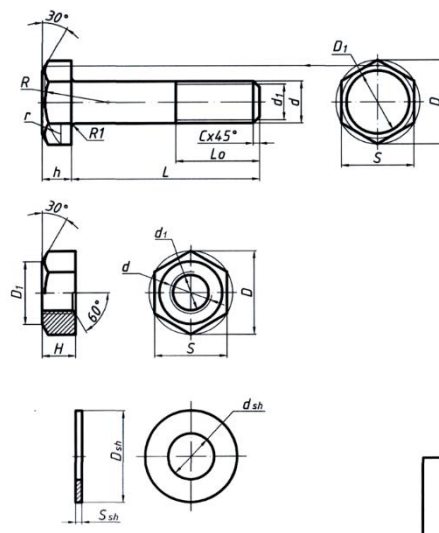


«Súwretlew óneri hám injenerlik grafıkası» bakalavr tálim baǵdarı 2a-kurs ushın
 Sızıw páninen juwmaqlawshı bahalaw variantları

Variantlar	1
d	16
L	70

Boltli hám shpilkali birikpeler ushın ólshem qatnasları :
 (d - bolt yamasa shpilka sırtqı rezba diametri tiykarında)

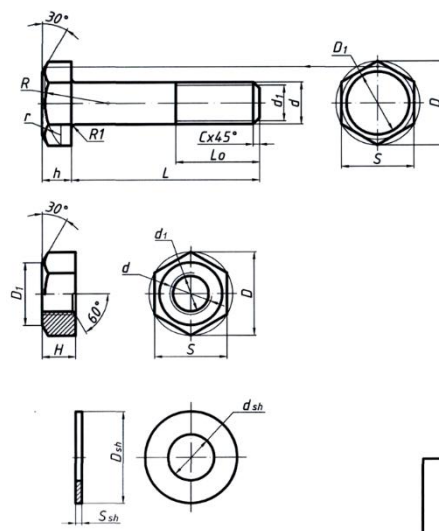
$h = 0.7d$	$r = \text{jasaladı}$
$L_o = (1.5...2) d$	$C = 0.15d$
$d_1 = 0.85d$	$H = 0.8d$
$D = 2d$	$D_{sh} = 2.2d$
$D_1 = S - 3...4 \text{ mm}$	$d_{sh} = 1.1d$
$S = \text{jasaladı}$	$S_{sh} = 0.15d$
$R = 1.5d$	$L_1 = d$



Variantlar	2
d	18
L	80

Boltli hám shpilkali birikpeler ushın ólshem qatnasları :
 (d - bolt yamasa shpilka sırtqı rezba diametri tiykarında)

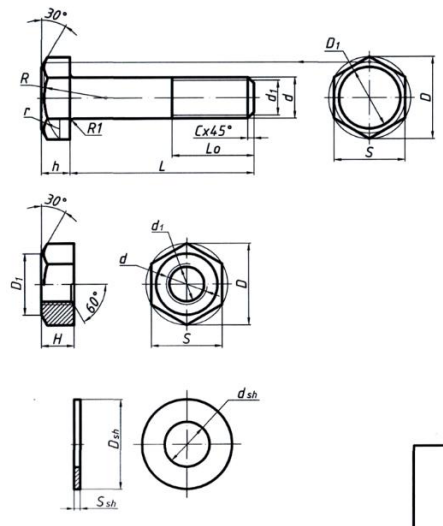
$h = 0.7d$	$r = \text{jasaladı}$
$L_o = (1.5...2) d$	$C = 0.15d$
$d_1 = 0.85d$	$H = 0.8d$
$D = 2d$	$D_{sh} = 2.2d$
$D_1 = S - 3...4 \text{ mm}$	$d_{sh} = 1.1d$
$S = \text{jasaladı}$	$S_{sh} = 0.15d$
$R = 1.5d$	$L_1 = d$



Variantlar	3
d	20
L	90

Boltli hám shpilkali birikpeler ushın ólshem qatnasları :
(d - bolt yamasa shpilka sırtqı rezba diametri tiykarında)

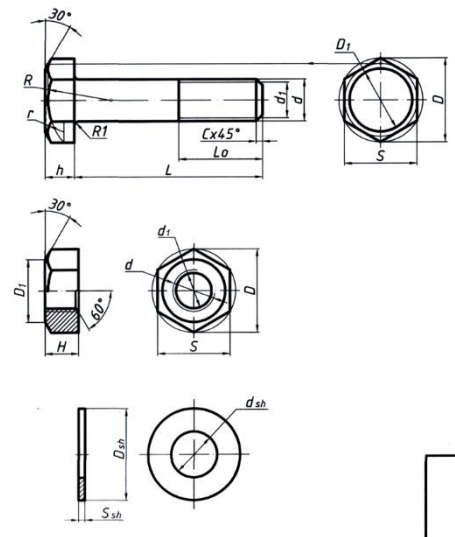
h = 0.7d	r = jasaladı
Lo = (1.5...2) d	C = 0.15d
d_i = 0.85d	H = 0.8d
D = 2d	D_{sh} = 2.2d
D₁ = S – 3...4 mm	d_{sh} = 1.1d
S = jasaladı	S_{sh} = 0.15d
R = 1,5d	L₁ = d



Variantlar	4
d	22
L	70

Boltli hám shpilkali birikpeler ushın ólshem qatnasları :
(d - bolt yamasa shpilka sırtqı rezba diametri tiykarında)

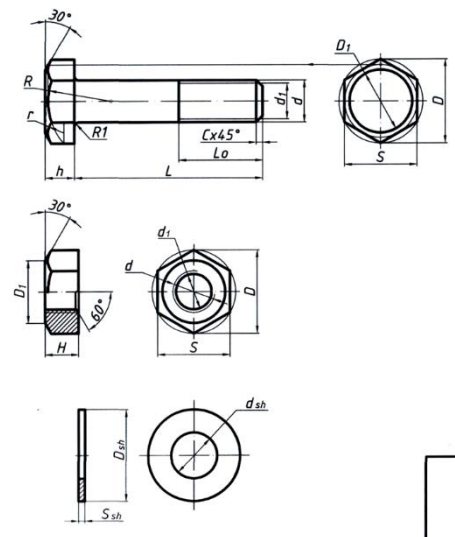
h = 0.7d	r = jasaladı
Lo = (1.5...2) d	C = 0.15d
d_i = 0.85d	H = 0.8d
D = 2d	D_{sh} = 2.2d
D₁ = S – 3...4 mm	d_{sh} = 1.1d
S = jasaladı	S_{sh} = 0.15d
R = 1,5d	L₁ = d



Variantlar	5
d	24
L	80

Boltli hám shpilkali birikpeler ushın ólshem qatnasları :
(d - bolt yamasa shpilka sırtqı rezba diametri tiykarında)

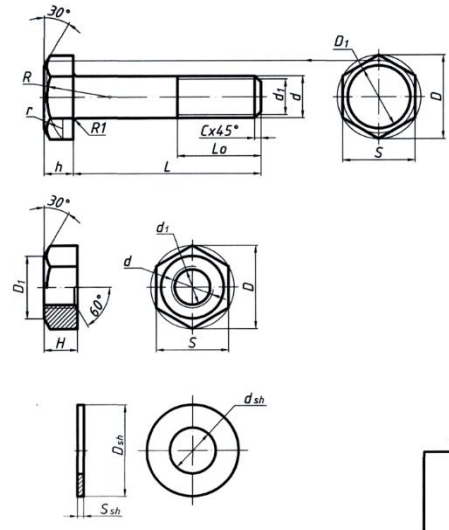
h = 0.7d	r = jasaladı
Lo = (1.5...2) d	C = 0.15d
d_i = 0.85d	H = 0.8d
D = 2d	D_{sh} = 2.2d
D₁ = S – 3...4 mm	d_{sh} = 1.1d
S = jasaladı	S_{sh} = 0.15d
R = 1,5d	L₁ = d



Variantlar	6
d	16
L	90

Boltli hám shpilkali birikpeler ushın ólshem qatnasları :
(d - bolt yamasa shpilka sırtqı rezba diametri tiykarında)

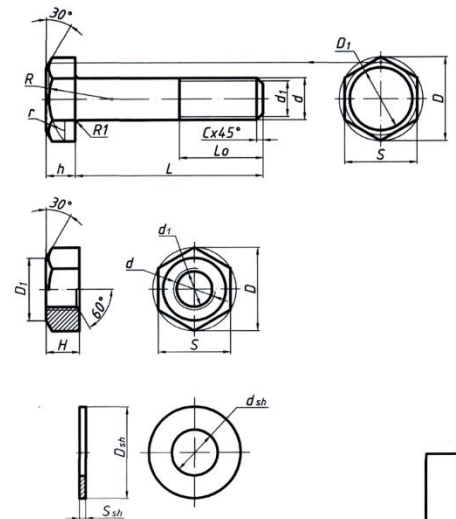
$$\begin{aligned}
 h &= 0.7d & r &= \text{jasaladı} \\
 L_o &= (1.5...2) d & C &= 0.15d \\
 d_1 &= 0.85d & H &= 0.8d \\
 D &= 2d & D_{sh} &= 2.2d \\
 D_1 &= S - 3...4 \text{ mm} & d_{sh} &= 1.1d \\
 S &= \text{jasaladı} & S_{sh} &= 0.15d \\
 R &= 1.5d & L_1 &= d
 \end{aligned}$$



Variantlar	6
d	18
L	70

Boltli hám shpilkali birikpeler ushın ólshem qatnasları :
(d - bolt yamasa shpilka sırtqı rezba diametri tiykarında)

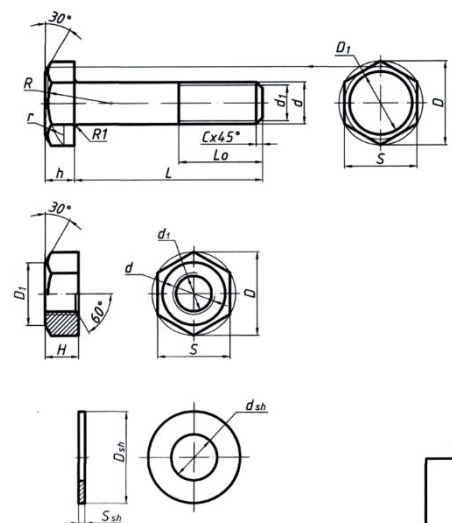
$$\begin{aligned}
 h &= 0.7d & r &= \text{jasaladı} \\
 L_o &= (1.5...2) d & C &= 0.15d \\
 d_1 &= 0.85d & H &= 0.8d \\
 D &= 2d & D_{sh} &= 2.2d \\
 D_1 &= S - 3...4 \text{ mm} & d_{sh} &= 1.1d \\
 S &= \text{jasaladı} & S_{sh} &= 0.15d \\
 R &= 1.5d & L_1 &= d
 \end{aligned}$$



Variantlar	7
d	20
L	80

Boltli hám shpilkali birikpeler ushın ólshem qatnasları :
(d - bolt yamasa shpilka sırtqı rezba diametri tiykarında)

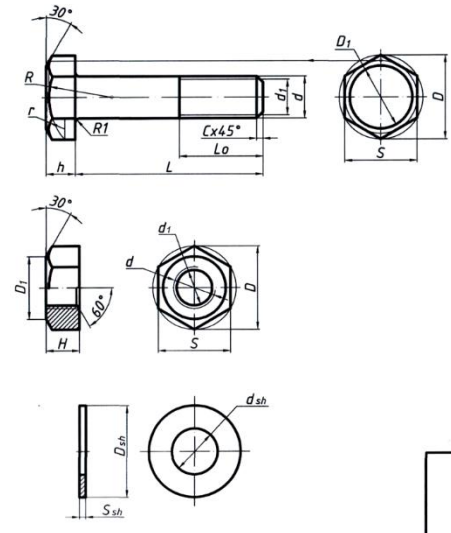
$$\begin{aligned}
 h &= 0.7d & r &= \text{jasaladı} \\
 L_o &= (1.5...2) d & C &= 0.15d \\
 d_1 &= 0.85d & H &= 0.8d \\
 D &= 2d & D_{sh} &= 2.2d \\
 D_1 &= S - 3...4 \text{ mm} & d_{sh} &= 1.1d \\
 S &= \text{jasaladı} & S_{sh} &= 0.15d \\
 R &= 1.5d & L_1 &= d
 \end{aligned}$$



Variantlar	8
d	22
L	90

Boltli hám shpilkali birikpeler ushın ólshem qatnasları :
(d - bolt yamasa shpilka sırtqı rezba diametri tiykarında)

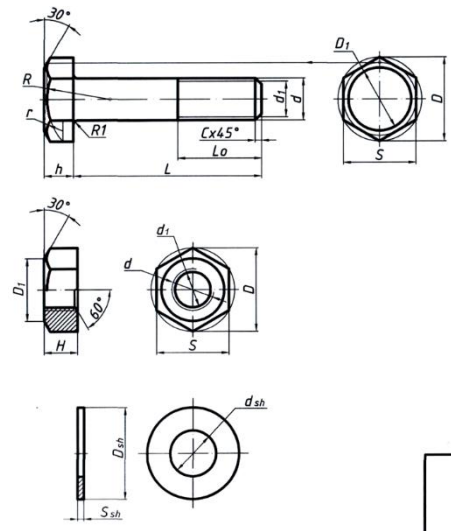
$h = 0.7d$	$r = \text{jasaladı}$
$L_o = (1.5...2) d$	$C = 0.15d$
$d_1 = 0.85d$	$H = 0.8d$
$D = 2d$	$D_{sh} = 2.2d$
$D_1 = S - 3...4 \text{ mm}$	$d_{sh} = 1.1d$
$S = \text{jasaladı}$	$S_{sh} = 0.15d$
$R = 1,5d$	$L_1 = d$



Variantlar	9
d	24
L	70

Boltli hám shpilkali birikpeler ushın ólshem qatnasları :
(d - bolt yamasa shpilka sırtqı rezba diametri tiykarında)

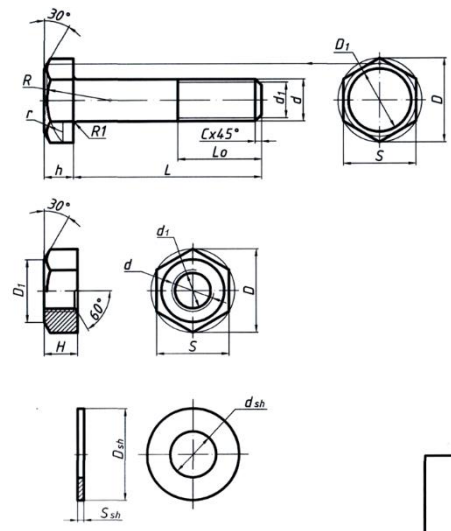
$h = 0.7d$	$r = \text{jasaladı}$
$L_o = (1.5...2) d$	$C = 0.15d$
$d_1 = 0.85d$	$H = 0.8d$
$D = 2d$	$D_{sh} = 2.2d$
$D_1 = S - 3...4 \text{ mm}$	$d_{sh} = 1.1d$
$S = \text{jasaladı}$	$S_{sh} = 0.15d$
$R = 1,5d$	$L_1 = d$



Variantlar	10
d	16
L	80

Boltli hám shpilkali birikpeler ushın ólshem qatnasları :
(d - bolt yamasa shpilka sırtqı rezba diametri tiykarında)

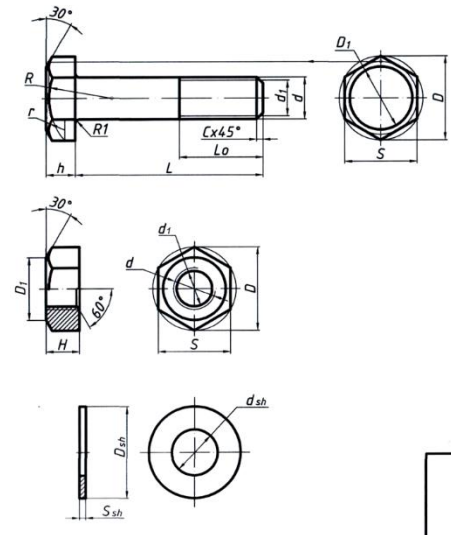
$h = 0.7d$	$r = \text{jasaladı}$
$L_o = (1.5...2) d$	$C = 0.15d$
$d_1 = 0.85d$	$H = 0.8d$
$D = 2d$	$D_{sh} = 2.2d$
$D_1 = S - 3...4 \text{ mm}$	$d_{sh} = 1.1d$
$S = \text{jasaladı}$	$S_{sh} = 0.15d$
$R = 1,5d$	$L_1 = d$



Variantlar	11
d	18
L	90

Boltli hám shpilkali birikpeler ushın ólshem qatnasları :
(d - bolt yamasa shpilka sırtqı rezba diametri tiykarında)

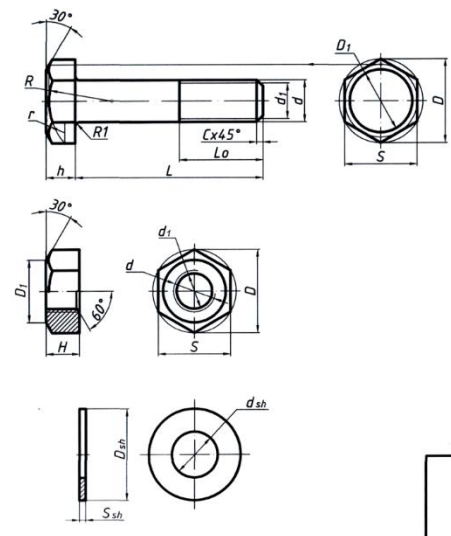
$h = 0.7d$	$r = \text{jasaladı}$
$L_o = (1.5...2) d$	$C = 0.15d$
$d_1 = 0.85d$	$H = 0.8d$
$D = 2d$	$D_{sh} = 2.2d$
$D_1 = S - 3...4 \text{ mm}$	$d_{sh} = 1.1d$
$S = \text{jasaladı}$	$S_{sh} = 0.15d$
$R = 1,5d$	$L_1 = d$



Variantlar	12
d	20
L	70

Boltli hám shpilkali birikpeler ushın ólshem qatnasları :
(d - bolt yamasa shpilka sırtqı rezba diametri tiykarında)

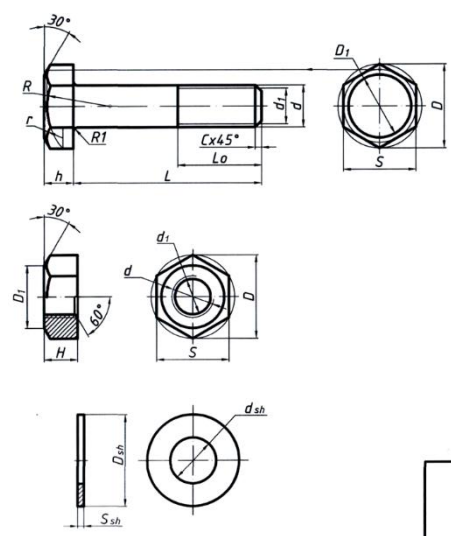
$h = 0.7d$	$r = \text{jasaladı}$
$L_o = (1.5...2) d$	$C = 0.15d$
$d_1 = 0.85d$	$H = 0.8d$
$D = 2d$	$D_{sh} = 2.2d$
$D_1 = S - 3...4 \text{ mm}$	$d_{sh} = 1.1d$
$S = \text{jasaladı}$	$S_{sh} = 0.15d$
$R = 1,5d$	$L_1 = d$



Variantlar	13
d	22
L	80

Boltli hám shpilkali birikpeler ushın ólshem qatnasları :
(d - bolt yamasa shpilka sırtqı rezba diametri tiykarında)

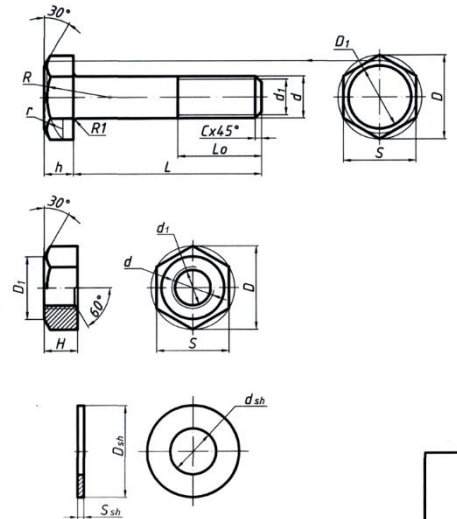
$h = 0.7d$	$r = \text{jasaladı}$
$L_o = (1.5...2) d$	$C = 0.15d$
$d_1 = 0.85d$	$H = 0.8d$
$D = 2d$	$D_{sh} = 2.2d$
$D_1 = S - 3...4 \text{ mm}$	$d_{sh} = 1.1d$
$S = \text{jasaladı}$	$S_{sh} = 0.15d$
$R = 1,5d$	$L_1 = d$



Variantlar	14
d	24
L	90

Boltli hám shpilkali birikpeler ushın ólshem qatnasları :
(d - bolt yamasa shpilka sırtqı rezba diametri tiykarında)

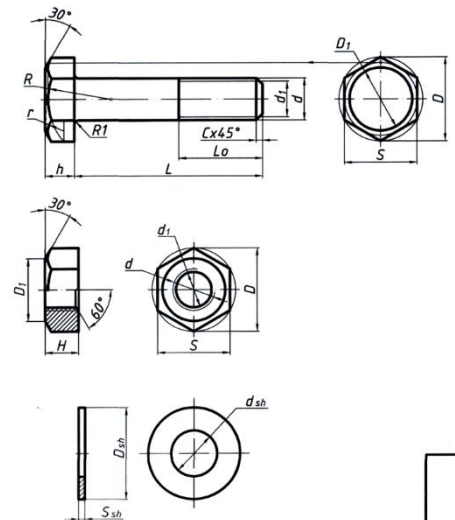
$h = 0.7d$	$r = \text{jasaladı}$
$L_o = (1.5...2) d$	$C = 0.15d$
$d_1 = 0.85d$	$H = 0.8d$
$D = 2d$	$D_{sh} = 2.2d$
$D_1 = S - 3...4 \text{ mm}$	$d_{sh} = 1.1d$
$S = \text{jasaladı}$	$S_{sh} = 0.15d$
$R = 1,5d$	$L_1 = d$



Variantlar	15
d	24
L	60

Boltli hám shpilkali birikpeler ushın ólshem qatnasları :
(d - bolt yamasa shpilka sırtqı rezba diametri tiykarında)

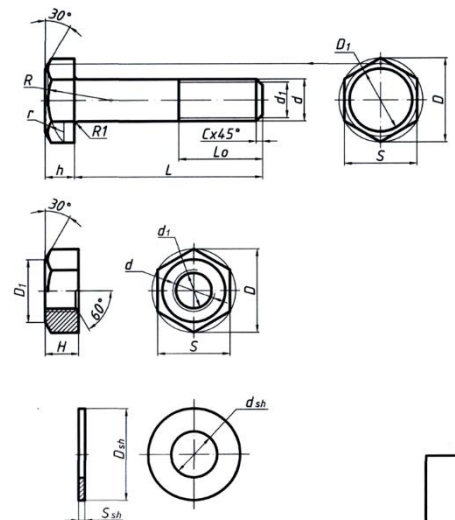
$h = 0.7d$	$r = \text{jasaladı}$
$L_o = (1.5...2) d$	$C = 0.15d$
$d_1 = 0.85d$	$H = 0.8d$
$D = 2d$	$D_{sh} = 2.2d$
$D_1 = S - 3...4 \text{ mm}$	$d_{sh} = 1.1d$
$S = \text{jasaladı}$	$S_{sh} = 0.15d$
$R = 1,5d$	$L_1 = d$



Variantlar	16
d	22
L	55

Boltli hám shpilkali birikpeler ushın ólshem qatnasları :
(d - bolt yamasa shpilka sırtqı rezba diametri tiykarında)

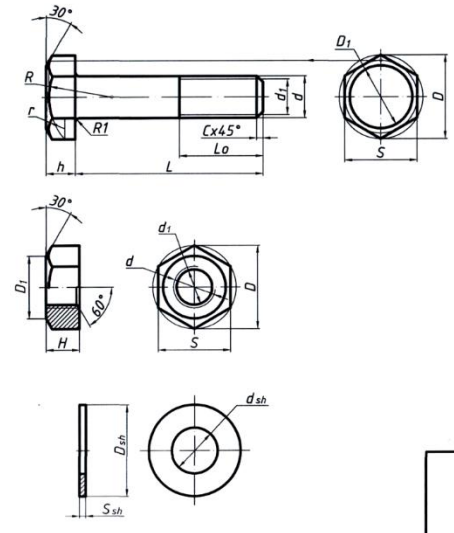
$h = 0.7d$	$r = \text{jasaladı}$
$L_o = (1.5...2) d$	$C = 0.15d$
$d_1 = 0.85d$	$H = 0.8d$
$D = 2d$	$D_{sh} = 2.2d$
$D_1 = S - 3...4 \text{ mm}$	$d_{sh} = 1.1d$
$S = \text{jasaladı}$	$S_{sh} = 0.15d$
$R = 1,5d$	$L_1 = d$



Variantlar	17
d	20
L	50

Boltli hám shpilkali birikpeler ushın ólshem qatnasları :
(d - bolt yamasa shpilka sırtqı rezba diametri tiykarında)

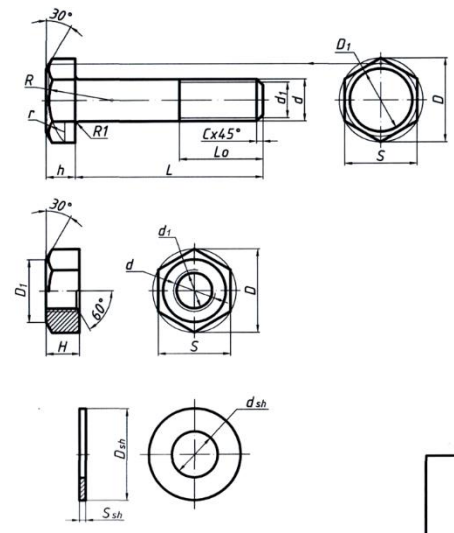
$h = 0.7d$	$r = \text{jasaladı}$
$L_o = (1.5...2) d$	$C = 0.15d$
$d_1 = 0.85d$	$H = 0.8d$
$D = 2d$	$D_{sh} = 2.2d$
$D_1 = S - 3...4 \text{ mm}$	$d_{sh} = 1.1d$
$S = \text{jasaladı}$	$S_{sh} = 0.15d$
$R = 1.5d$	$L_1 = d$



Variantlar	18
d	16
L	70

Boltli hám shpilkali birikpeler ushın ólshem qatnasları :
(d - bolt yamasa shpilka sırtqı rezba diametri tiykarında)

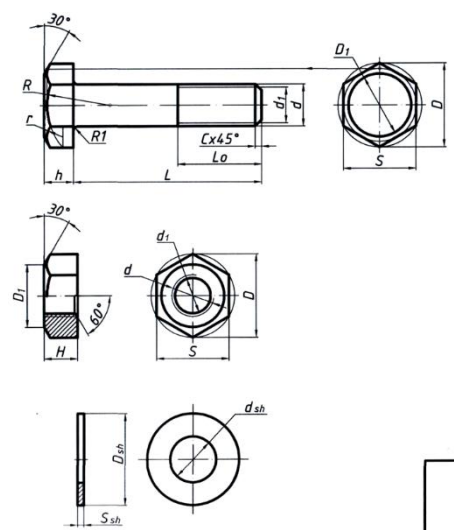
$h = 0.7d$	$r = \text{jasaladı}$
$L_o = (1.5...2) d$	$C = 0.15d$
$d_1 = 0.85d$	$H = 0.8d$
$D = 2d$	$D_{sh} = 2.2d$
$D_1 = S - 3...4 \text{ mm}$	$d_{sh} = 1.1d$
$S = \text{jasaladı}$	$S_{sh} = 0.15d$
$R = 1.5d$	$L_1 = d$



Variantlar	19
d	16
L	55

Boltli hám shpilkali birikpeler ushın ólshem qatnasları :
(d - bolt yamasa shpilka sırtqı rezba diametri tiykarında)

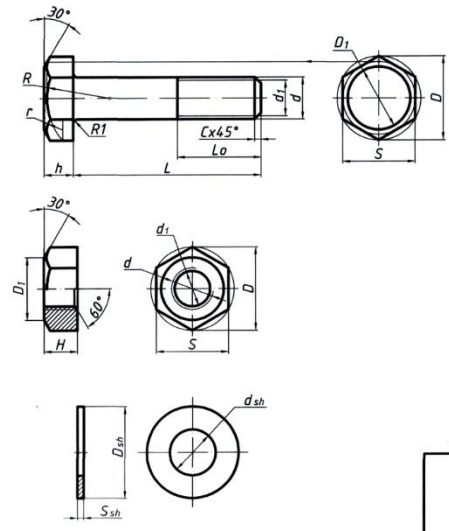
$h = 0.7d$	$r = \text{jasaladı}$
$L_o = (1.5...2) d$	$C = 0.15d$
$d_1 = 0.85d$	$H = 0.8d$
$D = 2d$	$D_{sh} = 2.2d$
$D_1 = S - 3...4 \text{ mm}$	$d_{sh} = 1.1d$
$S = \text{jasaladı}$	$S_{sh} = 0.15d$
$R = 1.5d$	$L_1 = d$



Variantlar	20
d	24
L	50

Boltli hám shpilkali birikpeler ushın ólshem qatnasları :
(d - bolt yamasa shpilka sırtqı rezba diametri tiykarında)

$$\begin{aligned}
 h &= 0.7d & r &= \text{jasaladı} \\
 L_o &= (1.5 \dots 2) d & C &= 0.15d \\
 d_1 &= 0.85d & H &= 0.8d \\
 D &= 2d & D_{sh} &= 2.2d \\
 D_1 &= S - 3 \dots 4 \text{ mm} & d_{sh} &= 1.1d \\
 S &= \text{jasaladı} & S_{sh} &= 0.15d \\
 R &= 1.5d & L_1 &= d
 \end{aligned}$$



Variantlar	21
d	22
L	60

Boltli hám shpilkali birikpeler ushın ólshem qatnasları :
(d - bolt yamasa shpilka sırtqı rezba diametri tiykarında)

$$\begin{aligned}
 h &= 0.7d & r &= \text{jasaladı} \\
 L_o &= (1.5 \dots 2) d & C &= 0.15d \\
 d_1 &= 0.85d & H &= 0.8d \\
 D &= 2d & D_{sh} &= 2.2d \\
 D_1 &= S - 3 \dots 4 \text{ mm} & d_{sh} &= 1.1d \\
 S &= \text{jasaladı} & S_{sh} &= 0.15d \\
 R &= 1.5d & L_1 &= d
 \end{aligned}$$

