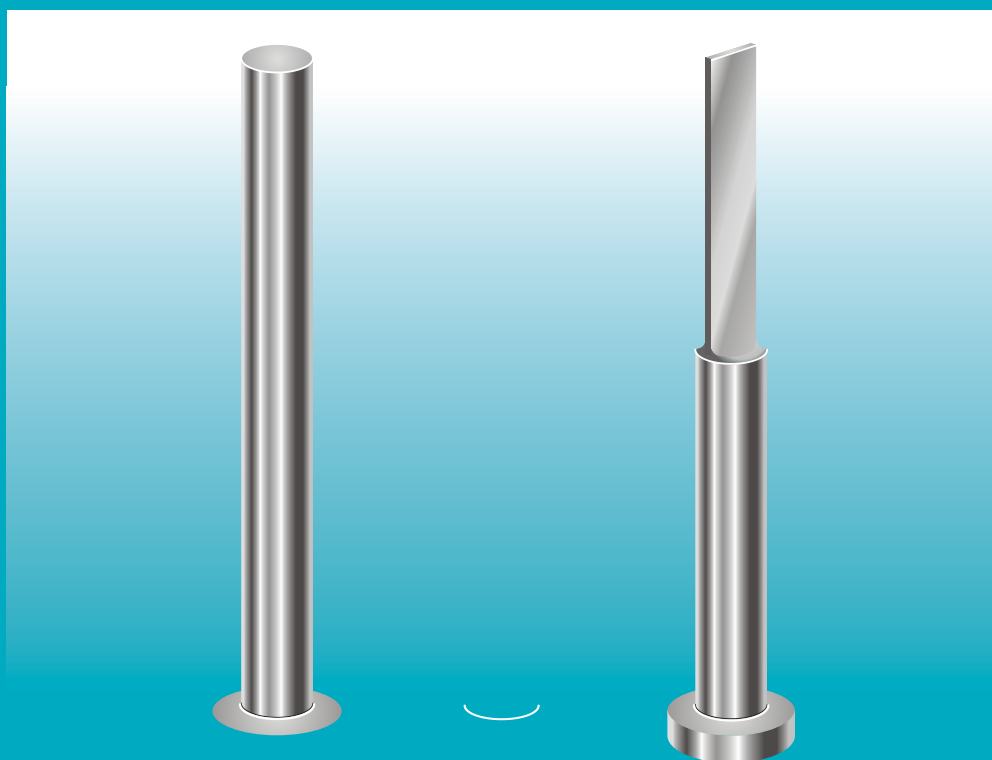




FCPK-Bytów Sp. z o.o.  
ul. Lęborska 26, 77-100 Bytów, Poland  
tel. +48-59-822-9700, fax +48-59-822-9701  
[www.fcpk.pl](http://www.fcpk.pl)

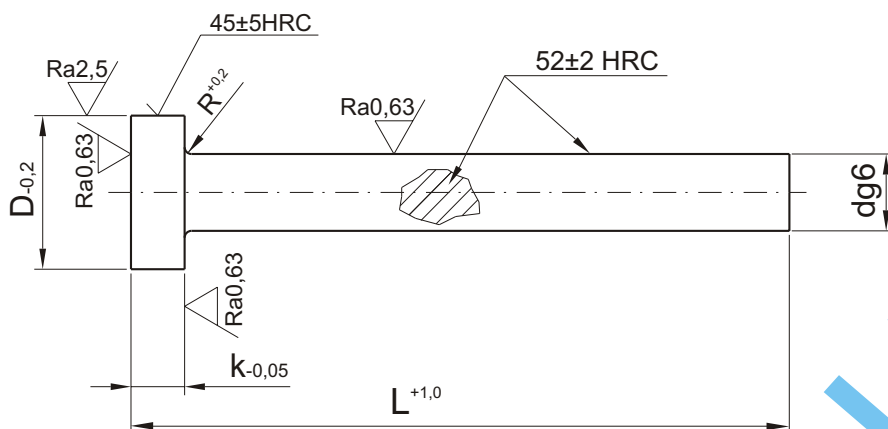
# CZĘŚCI ZNORMALI AL



<b>NAZWA KATALOGOWA</b>	<b>CATALOG NAME</b>	<b>SYMBOL</b>	<b>STR./PG</b>
Rdzeń formujący	Core pins	CPM	3
Wypychacz hartowany	Ejector pins hardened	WH-	4-5
Wypychacz azotowany	Ejector pins nitrided	EM-	6-7
Wypychacz tulejowy hartowany	Ejector sleeves hardened	WHT-	8-9
Wypychacz tulejowy azotowany	Ejector sleeves nitrided	EMT-	10
Wypychacz odsadzany azotowany	Step pins nitrided	ESM-	11
Wypychacz odsadzany hartowany	Step pins hardened	OH-	11
Wypychacz płaski hartowany	Flat ejector pins hardened	OHP-	12
Wypychacz płaski azotowany	Flat ejector pins nitrided	ESP-	13
Słup prowadzący	Leader pins	SLE-	14-16
Słup prowadzący	Leader pins	SXE-	17-19
Słup skośny	Angle pins	SS-	20
Tuleja prowadząca	Leader pin		uleja prowadząca

**CZĘŚCI ZNORMALIZOWANE DO FORM**  
**STANDARD ELEMENTS FOR MOLDS**

NAZWA KATALOGOWA	CATALOG NAME	SYMBOL	STR./PG
Koszyk kulkowy	Ball bearing cages	KKW-	31
Kolek prowadzą	Leader pins	KPW	30
Mechanizm ruchu płyt wypychaczy	Operating of ejector plates		34
Nóżka	Feet	NF	29
Pierścień centrujący	Locating rings	PCA-	39
Pierścień centrujący	Locating rings	PCB-, PCC-	40
Płytki samosmarujące	Wear plates self-lubricating	PFA-, PFB-	41
Płyty izolacyjne	Insulating plates	MS-	42-43
Podkładka oporowa	Support washer	POA	36
Podkładka oporowa	Support washer	PO-	33
Prowadzenie płyty wypychaczy	Ejection system		30
Rdzeń formujący	Core pins	CPM	3
Słup prowadzący	Leader pins	SLE-	14-16
Słup prowadzący	Leader pins	SXE-	17-19
Słup prowadzący	Leader pins	SPW-	30
Słup skośny	Angle pins	SS-	20
Sworzeń płyty wypychaczy i wkręt	Ejector rod & hexagon socket set screw	KWH-, WKA-	35
Tuleja do koszyka kulkowego	Bushings	TKW-	31
Tuleja prowadząca	Leader pin bushings	TXE-	22
Tuleja prowadząca	Leader pin bushings	TPE-	21
Tuleja prowadząca	Tube dowel	TPZ	36
Tuleja prowadząca - brzoze rite TM	Guide bushings - bronze rite TM	TBW-	31
Tuleja prowadząca - brzoze rite TM	Guide bushings - bronze rite TM	TXB-	24
Tuleja prowadząca - brzoze rite TM	Guide bushings - bronze rite TM	TPB-	23
Tuleja prowadząca - brzoze rite TM samosmarująca	Self-lubricating guide bushings-bronze rite TM	TXS-	27
Tuleja prowadząca - brzoze rite TM samosmarująca	Self-lubricating guide bushings-bronze rite TM	TPS-	28
Tuleja prowadząca samosmarująca	Self-lubricating guide bushings	TPG-	26
Tuleja prowadząca samosmarująca	Self-lubricating guide bushings	TGW-	32
Tuleja prowadząca samosmarująca	Self-lubricating guide bushings	TXG-	25
Tuleja ustalająca	Locating sleeves	TUE-	29
Tuleja wtryskowa	Sprue bushings	TWA- TWB-	37
Tuleja wtryskowa	Sprue bushings	TWC- TWD-	38
Tulejowy zabierak wlewka	Sprue pullers bushings	TZW-	37
Wypychacz azotowany	Ejector pins nitrided	EM-	6-7
Wypychacz hartowany	Ejector pins hardened	WH-	4-5
Wypychacz odsadzany azotowany	Step pins nitrided	ESM-	11
Wypychacz odsadzany hartowany	Step pins hardened	OH-	11
Wypychacz płaski azotowany	Flat ejector pins nitrided	ESP-	13
Wypychacz płaski hartowany	Flat ejector pins hardened	OHP-	12
Wypychacz tulejowy azotowany	Ejector sleeves nitrided	EMT-	10
Wypychacz tulejowy hartowany	Ejector sleeves hardened	WHT-	8-9



**CPM**

DIN 1530/ISO 6751

Na życzenie twardość  
Hardness on request - 32±2 HRC

500-550°C  
Mat: 1.2344

NR KAT.

d	D	k	R	L													
				100	125	160	200	250	315	400	500	630	800	1000			
1	3	1,5	0,2	CPM-010100		CPM-010160											
1,5				CPM-015100	CPM-015125	CPM-015160	CPM-015200										
2	4	2	0,2	CPM-020100	CPM-020125	CPM-020160	CPM-020200	CPM-020250									
2,2				CPM-022100	CPM-022125	CPM-022160	CPM-022200	CPM-022250									
2,5	5	2	0,2	CPM-025100	CPM-025125	CPM-025160	CPM-025200	CPM-025250									
2,7				CPM-027100	CPM-027125	CPM-027160	CPM-027200	CPM-027250									
3	6	2	0,2	CPM-030100	CPM-030125	CPM-030160	CPM-030200	CPM-030250	CPM-030315	CPM-030400	CPM-030500						
3,2				CPM-032100	CPM-032125	CPM-032160	CPM-032200	CPM-032250	CPM-032315	CPM-032400							
3,5	7	2	0,2	CPM-035100	CPM-035125	CPM-035160	CPM-035200	CPM-035250	CPM-035315	CPM-035400							
3,7				CPM-037100	CPM-037125	CPM-037160	CPM-037200	CPM-037250	CPM-037315	CPM-037400							
4	8	3	0,3	CPM-040100	CPM-040125	CPM-040160	CPM-040200	CPM-040250	CPM-040315	CPM-040400	CPM-040500						
4,2				CPM-042100	CPM-042125	CPM-042160	CPM-042200	CPM-042250	CPM-042315	CPM-042400	CPM-042500	CPM-042630					
4,5	10	3	0,3	CPM-045100	CPM-045125	CPM-045160	CPM-045200	CPM-045250	CPM-045315	CPM-045400							
5				CPM-050100	CPM-050125	CPM-050160	CPM-050200	CPM-050250	CPM-050315	CPM-050400	CPM-050500	CPM-050630	CPM-050800				
5,2	10	3	0,3	CPM-052100	CPM-052125	CPM-052160	CPM-052200	CPM-052250	CPM-052315	CPM-052400	CPM-052500	CPM-052630					
5,5				CPM-055100	CPM-055125	CPM-055160	CPM-055200	CPM-055250	CPM-055315	CPM-055400	CPM-055500	CPM-055630					
6	12	5	0,5	CPM-060100	CPM-060125	CPM-060160	CPM-060200	CPM-060250	CPM-060315	CPM-060400	CPM-060500	CPM-060630	CPM-060800	CPM-0601000			
6,2				CPM-062100	CPM-062125	CPM-062160	CPM-062200	CPM-062250	CPM-062315	CPM-062400	CPM-062500	CPM-062630					
6,5	12	5	0,5	CPM-065100	CPM-065125	CPM-065160	CPM-065200	CPM-065250	CPM-065315	CPM-065400	CPM-065500						
7				CPM-070100	CPM-070125	CPM-070160	CPM-070200	CPM-070250	CPM-070315	CPM-070400	CPM-070500	CPM-070630					
7,5	14	5	0,5	CPM-075100	CPM-075125	CPM-075160	CPM-075200	CPM-075250	CPM-075315	CPM-075400	CPM-075500						
8				CPM-080100	CPM-080125	CPM-080160	CPM-080200	CPM-080250	CPM-080315	CPM-080400	CPM-080500	CPM-080630	CPM-080800	CPM-0801000			
8,2	14	5	0,5	CPM-082100	CPM-082125	CPM-082160	CPM-082200	CPM-082250	CPM-082315	CPM-082400	CPM-082500	CPM-082630	CPM-082800				
8,5				CPM-085100	CPM-085125	CPM-085160	CPM-085200	CPM-085250	CPM-085315	CPM-085400	CPM-085500	CPM-085630					
9	16	5	0,5	CPM-090100	CPM-090125	CPM-090160	CPM-090200	CPM-090250	CPM-090315	CPM-090400	CPM-090500	CPM-090630					
9,5				CPM-095100	CPM-095125	CPM-095160	CPM-095200	CPM-095250	CPM-095315	CPM-095400	CPM-095500						
10	16	5	0,5	CPM-100100	CPM-100125	CPM-100160	CPM-100200	CPM-100250	CPM-100315	CPM-100400	CPM-100500	CPM-100630	CPM-100800	CPM-1001000			
10,2				CPM-102100	CPM-102125	CPM-102160	CPM-102200	CPM-102250	CPM-102315	CPM-102400	CPM-102500	CPM-102630	CPM-102800				
10,5	18	7	0,8	CPM-105100	CPM-105125	CPM-105160	CPM-105200	CPM-105250	CPM-105315	CPM-105400	CPM-105500	CPM-105630					
11				CPM-110100	CPM-110125	CPM-110160	CPM-110200	CPM-110250	CPM-110315	CPM-110400	CPM-110500	CPM-110630					
12	22	7	0,8	CPM-120100	CPM-120125	CPM-120160	CPM-120200	CPM-120250	CPM-120315	CPM-120400	CPM-120500	CPM-120630	CPM-120800	CPM-1201000			
12,2				CPM-122100	CPM-122125	CPM-122160	CPM-122200	CPM-122250	CPM-122315	CPM-122400	CPM-122500	CPM-122630	CPM-122800				
12,5	24	7	0,8	CPM-125100	CPM-125125	CPM-125160	CPM-125200	CPM-125250	CPM-125315	CPM-125400	CPM-125500	CPM-125630	CPM-125800				
14				CPM-140100	CPM-140125	CPM-140160	CPM-140200	CPM-140250	CPM-140315	CPM-140400	CPM-140500	CPM-140630	CPM-140800	CPM-1401000			
16	26	8	1	CPM-160100	CPM-160125	CPM-160160	CPM-160200	CPM-160250	CPM-160315	CPM-160400	CPM-160500	CPM-160630	CPM-160800	CPM-1601000			
18				CPM-180100	CPM-180125	CPM-180160	CPM-180200	CPM-180250	CPM-180315	CPM-180400	CPM-180500	CPM-180630	CPM-180800	CPM-1801000			
20	32	10	1	CPM-200100	CPM-200125	CPM-200160	CPM-200200	CPM-200250	CPM-200315	CPM-200400	CPM-200500	CPM-200630	CPM-200800	CPM-2001000			
25							CPM-250160	CPM-250200	CPM-250250	CPM-250315	CPM-250400	CPM-250500	CPM-250630	CPM-250800	CPM-2501000		
32	40	10	1			CPM-320160	CPM-320200	CPM-320250	CPM-320315	CPM-320400	CPM-320500	CPM-320630	CPM-320800	CPM-3201000			

**WH**

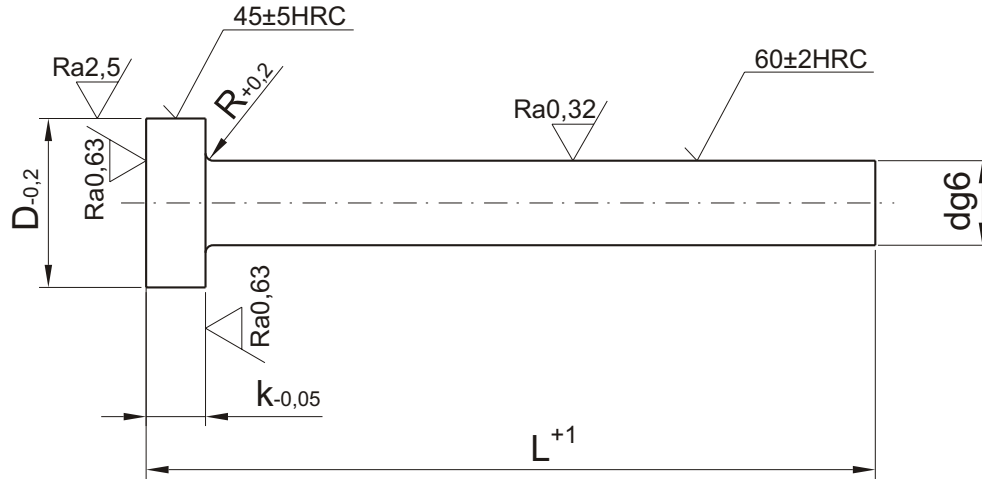


DIN 1530/ISO 6751  
250°C

Mat: 1.2210

Hartowany:  
Hardened: 60±2 HRC

d	D	k	R	NR KAT.									
				L									
				80	100	125	160	200	250	315	400		
1,5	3	1,5	0,2	WH-015080	WH-015100	WH-015125	WH-015160	WH-015200					
1,6				WH-016080	WH-016100	WH-016125	WH-016160	WH-016200					
1,7					WH-017100	WH-017125	WH-017160	WH-017200					
1,8					WH-018100	WH-018125	WH-018160	WH-018200					
2	4	2	0,2	WH-020080	WH-020100	WH-020125	WH-020160	WH-020200	WH-020250				
2,1							WH-021160						
2,2					WH-022080	WH-022100	WH-022125	WH-022160	WH-022200	WH-022250			
2,5					WH-025080	WH-025100	WH-025125	WH-025160	WH-025200	WH-025250			
2,7	5		0,3	WH-027080	WH-027100	WH-027125	WH-027160	WH-027200	WH-027250				
3	6	3	0,3	WH-030080	WH-030100	WH-030125	WH-030160	WH-030200	WH-030250	WH-030315			
3,1							WH-031160						
3,2					WH-032080	WH-032100	WH-032125	WH-032160	WH-032200	WH-032250	WH-032315		
3,5					WH-035080	WH-035100	WH-035125	WH-035160	WH-035200	WH-035250	WH-035315		
3,7	7		0,3	WH-037080	WH-037100	WH-037125	WH-037160	WH-037200	WH-037250	WH-037315			
4	8	3	0,3	WH-040080	WH-040100	WH-040125	WH-040160	WH-040200	WH-040250	WH-040315	WH-040400		
4,1							WH-041160						
4,2					WH-042080	WH-042100	WH-042125	WH-042160	WH-042200	WH-042250	WH-042315	WH-042400	
4,5					WH-045080	WH-045100	WH-045125	WH-045160	WH-045200	WH-045250	WH-045315	WH-045400	
4,7			0,3	WH-047080	WH-047100	WH-047125	WH-047160	WH-047200	WH-047250	WH-047315	WH-047400		
5	10	5	0,5	WH-050080	WH-050100	WH-050125	WH-050160	WH-050200	WH-050250	WH-050315	WH-050400		
5,1							WH-051200						
5,2					WH-052080	WH-052100	WH-052125	WH-052160	WH-052200	WH-052250	WH-052315	WH-052400	
5,5						WH-055100	WH-055125	WH-055160	WH-055200	WH-055250	WH-055315	WH-055400	
6	12	5	0,5	WH-060080	WH-060100	WH-060125	WH-060160	WH-060200	WH-060250	WH-060315	WH-060400		



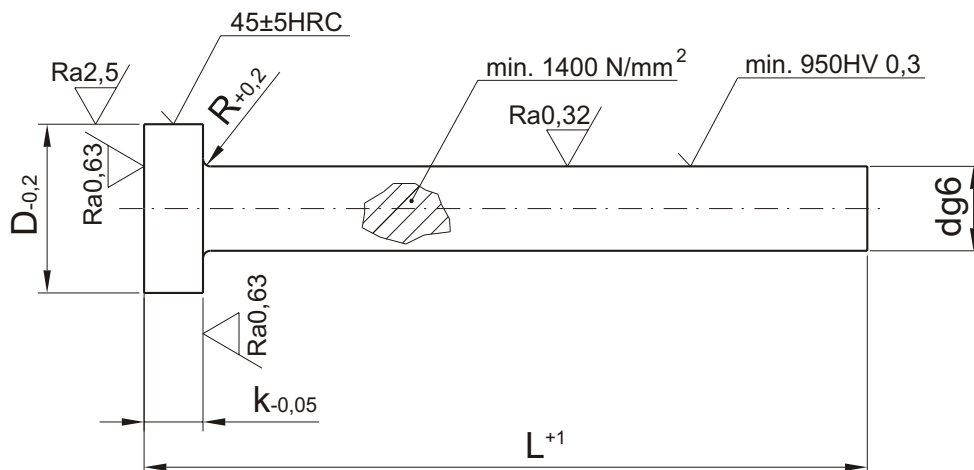
DIN 1530/ISO 6751  
250°C

Mat: 1.2210

Hartowany: 60±2 HRC  
Hardened:

d	D	k	R	NR KAT.									
				L									
				80	100	125	160	200	250	315	400	500	
6,1	12	5	0,5					WH-061200					
6,2				WH-062080	WH-062100	WH-062125	WH-062160	WH-062200	WH-062250	WH-062315	WH-062400		
6,5					WH-065100	WH-065125	WH-065160	WH-065200	WH-065250	WH-065315	WH-065400		
7					WH-070100	WH-070125	WH-070160	WH-070200	WH-070250	WH-070315	WH-070400		
8	14	5	0,5	WH-080080	WH-080100	WH-080125	WH-080160	WH-080200	WH-080250	WH-080315	WH-080400		
8,1									WH-081200				
8,2				WH-082080	WH-082100	WH-082125	WH-082160	WH-082200	WH-082250	WH-082315	WH-082400		
8,5					WH-085100	WH-085125	WH-085160	WH-085200	WH-085250	WH-085315	WH-085400		
9	16	5	0,5		WH-090100	WH-090125	WH-090160	WH-090200	WH-090250	WH-090315	WH-090400		
10				WH-100080	WH-100100	WH-100125	WH-100160	WH-100200	WH-100250	WH-100315	WH-100400		
10,1									WH-101200				
10,2				WH-102080	WH-102100	WH-102125	WH-102160	WH-102200	WH-102250	WH-102315	WH-102400		
10,5	18	7	0,8		WH-105100	WH-105125	WH-105160	WH-105200	WH-105250	WH-105315	WH-105400		
11					WH-110100	WH-110125	WH-110160	WH-110200	WH-110250	WH-110315	WH-110400		
12				WH-120080	WH-120100	WH-120125	WH-120160	WH-120200	WH-120250	WH-120315	WH-120400	WH-120500	
12,1									WH-121200				
12,2	22	7	0,8		WH-122100	WH-122125	WH-122160	WH-122200	WH-122250	WH-122315	WH-122400	WH-122500	
12,5					WH-125100	WH-125125	WH-125160	WH-125200	WH-125250	WH-125315	WH-125400	WH-125500	
14				WH-140080	WH-140100	WH-140125	WH-140160	WH-140200	WH-140250	WH-140315	WH-140400	WH-140500	
16				WH-160080	WH-160100	WH-160125	WH-160160	WH-160200	WH-160250	WH-160315	WH-160400	WH-160500	
18	24	8	1		WH-180100	WH-180125	WH-180160	WH-180200	WH-180250	WH-180315	WH-180400	WH-180500	
20	26				WH-200100	WH-200125	WH-200160	WH-200200	WH-200250	WH-200315	WH-200400	WH-200500	

6



d	D	k	R
1			
1,2			
1,5	3	1,5	0,2
1,6			
1,7			
2	4	2	
2,2			
2,5	5		0,3
2,7			

d	D	k	R
3			
3,1	6		
3,2			
3,5	7	3	0,3
3,7			
4			
4,1	8		
4,2			
4,5			

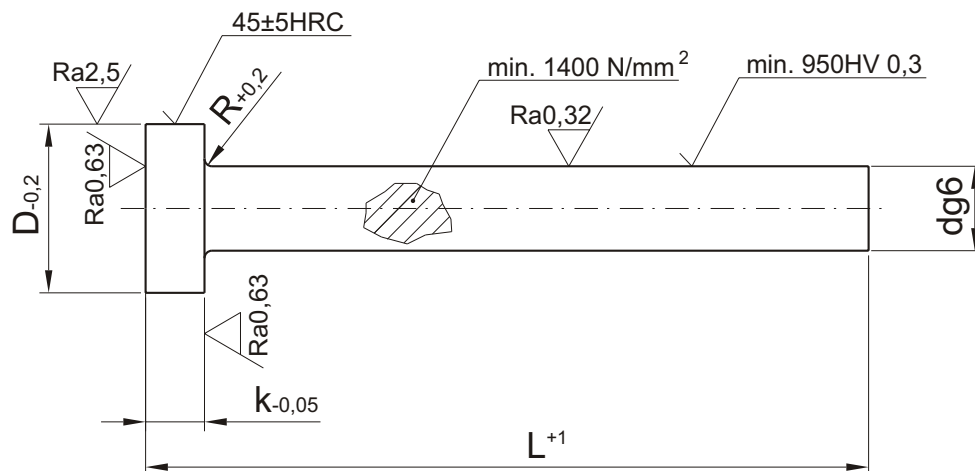
d	D	k	R
5			
5,1	10	3	0,3
5,2			
5,5			
6			
6,1	12	5	0,5
6,2			
6,5			
7			

DIN 1530/ISO 6751  
500-550°C

Mat: 1.2344  
Azotowany  
Nitrided

NR KAT.

d	L										
	100	125	160	200	250	315	400	500	630	800	1000
1	EM-010100		EM-010160								
1,2	EM-012100		EM-012160								
1,5	EM-015100	EM-015125	EM-015160	EM-015200							
1,6			EM-016160								
1,7	EM-017100			EM-017200							
2	EM-020100	EM-020125	EM-020160	EM-020200	EM-020250	EM-020315					
2,2	EM-022100	EM-022125	EM-022160	EM-022200	EM-022250	EM-022315					
2,5	EM-025100	EM-025125	EM-025160	EM-025200	EM-025250	EM-025315					
2,7	EM-027100	EM-027125	EM-027160	EM-027200	EM-027250	EM-027315					
3	EM-030100	EM-030125	EM-030160	EM-030200	EM-030250	EM-030315	EM-030400	EM-030500			
3,1			EM-031160		EM-031250						
3,2	EM-032100	EM-032125	EM-032160	EM-032200	EM-032250	EM-032315	EM-032400				
3,5	EM-035100	EM-035125	EM-035160	EM-035200	EM-035250	EM-035315	EM-035400				
3,7	EM-037100	EM-037125	EM-037160	EM-037200	EM-037250	EM-037315	EM-037400				
4	EM-040100	EM-040125	EM-040160	EM-040200	EM-040250	EM-040315	EM-040400	EM-040500			
4,1					EM-041250						
4,2	EM-042100	EM-042125	EM-042160	EM-042200	EM-042250	EM-042315	EM-042400	EM-042500	EM-042630		
4,5	EM-045100	EM-045125	EM-045160	EM-045200	EM-045250	EM-045315	EM-045400				
5	EM-050100	EM-050125	EM-050160	EM-050200	EM-050250	EM-050315	EM-050400	EM-050500	EM-050630	EM-050800	
5,1					EM-051250						
5,2	EM-052100	EM-052125	EM-052160	EM-052200	EM-052250	EM-052315	EM-052400	EM-052500	EM-052630		
5,5	EM-055100	EM-055125	EM-055160	EM-055200	EM-055250	EM-055315	EM-055400	EM-055500	EM-055630		
6	EM-060100	EM-060125	EM-060160	EM-060200	EM-060250	EM-060315	EM-060400	EM-060500	EM-060630	EM-060800	EM-0601000
6,1					EM-061250						
6,2	EM-062100	EM-062125	EM-062160	EM-062200	EM-062250	EM-062315	EM-062400	EM-062500	EM-062630		
6,5	EM-065100	EM-065125	EM-065160	EM-065200	EM-065250	EM-065315	EM-065400	EM-065500			
7	EM-070100	EM-070125	EM-070160	EM-070200	EM-070250	EM-070315	EM-070400	EM-070500	EM-070630		



d	D	k	R
7,5	12	5	0,5
8	14		
8,1			
8,2			
8,5			
9			
9,5	16		
10			

d	D	k	R
10,1	16	5	0,5
10,2			
10,5			
11			
12			
12,2	18	7	0,8
12,5			
14			

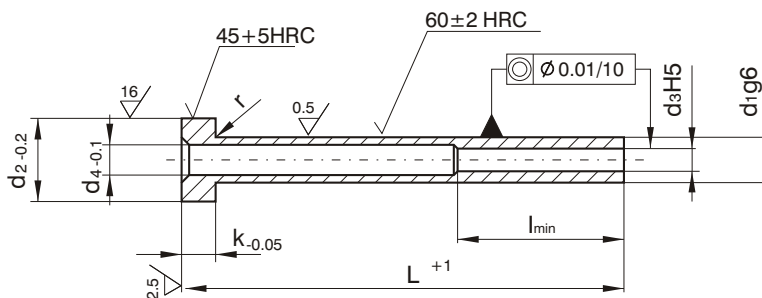
d	D	k	R
14,2	22	7	0,8
16			
16,2			
18	24	8	1
20	26		
25	32	10	1
32	40		

DIN 1530/ISO 6751  
500±550°C

Mat: 1.2344  
Azotowany  
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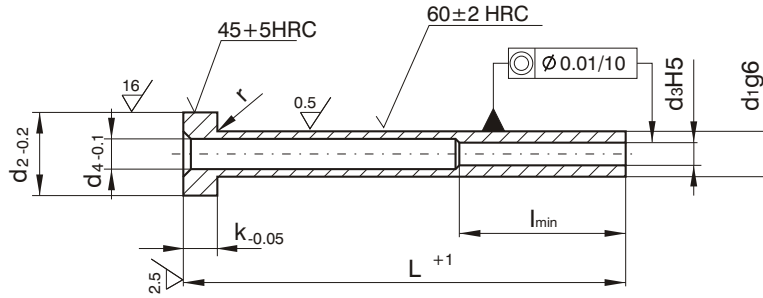
NR KAT.

d	L										
	100	125	160	200	250	315	400	500	630	800	1000
7,5	EM-075100	EM-075125	EM-075160	EM-075200	EM-075250	EM-075315	EM-075400	EM-075500			
8	EM-080100	EM-080125	EM-080160	EM-080200	EM-080250	EM-080315	EM-080400	EM-080500	EM-080630	EM-080800	EM-0801000
8,1			EM-081160		EM-081250						
8,2	EM-082100	EM-082125	EM-082160	EM-082200	EM-082250	EM-082315	EM-082400	EM-082500	EM-082630	EM-082800	
8,5	EM-085100	EM-085125	EM-085160	EM-085200	EM-085250	EM-085315	EM-085400	EM-085500	EM-085630		
9	EM-090100	EM-090125	EM-090160	EM-090200	EM-090250	EM-090315	EM-090400	EM-090500	EM-090630		
9,5	EM-095100	EM-095125	EM-095160	EM-095200	EM-095250	EM-095315	EM-095400	EM-095500			
10	EM-100100	EM-100125	EM-100160	EM-100200	EM-100250	EM-100315	EM-100400	EM-100500	EM-100630	EM-100800	EM-1001000
10,1					EM-101250						
10,2	EM-102100	EM-102125	EM-102160	EM-102200	EM-102250	EM-102315	EM-102400	EM-102500	EM-102630	EM-102800	
10,5	EM-105100	EM-105125	EM-105160	EM-105200	EM-105250	EM-105315	EM-105400	EM-105500	EM-105630		
11	EM-110100	EM-110125	EM-110160	EM-110200	EM-110250	EM-110315	EM-110400	EM-110500	EM-110630		
12	EM-120100	EM-120125	EM-120160	EM-120200	EM-120250	EM-120315	EM-120400	EM-120500	EM-120630	EM-120800	EM-1201000
12,2	EM-122100	EM-122125	EM-122160	EM-122200	EM-122250	EM-122315	EM-122400	EM-122500	EM-122630	EM-122800	
12,5	EM-125100	EM-125125	EM-125160	EM-125200	EM-125250	EM-125315	EM-125400	EM-125500	EM-125630	EM-125800	
14	EM-140100	EM-140125	EM-140160	EM-140200	EM-140250	EM-140315	EM-140400	EM-140500	EM-140630	EM-140800	EM-1401000
14,2					EM-142250						
16	EM-160100	EM-160125	EM-160160	EM-160200	EM-160250	EM-160315	EM-160400	EM-160500	EM-160630	EM-160800	EM-1601000
16,2					EM-162250						
18	EM-180100	EM-180125	EM-180160	EM-180200	EM-180250	EM-180315	EM-180400	EM-180500	EM-180630	EM-180800	EM-1801000
20	EM-200100	EM-200125	EM-200160	EM-200200	EM-200250	EM-200315	EM-200400	EM-200500	EM-200630	EM-200800	EM-2001000
25			EM-250160	EM-250200	EM-250250	EM-250315	EM-250400	EM-250500	EM-250630	EM-250800	EM-2501000
32			EM-320160	EM-320200	EM-320250	EM-320315	EM-320400	EM-320500	EM-320630	EM-320800	EM-3201000



Mat: 1.2210

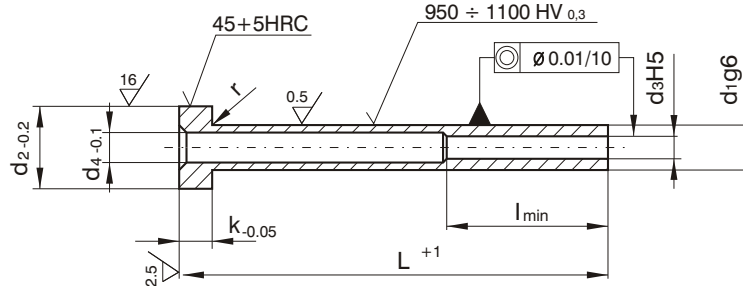
d3	d1	d2	k	d4	l <sub>min</sub>	L					
						60	75	100	125	150	
1,5	3	6	3	1,9	35	WHT-01503060	WHT-01503075	WHT-01503100	WHT-01503125	WHT-01503150	
1,6	4	8		2,0		WHT-01603060	WHT-01603075	WHT-01603100	WHT-01603125	WHT-01603150	
2,0		2,4		WHT-02004060		WHT-02004075	WHT-02004100	WHT-02004125	WHT-02004150		
2,2	5	10	5	2,5	45	WHT-02204060	WHT-02204075	WHT-02204100	WHT-02204125	WHT-02204150	
2,5				3,0		WHT-02505060	WHT-02505075	WHT-02505100	WHT-02505125	WHT-02505150	
2,7				3,3		WHT-02705060	WHT-02705075	WHT-02705100	WHT-02705125	WHT-02705150	
3,0				3,5		WHT-03005060	WHT-03005075	WHT-03005100	WHT-03005125	WHT-03005150	
3,2				4,0		WHT-03205060	WHT-03205075	WHT-03205100	WHT-03205125	WHT-03205150	
3,5	6	12	5	----	45	----	----	WHT-03505100	WHT-03505125	----	
3,5				WHT-03506060		WHT-03506075	WHT-03506100	WHT-03506125	WHT-03506150		
3,7				WHT-03706060		WHT-03706075	WHT-03706100	WHT-03706125	WHT-03706150		
4,0				4,5		WHT-04006060	WHT-04006075	WHT-04006100	WHT-04006125	WHT-04006150	
4,0				8		14	5	4,3	WHT-04008060	WHT-04008075	WHT-04008100
4,2	5,0	WHT-04208060	WHT-04208075		WHT-04208100			WHT-04208125	WHT-04208150		
5,0	5,3	WHT-05008060	WHT-05008075		WHT-05008100			WHT-05008125	WHT-05008150		
5,2	5,5	WHT-05208060	WHT-05208075		WHT-05208100			WHT-05208125	WHT-05208150		
5,5	6,0	WHT-05508060	WHT-05508075		WHT-05508100			WHT-05508125	WHT-05508150		
6,0	10	16	7	6,3	10,0	WHT-06010060	WHT-06010075	WHT-06010100	WHT-06010125	WHT-06010150	
6,2				6,5		WHT-06210060	WHT-06210075	WHT-06210100	WHT-06210125	WHT-06210150	
6,5				8,0		WHT-06510060	WHT-06510075	WHT-06510100	WHT-06510125	WHT-06510150	
7,0				----		WHT-07010075	WHT-07010100	WHT-07010125	----		
8,0				12		20	7	10,0	WHT-08012060	WHT-08012075	WHT-08012100
8,2	WHT-08212060	WHT-08212075	WHT-08212100		WHT-08212125			WHT-08212150			
8,5	WHT-08512060	WHT-08512075	WHT-08512100		WHT-08512125			WHT-08512150			
10,0	14	22	7		10,5			WHT-10014075	WHT-10014100	WHT-10014125	WHT-10014150
10,5					11,0			WHT-10514075	WHT-10514100	WHT-10514125	WHT-10514150
11,0				12,0	----	WHT-11014100	WHT-11014125	WHT-11014150			
12,0				16	12,5	WHT-12016075	WHT-12016100	WHT-12016125	WHT-12016150		
12,5					13,0	WHT-12516075	WHT-12516100	WHT-12516125	WHT-12516150		



Mat: 1.2210

d3	d1	d2	k	d4	l <sub>min</sub>	L			
						175	200	225	250
1,5	3	6	3	1,9	35	WHT-01503175			
1,6				2,0		WHT-01603175			
2,0	4	8		2,4		WHT-02004175	WHT-02004200	WHT-02004225	WHT-02004250
2,2				2,5		WHT-02204175	WHT-02204200	WHT-02204225	WHT-02204250
2,5	5	10		3,0	45	WHT-02505175	WHT-02505200	WHT-02505225	WHT-02505250
2,7						WHT-02705175	WHT-02705200	WHT-02705225	WHT-02705250
3,0				3,3		WHT-03005175	WHT-03005200	WHT-03005225	WHT-03005250
3,2				3,5		WHT-03205175	WHT-03205200	WHT-03205225	WHT-03205250
3,5	6	12	5	4,0		WHT-03506175	WHT-03506200	WHT-03506225	WHT-03506250
3,7						WHT-03706175	WHT-03706200	WHT-03706225	WHT-03706250
4,0				4,5		WHT-04006175	WHT-04006200	WHT-04006225	WHT-04006250
4,0	8	14		4,3		WHT-04008175	WHT-04008200	WHT-04008225	WHT-04008250
4,2				5,0		WHT-04208175	WHT-04208200	WHT-04208225	WHT-04208250
5,0				5,3		WHT-05008175	WHT-05008200	WHT-05008225	WHT-05008250
5,2				5,5		WHT-05208175	WHT-05208200	WHT-05208225	WHT-05208250
5,5				6,0		WHT-05508175	WHT-05508200	WHT-05508225	WHT-05508250
6,0	10	16		6,3		WHT-06010175	WHT-06010200	WHT-06010225	WHT-06010250
6,2				6,5		WHT-06210175	WHT-06210200	WHT-06210225	WHT-06210250
6,5				8,0		WHT-06510175	WHT-06510200	WHT-06510225	----
7,0						----	WHT-07010200	WHT-07010225	WHT-07010250
8,0	12	20	7	10,0		WHT-08012175	WHT-08012200	WHT-08012225	WHT-08012250
8,2						WHT-08212175	WHT-08212200	WHT-08212225	WHT-08212250
8,5						WHT-08512175	WHT-08512200	WHT-08512225	WHT-08512250
10,0	14	22		10,5		WHT-10014175	WHT-10014200	WHT-10014225	WHT-10014250
10,5				11,0		WHT-10514175	WHT-10514200	WHT-10514225	WHT-10514250
11,0				12,0		WHT-11014175	WHT-11014200	WHT-11014225	WHT-11014250
12,0	16			12,5		WHT-12016175	WHT-12016200	WHT-12016225	WHT-12016250
12,5				13,0		WHT-12516175	WHT-12516200	WHT-12516225	WHT-12516250

d3	d1	d2	k	d4	l <sub>min</sub>	L			
						275	300	325	350
2,5	5	10	3	3,0	45	WHT-02505275			
2,7						WHT-02705275			
3,0				3,3		WHT-03005275	WHT-03005300		
3,2				3,5		WHT-03205275	WHT-03205300		
3,5	6	12	5	4,0		WHT-03506275	WHT-03506300		
3,7						WHT-03706275	WHT-03706300		
4,0				4,5		WHT-04006275	WHT-04006300		
4,0	8	14		4,3		WHT-04008275	WHT-04008300	WHT-04008325	
4,2				5,0		WHT-04208275	WHT-04208300	WHT-04208325	
5,0				5,3		WHT-05008275	WHT-05008300	WHT-05008325	
5,2				5,5		WHT-05208275	WHT-05208300	WHT-05208325	
5,5				6,0		WHT-05508275	WHT-05508300	WHT-05508325	
6,0	10	16		6,3		WHT-06010275	WHT-06010300	WHT-06010325	WHT-06010350
6,2				6,5		WHT-06210275	WHT-06210300	WHT-06210325	----
6,5				8,0		WHT-06510275	WHT-06510300	WHT-06510325	WHT-06510350
8,0	12	20	7	10,0		WHT-08012275	WHT-08012300	WHT-08012325	WHT-08012350
8,2						WHT-08212275	----	WHT-08212325	WHT-08212350
10,0	14	22		10,5		WHT-10014275	WHT-10014300	WHT-10014325	----
10,5				11,0		WHT-10514275	WHT-10514300	WHT-10514325	WHT-10514350
11,0				12,0		WHT-11014275	----	----	
12,0	16			12,5		WHT-12016275	WHT-12016300	----	
12,5				13,0		WHT-12516275		WHT-12516325	



Mat: 1.2344

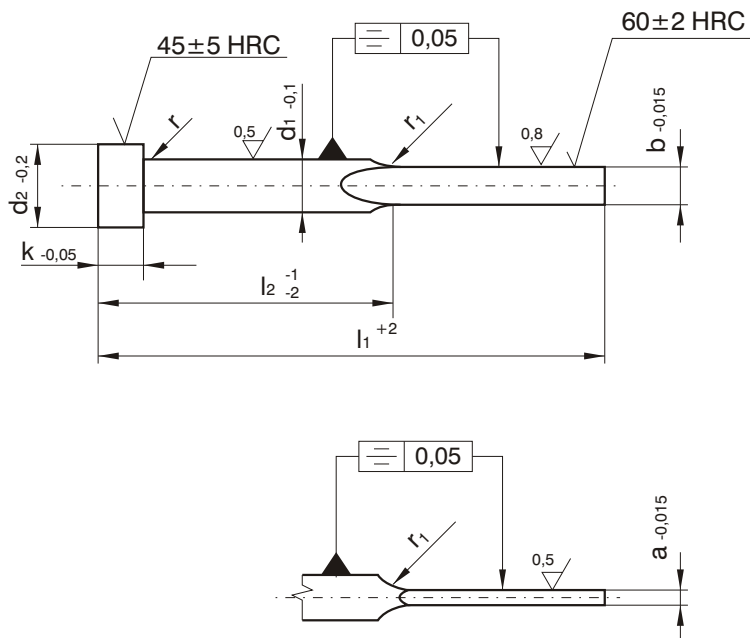
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d3	d1	d2	k	d4	l <sub>min</sub>	L				
						75	100	125	150	175
1,6	3	6	3	2,0	35	EMT-01603075	EMT-01603100	EMT-01603125	EMT-01603150	
2,0	4	8		2,4		EMT-02004075	EMT-02004100	EMT-02004125	EMT-02004150	EMT-02004175
2,2				2,5		EMT-02204075	EMT-02204100	EMT-02204125	EMT-02204150	EMT-02204175
2,5				3,0		----	EMT-02504100	----	----	----
2,5	5	10			45	EMT-02505075	EMT-02505100	EMT-02505125	EMT-02505150	EMT-02505175
2,7						EMT-02705075	EMT-02705100	EMT-02705125	EMT-02705150	----
3,0				3,3		EMT-03005075	EMT-03005100	EMT-03005125	EMT-03005150	EMT-03005175
3,2				3,5		EMT-03205075	EMT-03205100	EMT-03205125	EMT-03205150	EMT-03205175
3,5				4,0		----	EMT-03505100	EMT-03505125	----	----
3,5	6	12	5			EMT-03506075	EMT-03506100	EMT-03506125	EMT-03506150	EMT-03506175
3,7						EMT-03706075	EMT-03706100	EMT-03706125	EMT-03706150	EMT-03706175
4,0				4,5		EMT-04006075	EMT-04006100	EMT-04006125	EMT-04006150	EMT-04006175
4,2	8	14		5,0		EMT-04208075	EMT-04208100	EMT-04208125	EMT-04208150	EMT-04208175
5,0				5,3		EMT-05008075	EMT-05008100	EMT-05008125	EMT-05008150	EMT-05008175
5,2				5,5		EMT-05208075	EMT-05208100	EMT-05208125	EMT-05208150	EMT-05208175
6,0	10	16		6,3		EMT-06010075	EMT-06010100	EMT-06010125	EMT-06010150	EMT-06010175
6,2				6,5		EMT-06210075	EMT-06210100	EMT-06210125	EMT-06210150	EMT-06210175
8,0	12	20	7	10,0		EMT-08012075	EMT-08012100	EMT-08012125	EMT-08012150	EMT-08012175
8,2						EMT-08212075	EMT-08212100	EMT-08212125	EMT-08212150	EMT-08212175
10,0	14	22		10,5		EMT-10014075	EMT-10014100	EMT-10014125	EMT-10014150	EMT-10014175
10,2						----	EMT-10214100	EMT-10214125	EMT-10214150	----
10,5				11,0		----	EMT-10514100	EMT-10514125	EMT-10514150	EMT-10514175
12,0	16			12,5		EMT-12016075	EMT-12016100	EMT-12016125	EMT-12016150	EMT-12016175
12,5				13,0		----	EMT-12516100	EMT-12516125	EMT-12516150	EMT-12516175

d3	d1	d2	k	d4	l <sub>min</sub>	L			
						200	225	250	275
2,0	4	8	3	2,4	35	EMT-02004200			
3,0	5	10		3,3	45	EMT-03005200	EMT-03005225		
3,2				3,5		EMT-03205200	EMT-03205225		
3,5	6	12	5	4,0		EMT-03506200	----		
4,0				4,5		EMT-04006200	EMT-04006225		
4,2	8	14		5,0		EMT-04208200	EMT-04208225		
5,0				5,3		EMT-05008200	EMT-05008225		
5,2				5,5		EMT-05208200	EMT-05208225		
6,0	10	16		6,3		EMT-06010200	EMT-06010225	EMT-06010250	
6,2				6,5		EMT-06210200	EMT-06210225	EMT-06210250	
8,0	12	20	7	10,0		EMT-08012200	EMT-08012225	EMT-08012250	EMT-08012275
8,2						EMT-08212200	EMT-08212225	EMT-08212250	EMT-08212275
10,0	14	22		10,5		EMT-10014200	EMT-10014225	EMT-10014250	EMT-10014275
10,2						EMT-10214200	EMT-10214225	EMT-10214250	EMT-10214275
10,5				11,0		EMT-10514200	EMT-10514225	----	----
12,0	16			12,5		EMT-12016200	EMT-12016225	EMT-12016250	EMT-12016275
12,5				13,0		EMT-12516200	EMT-12516225	EMT-12516250	EMT-12516275



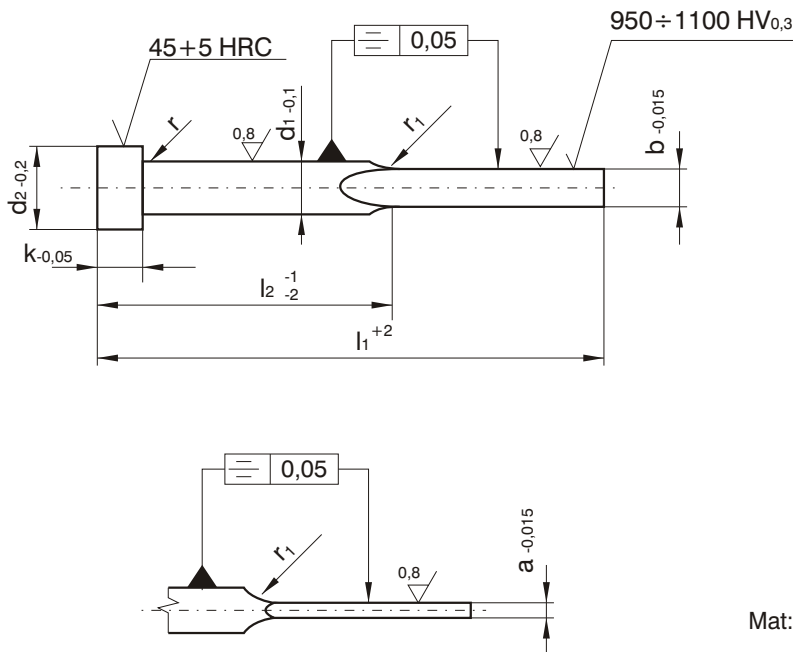
**OHP**



Mat: 1.2210

b	a	d <sub>1</sub>	d <sub>2</sub>	k	NR KATALOGOWY				
					l <sub>1</sub> =80	l <sub>1</sub> =100	l <sub>1</sub> =125	l <sub>1</sub> =160	l <sub>1</sub> =200
					l <sub>2</sub> =40	l <sub>2</sub> =50	l <sub>2</sub> =60	l <sub>2</sub> =80	l <sub>2</sub> =100
3,8	0,8	4,2	8	3	OHP-03808080	OHP-03808100	OHP-03808125		
	1,0				OHP-03810080	OHP-03810100	OHP-03810125	OHP-03810160	
	1,2				OHP-03812080	OHP-03812100	OHP-03812125	OHP-03812160	OHP-03812200
4,5	1,0	5,0	10		OHP-04510080	OHP-04510100	OHP-04510125	OHP-04510160	OHP-04510200
	1,2				OHP-04512080	OHP-04512100	OHP-04512125	OHP-04512160	OHP-04512200
	1,5					OHP-04515100	OHP-04515125	OHP-04515160	OHP-04515200
5,5	1,0	6,0	12	5	OHP-05510080	OHP-05510100	OHP-05510125	OHP-05510160	----
	1,2				OHP-05512080	OHP-05512100	OHP-05512125	OHP-05512160	OHP-05512200

b	a	d <sub>1</sub>	d <sub>2</sub>	k	NR KATALOGOWY					
					l <sub>1</sub> =100	l <sub>1</sub> =125	l <sub>1</sub> =160	l <sub>1</sub> =200	l <sub>1</sub> =250	l <sub>1</sub> =315
					l <sub>2</sub> =50	l <sub>2</sub> =60	l <sub>2</sub> =80	l <sub>2</sub> =100	l <sub>2</sub> =125	l <sub>2</sub> =160
5,5	1,5	6,0	12	5	OHP-05515100	OHP-05515125	OHP-05515160	OHP-05515200		
	2,0				----	OHP-05520125	OHP-05520160	OHP-05520200		
7,5	1,2	8,0	14		OHP-07512100	OHP-07512125	OHP-07512160	OHP-07512200		
	1,5					OHP-07515125	OHP-07515160	OHP-07515200	OHP-07515250	
	2,0						OHP-07520160	OHP-07520200	OHP-07520250	
9,5	1,5	10	16				OHP-09515160	OHP-09515200	OHP-09515250	
	2,0							OHP-09520200	OHP-09520250	OHP-09520315
11,5	2,0	12	18	7				OHP-11520200	OHP-11520250	OHP-11520315
	2,5							OHP-11525200	OHP-11525250	OHP-11525315

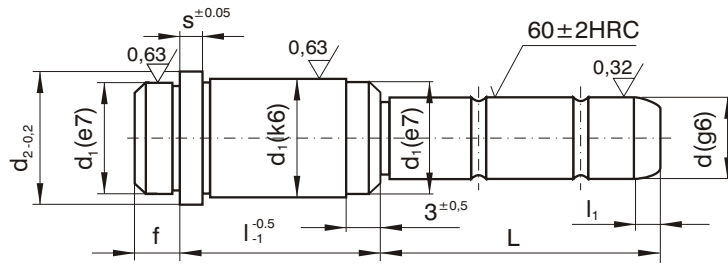


Mat: 1.2344

Azotowany  
Nitrided

b	a	d <sub>1</sub>	d <sub>2</sub>	k	NR KATALOGOWY				
					I <sub>1</sub> =80	I <sub>1</sub> =100	I <sub>1</sub> =125	I <sub>1</sub> =160	I <sub>1</sub> =200
					I <sub>2</sub> =40	I <sub>2</sub> =50	I <sub>2</sub> =60	I <sub>2</sub> =80	I <sub>2</sub> =100
3,8	0,8	4,2	8	3	ESP-03808080	ESP-03808100	ESP-03808125		
	1,0				ESP-03810080	ESP-03810100	ESP-03810125	ESP-03810160	
	1,2				ESP-03812080	ESP-03812100	ESP-03812125	ESP-03812160	
4,5	1,0	5,0	10	3	ESP-04510080	ESP-04510100	ESP-04510125	ESP-04510160	
	1,2				ESP-04512080	ESP-04512100	ESP-04512125	ESP-04512160	
	1,5					ESP-04515100	ESP-04515125	ESP-04515160	ESP-04515200
5,5	1,0	6,0	12	5	ESP-05510080	ESP-05510100	ESP-05510125	ESP-05510160	
	1,2				ESP-05512080	ESP-05512100	ESP-05512125	ESP-05512160	
	1,5					ESP-05515100	ESP-05515125	ESP-05515160	ESP-05515200
	2,0						ESP-05520125	ESP-05520160	ESP-05520200

b	a	d <sub>1</sub>	d <sub>2</sub>	k	NR KATALOGOWY					
					I <sub>1</sub> =125	I <sub>1</sub> =160	I <sub>1</sub> =200	I <sub>1</sub> =250	I <sub>1</sub> =315	I <sub>1</sub> =400
					I <sub>2</sub> =60	I <sub>2</sub> =80	I <sub>2</sub> =100	I <sub>2</sub> =125	I <sub>2</sub> =160	I <sub>2</sub> =200
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	1,5				ESP-07515125	ESP-07515160	ESP-07515200	ESP-07515250		
	2,0					ESP-07520160	ESP-07520200	ESP-07520250	ESP-07520315	
9,5	1,5	10	16	5		ESP-09515160	ESP-09515200	ESP-09515250	ESP-09515315	
	2,0					ESP-09520200	ESP-09520250	ESP-09520315	ESP-09520400	
11,5	2,0	12	18	7			ESP-11520200	ESP-11520250	ESP-11520315	ESP-11520400
	2,5						ESP-11525200	ESP-11525250	ESP-11525315	ESP-11525400
15,5	2,0	16	22	7			ESP-15520200	ESP-15520250	ESP-15520315	ESP-15520400
	2,5						ESP-15525200	ESP-15525250	ESP-15525315	ESP-15525400

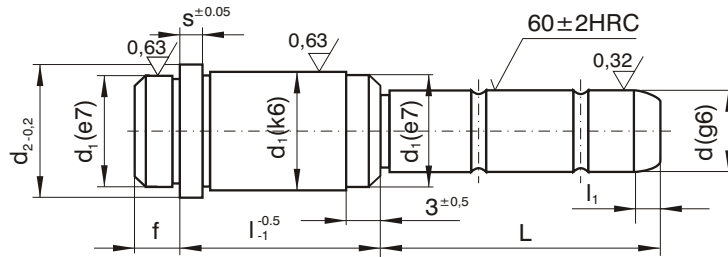


**SLE**

Mat: 1.7131  
Nawęglany  
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u	d <sub>1</sub>	d <sub>2</sub>	s	f	l <sub>1</sub>	}	]	NR KAT.	NR KAT.										
J@A	14	16	3	3	4	B	C	CF	SLE-09012025 SLE-10012025										
								EF	SLE-09012045 SLE-10012045										
								GF	SLE-09012065 SLE-10012065										
								B	H	CA	SLE-09017020 SLE-10017020								
										DA	SLE-09017030 SLE-10017030								
										FA	SLE-09017050 SLE-10017050								
										HA	SLE-09017070 SLE-10017070								
										C	C	CF	SLE-09022025 SLE-10022025						
												DF	SLE-09022035 SLE-10022035						
								FF	SLE-09022055 SLE-10022055										
								HF	SLE-09022075 SLE-10022075										
								JF	SLE-09022095 SLE-10022095										
								C	H			CA	SLE-09027020 SLE-10027020						
										DA	SLE-09027030 SLE-10027030								
										FA	SLE-09027050 SLE-10027050								
										HA	SLE-09027070 SLE-10027070								
										JA	SLE-09027090 SLE-10027090								
										D	G	CF	SLE-09036025 SLE-10036025						
								EF	SLE-09036045 SLE-10036045										
								GF	SLE-09036065 SLE-10036065										
								IF	SLE-09036085 SLE-10036085										
								E	G	DA	SLE-09046030 SLE-10046030								
										EF	SLE-09046045 SLE-10046045								
										HA	SLE-09046070 SLE-10046070								
								F	G	DF	SLE-09056035 SLE-10056035								
										GA	SLE-09056060 SLE-10056060								
								B@B	20	25	6	9	7	B	H	DF	SLE-14017035 SLE-15017035		
																FF	SLE-14017055 SLE-15017055		
																HF	SLE-14017075 SLE-15017075		
																JF	SLE-14017095 SLE-15017095		
																C	C	DA	SLE-14022030 SLE-15022030
																		FA	SLE-14022050 SLE-15022050
																		HA	SLE-14022070 SLE-15022070
																		JA	SLE-14022090 SLE-15022090
																		BBA	SLE-14022110 SLE-15022110
																		BCF	SLE-14022125 SLE-15022125
C	H	BFA	SLE-14022150 SLE-15022150																
		DA	SLE-14027030 SLE-15027030																
		EF	SLE-14027045 SLE-15027045																
		GF	SLE-14027065 SLE-15027065																
		IF	SLE-14027085 SLE-15027085																
		BAF	SLE-14027105 SLE-15027105																
C	H	BCF	SLE-14027125 SLE-15027125																
		BEF	SLE-14027145 SLE-15027145																
		BGF	SLE-14027165 SLE-15027165																
		DF	SLE-14036035 SLE-15036035																
		FF	SLE-14036055 SLE-15036055																
		HF	SLE-14036075 SLE-15036075																
D	G	JF	SLE-14036095 SLE-15036095																
		BCF	SLE-14036125 SLE-15036125																

u	d <sub>1</sub>	d <sub>2</sub>	s	f	l <sub>1</sub>	}	]	NR KAT.	NR KAT.		
B@B	20	25	6	9	7	D	G	BFF	SLE-14036155 SLE-15036155		
								EG	DF	SLE-14046035 SLE-15046035	
								E	F	EF	SLE-14046045 SLE-15046045
										GF	SLE-14046065 SLE-15046065
										IF	SLE-14046085 SLE-15046085
										BAF	SLE-14046105 SLE-15046105
										BCF	SLE-14046125 SLE-15046125
										BEF	SLE-14046145 SLE-15046145
								F	G	DF	SLE-14056035 SLE-15056035
										FF	SLE-14056055 SLE-15056055
										HF	SLE-14056075 SLE-15056075
										JF	SLE-14056095 SLE-15056095
										BDF	SLE-14056135 SLE-15056135
										G	G
								GF	SLE-14066065 SLE-15066065		
								JF	SLE-14066095 SLE-15066095		
								BCF	SLE-14066125 SLE-15066125		
								H	G	FF	SLE-14076055 SLE-15076055
										JF	SLE-14076095 SLE-15076095
								I	G	FF	SLE-14086055 SLE-15086055
										JF	SLE-14086095 SLE-15086095
								J	G	FF	SLE-14096055 SLE-15096055
										JF	SLE-14096095 SLE-15096095
								B@A	26	31	6
FF	SLE-18017055 SLE-20017055										
HF	SLE-18017075 SLE-20017075										
BCA	SLE-18017120 SLE-20017120										
C	C	DF	SLE-18022035 SLE-20022035								
		EF	SLE-18022045 SLE-20022045								
		GF	SLE-18022065 SLE-20022065								
		IF	SLE-18022085 SLE-20022085								
		BBF	SLE-18022115 SLE-20022115								
		CH	DF	SLE-18027035 SLE-20027035							
C	H	EF	SLE-18027045 SLE-20027045								
		GF	SLE-18027065 SLE-20027065								
		IF	SLE-18027085 SLE-20027085								
		BAF	SLE-18027105 SLE-20027105								
		BCF	SLE-18027125 SLE-20027125								
		BCF	SLE-18027165 SLE-20027165								
D	G	CCF	SLE-18027225 SLE-20027225								
		CEF	SLE-18027245 SLE-20027245								
		DF	SLE-18036035 SLE-20036035								
		FF	SLE-18036055 SLE-20036055								
		HF	SLE-18036075 SLE-20036075								
		JF	SLE-18036095 SLE-20036095								
E	G	BBF	SLE-18036115 SLE-20036115								
		BDF	SLE-18036135 SLE-20036135								
		BCF	SLE-18036165 SLE-20036165								
F	G	CCF	SLE-18036225 SLE-20036225								

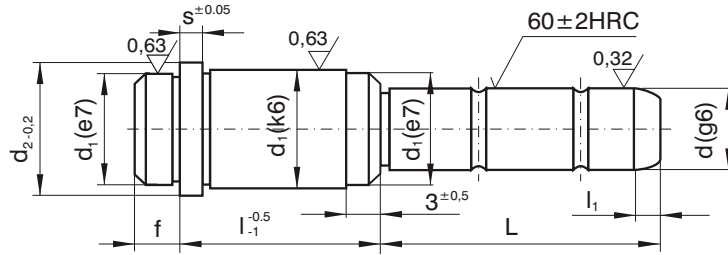


**SLE**

Mat: 1.7131  
Nawęglany  
Carbonized

u	d <sub>1</sub>	d <sub>2</sub>	s	f	l <sub>1</sub>	}	J	NR KAT.	NR KAT.		
BI @A	26	31	6	9	7	}	J	DF	SLE-18036255	SLE-20036255	
								EG	DF	SLE-18046035	SLE-20046035
								EF	SLE-18046045	SLE-20046045	
								GF	SLE-18046065	SLE-20046065	
								IF	SLE-18046085	SLE-20046085	
								BAF	SLE-18046105	SLE-20046105	
								BDF	SLE-18046135	SLE-20046135	
								BGF	SLE-18046165	SLE-20046165	
								CEF	SLE-18046245	SLE-20046245	
								FG	DF	SLE-18056035	SLE-20056035
									FF	SLE-18056055	SLE-20056055
									HF	SLE-18056075	SLE-20056075
									JF	SLE-18056095	SLE-20056095
									BFF	SLE-18056155	SLE-20056155
								GG	DF	SLE-18066035	SLE-20066035
									FF	SLE-18066055	SLE-20066055
									HF	SLE-18066075	SLE-20066075
									JF	SLE-18066095	SLE-20066095
									BEF	SLE-18066145	SLE-20066145
								HG	FF	SLE-18076055	SLE-20076055
									HF	SLE-18076075	SLE-20076075
									JF	SLE-18076095	SLE-20076095
									BDF	SLE-18076135	SLE-20076135
								IG	FF	SLE-18086055	SLE-20086055
									HF	SLE-18086075	SLE-20086075
									JF	SLE-18086095	SLE-20086095
								BCF	SLE-18086125	SLE-20086125	
									FF	SLE-18096055	SLE-20096055
									JF	SLE-18096095	SLE-20096095
								BBG	HF	SLE-18116075	SLE-20116075
									BFF	SLE-18116115	SLE-20116115
								BDF	SLE-18136135	SLE-20136135	
BDG	DF	SLE-22017035	SLE-24017035								
BH	FF	SLE-22017055	SLE-24017055								
	HF	SLE-22017075	SLE-24017075								
CC	DF	SLE-22022035	SLE-24022035								
	FF	SLE-22022055	SLE-24022055								
	HF	SLE-22022075	SLE-24022075								
	BAF	SLE-22022105	SLE-24022105								
	BDA	SLE-22022130	SLE-24022130								
CH	DF	SLE-22027035	SLE-24027035								
	EF	SLE-22027045	SLE-24027045								
	GF	SLE-22027065	SLE-24027065								
	IF	SLE-22027085	SLE-24027085								
	BAF	SLE-22027105	SLE-24027105								
	BCF	SLE-22027125	SLE-24027125								
	BGF	SLE-22027165	SLE-24027165								
	CAF	SLE-22027205	SLE-24027205								
	CEF	SLE-22027245	SLE-24027245								
	CF	SLE-22027285	SLE-24027285								

u	d <sub>1</sub>	d <sub>2</sub>	s	f	l <sub>1</sub>	}	J	NR KAT.	NR KAT.		
CO @E	30	35	6	9	7	}	J	DF	SLE-22036035	SLE-24036035	
								FF	SLE-22036055	SLE-24036055	
								HF	SLE-22036075	SLE-24036075	
								JF	SLE-22036095	SLE-24036095	
								BBF	SLE-22036115	SLE-24036115	
								BDF	SLE-22036135	SLE-24036135	
								BGF	SLE-22036165	SLE-24036165	
								CAF	SLE-22036205	SLE-24036205	
								CEF	SLE-22036245	SLE-24036245	
								CF	SLE-22036285	SLE-24036285	
								EG	DF	SLE-22046035	SLE-24046035
									EF	SLE-22046045	SLE-24046045
									GF	SLE-22046065	SLE-24046065
									IF	SLE-22046085	SLE-24046085
									BAF	SLE-22046105	SLE-24046105
									BCF	SLE-22046125	SLE-24046125
									BGF	SLE-22046165	SLE-24046165
									CAF	SLE-22046205	SLE-24046205
								FG	DF	SLE-22056035	SLE-24056035
									FF	SLE-22056055	SLE-24056055
									HF	SLE-22056075	SLE-24056075
									JF	SLE-22056095	SLE-24056095
									BFF	SLE-22056115	SLE-24056115
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									CAF	SLE-22056205	SLE-24056205
									DF	SLE-22066035	SLE-24066035
								GG	FF	SLE-22066055	SLE-24066055
									HF	SLE-22066075	SLE-24066075
									JF	SLE-22066095	SLE-24066095
									BFF	SLE-22066155	SLE-24066155
									FF	SLE-22076055	SLE-24076055
								HG	HF	SLE-22076075	SLE-24076075
									JF	SLE-22076095	SLE-24076095
									BBF	SLE-22076115	SLE-24076115
								BEF	SLE-22076145	SLE-24076145	
								IG	FF	SLE-22086055	SLE-24086055
									HF	SLE-22086075	SLE-24086075
									JF	SLE-22086095	SLE-24086095
									BDF	SLE-22086135	SLE-24086135
									FF	SLE-22096055	SLE-24096055
								JG	HF	SLE-22096075	SLE-24096075
									JF	SLE-22096095	SLE-24096095
BCF	SLE-22096125	SLE-24096125									
HF	SLE-22116075	SLE-24116075									
BBG	BBF	SLE-22116115	SLE-24116115								
	BFF	SLE-22116155	SLE-24116155								
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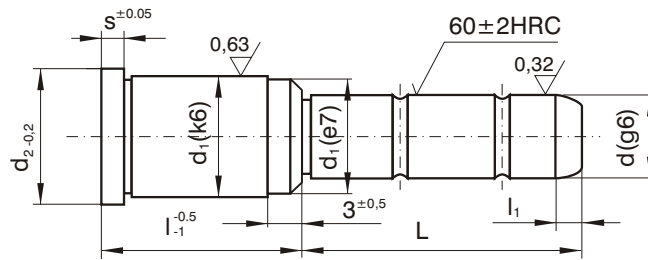


**SLE**

Mat: 1.7131  
Nawęglany  
Carbonized

u	d <sub>1</sub>	d <sub>2</sub>	s	f	l <sub>1</sub>	}	J	NR KAT.	NR KAT.		
DA@C	42	47	6	9	7	CH	EF	SLE-30027045	SLE 32027045		
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							BAF	SLE-30027105	SLE 32027105		
							BGF	SLE-30027165	SLE-32027165		
							BI F	SLE-30027185	SLE-32027185		
							CEF	SLE-30027245	SLE-32027245		
							CI F	SLE-30027285	SLE-32027285		
							DG	FF	SLE-30036055	SLE 32036055	
								HF	SLE 30036075	SLE 32036075	
								JF	SLE-30036095	SLE-32036095	
								BBF	SLE-30036115	SLE-32036115	
								BFF	SLE-30036155	SLE-32036155	
								CEF	SLE-30036245	SLE-32036245	
								CI F	SLE-30036285	SLE-32036285	
								EG	EF	SLE-30046045	SLE 32046045
									GF	SLE-30046065	SLE-32046065
									I F	SLE-30046085	SLE-32046085
									BAF	SLE-30046105	SLE 32046105
									BCF	SLE-30046125	SLE-32046125
							BGF		SLE-30046165	SLE-32046165	
							CEF		SLE-30046245	SLE-32046245	
							CI F		SLE-30046285	SLE-32046285	
							FG		FF	SLE-30056055	SLE-32056055
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									JF	SLE-30056095	SLE 32056095
									BBF	SLE-30056115	SLE-32056115
								BDF	SLE-30056135	SLE-32056135	
								BHF	SLE-30056175	SLE-32056175	
								CEF	SLE-30056245	SLE-32056245	
								CJF	SLE-30056295	SLE-32056295	
								GG	FF	SLE-30066055	SLE-32066055
									HF	SLE-30066075	SLE-32066075
									JF	SLE-30066095	SLE-32066095
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							BDF		SLE-30066135	SLE-32066135	
							BHF		SLE 30066175	SLE 32066175	
							CEF		SLE-30066245	SLE 32066245	
							CJF		SLE-30066295	SLE-32066295	
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									HF	SLE-30076075	SLE-32076075
									JF	SLE-30076095	SLE-32076095
									BBF	SLE-30076115	SLE-32076115
								BFF	SLE-30076155	SLE-32076155	
								CCF	SLE-30076225	SLE-32076225	
								IG	FF	SLE-30086055	SLE-32086055
									HF	SLE-30086075	SLE-32086075
									JF	SLE-30086095	SLE-32086095
									BBF	SLE-30086115	SLE-32086115
BFF	SLE-30086155	SLE-32086155									
CCF	SLE-30086225	SLE-32086225									

u	d <sub>1</sub>	d <sub>2</sub>	s	f	l <sub>1</sub>	}	J	NR KAT.	NR KAT.								
DA@C	42	47	6	9	7	JG	FF	SLE-30096055	SLE-32096055								
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							JF	SLE-30096095	SLE-32096095								
							BBF	SLE-30096115	SLE-32096115								
							BAF	SLE-30096155	SLE-32096155								
							CAF	SLE-30096205	SLE-32096205								
							BBG	HF	SLE-30116075	SLE-32116075							
								BBF	SLE-30116115	SLE-32116115							
								BFF	SLE-30116155	SLE-32116155							
								BDG	JF	SLE-30136095	SLE-32136095						
									BBF	SLE-30136115	SLE-32136115						
									BFF	SLE-30136155	SLE-32136155						
							BFG	BBF	SLE-30156115	SLE-32156115							
								BFF	SLE-30156155	SLE-32156155							
							BJG	BFF	SLE-30196155	SLE-32196155							
								BJF	SLE-30196195	SLE-32196195							
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														FG	HF	SLE-40056075	SLE-42056075
															BBF	SLE-40056115	SLE-42056115
															BFF	SLE-40056155	SLE-42056155
														JJF	SLE-40056195	SLE-42056195	
															HF	SLE-40066075	SLE-42066075
														BDG	BDF	SLE-40066135	SLE-42066135
HG	HF	SLE-40076075	SLE-42076075														
	BBF	SLE-40076115	SLE-42076115														
	BHF	SLE-40076175	SLE-42076175														
IG	HF	SLE-40086075	SLE-42086075														
	BDF	SLE-40086135	SLE-42086135														
	JG	HF	SLE-40096075	SLE-42096075													
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	BJF	SLE-40116195	SLE-42116195														
	BDG	JF	SLE-40136095	SLE-42136095													
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		CBF	SLE 40136215	SLE-42136215													
BFG	BBF	SLE-40156115	SLE-42156115														
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	CBF	SLE-40156215	SLE-42156215														
BJG	BFF	SLE-40196155	SLE-42196155														
	BJF	SLE-40196195	SLE-42196195														
	CCF	SLE-40196235	SLE-42196235														
	CEG	BGF	SLE-40246165	SLE-42246165													
CEF		SLE-40246245	SLE-42246245														



**SXE**

Mat: 1.7131  
Nawęglany  
Carbonized

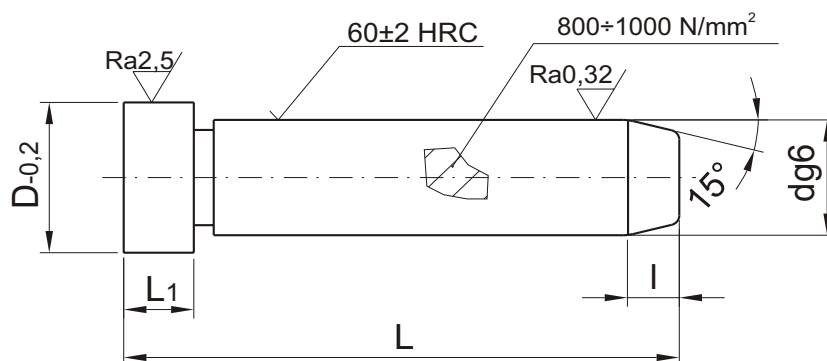
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							DA	SXE-09017030	SXE-10017030						
							CC	CF	SXE-09022025	SXE-10022025					
								DF	SXE-09022035	SXE-10022035					
								FF	SXE-09022055	SXE-10022055					
								CH	DA	SXE-09027030	SXE-10027030				
						FA	SXE-09027050	SXE-10027050							
						DG	CF	SXE-09036025	SXE-10036025						
							EF	SXE-09036045	SXE-10036045						
							EG	DA	SXE-09046030	SXE-10046030					
						EF		SXE-09046045	SXE-10046045						
						BE @BF	20	25	6	7	}	CC	CA	SXE-14022020	SXE-15022020
													DF	SXE-14022035	SXE-15022035
													EA	SXE-14022040	SXE-15022040
													EF	SXE-14022045	SXE-15022045
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													CF	SXE-14022065	SXE-15022065
HA	SXE-14022070	SXE-15022070													
JA	SXE-14022090	SXE-15022090													
BBA	SXE-14022110	SXE-15022110													
CH	CA	SXE-14027020	SXE-15027020												
	DF	SXE-14027035	SXE-15027035												
	EA	SXE-14027040	SXE-15027040												
	EF	SXE-14027045	SXE-15027045												
	FF	SXE-14027055	SXE-15027055												
	CF	SXE-14027065	SXE-15027065												
	IF	SXE-14027085	SXE-15027085												
	BAF	SXE-14027105	SXE-15027105												
	DG	CA	SXE-14036020	SXE-15036020											
		DF	SXE-14036035	SXE-15036035											
		EA	SXE-14036040	SXE-15036040											
		EF	SXE-14036045	SXE-15036045											
FF		SXE-14036055	SXE-15036055												
CF		SXE-14036065	SXE-15036065												
HF		SXE-14036075	SXE-15036075												
JF		SXE-14036095	SXE-15036095												
EG		CA	SXE-14046020	SXE-15046020											
		DF	SXE-14046035	SXE-15046035											
		EF	SXE-14046045	SXE-15046045											
		CF	SXE-14046065	SXE-15046065											
	IF	SXE-14046085	SXE-15046085												
	BAF	SXE-14046105	SXE-15046105												
FG	CA	SXE-14056020	SXE-15056020												
	DF	SXE-14056035	SXE-15056035												
	FF	SXE-14056055	SXE-15056055												
	HF	SXE-14056075	SXE-15056075												
	JF	SXE-14056095	SXE-15056095												
	GG	FF	SXE-14066055	SXE-15066055											
CF		SXE-14066065	SXE-15066065												

u	d <sub>1</sub>	d <sub>2</sub>	s	l <sub>1</sub>	}	J	NR KAT.	NR KAT.		
BE @BF	20	25	6	7	}	GG	JF	SXE-14066095	SXE-15066095	
							HG	FF	SXE-14076055	SXE-15076055
								JF	SXE-14076095	SXE-15076095
						IG	FF	SXE-14086055	SXE-15086055	
							JF	SXE-14086095	SXE-15086095	
							BI @A	26	31	6
DF	SXE-18022035	SXE-20022035								
EA	SXE-18022040	SXE-20022040								
EF	SXE-18022045	SXE-20022045								
FA	SXE-18022050	SXE-20022050								
FF	SXE-18022055	SXE-20022055								
GA	SXE-18022060	SXE-20022060								
GF	SXE-18022065	SXE-20022065								
HA	SXE-18022070	SXE-20022070								
IA	SXE-18022080	SXE-20022080								
IF	SXE-18022085	SXE-20022085								
BBF	SXE-18022115	SXE-20022115								
CH	CA	SXE-18027020	SXE-20027020							
	DF	SXE-18027035	SXE-20027035							
	EA	SXE-18027040	SXE-20027040							
	EF	SXE-18027045	SXE-20027045							
	FA	SXE-18027050	SXE-20027050							
	FF	SXE-18027055	SXE-20027055							
	GA	SXE-18027060	SXE-20027060							
	GF	SXE-18027065	SXE-20027065							
	HA	SXE-18027070	SXE-20027070							
	IA	SXE-18027080	SXE-20027080							
	IF	SXE-18027085	SXE-20027085							
	BAF	SXE-18027105	SXE-20027105							
DG	CA	SXE-18036020	SXE-20036020							
	DF	SXE-18036035	SXE-20036035							
	EA	SXE-18036040	SXE-20036040							
	EF	SXE-18036045	SXE-20036045							
	FA	SXE-18036050	SXE-20036050							
	FF	SXE-18036055	SXE-20036055							
	GA	SXE-18036060	SXE-20036060							
	GF	SXE-18036065	SXE-20036065							
	HA	SXE-18036070	SXE-20036070							
	HF	SXE-18036075	SXE-20036075							
	IA	SXE-18036080	SXE-20036080							
	JF	SXE-18036095	SXE-20036095							
EG	BBF	SXE-18036115	SXE-20036115							
	BDF	SXE-18036135	SXE-20036135							
	CA	SXE-18046020	SXE-20046020							
	EF	SXE-18046045	SXE-20046045							
	GF	SXE-18046065	SXE-20046065							
	IF	SXE-18046085	SXE-20046085							
BAF	SXE-18046105	SXE-20046105								
	BDF	SXE-18046135	SXE-20046135							





20



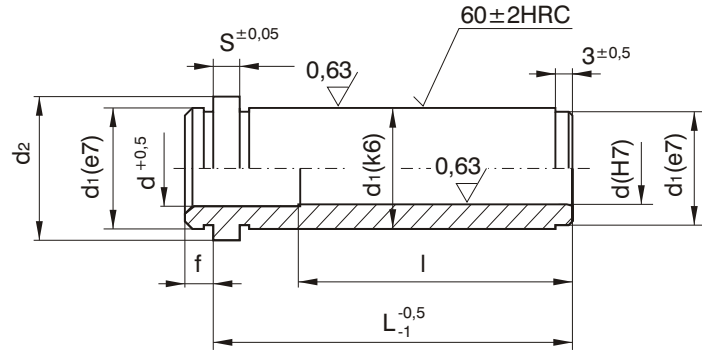
**SS**

Mat: 1.7131  
Nawaęglany  
Carbonized

I	D	L1	d	L	NR KAT.
4	12	3	9	40	SS-09040
				60	SS-09060
				80	SS-09080
				100	SS-09100
				120	SS-09120
4	12	3	10	40	SS-10040
				60	SS-10060
				80	SS-10080
				100	SS-10100
				120	SS-10120
7	16	6	12	40	SS-12040
				60	SS-12060
				80	SS-12080
				100	SS-12100
				120	SS-12120
				140	SS-12140
				160	SS-12160
7	18	8	14	60	SS-14060
				80	SS-14080
				100	SS-14100
				120	SS-14120
				140	SS-14140
				160	SS-14160
				180	SS-14180
7	18	8	15	60	SS-15060
				80	SS-15080
				100	SS-15100
				120	SS-15120
				140	SS-15140
				160	SS-15160
				180	SS-15180
7	20	8	16	40	SS-16040
				60	SS-16060
				80	SS-16080
				100	SS-16100
				120	SS-16120
				140	SS-16140
				160	SS-16160
7	22	8	18	60	SS-18060
				80	SS-18080
				100	SS-18100
				120	SS-18120
				140	SS-18140
				160	SS-18160
				180	SS-18180
				200	SS-18200
7	24	8	20	60	SS-20060
				80	SS-20080
				100	SS-20100
				120	SS-20120
				140	SS-20140

I	D	L1	d	L	NR KAT.
7	24	8	20	140	SS-20140
				160	SS-20160
				180	SS-20180
				200	SS-20200
				240	SS-20240
				80	SS-22080
				100	SS-22100
7	26	15	22	120	SS-22120
				140	SS-22140
				160	SS-22160
				180	SS-22180
				200	SS-22200
				220	SS-22220
				240	SS-22240
7	28	15	24	240	SS-22240
				300	SS-22300
				80	SS-24080
				100	SS-24100
				120	SS-24120
				140	SS-24140
				160	SS-24160
7	36	15	30	180	SS-24180
				200	SS-24200
				220	SS-24220
				240	SS-24240
				300	SS-24300
				100	SS-30100
				120	SS-30120
				160	SS-30160
7	36	15	32	200	SS-30200
				240	SS-30240
				300	SS-30300
				360	SS-30360
				100	SS-32100
				120	SS-32120
				160	SS-32160
				200	SS-32200
10	48	15	40	240	SS-32240
				300	SS-32300
				360	SS-32360
				160	SS-40160
				200	SS-40200
				240	SS-40240
				300	SS-40300
				360	SS-40360
15	58	15	50	160	SS-50160
				200	SS-50200
				240	SS-50240
				300	SS-50300
				360	SS-50360

**TPE**

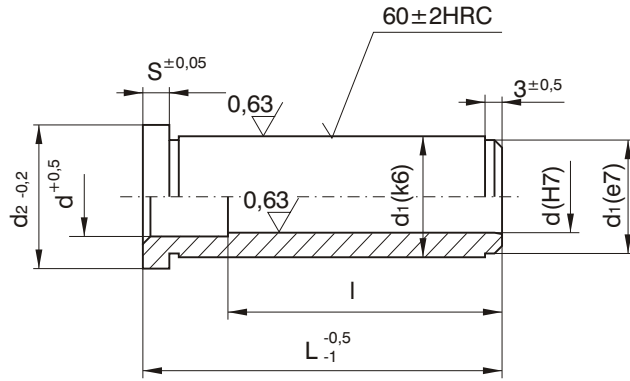


Mat: 1.7131

Nawęglana  
Carbonized

u	d1	d2	s	f	l	L	NR KAT.	NR KAT.
J@A	14	16	3	3	15	12	TPE-09012	TPE-10012
					20	17	TPE-09017	TPE-10017
					25	22	TPE-09022	TPE-10022
					30	27	TPE-09027	TPE-10027
					39	36	TPE-09036	TPE-10036
					46	46	TPE-09046	TPE-10046
					46	56	TPE-09056	TPE-10056
					46	66	TPE-09066	TPE-10066
BE@F	20	25	6	9	26	17	TPE-14017	TPE-15017
					31	22	TPE-14022	TPE-15022
					36	27	TPE-14027	TPE-15027
					45	36	TPE-14036	TPE-15036
					55	46	TPE-14046	TPE-15046
					56	56	TPE-14056	TPE-15056
					56	66	TPE-14066	TPE-15066
					56	76	TPE-14076	TPE-15076
					56	86	TPE-14086	TPE-15086
					56	96	TPE-14096	TPE-15096
BI@A	26	31	6	9	26	17	TPE-18017	TPE-20017
					31	22	TPE-18022	TPE-20022
					36	27	TPE-18027	TPE-20027
					45	36	TPE-18036	TPE-20036
					55	46	TPE-18046	TPE-20046
					65	56	TPE-18056	TPE-20056
					75	66	TPE-18066	TPE-20066
					76	76	TPE-18076	TPE-20076
					76	86	TPE-18086	TPE-20086
					76	96	TPE-18096	TPE-20096
CO@E	30	35	6	9	26	17	TPE-22017	TPE-24017
					31	22	TPE-22022	TPE-24022

u	d1	d2	s	f	l	L	NR KAT.	NR KAT.
OO@E	30	35	6	9	36	27	TPE-22027	TPE-24027
					45	36	TPE-22036	TPE-24036
					55	46	TPE-22046	TPE-24046
					65	56	TPE-22056	TPE-24056
					75	66	TPE-22066	TPE-24066
					85	76	TPE-22076	TPE-24076
					95	86	TPE-22086	TPE-24086
					96	96	TPE-22096	TPE-24096
					96	116	TPE-22116	TPE-24116
					96	136	TPE-22136	TPE-24136
DA@C	42	47	6	9	36	27	TPE-30027	TPE-32027
					45	36	TPE-30036	TPE-32036
					55	46	TPE-30046	TPE-32046
					65	56	TPE-30056	TPE-32056
					75	66	TPE-30066	TPE-32066
					85	76	TPE-30076	TPE-32076
					95	86	TPE-30086	TPE-32086
					105	96	TPE-30096	TPE-32096
					116	116	TPE-30116	TPE-32116
					116	136	TPE-30136	TPE-32136
EA@C	54	60	10	12	58	46	TPE-40046	TPE-42046
					68	56	TPE-40056	TPE-42056
					78	66	TPE-40066	TPE-42066
					88	76	TPE-40076	TPE-42076
					98	86	TPE-40086	TPE-42086
					108	96	TPE-40096	TPE-42096
					128	116	TPE-40116	TPE-42116
					136	136	TPE-40136	TPE-42136
					136	156	TPE-40156	TPE-42156
					136	196	TPE-40196	TPE-42196



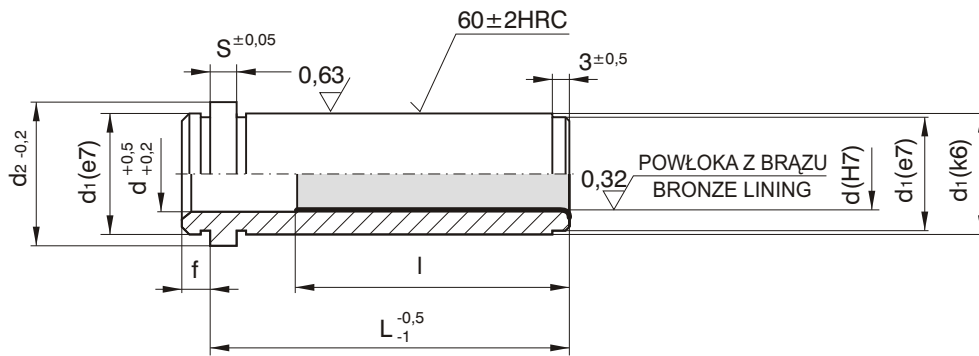
Mat: 1.7131

Nawęglana  
Carbonized

d	d1	d2	s	l	L	NR KAT.	NR KAT.
<b>9/10</b>	14	16	3	9	<b>9</b>	TXE-09009	TXE-10009
				12	<b>12</b>	TXE-09012	TXE-10012
				17	<b>17</b>	TXE-09017	TXE-10017
				22	<b>22</b>	TXE-09022	TXE-10022
				27	<b>27</b>	TXE-09027	TXE-10027
				36	<b>36</b>	TXE-09036	TXE-10036
				46	<b>46</b>	TXE-09046	TXE-10046
				46	<b>56</b>	TXE-09056	TXE-10056
				46	<b>66</b>	TXE-09066	TXE-10066
				<b>14/15</b>	20	25	6
17	<b>17</b>	TXE-14017	TXE-15017				
22	<b>22</b>	TXE-14022	TXE-15022				
27	<b>27</b>	TXE-14027	TXE-15027				
36	<b>36</b>	TXE-14036	TXE-15036				
46	<b>46</b>	TXE-14046	TXE-15046				
56	<b>56</b>	TXE-14056	TXE-15056				
56	<b>66</b>	TXE-14066	TXE-15066				
56	<b>76</b>	TXE-14076	TXE-15076				
56	<b>86</b>	TXE-14086	TXE-15086				
<b>18/20</b>	26	31	6	17	<b>17</b>	TXE-18017	TXE-20017
				22	<b>22</b>	TXE-18022	TXE-20022
				27	<b>27</b>	TXE-18027	TXE-20027
				36	<b>36</b>	TXE-18036	TXE-20036
				46	<b>46</b>	TXE-18046	TXE-20046
				56	<b>56</b>	TXE-18056	TXE-20056
				66	<b>66</b>	TXE-18066	TXE-20066
				76	<b>76</b>	TXE-18076	TXE-20076
				76	<b>86</b>	TXE-18086	TXE-20086
				76	<b>96</b>	TXE-18096	TXE-20096
<b>22/24</b>	30	35	6	17	<b>17</b>	TXE-22017	TXE-24017

d	d1	d2	s	l	L	NR KAT.	NR KAT.
<b>22/24</b>	30	35	6	22	<b>22</b>	TXE-22022	TXE-24022
				27	<b>27</b>	TXE-22027	TXE-24027
				36	<b>36</b>	TXE-22036	TXE-24036
				46	<b>46</b>	TXE-22046	TXE-24046
				56	<b>56</b>	TXE-22056	TXE-24056
				66	<b>66</b>	TXE-22066	TXE-24066
				76	<b>76</b>	TXE-22076	TXE-24076
				86	<b>86</b>	TXE-22086	TXE-24086
				96	<b>96</b>	TXE-22096	TXE-24096
				96	<b>116</b>	TXE-22116	TXE-24116
<b>30/32</b>	42	47	6	27	<b>27</b>	TXE-30027	TXE-32027
				36	<b>36</b>	TXE-30036	TXE-32036
				46	<b>46</b>	TXE-30046	TXE-32046
				56	<b>56</b>	TXE-30056	TXE-32056
				66	<b>66</b>	TXE-30066	TXE-32066
				76	<b>76</b>	TXE-30076	TXE-32076
				86	<b>86</b>	TXE-30086	TXE-32086
				96	<b>96</b>	TXE-30096	TXE-32096
				116	<b>116</b>	TXE-30116	TXE-32116
				116	<b>136</b>	TXE-30136	TXE-32136
<b>40/42</b>	54	60	10	46	<b>46</b>	TXE-40046	TXE-42046
				56	<b>56</b>	TXE-40056	TXE-42056
				66	<b>66</b>	TXE-40066	TXE-42066
				76	<b>76</b>	TXE-40076	TXE-42076
				86	<b>86</b>	TXE-40086	TXE-42086
				96	<b>96</b>	TXE-40096	TXE-42096
				116	<b>116</b>	TXE-40116	TXE-42116
				136	<b>136</b>	TXE-40136	TXE-42136
				136	<b>156</b>	TXE-40156	TXE-42156
				136	<b>196</b>	TXE-40196	TXE-42196

**TPB**

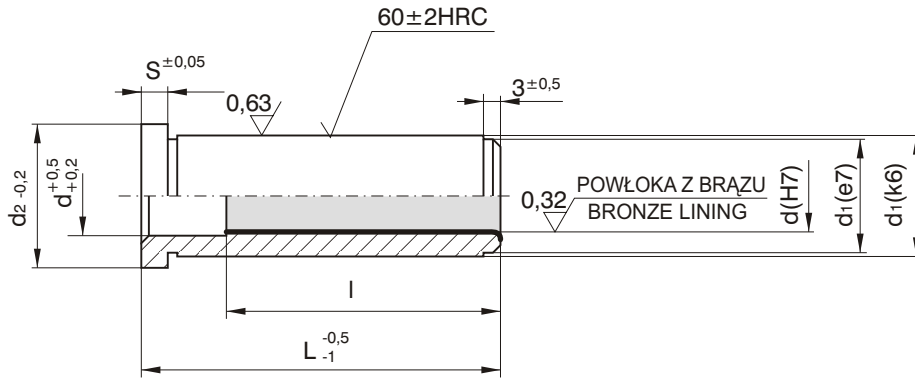


\* - wykonanie całe z brązu  
- solid bronze only

d	d <sub>1</sub>	d <sub>2</sub>	s	f	l	L	NR KAT.	NR KAT.
9/10*	14	16	3	3	15	12	TPB-09012	TPB-10012
					20	17	TPB-09017	TPB-10017
					25	22	TPB-09022	TPB-10022
					30	27	TPB-09027	TPB-10027
					39	36	TPB-09036	TPB-10036
					46	46	TPB-09046	TPB-10046
					46	56	TPB-09056	TPB-10056
					46	66	TPB-09066	TPB-10066
					14/15	20	25	6
31	22	TPB-14022	TPB-15022					
36	27	TPB-14027	TPB-15027					
45	36	TPB-14036	TPB-15036					
55	46	TPB-14046	TPB-15046					
56	56	TPB-14056	TPB-15056					
56	66	TPB-14066	TPB-15066					
56	76	TPB-14076	TPB-15076					
56	86	TPB-14086	TPB-15086					
56	96	TPB-14096	TPB-15096					
18/20	26	31	6	9	26	17	TPB-18017	TPB-20017
					31	22	TPB-18022	TPB-20022
					36	27	TPB-18027	TPB-20027
					45	36	TPB-18036	TPB-20036
					55	46	TPB-18046	TPB-20046
					65	56	TPB-18056	TPB-20056
					75	66	TPB-18066	TPB-20066
					76	76	TPB-18076	TPB-20076
					76	86	TPB-18086	TPB-20086
					76	96	TPB-18096	TPB-20096
					76	116	TPB-18116	TPB-20116
22/24	30	35	6	9	26	17	TPB-22017	TPB-24017
					31	22	TPB-22022	TPB-24022

d	d <sub>1</sub>	d <sub>2</sub>	s	f	l	L	NR KAT.	NR KAT.
22/24	30	35	6	9	36	27	TPB-22027	TPB-24027
					45	36	TPB-22036	TPB-24036
					55	46	TPB-22046	TPB-24046
					65	56	TPB-22056	TPB-24056
					75	66	TPB-22066	TPB-24066
					85	76	TPB-22076	TPB-24076
					95	86	TPB-22086	TPB-24086
					96	96	TPB-22096	TPB-24096
					96	116	TPB-22116	TPB-24116
					96	136	TPB-22136	TPB-24136
30/32	42	47	6	9	36	27	TPB-30027	TPB-32027
					45	36	TPB-30036	TPB-32036
					55	46	TPB-30046	TPB-32046
					65	56	TPB-30056	TPB-32056
					75	66	TPB-30066	TPB-32066
					85	76	TPB-30076	TPB-32076
					95	86	TPB-30086	TPB-32086
					96	96	TPB-30096	TPB-32096
					116	116	TPB-30116	TPB-32116
					116	136	TPB-30136	TPB-32136
40/42	54	60	10	12	58	46	TPB-40046	TPB-42046
					68	56	TPB-40056	TPB-42056
					78	66	TPB-40066	TPB-42066
					88	76	TPB-40076	TPB-42076
					98	86	TPB-40086	TPB-42086
					108	96	TPB-40096	TPB-42096
					128	116	TPB-40116	TPB-42116
					136	136	TPB-40136	TPB-42136
					136	156	TPB-40156	TPB-42156
					136	196	TPB-40196	TPB-42196

**TXB**

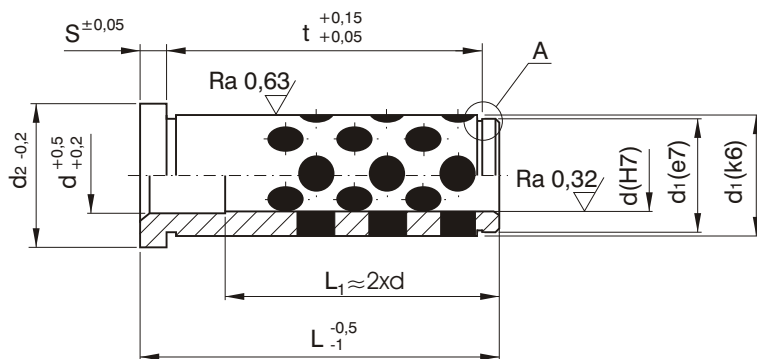


\* - wykonanie całe z brązu  
- solid bronze only

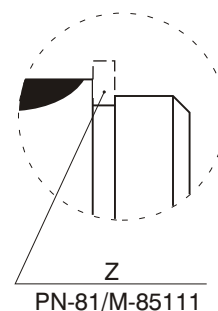
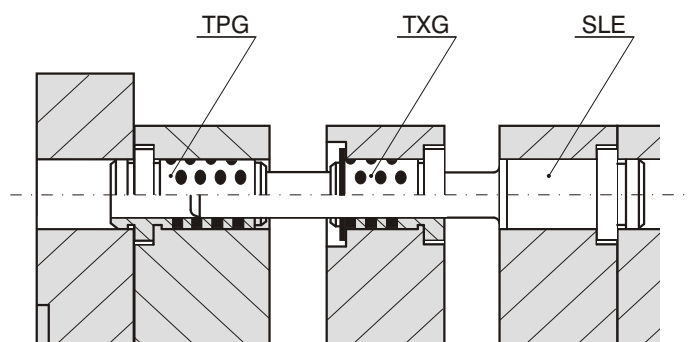
d	d <sub>1</sub>	d <sub>2</sub>	s	l	L	NR KAT.	NR KAT.
9/10*	14	16	3	12	12	TXB-09012	TXB-10012
				17	17	TXB-09017	TXB-10017
				22	22	TXB-09022	TXB-10022
				27	27	TXB-09027	TXB-10027
				36	36	TXB-09036	TXB-10036
				46	46	TXB-09046	TXB-10046
				46	56	TXB-09056	TXB-10056
				46	66	TXB-09066	TXB-10066
14/15	20	25	6	17	17	TXB-14017	TXB-15017
				22	22	TXB-14022	TXB-15022
				27	27	TXB-14027	TXB-15027
				36	36	TXB-14036	TXB-15036
				46	46	TXB-14046	TXB-15046
				56	56	TXB-14056	TXB-15056
				56	66	TXB-14066	TXB-15066
				56	76	TXB-14076	TXB-15076
18/20	26	31	6	17	17	TXB-18017	TXB-20017
				22	22	TXB-18022	TXB-20022
				27	27	TXB-18027	TXB-20027
				36	36	TXB-18036	TXB-20036
				46	46	TXB-18046	TXB-20046
				56	56	TXB-18056	TXB-20056
				66	66	TXB-18066	TXB-20066
				76	76	TXB-18076	TXB-20076
				76	86	TXB-18086	TXB-20086
				76	96	TXB-18096	TXB-20096
22/24	30	35	6	17	17	TXB-22017	TXB-24017
				22	22	TXB-22022	TXB-24022

d	d <sub>1</sub>	d <sub>2</sub>	s	l	L	NR KAT.	NR KAT.
22/24	30	35	6	27	27	TXB-22027	TXB-24027
				36	36	TXB-22036	TXB-24036
				46	46	TXB-22046	TXB-24046
				56	56	TXB-22056	TXB-24056
				66	66	TXB-22066	TXB-24066
				76	76	TXB-22076	TXB-24076
				86	86	TXB-22086	TXB-24086
				96	96	TXB-22096	TXB-24096
				96	116	TXB-22116	TXB-24116
				96	136	TXB-22136	TXB-24136
30/32	42	47	6	27	27	TXB-30027	TXB-32027
				36	36	TXB-30036	TXB-32036
				46	46	TXB-30046	TXB-32046
				56	56	TXB-30056	TXB-32056
				66	66	TXB-30066	TXB-32066
				76	76	TXB-30076	TXB-32076
				86	86	TXB-30086	TXB-32086
				96	96	TXB-30096	TXB-32096
				116	116	TXB-30116	TXB-32116
				116	136	TXB-30136	TXB-32136
40/42	54	60	10	46	46	TXB-40046	TXB-42046
				56	56	TXB-40056	TXB-42056
				76	66	TXB-40066	TXB-42066
				66	76	TXB-40076	TXB-42076
				86	86	TXB-40086	TXB-42086
				96	96	TXB-40096	TXB-42096
				116	116	TXB-40116	TXB-42116
				136	136	TXB-40136	TXB-42136
				136	156	TXB-40156	TXB-42156
				136	196	TXB-40196	TXB-42196

**TXG**



Szczegół "A"  
Detail "A"

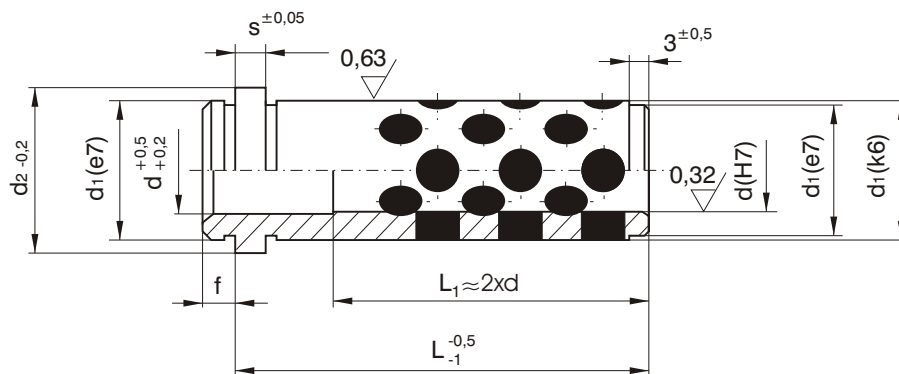


Mat: Brąz aluminiowy  
Aluminium Bronze

d	d <sub>1</sub>	d <sub>2</sub>	s	Z	t	L	NR KAT.	NR KAT.
9/10	14	16	3	Z14 / 14x1	6,6	12	TXG-09012	TXG-10012
					11,6	17	TXG-09017	TXG-10017
					16,6	22	TXG-09022	TXG-10022
					21,6	27	TXG-09027	TXG-10027
					30,6	36	TXG-09036	TXG-10036
					40,6	46	TXG-09046	TXG-10046
12	18	23	6	Z18 / 18x1,2	8,3	17	TXG-12017	-----
					13,3	22	TXG-12022	-----
					18,3	27	TXG-12027	-----
					27,3	36	TXG-12036	-----
					37,3	46	TXG-12046	-----
					47,3	56	TXG-12056	-----
14/15	20	25	6	Z20 / 20x1,2	8,3	17	TXG-14017	TXG-15017
					13,3	22	TXG-14022	TXG-15022
					18,3	27	TXG-14027	TXG-15027
					27,3	36	TXG-14036	TXG-15036
					37,3	46	TXG-14046	TXG-15046
					47,3	56	TXG-14056	TXG-15056
16	22	27	6	Z22 / 22x1,2	13,3	22	TXG-16022	-----
					18,3	27	TXG-16027	-----
					27,3	36	TXG-16036	-----
					37,3	46	TXG-16046	-----
					47,3	56	TXG-16056	-----
					18/20	26	31	6
13,3	22	TXG-18022	TXG-20022					
18,3	27	TXG-18027	TXG-20027					
27,3	36	TXG-18036	TXG-20036					
37,3	46	TXG-18046	TXG-20046					

d	d <sub>1</sub>	d <sub>2</sub>	s	Z	t	L	NR KAT.	NR KAT.
18/20	26	31	6	Z26	47,3	56	TXG-18056	TXG-20056
					57,3	66	TXG-18066	TXG-20066
					67,3	76	TXG-18076	TXG-20076
22/24	30	35	6	Z30 / 30x1,5	12,6	22	TXG-22022	TXG-24022
					17,6	27	TXG-22027	TXG-24027
					26,6	36	TXG-22036	TXG-24036
					36,6	46	TXG-22046	TXG-24046
					46,6	56	TXG-22056	TXG-24056
					56,6	66	TXG-22066	TXG-24066
30/32	42	47	6	Z42 / 42x1,75	66,6	76	TXG-22076	TXG-24076
					76,6	86	TXG-22086	TXG-24086
					86,6	96	TXG-22096	TXG-24096
					15,9	27	TXG-30027	TXG-32027
					24,9	36	TXG-30036	TXG-32036
					34,9	46	TXG-30046	TXG-32046
40/42	54	60	10	Z55 / 55x2,0	44,9	56	TXG-30056	TXG-32056
					54,9	66	TXG-30066	TXG-32066
					64,9	76	TXG-30076	TXG-32076
					74,9	86	TXG-30086	TXG-32086
					84,9	96	TXG-30096	TXG-32096
					104,9	116	TXG-30116	TXG-32116
					30,2	46	TXG-40046	TXG-42046
					40,2	56	TXG-40056	TXG-42056
					50,2	66	TXG-40066	TXG-42066
					60,2	76	TXG-40076	TXG-42076
					70,2	86	TXG-40086	TXG-42086
					80,2	96	TXG-40096	TXG-42096
					100,2	116	TXG-40116	TXG-42116
					120,2	136	TXG-40136	TXG-42136

**TPG**

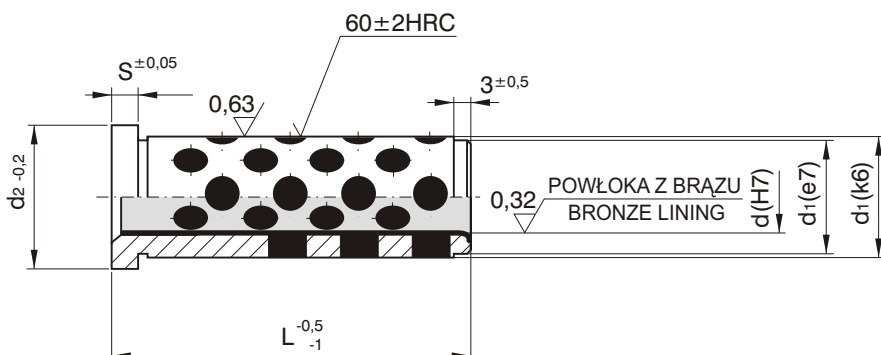


Mat: Brąz alumiiniowy  
Aluminium bronze

d	d <sub>1</sub>	d <sub>2</sub>	s	f	L	NR KAT.	NR KAT.
<b>9/10</b>	14	16	3	5	<b>12</b>	TPG-09012	TPG-10012
					<b>17</b>	TPG-09017	TPG-10017
					<b>22</b>	TPG-09022	TPG-10022
					<b>27</b>	TPG-09027	TPG-10027
					<b>36</b>	TPG-09036	TPG-10036
					<b>46</b>	TPG-09046	TPG-10046
<b>14/15</b>	20	25	6	6	<b>17</b>	TPG-14017	TPG-15017
					<b>22</b>	TPG-14022	TPG-15022
					<b>27</b>	TPG-14027	TPG-15027
					<b>36</b>	TPG-14036	TPG-15036
					<b>46</b>	TPG-14046	TPG-15046
					<b>56</b>	TPG-14056	TPG-15056
<b>18/20</b>	26	31	6	8	<b>17</b>	TPG-18017	TPG-20017
					<b>22</b>	TPG-18022	TPG-20022
					<b>27</b>	TPG-18027	TPG-20027
					<b>36</b>	TPG-18036	TPG-20036
					<b>46</b>	TPG-18046	TPG-20046
					<b>56</b>	TPG-18056	TPG-20056
<b>22/24</b>	30	35	6	8	<b>22</b>	TPG-22022	TPG-24022
					<b>27</b>	TPG-22027	TPG-24027
					<b>36</b>	TPG-22036	TPG-24036
					<b>46</b>	TPG-22046	TPG-24046

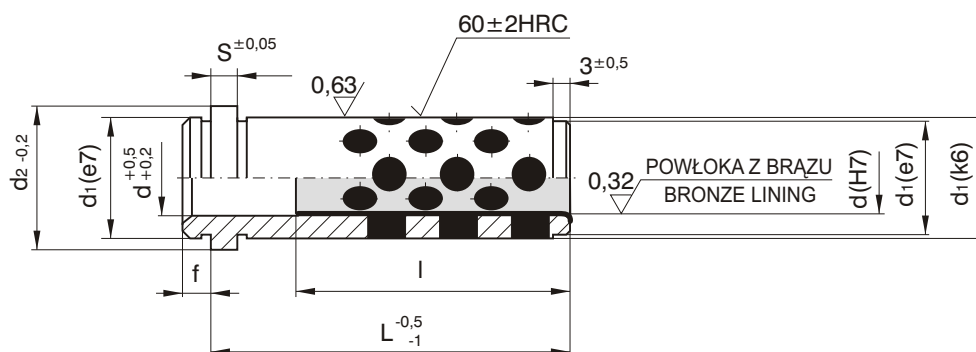
d	d <sub>1</sub>	d <sub>2</sub>	s	f	L	NR KAT.	NR KAT.
<b>22/24</b>	30	35	6	8	<b>56</b>	TPG-22056	TPG-24056
					<b>66</b>	TPG-22066	TPG-24066
					<b>76</b>	TPG-22076	TPG-24076
					<b>86</b>	TPG-22086	TPG-24086
					<b>96</b>	TPG-22096	TPG-24096
					<b>116</b>	TPG-22116	TPG-24116
<b>30/32</b>	42	47	6	8	<b>27</b>	TPG-30027	TPG-32027
					<b>36</b>	TPG-30036	TPG-32036
					<b>46</b>	TPG-30046	TPG-32046
					<b>56</b>	TPG-30056	TPG-32056
					<b>66</b>	TPG-30066	TPG-32066
					<b>76</b>	TPG-30076	TPG-32076
<b>40/42</b>	54	60	10	10	<b>86</b>	TPG-30086	TPG-32086
					<b>96</b>	TPG-30096	TPG-32096
					<b>116</b>	TPG-30116	TPG-32116
					<b>136</b>	TPG-30136	TPG-32136
					<b>46</b>	TPG-40046	TPG-42046
					<b>56</b>	TPG-40056	TPG-42056
<b>22/24</b>	30	35	6	8	<b>66</b>	TPG-40066	TPG-42066
					<b>76</b>	TPG-40076	TPG-42076
					<b>86</b>	TPG-40086	TPG-42086
					<b>96</b>	TPG-40096	TPG-42096
					<b>116</b>	TPG-40116	TPG-42116
					<b>136</b>	TPG-40136	TPG-42136
<b>22/24</b>	30	35	6	8	<b>156</b>	TPG-40156	TPG-42156
					<b>196</b>	TPG-40196	TPG-42196

**TXS**



d	d <sub>1</sub>	d <sub>2</sub>	s	L	NR KAT.	NR KAT.	d	d <sub>1</sub>	d <sub>2</sub>	s	L	NR KAT.	NR KAT.				
14/15	20	25	6	17	TXS-14017	TXS-15017	22/24	30	35	6	76	TXS-22076	TXS-24076				
				22	TXS-14022	TXS-15022					86	TXS-22086	TXS-24086				
				27	TXS-14027	TXS-15027					96	TXS-22096	TXS-24096				
				36	TXS-14036	TXS-15036					30/32	42	47	6	27	TXS-30027	TXS-32027
				46	TXS-14046	TXS-15046									36	TXS-30036	TXS-32036
				56	TXS-14056	TXS-15056									46	TXS-30046	TXS-32046
18/20	26	31	6	17	TXS-18017	TXS-20017	56	TXS-30056	TXS-32056								
				22	TXS-18022	TXS-20022	66	TXS-30066	TXS-32066								
				27	TXS-18027	TXS-20027	76	TXS-30076	TXS-32076								
				36	TXS-18036	TXS-20036	86	TXS-30086	TXS-32086								
				46	TXS-18046	TXS-20046	96	TXS-30096	TXS-32096								
				56	TXS-18056	TXS-20056	116	TXS-30116	TXS-32116								
22/24	30	35	6	66	TXS-18066	TXS-20066	40/42	54	60	10	46	TXS-40046	TXS-42046				
				76	TXS-18076	TXS-20076					56	TXS-40056	TXS-42056				
				22	TXS-22022	TXS-24022					66	TXS-40066	TXS-42066				
				27	TXS-22027	TXS-24027					76	TXS-40076	TXS-42076				
				36	TXS-22036	TXS-24036					86	TXS-40086	TXS-42086				
				46	TXS-22046	TXS-24046					96	TXS-40096	TXS-42096				
56	TXS-22056	TXS-24056	116	TXS-40116	TXS-42116												
66	TXS-22066	TXS-24066	136	TXS-40136	TXS-42136												

**TPS**

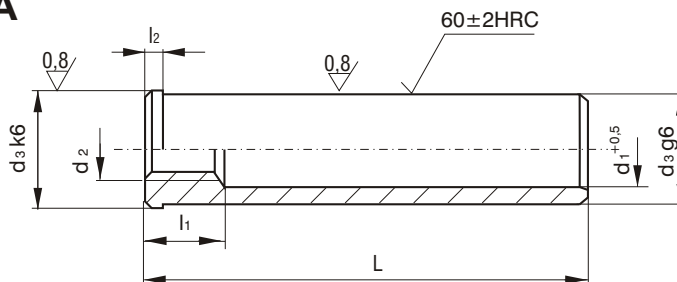


d	d1	d2	s	f	l	L	NR KAT.	NR KAT.
14/15	20	25	6	9	26	17	TPS-14017	TPS-15017
					31	22	TPS-14022	TPS-15022
					36	27	TPS-14027	TPS-15027
					45	36	TPS-14036	TPS-15036
					55	46	TPS-14046	TPS-15046
					56	56	TPS-14056	TPS-15056
					56	66	TPS-14066	TPS-15066
18/20	26	31	6	9	26	17	TPS-18017	TPS-20017
					31	22	TPS-18022	TPS-20022
					36	27	TPS-18027	TPS-20027
					45	36	TPS-18036	TPS-20036
					55	46	TPS-18046	TPS-20046
					65	56	TPS-18056	TPS-20056
					75	66	TPS-18066	TPS-20066
22/24	30	35	6	9	31	22	TPS-22022	TPS-24022
					36	27	TPS-22027	TPS-24027
					45	36	TPS-22036	TPS-24036
					55	46	TPS-22046	TPS-24046
					65	56	TPS-22056	TPS-24056
					75	66	TPS-22066	TPS-24066
					85	76	TPS-22076	TPS-24076

d	d1	d2	s	f	l	L	NR KAT.	NR KAT.
22/24	30	35	6	9	95	86	TPS-22086	TPS-24086
					96	96	TPS-22096	TPS-24096
					96	116	TPS-22116	TPS-24116
30/32	42	47	6	9	36	27	TPS-30027	TPS-32027
					45	36	TPS-30036	TPS-32036
					55	46	TPS-30046	TPS-32046
					65	56	TPS-30056	TPS-32056
					75	66	TPS-30066	TPS-32066
					85	76	TPS-30076	TPS-32076
					95	86	TPS-30086	TPS-32086
					105	96	TPS-30096	TPS-32096
40/42	54	60	10	12	116	116	TPS-30116	TPS-32116
					116	136	TPS-30136	TPS-32136
					58	46	TPS-40046	TPS-42046
					68	56	TPS-40056	TPS-42056
					78	66	TPS-40066	TPS-42066
					88	76	TPS-40076	TPS-42076
					98	86	TPS-40086	TPS-42086
					108	96	TPS-40096	TPS-42096
					128	116	TPS-40116	TPS-42116
					136	136	TPS-40136	TPS-42136
					136	156	TPS-40156	TPS-42156
					136	196	TPS-40196	TPS-42196

**TULEJA USTALAJĄCA**  
**LOCATING SLEEVES**

**TUE**



Mat: 1.7131

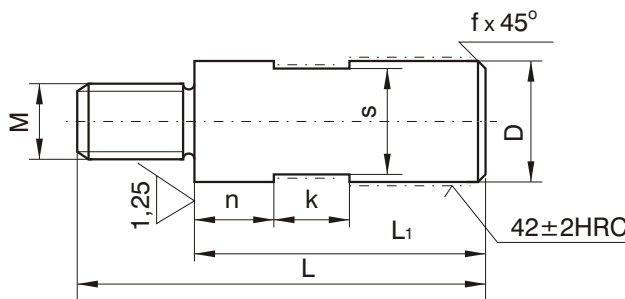
Nawęglana  
Carbonized

$l_1$	$l_2$	$d_1$	$d_2$	$d_3$	L	NR KAT.
8	2	11	M6	14	20	TUE -14020
					30	TUE -14030
					40	TUE -14040
					50	TUE -14050
					60	TUE -14060
					70	TUE -14070
					80	TUE -14080
					100	TUE -14100
					13	2
40	TUE -20040					
60	TUE -20060					
80	TUE -20080					
100	TUE -20100					
120	TUE -20120					
140	TUE -20140					
13	2,5	21	M10	26	30	TUE -26030
					40	TUE -26040
					60	TUE -26060
					80	TUE -26080
					100	TUE -26100
					120	TUE -26120
					140	TUE -26140
13	2,5	25	M12	30	40	TUE -30040
					60	TUE -30060

$l_1$	$l_2$	$d_1$	$d_2$	$d_3$	L	NR KAT.
13	2,5	25	M12	30	80	TUE-30080
					100	TUE-30100
					120	TUE-30120
					140	TUE-30140
					160	TUE-30160
					180	TUE-30180
					200	TUE-30200
					240	TUE-30240
					13	4,5
60	TUE-42060					
80	TUE-42080					
100	TUE-42100					
120	TUE-42120					
140	TUE-42140					
160	TUE-42160					
180	TUE-42180					
200	TUE-42200					
220	TUE-42220					
13	4,5	43	M20	54	60	TUE-54060
					80	TUE-54080
					120	TUE-54120
					160	TUE-54160
					200	TUE-54200
					240	TUE-54240
					280	TUE-54280

**NÓŻKA**  
**FEET**

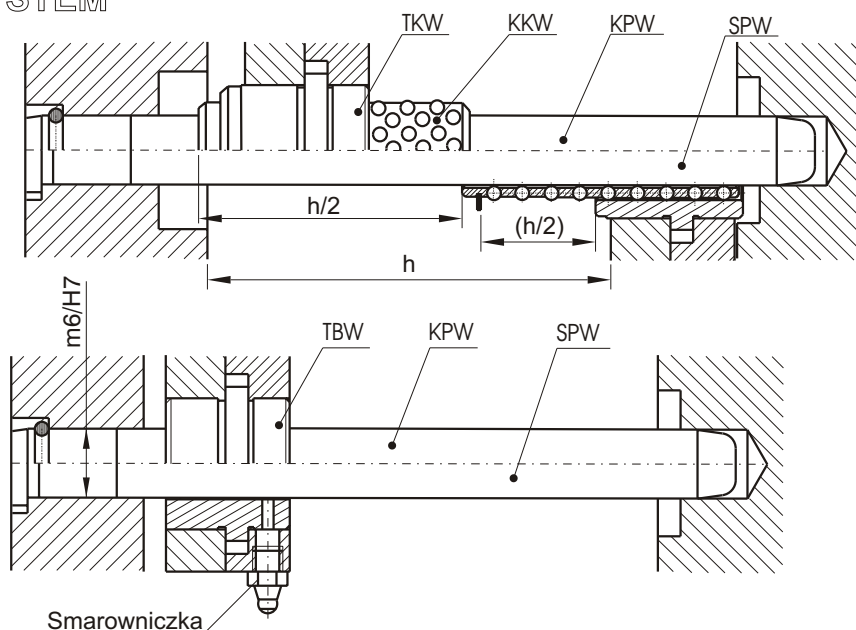
**NF**



M	D	k	f	s	L	$L_1$	n	NR KAT.
10	16	12	1	13	56	40	5	NF-10056
					96	80	15	NF-10096
12	20	14	1,6	17	70	50	5	NF-12070
					120	100	15	NF-12120
16	25	16	1,6	22	88	63	15	NF-16088
20	32	18	2,5	27	112	80	15	NF-20112

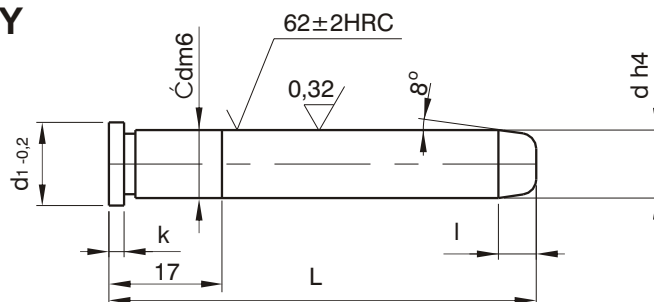
**PROWADZENIE PŁYTY WYPYCHACZY**

**EJECTION SYSTEM**



**SŁUP PROWADZĄCY**

**LEADER PINS**



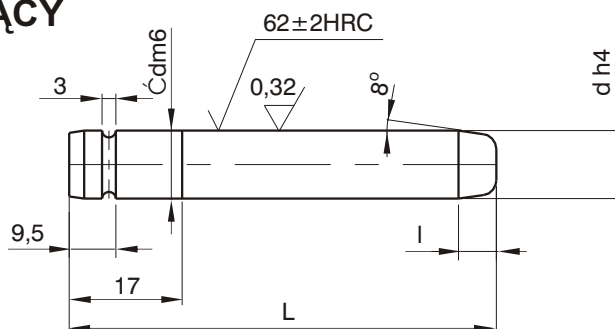
**SPW**

Mat: 1.7131  
Nawęglany  
Carbonized

d	d <sub>1</sub>	l	k	NR KATALOGOWY							
				L=80	L=100	L=120	L=140	L=160	L=200	L=240	
12	16	4	4	SPW-12080	SPW-12100	SPW-12120					
18	22	7	6			SPW-18120	SPW-18140	SPW-18160			
30	36	7	6					SPW-30160	SPW-30200	SPW-30240	

**KOLEK PROWADZĄCY**

**LEADER PINS**



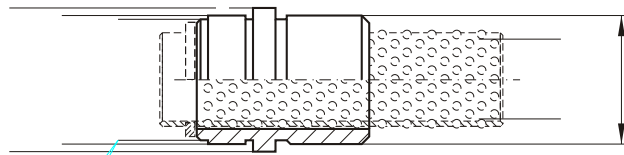
**KPW**

Mat: 1.7131  
Nawęglany  
Carbonized

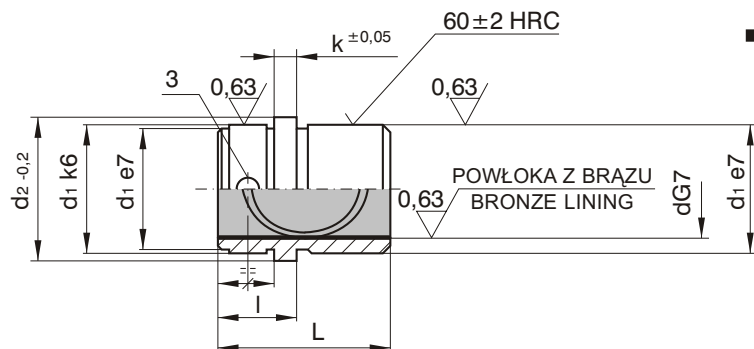
d	l	NR KATALOGOWY					
		L=100	L=125	L=160	L=200	L=240	L=300
12	4	KPW-12100	KPW-12125	KPW-12160			
18	7		KPW-18125	KPW-18160	KPW-18200		
30	7				KPW-30200	KPW-30240	KPW-30300

**KKW**

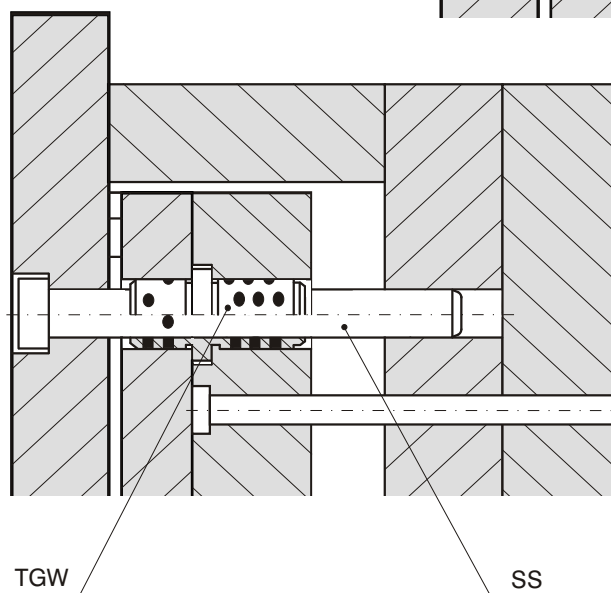
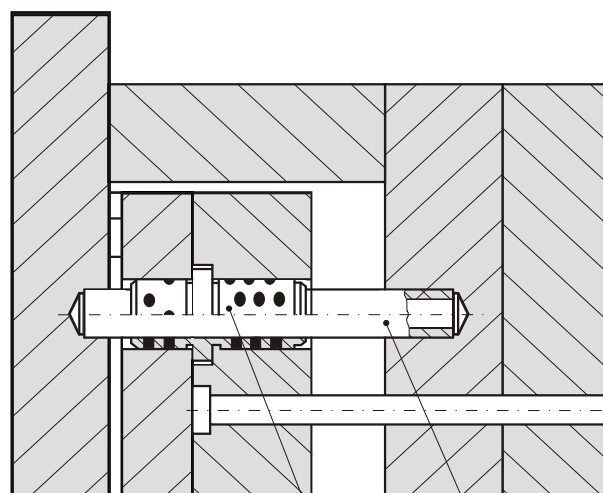
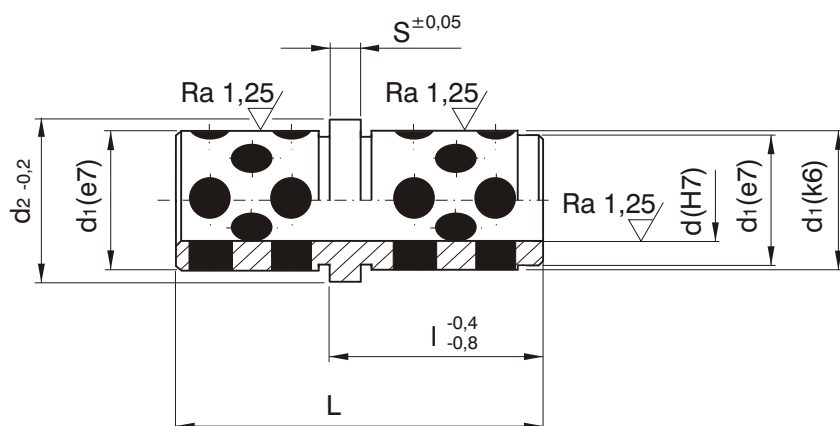
**TKW**



**TBW**



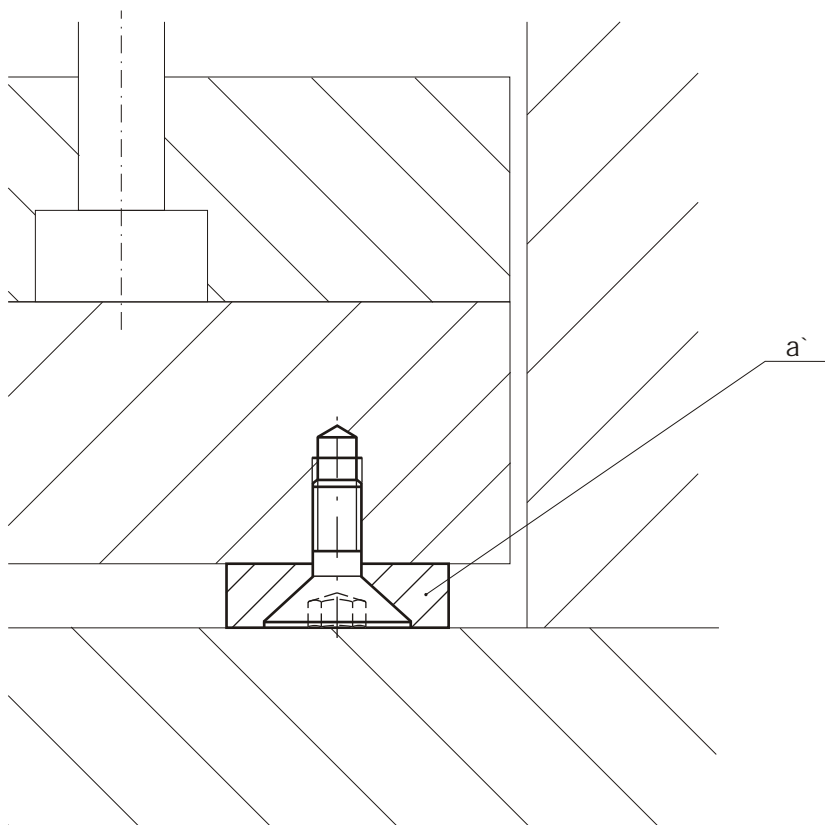
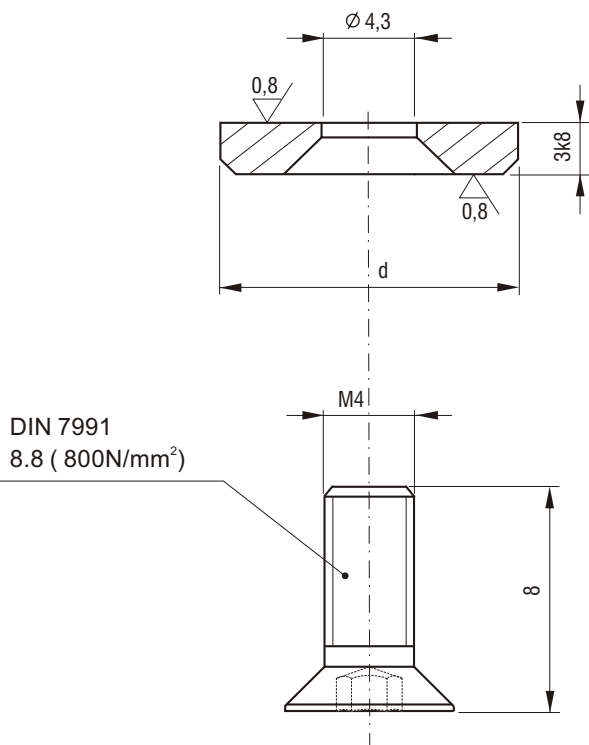
**TGW**



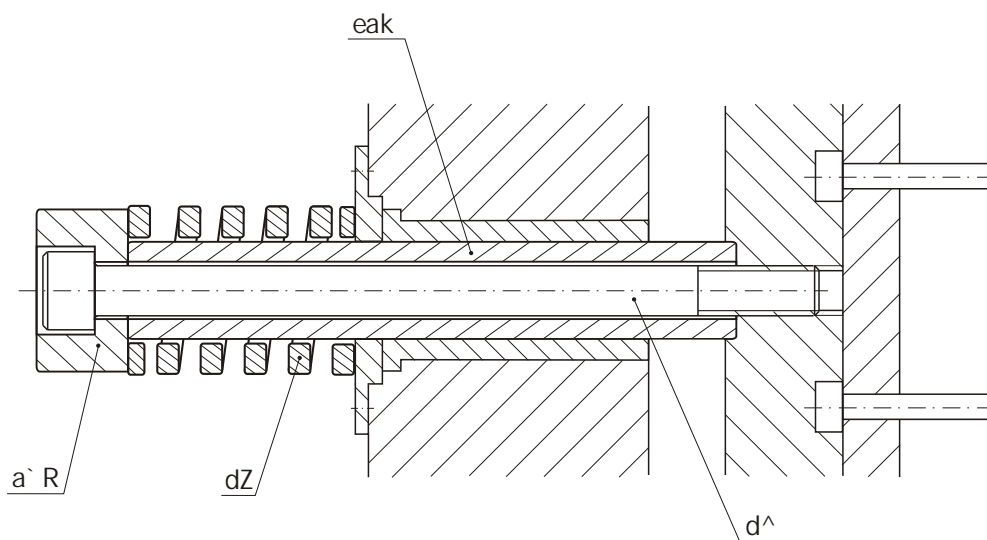
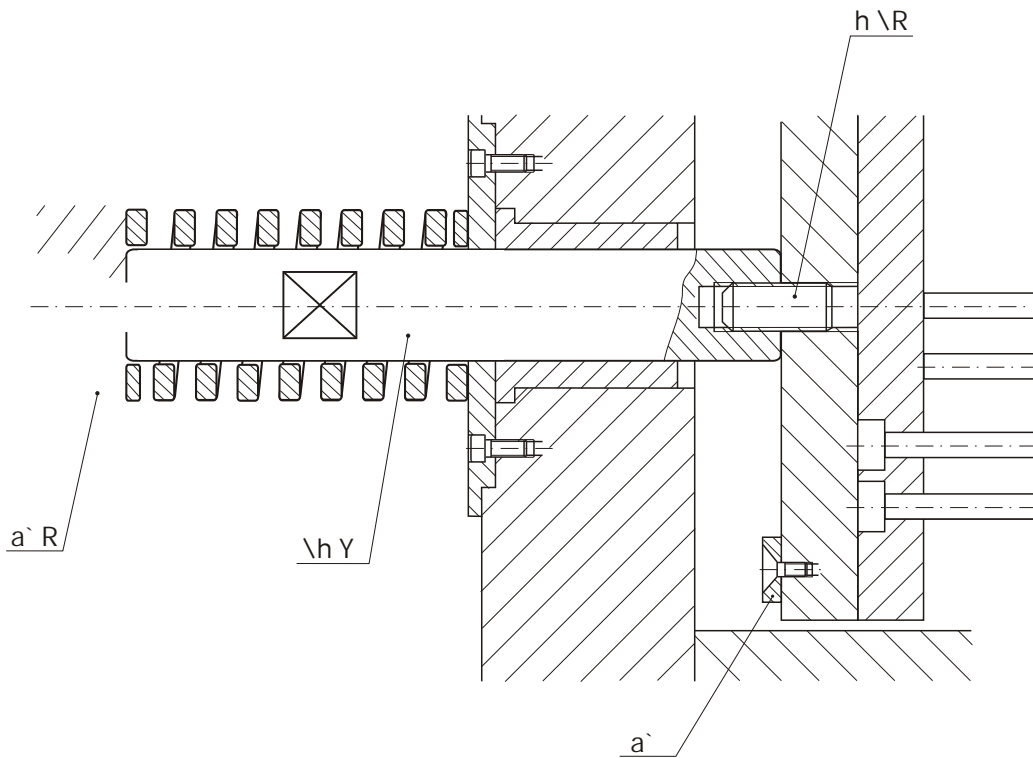
Mat: Brąz aluminiowy  
Aluminium Bronze

d	d <sub>1</sub>	d <sub>2</sub>	s	l	L	NR KAT.	NR KAT.
14/15	20	25	6	17	26	TGW-14017	TGW-15017
18/20	26	31		22	39	TGW-18022	TGW-20022
22/24	30	35		27	49	TGW-22027	TGW-24027
30/32	42	47		36	63	TGW-30036	TGW-32036

**PO**

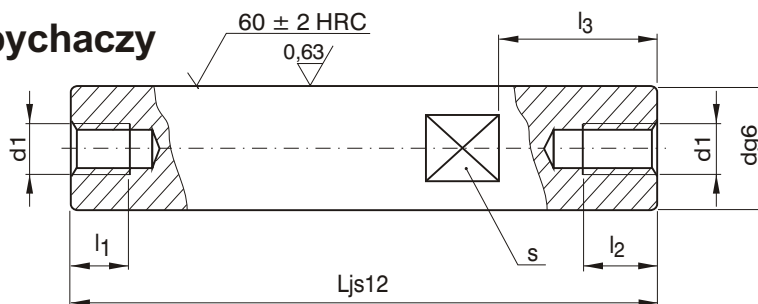


NR KAT.	d	DIN 7991
PO -1803	18	M4x8
PO -2803	28	



**Sworzeń płyty wypychaczy**

Ejector rod



**KWH**

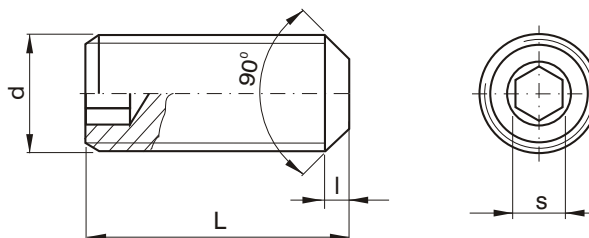
d	d1	s	l1	l2	l3	L	NR KAT.
10	M6	9	9	16	20	60	KWH-10060
						70	KWH-10070
						80	KWH-10080
						100	KWH-10100
						120	KWH-10120
						140	KWH-10140
14	M8	12	11	16	25	60	KWH-14060
						70	KWH-14070
						80	KWH-14080
						100	KWH-14100
						120	KWH-14120
						140	KWH-14140
						160	KWH-14160
18	M10	14	12	20	45	100	KWH-18100
						120	KWH-18120
						140	KWH-18140
						160	KWH-18160
						180	KWH-18180
						200	KWH-18200

d	d1	s	l1	l2	l3	L	NR KAT.						
18	M10	14	12	20	45	220	KWH-18220						
						240	KWH-18240						
						20	M12	16	14	25	45	100	KWH-20100
												120	KWH-20120
												140	KWH-20140
												160	KWH-20160
180	KWH-20180												
220	KWH-20220												
24	M12	19	14	25	50	240	KWH-20240						
						120	KWH-24120						
						140	KWH-24140						
						160	KWH-24160						
						180	KWH-24180						
						200	KWH-24200						
30	M16	24	16	30	56	240	KWH-24240						
						180	KWH-30180						
						220	KWH-30220						
						260	KWH-30260						
						300	KWH-30300						

**Wkręt**

Hexagon socket set screw

DIN 913-45H



**WKA**

d	s	l	L	NR KAT.
M3	1,5	0,5	6	WKA-0306
			8	WKA-0308
M4	2	0,75	6	WKA-0406
			8	WKA-0408
			10	WKA-0410
M5	2,5	0,75	12	WKA-0412
			6	WKA-0506
			8	WKA-0508
			10	WKA-0510
M6	3	1	12	WKA-0512
			16	WKA-0516
			6	WKA-0606
			8	WKA-0608
M8	4	1,25	10	WKA-0610
			12	WKA-0612
			16	WKA-0616
			20	WKA-0620
M8	4	1,25	8	WKA-0808
			10	WKA-0810

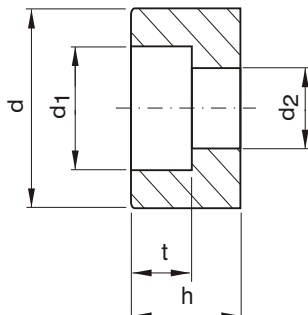
d	s	l	L	NR KAT.
M8	4	1,25	12	WKA-0812
			16	WKA-0816
			20	WKA-0820
M10	5	1,5	30	WKA-0830
			10	WKA-1010
			12	WKA-1012
			16	WKA-1016
M12	6	1,75	20	WKA-1020
			30	WKA-1030
			40	WKA-1040
			12	WKA-1212
M16	8	2	16	WKA-1216
			20	WKA-1220
			30	WKA-1230
			40	WKA-1240
M16	8	2	20	WKA-1620
			30	WKA-1630
			40	WKA-1640

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**Podkładka oporowa**

Support washer

**POA**



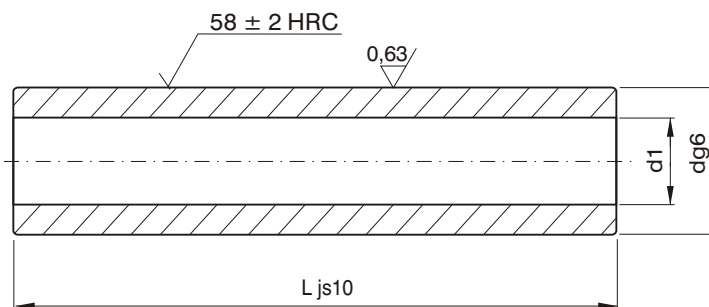
d	d <sub>1</sub>	d <sub>2</sub>	t	h	NR KAT.
15	11	6,6	8,4	10	POA-1510
22	14,5	9	11	14	POA-2214
36	17,5	11	13,5	20	POA-3620
46	20	14	15,5	25	POA-4625
56	26	18	21	32	POA-5632

30 ± 2 HRC

**Tuleja prowadząca**

Tube dowel

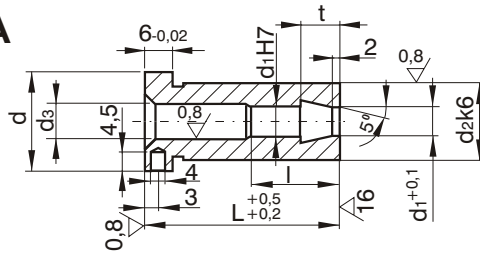
**TPZ**



d	d <sub>1</sub>	L	NR KAT.
10	6,2	20	TPZ-10020
		30	TPZ-10030
		40	TPZ-10040
		50	TPZ-10050
		60	TPZ-10060
		70	TPZ-10070
		80	TPZ-10080
		100	TPZ-10100
		120	TPZ-10120
		140	TPZ-10140
14	8,3	30	TPZ-14030
		40	TPZ-14040
		50	TPZ-14050
		60	TPZ-14060
		70	TPZ-14070
		80	TPZ-14080
		100	TPZ-14100
		120	TPZ-14120
		140	TPZ-14140
		160	TPZ-14160
18	10,4	40	TPZ-18040
		60	TPZ-18060
		80	TPZ-18080
		100	TPZ-18100

d	d <sub>1</sub>	L	NR KAT.
18	10,4	120	TPZ-18120
		140	TPZ-18140
		160	TPZ-18160
		180	TPZ-18180
		200	TPZ-18200
		220	TPZ-18220
		240	TPZ-18240
		24	12,5
80	TPZ-24080		
100	TPZ-24100		
120	TPZ-24120		
140	TPZ-24140		
160	TPZ-24160		
30	16,5	180	TPZ-24180
		200	TPZ-24200
		240	TPZ-24240
		80	TPZ-30080
		100	TPZ-30100
		120	TPZ-30120
		140	TPZ-30140
		160	TPZ-30160
		180	TPZ-30180
		220	TPZ-30220
260	TPZ-30260		
300	TPZ-30300		

**TULEJOWY ZABIERAK WLEWKA**  
**SPRUE PULLERS BUSHINGS**



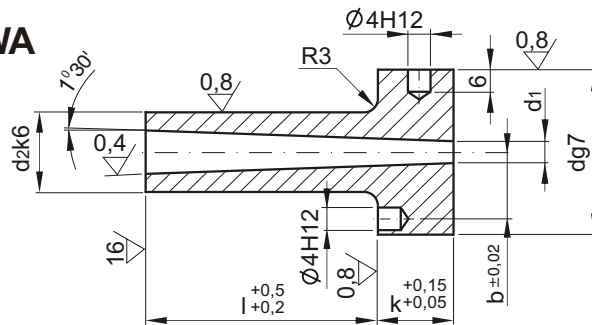
**TZW**

Mat: 1.2210  
56±2 HRC

d <sub>2</sub>	d <sub>3</sub>	d	d <sub>1</sub>	t	l	L	NR KAT.
12	4,5	16	4	7	18	22	TZW-1222
						27	TZW-1227
						36	TZW-1236
						46	TZW-1246
18	6,5	22	6	22	22	TZW-1822	
					27	TZW-1827	
					28	TZW-1836	

d <sub>2</sub>	d <sub>3</sub>	d	d <sub>1</sub>	t	l	L	NR KAT.
18	6,5	22	6	7	28	46	TZW-1846
						56	TZW-1856
						36	TZW-2436
24	8,5	28	8	9,5	46	TZW-2446	
					56	TZW-2456	
					76	TZW-2476	
					96	TZW-2496	

**TULEJA WTRYSKOWA**  
**SPRUE BUSHINGS**



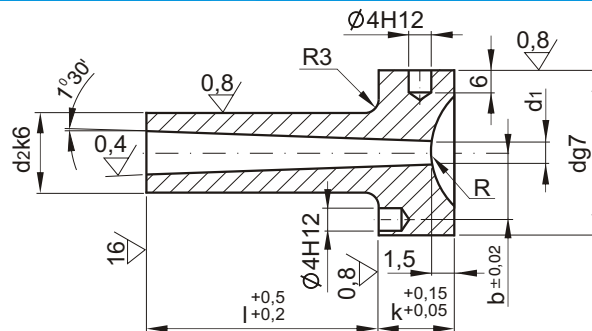
**TWA**

Mat: 1.8159  
55±2 HRC

d <sub>2</sub>	d	k	b	d <sub>1</sub>	l	NR KAT.
18	38	18	15	3,5	27	TWA-183527
					36	TWA-183536
					46	TWA-183546
					56	TWA-183556
				4,5	27	TWA-184527
					36	TWA-184536
					46	TWA-184546

d <sub>2</sub>	d	k	b	d <sub>1</sub>	l	NR KAT.
18	38	18	15	4,5	56	TWA-184556
					76	TWA-184576
					46	TWA-244546
					56	TWA-244556
24	48	23	20	6,5	56	TWA-246556
					76	TWA-246576

**TULEJA WTRYSKOWA**  
**SPRUE BUSHINGS**



**TWB**

Mat: 1.8159  
55±2 HRC

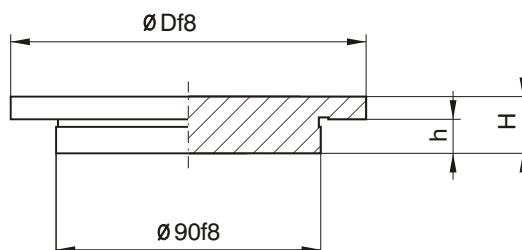
R=15,5										
d <sub>2</sub>	d	k	b	d <sub>1</sub>	l	NR KAT.				
18	38	18	15	3,5	27	TWB-183527-15,5				
					36	TWB-183536-15,5				
					46	TWB-183546-15,5				
					56	TWB-183556-15,5				
				4,5	27	TWB-184527-15,5				
					36	TWB-184536-15,5				
					46	TWB-184546-15,5				
					56	TWB-184556-15,5				
				24	48	23	20	6,5	46	TWB-244546-15,5
									56	TWB-244556-15,5
									76	TWB-244576-15,5
									76	TWB-246576-15,5

R=40										
d <sub>2</sub>	d	k	b	d <sub>1</sub>	l	NR KAT.				
18	38	18	15	3,5	27	TWB-183527-40				
					36	TWB-183536-40				
					46	TWB-183546-40				
					56	TWB-183556-40				
				4,5	27	TWB-184527-40				
					36	TWB-184536-40				
					46	TWB-184546-40				
					56	TWB-184556-40				
				24	48	23	20	6,5	46	TWB-244546-40
									56	TWB-244556-40
									76	TWB-244576-40
									76	TWB-246576-40





**PCB**



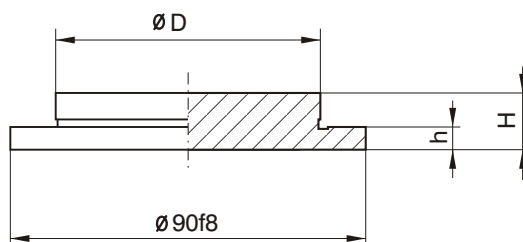
h	D	H	NR KAT.
4	100	8	PCB-100080
7		11	PCB-100110
9		13	PCB-100130
11		15	PCB-100150
12.5		16.5	PCB-100165
4	110	8	PCB-110080
7		11	PCB-110110
9		12	PCB-110120
11		13	PCB-110130
15		15	PCB-110150

h	D	H	NR KAT.	
12.5	110	16.5	PCB-110165	
4		120	8	PCB-120080
7			11	PCB-120110
9			12	PCB-120120
11			13	PCB-120130
15	15		PCB-120150	
12.5	125	16.5	PCB-120165	
4		125	8	PCB-125080
7			11	PCB-125110
9			12	PCB-125120
11			13	PCB-125130
15	15		PCB-125150	

h	U	Y	NR KAT.	
9	125	13	PCB-125130	
11		15	PCB-125150	
12.5		16.5	PCB-125165	
4	140	8	PCB-140080	
7		150	11	PCB-150080
9			12	PCB-150120
11			13	PCB-150130
15			15	PCB-150150
4	160		8	PCB-160080
7		11	PCB-160110	
9		12	PCB-160120	
11		13	PCB-160130	
15		15	PCB-160150	

h	U	Y	NR KAT.	
12.5	160	16.5	PCB-160165	
4		175	8	PCB-175080
7			11	PCB-175110
9			12	PCB-175120
11			13	PCB-175130
15	15		PCB-175150	
12.5	200	16.5	PCB-200165	
4		250	12	PCB-200120
7			13	PCB-250120
9			15	PCB-250120
11			16.5	PCB-250120

**PCB**



h	D	H	NR KAT.
4	60	8	PCB-060080
7		11	PCB-060110
9		13	PCB-060130

h	D	H	NR KAT.
4	80	8	PCB-080080
7		11	PCB-080110
9		13	PCB-080130

**PCC**



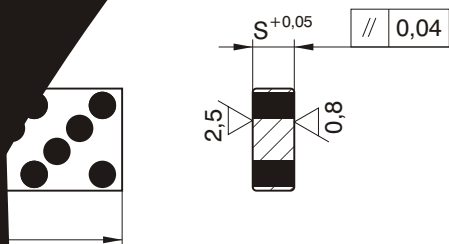
U	Y	NR KAT.
40	6	PCC-040060
	9	PCC-040090
60	8	PCC-060080
	11	PCC-060110
	13	PCC-060130
80	8	PCC-080080
	11	PCC-080110
	13	PCC-080130

U	Y	NR KAT.
90	8	PCC-090080
	11	PCC-090110
	13	PCC-090130
100	15	PCC-090150
	16.5	PCC-090165
	8	PCC-100080
110	8	PCC-110080
	12	PCC-110120

U	Y	NR KAT.
120	8	PCC-120080
	12	PCC-120120
125	8	PCC-125080
	12	PCC-125120
	130	PCC-130120
140	8	PCC-140120
	150	PCC-150080
150	8	PCC-150080
	12	PCC-150120

U	Y	NR KAT.
160	8	PCC-160080
	12	PCC-160120
175	8	PCC-175080
	12	PCC-175120
200	8	PCC-200080
	12	PCC-200120
250	8	PCC-250120
	12	PCC-250120

# PFA



## NR KAT.

PFA-3008500  
PFA-5010500  
PFA-8012500

Mat: Brąz alumiowy  
Aluminium bronze

# PFB

//

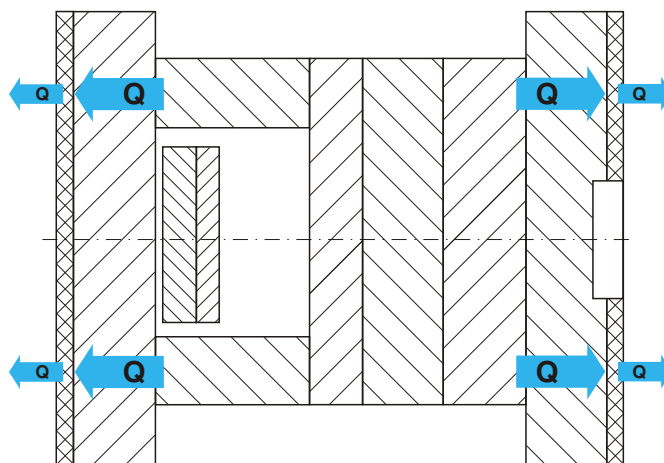
Mat: Brąz alumiowy  
Aluminium bronze

	L	
75		100
	l <sub>1</sub>	
45		

9

14

PFB-3012150



### Zalety płyt izolacyjnych:

- niski współczynnik przewodnictwa ciepłego
- wysoka wytrzymałość na ściskanie w szerokim zakresie temperatur roboczych
- doskonała stabilność wymiarowa
- odporność na oleje i wilgoć
- duża odporność na zniszczenie podczas niezbyt „delikatnego”, obchodzenia się z formą przy przenoszeniu czy wymianie elementów
- pozbawiony azbestu i innych toksycznych materiałów

### Obróbka płyt izolacyjnych

Stosować narzędzia do obróbki metali. Zaleca się stosować narzędzia z ostrzem diamentowym lub z węgla spiekane. Nie zaleca się stosowania płynnego chłodziwa. Jeżeli jest to konieczne należy chłodzić strumieniem powietrza.

### Advantages of insulating plates:

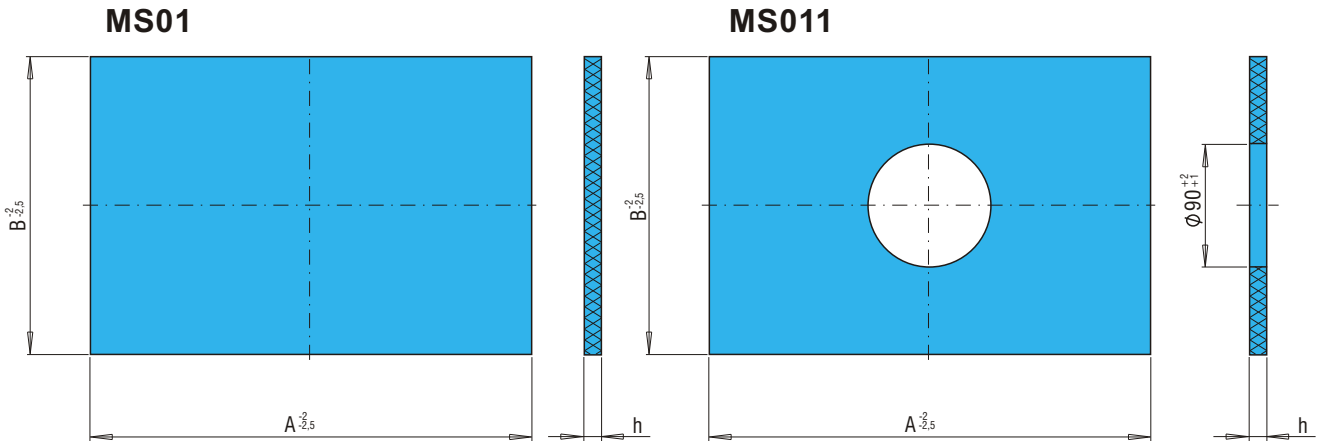
- low thermal conductivity
- high compressive strength at process temperatures
- excellent dimension stability
- oil and moisture resistant
- ability to withstand rough handling during mold changes
- no asbestos or other toxic materials

### Fabricating thermal insulating plates

Use the tools for metal machining . It is recommended to apply the tools with a diamond blade or a sintered carbide. A fluid coolant is not recommended. If a coolant is needed, the most practical system is an air blast.

Dane techniczne	Wartości
Maksymalna temperatura robocza	288 °C
Wytrzymałość na zginanie	214 N/mm <sup>2</sup>
Wytrzymałość na ściskanie:	
24°C	338 N/mm <sup>2</sup>
150°C	188 N/mm <sup>2</sup>
200°C	124 N/mm <sup>2</sup>
288°C	117 N/mm <sup>2</sup>
Absorpcja wody	0,2 % wagi
Gęstość	1,97 gcm <sup>3</sup>
Tolerancja grubości	± 0,05 mm
Współczynnik rozszerzalności cieplnej:	
w kierunku grubości	116 10 <sup>-6</sup> /K
w kierunku długości powierzchni	22 10 <sup>-6</sup> /K
Współczynnik przewodnictwa ciepłego	0,27 W/m K
Twardość	98 HRM

Technical data	Units
Maximum service temperature	288 °C
Flexural strength	214 N/mm <sup>2</sup>
Compressive strength:	
24°C	338 N/mm <sup>2</sup>
150°C	188 N/mm <sup>2</sup>
200°C	124 N/mm <sup>2</sup>
288°C	117 N/mm <sup>2</sup>
Water absorption	0,2 % wagi
Density	1,97 gcm <sup>3</sup>
Thickness tolerance	± 0,05 mm
Coefficient of thermal expansion:	
across tickness	116 10 <sup>-6</sup> /K
across surface	22 10 <sup>-6</sup> /K
Thermal conductivity	0,27 W/m K
Hardness	98 HRM



B	A	h <sub>nom.</sub>	NR KAT.		
156	156	6	MS01-156 156/6		
	196		196/6		
	246		246/6		
	296		296/6		
	396		396/6		
190	246	6	MS01-190 246/6		
	296		296/6		
196	196	6	MS01-196 196/6		
	246		246/6		
	296		296/6		
	346		346/6		
	396		396/6		
	446		446/6		
206	156	6	MS01-206 156/6		
	196		196/6		
218	246	6	MS01-218 246/6		
	296		296/6		
	396		396/6		
246	246	6	MS01-246 246/6		
	296		296/6		
	346		346/6		
	396		396/6		
	446		446/6		
	496		496/10		
	254		246	6	MS01-254 246/6
	276		246	6	MS01-276 246/6
276	296	6	MS01-276 296/6		
296	296	6	MS01-296 296/6		
		10	296/10		
	346	6	346/6		
		10	346/10		
	396	6	396/6		
		10	396/10		

B	A	h <sub>nom.</sub>	NR KAT.		
296	446	6	MS01-296 446/6		
	496	10	496/10		
	546		546/10		
	596		596/10		
	696		696/10		
	346		346	6	MS01-346 346/6
		10	346/10		
396	396	6	MS01-396 396/6		
	446		446/6		
	496		496/6		
	546		546/6		
	596		596/6		
	696		696/6		
	796		796/6		
	396		396	10	MS01-396 396/10
	446		446/10		
	496		496/10		
446	446	6	MS01-446 446/6		
	496		496/6		
	546		546/6		
	596		596/6		
	696		696/6		
	796		796/6		
	446		446	10	MS01-446 446/10
	496		496/10		
	546		546/10		
	596		596/10		
	696		696/10		
	796		796/10		

B	A	h <sub>nom.</sub>	NR KAT.		
446	896	10	MS01-446 896/10		
496	496		MS01-496 496/10		
546	546	6	546/6		
	596		596/6		
	696		696/6		
	796		796/6		
	896		896/6		
	996		996/6		
	546		546	10	MS01-546 546/10
	596		596/10		
646	646/10				
696	696/10				
796	796/10				
896	896/10				
996	996/10				
596	596	6	MS01-596 596/6		
696	696/6				
796	796/6				
896	896/6				
996	996/6				
646	596		10	MS01-646 596/10	
696	696/10				
796	796/10				
896	896/10				
996	996/10				
696	696	6		MS01-696 696/6	
796	796/6				
896	896/6				
996	996/6				
796	796		10	MS01-796 796/10	
896	896/10				
996	996/10				

Sposób oznaczania płyt:

Plate marking:

- numer katalogowy \_\_\_\_\_  
 catalog number  
 - szerokość \_\_\_\_\_  
 width  
 - długość \_\_\_\_\_  
 length  
 - grubość \_\_\_\_\_  
 thickness

**MS01-156 196/6**

**MS011-156 196/6**

Uwaga:

- 1) - inne wymiary płyt na specjalne zamówienie.
- 2) - dla wymiaru nominalnego h=6mm rzeczywisty wymiar wynosi 6,35mm

Note:

- 1) - other dimensions on special order only.
- 2) - for dimension h nom. = 6mm the real dimension is 6,35 mm