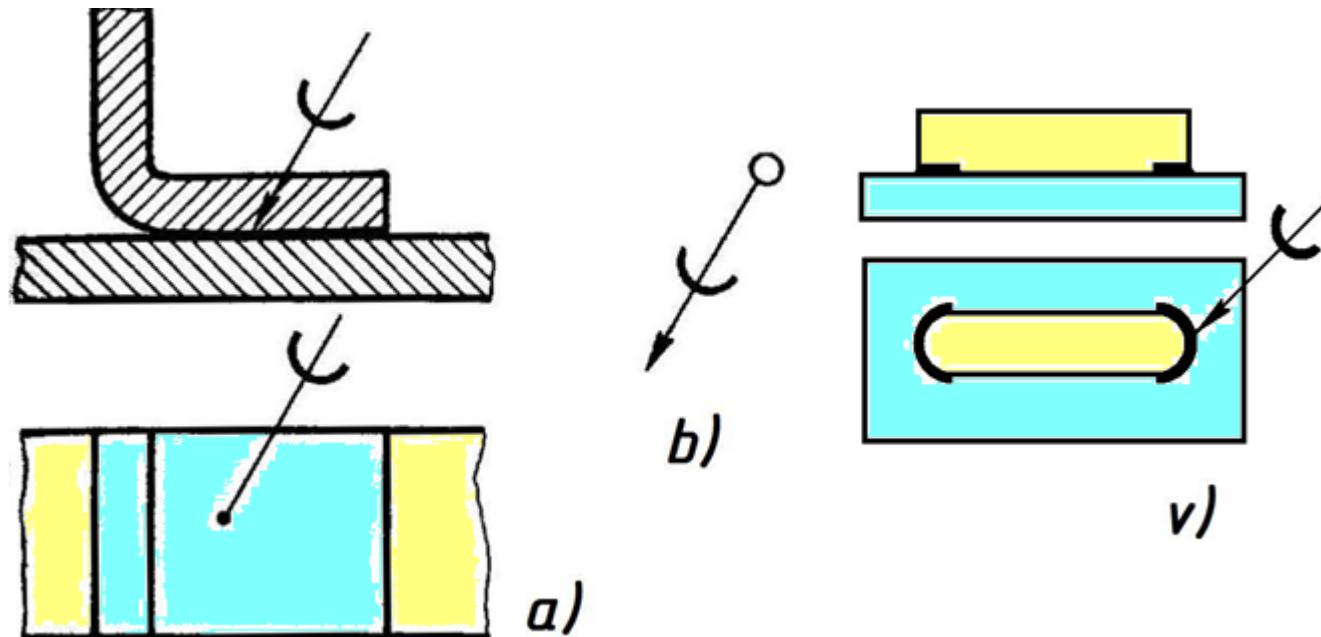


*Shaxmat tartibidagi ustm-ust chok*  
 $d = \delta + 8\text{MM}$ ;  $d_1 = 1,1d$ ;  $t = 2,6d + 15\text{MM}$   
 $l_1 = 1,5d$ ;  $l = 0,6t$ ;  $L = 2\delta + 1,5d$   
( $L$ -o'rnatilmagan parchin mix uzunligi)

## KAVSHARLANGAN BIRIKMALAR

*Kavsharlangan birikmalar.* Kavsharlangan birikmalarda chok o'rni 2s qalinlikda asosiy tutash chiziq bilan chiziladi. Boshqa birikmalardan farqini ko'rsatish uchun chiqarish chizig'iga yarim aylana shaklidagi belgi s ga teng qalinlikda qo'yiladi (a).

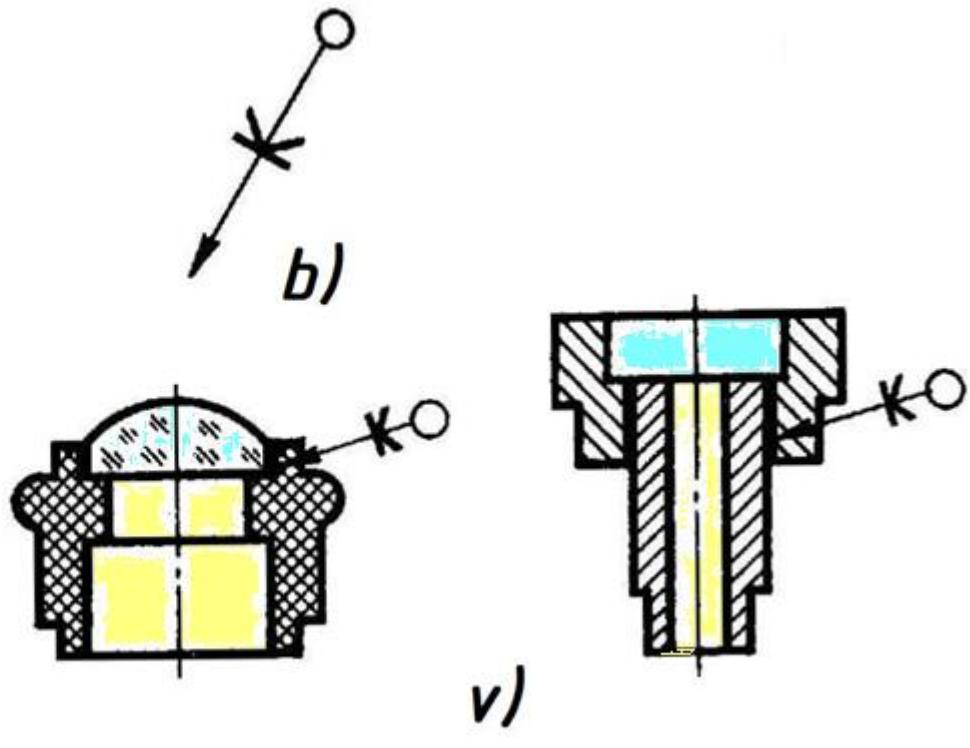
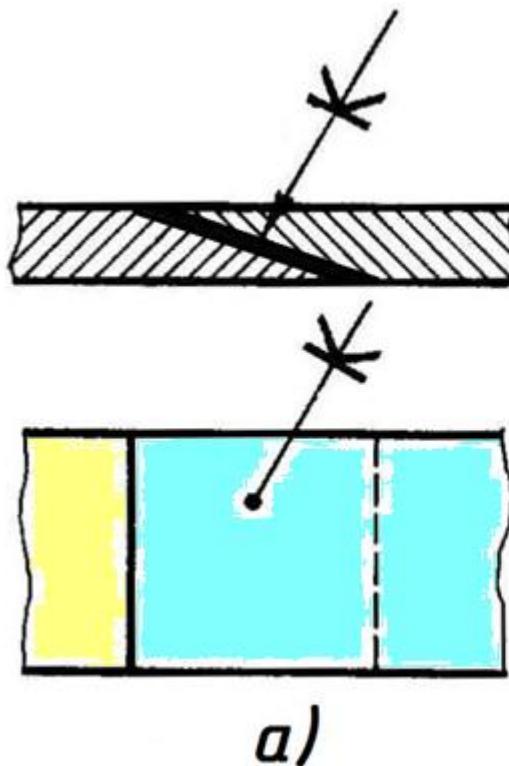
Agar kavsharli chok detalni butun perimetri bo'yicha bajarilgan bo'lsa chiqarish chizig'inining uchiga 3 yoki 5 mm diametrda aylana ingichka tutash chiziqda chiziladi (b, v). Ba'zi maydonlarda chegaralangan choklarni 2s yo'g'onlikdagi chiziqlarda tasvirlash mumkin (v).



## **YELIMLANGAN BIRIKMALAR**

***Yelimlangan birikmalar.*** Sanoatda, mashinasozlikda, umuman ishlab chiqarishda yupqa metallarni, yog'ochlarni va plastmassa materiallardan qilingan detallarni o'zaro biriktirishda yelimlab biriktirishdan keng foydalaniladi.

Yelimli birikmada chokni boshqa turdag'i birikmalardan farqlash uchun chiqarish chizig'iga К belgi asosiy tutash chiziq qalinligida chizib qo'yiladi (*a*). Yelimli birikmada ham choclar yopiq chiziq bo'yicha bajarilgan bo'lsa chiqarish chizig'ining ikkinchi uchiga ingichka tutash chiziqdagi 3 yoki 5 mm diametrda aylana chiziladi (*b*, *v*).

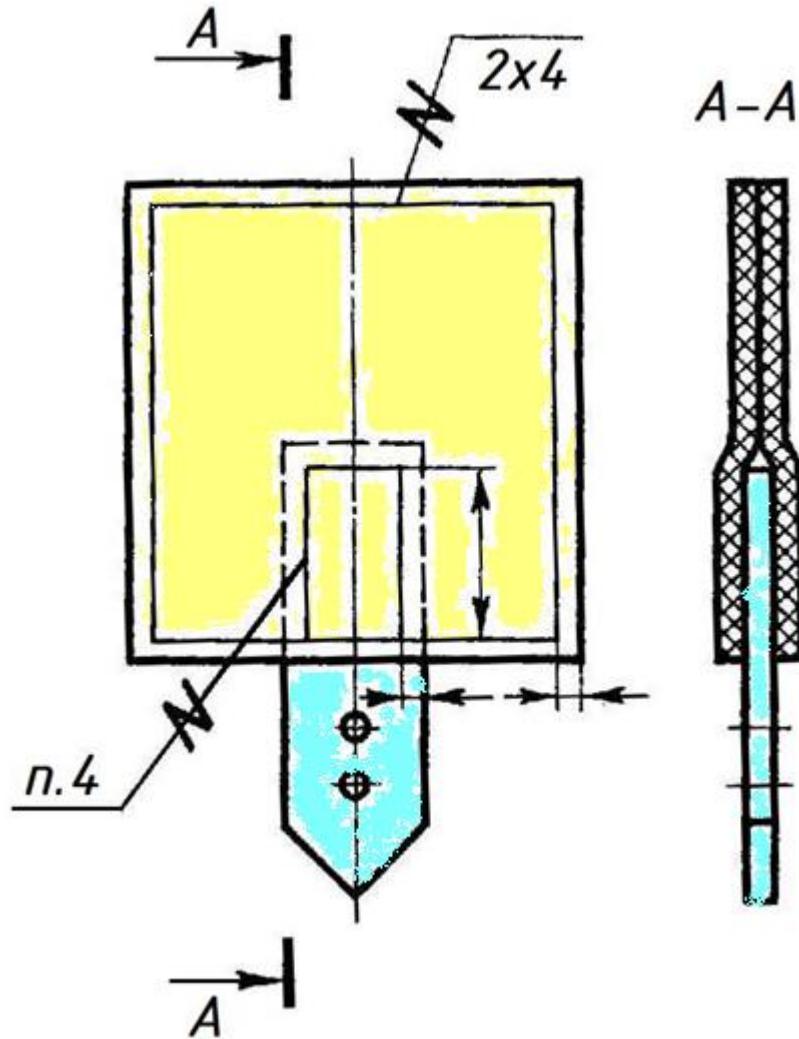


## TIKILGAN CHOKLI BIRIKMALAR

*Tikilgan chokli birikmalar.* Tikish yo'li bilan hosil qilinadigan birikmalar chizmada ingichka tutash chiziq bilan tasvirlanadi va chiqarish chizig'ida uning shartli belgisi hamda tokchasida o'lchami qo'yiladi.

Tikilgan chok o'rnidan strelkasiz chiqarish chizig'i chiqariladi. Tikilgan chokning shartli belgisi  shaklida bo'lib, u chiqarish chizig'iga asosiy tutash chiziq qalinligida chizib qo'yiladi.

Agar birikma bir nechta choklarga ega bo'lsa, u holda chizmada chetga yaqin bo'lgan joyda faqat bitta chok ko'rsatiladi. Choklar soni va ular orasidagi masofa chiqarish chizig'inining tokchasi ostida ko'rsatiladi, masalan, 2x4, bu yerda, 2 - qatorlar soni, 4 - qatorlar orasidagi masofa.



## METALL CHANGAKLI BIRIKMALAR (O'zDSt 2.313:97)

*Metall changakli birikmalar.* Metall changaklar vositasida hosil qilingan birikmalar shartli belgilarda belgilanadi va chiqarish chiziqlarida ko'rsatiladi. Metall changakli chokning shartli belgisi shaklida bo'lib, u chiqarish chizig'iga asosiy tutash chiziq qalnligida chizib qo'yiladi.

Quyida changaklarni o'zaro parallel joylashtirish (*a*), changaklar ketma-ket bitta chiziqda joylashtirilgan chok (*b*), changaklar qiyalatib parallel joylashtirilgan chok (*c*), changaklar burchakka parallel qilib hosil qilingan chok (*d*), ustma-ust tikishda changak yordamida hosil qilingan chokni shartli belgilash belgisi (*e*), burchakli birikma hosil qilingan chokni shartli belgilash belgisi (*f*) ko'rsatilgan.

