

## Runde Schneidstempel

### Standard: ISO8020 Type A

Material & Hardness:

**HWS** Tool Steel

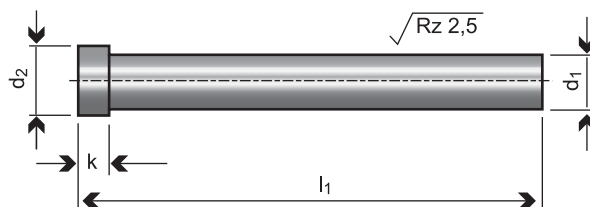
Shaft = HRC62+/-2

Head = HRC50+/-5

**HSS** Steel

Shaft = HRC64+/-2

Head = HRC50+/-5



d1 m5	d2 0/-0.2	T +0.2/-0.1	L+0.5				
			63	71	80	90	100
3	5	3	•	•			
4	6	3	•	•	•		
5	8	5	•	•	•	•	
6	9	5	•	•	•	•	•
8	11	5	•	•	•	•	•
10	13	5	•	•	•	•	•
13	16	5	•	•	•	•	•
16	19	5	•	•	•	•	•
20	24	5	•	•	•	•	•
25	29	5	•	•	•	•	•
32	36	5	•	•	•	•	•

### Standard: ISO8020 Type B

Material & Hardness:

**HWS** Tool Steel

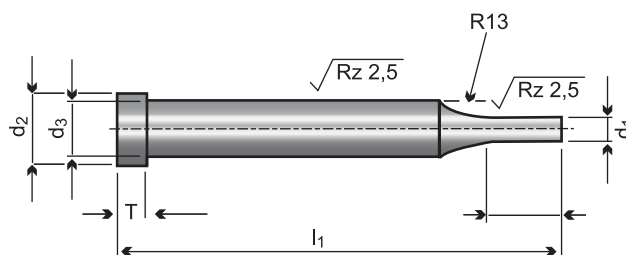
Shaft = HRC62+/-2

Head = HRC50+/-5

**HSS** Steel

Shaft = HRC64+/-2

Head = HRC50+/-5



d1 j6	d2 0/-0.2	d3 m5	T +0.2/-0.1	L2+0.5	L+0.5			
					71	80	90	100
0.8 – 2.9	5	3	3	10	•			
1.0 – 3.9	6	4	3	10	•	•		
1.2 – 4.9	8	5	5	10	•	•	•	•
1.6 – 5.9	9	6	5	10	•	•	•	•
2.5 – 7.9	11	8	5	13	•	•	•	•
4.0 – 9.9	13	10	5	17	•	•	•	•
5.0 – 12.9	16	13	5	17	•	•	•	•
8.0 – 15.9	19	16	5	17	•	•	•	•
12.0 – 19.5	24	20	5	17	•	•	•	•
16.5 – 24.5	29	25	5	17	•	•	•	•

### Standard: ISO8020 Type E

Material & Hardness:

**HWS** Tool Steel

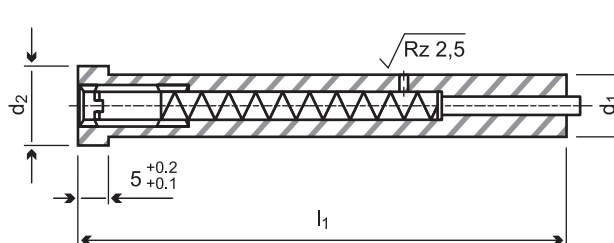
Shaft = HRC62+/-2

Head = HRC50+/-5

**HSS** Steel

Shaft = HRC64+/-2

Head = HRC50+/-5



d1 m5	d2 0/-0.2	T +0.2/-0.1	L+0.5				
			63	71	80	90	100
5	8	5	•	•	•	•	•
6	9	5	•	•	•	•	•
8	11	5	•	•	•	•	•
10	13	5	•	•	•	•	•
13	16	5	•	•	•	•	•
16	19	5	•	•	•	•	•
20	24	5	•	•	•	•	•
25	29	5	•	•	•	•	•
32	36	5	•	•	•	•	•

### Standard: ISO8020 Type F

Material & Hardness:

**HWS** Tool Steel

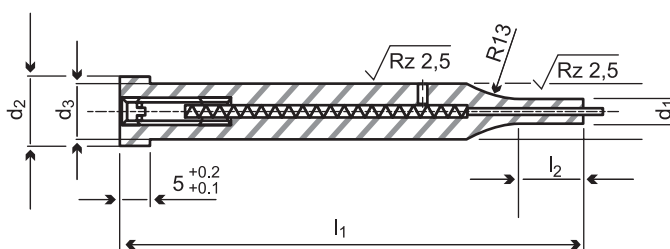
Shaft = HRC62+/-2

Head = HRC50+/-5

**HSS** Steel

Shaft = HRC64+/-2

Head = HRC50+/-5



d1 j6	d2 0/-0.2	d3 m5	T +0.2/-0.1	L2+0.5	L+0.5			
					71	80	90	100
1.6 – 5.9	9	6	5	10	•	•	•	•
2.5 – 7.9	11	8	5	13	•	•	•	•
4.0 – 9.9	13	10	5	17	•	•	•	•
5.0 – 12.9	16	13	5	17	•	•	•	•
8.0 – 15.9	19	16	5	17	•	•	•	•
12.0 – 19.5	24	20	5	17	•	•	•	•
16.5 – 24.5	29	25	5	17	•	•	•	•

# Piercing Punches

**KAXI™**

Schneidstempel mit zylindrischem Kopf

## Standard: ISO8020 Type C

with rectangular and oblong points

Material & Hardness:

**HWS** Tool Steel

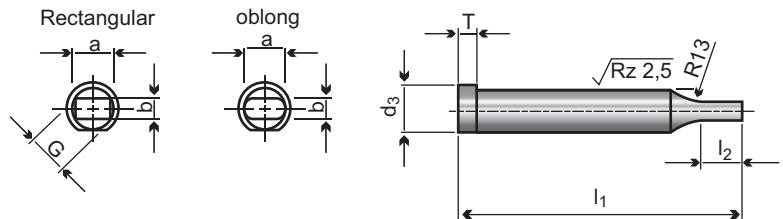
Shaft = HRC62+/-2

Head = HRC50+/-5

**HSS** Steel

Shaft = HRC64+/-2

Head = HRC50+/-5



a +/-0.01	b +/-0.01	d2 0/-0.2	d3 m5	T +0.2/-0.1	L2+0.5	L+0.5			
						71	80	90	100
Up to customer's Requirement G = max. d3		6	4	3	From 10, 13,17,19...up	•	•		
		8	5	5		•	•	•	•
		9	6	5		•	•	•	•
		11	8	5		•	•	•	•
		13	10	5		•	•	•	•
		16	13	5		•	•	•	•
		19	16	5		•	•	•	•
	24	20	5	•	•	•	•		
	29	25	5	•	•	•	•		

## Standard: ISO8020 Type G

with rectangular, oblong points and loaded with spring ejector pins

Material & Hardness:

**HWS** Tool Steel

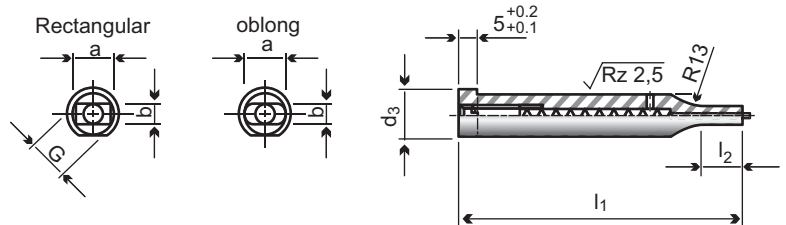
Shaft = HRC62+/-2

Head = HRC50+/-5

**HSS** Steel

Shaft = HRC64+/-2

Head = HRC50+/-5



a +/-0.01	b +/-0.01	d2 0/-0.2	d3 m5	T +0.2/-0.1	L2+0.5	L+0.5			
						71	80	90	100
Up to customer's Requirement G = max. d3		9	6	5	From 10, 13,17,19...up	•	•	•	•
		11	8	5		•	•	•	•
		13	10	5		•	•	•	•
		16	13	5		•	•	•	•
		19	16	5		•	•	•	•
		24	20	5		•	•	•	•
		29	25	5		•	•	•	•

### Standard: ISO8020 Type C

Material & Hardness:

**HWS** Tool Steel

Shaft = HRC62+/-2

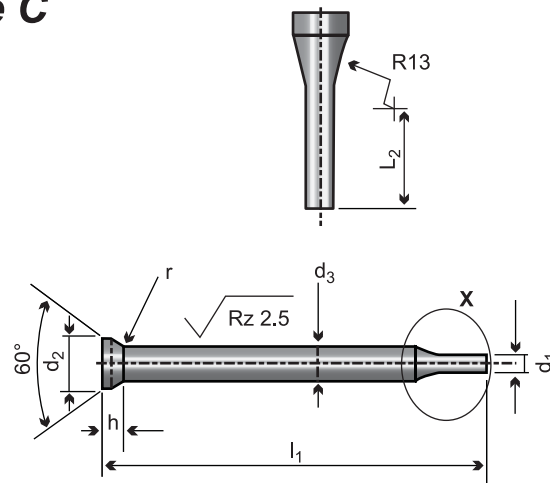
Head = HRC50+/-5

**HSS & ASP23** Steel

Shaft = HRC64+/-2

Head = HRC50+/-5

**Detail X**



d1 h6	d2	d3 h6	In step of	L2+0.5	h+0.2	71	L+0.5	80
0.5 – 1.4	2.2 +/-0.05	1.5	0.1	7	1.11	•		•
0.5 – 1.9	3.0 +/-0.1	2	0.1	7	1.37	•		•
1.6 – 2.9	4.5 +/-0.1	3	1.1	7	1.80	•		•
2.5 – 3.5	5.5 +/-0.1	4	0.5	10	1.80	•		•
3.5 – 4.5	6.5 +/-0.2	5	0.5	10	1.80	•		•
4.5 – 5.5	8.0 +/-0.2	6	0.5	10	2.23	•		•

# Piercing Punches



Schneidstempel mit zylindrischem Kopf

## Standard: ISO8020 Type C

with rectangular and oblong points

Material & Hardness:

**HWS** Tool Steel

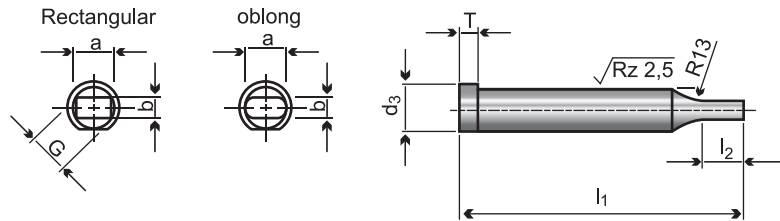
Shaft = HRC62+/-2

Head = HRC50+/-5

**HSS** Steel

Shaft = HRC64+/-2

Head = HRC50+/-5



a +/-0.01	b +/-0.01	d2 0/-0.2	d3 m5	T +0.2/-0.1	L2+0.5	71	80	L+0.5	
								90	100
Up to customer's Requirement G = max. d3		6	4	3	From 10, 13,17,19...up	•	•		
		8	5	5		•	•	•	•
		9	6	5		•	•	•	•
		11	8	5		•	•	•	•
		13	10	5		•	•	•	•
		16	13	5		•	•	•	•
		19	16	5		•	•	•	•
		24	20	5		•	•	•	•
	29	25	5	•	•	•	•		

## Standard: ISO8020 Type G

with rectangular, oblong points and loaded with spring ejector pins

Material & Hardness:

**HWS** Tool Steel

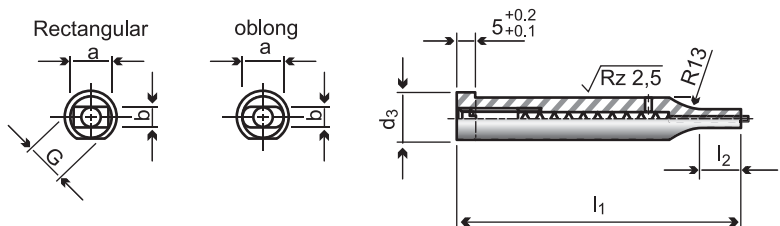
Shaft = HRC62+/-2

Head = HRC50+/-5

**HSS** Steel

Shaft = HRC64+/-2

Head = HRC50+/-5



a +/-0.01	b +/-0.01	d2 0/-0.2	d3 m5	T +0.2/-0.1	L2+0.5	71	80	L+0.5	
								90	100
Up to customer's Requirement G = max. d3		9	6	5	From 10, 13,17,19...up	•	•	•	•
		11	8	5		•	•	•	•
		13	10	5		•	•	•	•
		16	13	5		•	•	•	•
		19	16	5		•	•	•	•
		24	20	5		•	•	•	•
		29	25	5		•	•	•	•

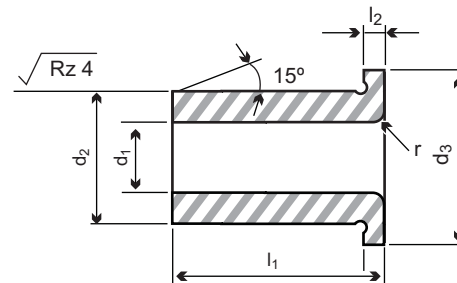
### Standard: **DIN172 Headed**

**Type A:** Bore radius on one end

**Type B:** Bore radius on both ends

Material & Hardness:

Case Hardened Steel x HRC60+/-2



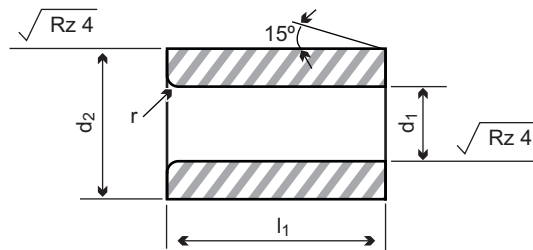
### Standard: **DIN179 Headless**

**Type A:** Bore radius on one end

**Type B:** Bore radius on both ends

Material & Hardness:

Case Hardened Steel x HRC60+/-2



d1 F7	d2 n6	d3	L1+0.5		L2	r	
0.4 – 0.8	3	6	6		2	1	
0.9 – 1.0	3	6	6	9	2	1	
1.1 – 1.8	4	7	6	9	2	1	
1.9 – 2.6	5	8	6	9	2	1	
2.7 – 3.3	6	9	8	12	16	2.5	1
3.4 – 4.0	7	10	8	12	16	2.5	1
4.1 – 5.0	8	11	8	12	16	2.5	1
5.1 – 6.0	10	13	10	16	20	3	1.5
6.1 – 8.0	12	15	10	16	20	3	1.5
8.1 – 10.0	15	18	12	20	25	3	2
10.1 – 12.0	18	22	12	20	25	4	2
12.1 – 15.0	22	26	16	28	36	4	2
15.1 – 18.0	26	30	16	28	36	4	2
18.1 – 22.0	30	34	20	36	45	5	3
22.1 – 26.0	35	39	20	36	45	5	3
26.1 – 30.0	42	46	25	45	56	5	3
30.1 – 35.0	48	52	25	45	56	5	3
35.1 – 42.0	55	59	30	56	67	5	3.5
42.1 – 48.0	62	66	30	56	67	6	3.5
48.1 – 55.0	70	74	30	56	67	6	3.5
55.1 – 63.0	78	82	35	67	78	6	4

### Standard: *European Type D*

Material & Hardness:

#### HWS Steel

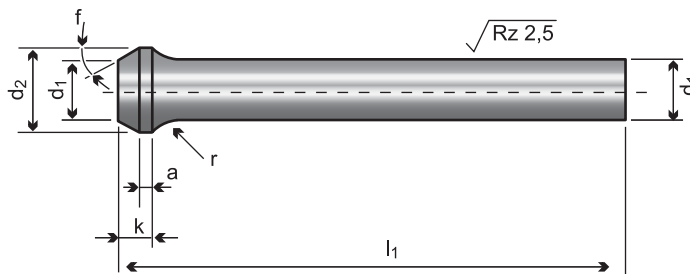
Head = HRC50 $\pm$ 2

Shaft = HRC62 $\pm$ 2

#### HSS Steel

Head = HRC50 $\pm$ 2

Shaft = HRC64 $\pm$ 2



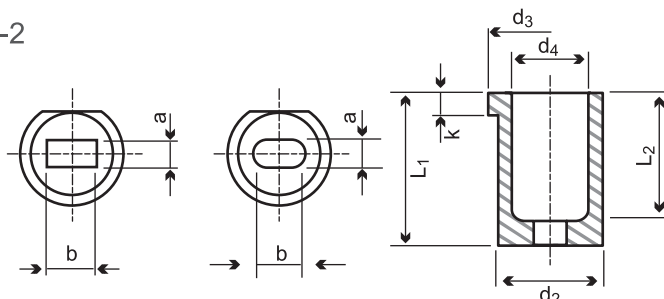
d1 h6	d2 +/-0.5	k	a +/-0.1	f	r	L+0.5		
						71	80	100
2.0 up	3.0	3.0	1.0	15°	3.5	•	•	
2.1 up	3.2	3.0	1.0	15°	3.5	•	•	
2.3 up	3.5	3.0	1.0	15°	5.0	•	•	
2.6 up	4.0	3.0	1.0	20°	6.5	•	•	
3.0 up	4.5	3.0	1.0	20°	6.5	•	•	
3.5 up	5.0	3.0	1.0	20°	8.0	•	•	
4.0 up	5.5	4.0	1.5	15°	8.0	•	•	•
4.5 up	6.0	4.0	1.5	15°	8.0	•	•	•
5.0 up	7.0	4.0	1.5	20°	10.0	•	•	•
5.5 up	8.0	4.0	1.5	25°	10.0	•	•	•
6.0 up	9.0	4.0	1.5	30°	10.0	•	•	•
6.5 up	10.0	4.0	1.5	35°	12.0	•	•	•
7.5 up	11.0	4.0	1.5	35°	12.0	•	•	•
8.5 up	13.2	4.0	1.5	40°	15.0	•	•	•
9.5 up	14.5	4.0	1.5	40°	15.0	•	•	•
10.5 up	15.0	4.0	1.5	40°	15.0	•	•	•
11.5 up	16.5	4.0	1.5	40°	15.0	•	•	•
12.5 up	17.5	4.0	1.5	40°	15.0	•	•	•
13.5 up	18.5	4.0	1.5	40°	15.0	•	•	•
14.5 up	19.0	4.0	1.5	40°	15.0	•	•	•
15.5 up	20.0	4.0	1.5	40°	15.0	•	•	•
16.5 up	21.0	4.0	1.5	40°	15.0	•	•	•
17.5 up	22.0	4.0	1.5	40°	15.0	•	•	•
18.5 up	23.0	4.0	1.5	40°	15.0	•	•	•
19.5 – 20.0	25.0	7.0	1.5	45°	15.0	•	•	•

### Standard: ISO8977 Headed

Material & Hardness:

**HWS** Tool Steel x HRC60+/-2

**HSS** High Speed Steel x HRC64+/-2



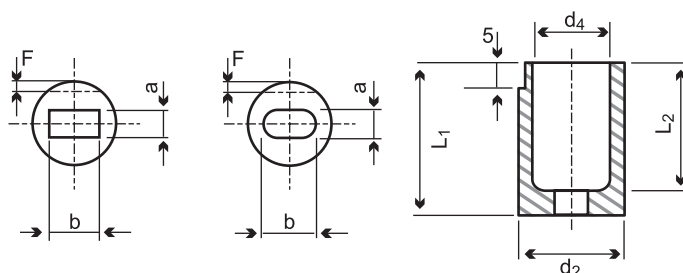
a H8	b H8	d2 m5	d3	d4	k 0/+0.25	L1+0.5	L2
1.6 – 5.4	2.0 – 5.5	10	13	6.5	5.0	32	29
2.0 – 7.4	2.5 – 7.5	13	16	8.5	5.0	32	28
2.2 – 9.9	2.5 – 10.0	16	19	11.0	5.0	32	28
2.5 – 12.9	3.2 – 13.0	20	24	14.0	5.0	32	27
3.2 – 15.9	4.0 – 16.0	25	29	17.0	5.0	32	27
4.0 – 20.9	5.0 – 21.0	32	36	22.0	5.0	32	26
5.0 – 26.9	6.5 – 27.0	40	44	28.0	5.0	32	24

### Standard: ISO8977 Headless

Material & Hardness:

**HWS** Tool Steel x HRC60+/-2

**HSS** High Speed Steel x HRC64+/-2



a H8	b H8	d2 m5	F +0.01	d4	L1+0.5	L2
1.6 – 5.4	2.0 – 5.5	10	1.0	6.5	32	29
2.0 – 7.4	2.5 – 7.5	13	1.5	8.5	32	28
2.2 – 9.9	2.5 – 10.0	16	1.5	11.0	32	28
2.5 – 12.9	3.2 – 13.0	20	1.5	14.0	32	27
3.2 – 15.9	4.0 – 16.0	25	2.5	17.0	32	27
4.0 – 20.9	5.0 – 21.0	32	2.5	22.0	32	26
5.0 – 26.9	6.5 – 27.0	40	2.5	28.0	32	24

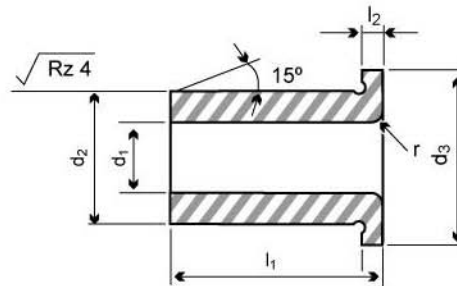
### Standard: **DIN172 Headed**

**Type A:** Bore radius on one end

**Type B:** Bore radius on both ends

Material & Hardness:

Case Hardened Steel x HRC60+/-2



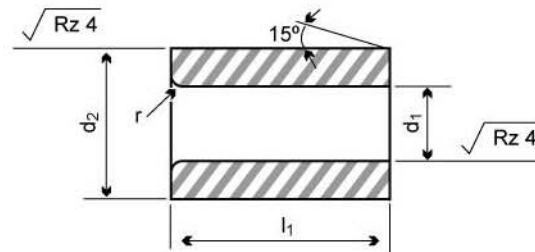
### Standard: **DIN179 Headless**

**Type A:** Bore radius on one end

**Type B:** Bore radius on both ends

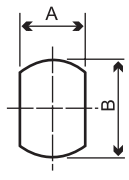
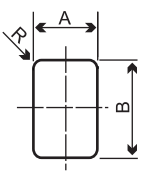
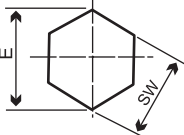
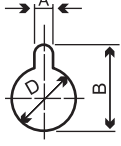
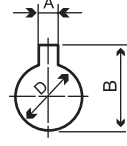
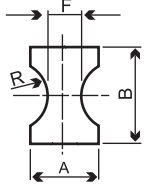
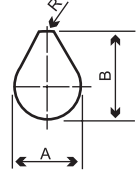
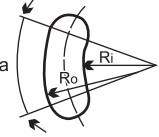
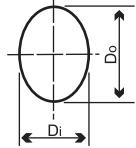
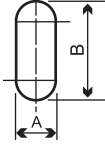
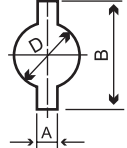
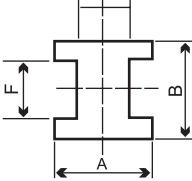
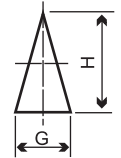
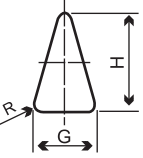
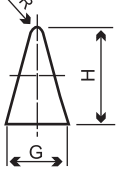
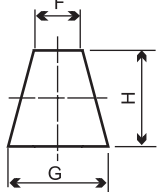
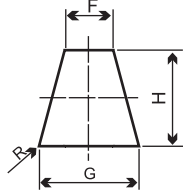
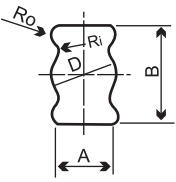
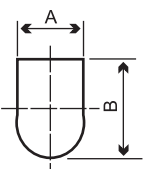
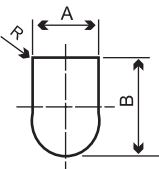
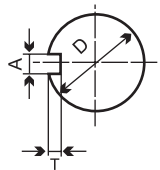
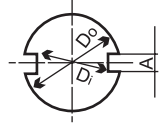
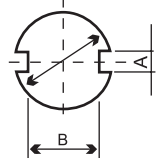
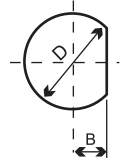
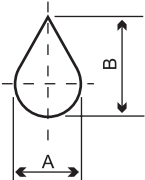
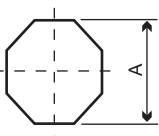
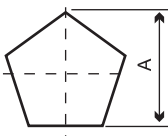
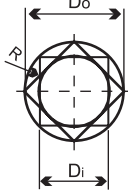
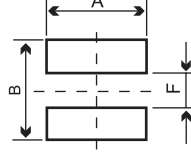
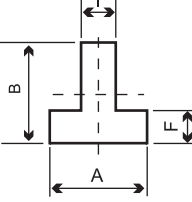
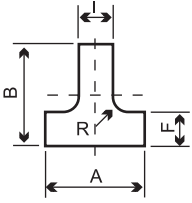
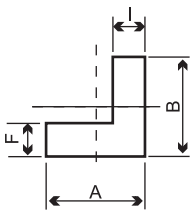
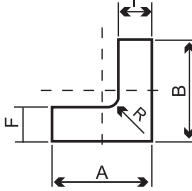
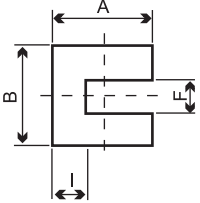
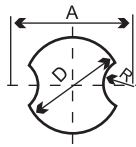
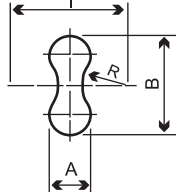
Material & Hardness:

Case Hardened Steel x HRC60+/-2



d1 F7	d2 n6	d3		L1+0.5		L2	r
0.4 – 0.8	3	6	6			2	1
0.9 – 1.0	3	6	6	9		2	1
1.1 – 1.8	4	7	6	9		2	1
1.9 – 2.6	5	8	6	9		2	1
2.7 – 3.3	6	9	8	12	16	2.5	1
3.4 – 4.0	7	10	8	12	16	2.5	1
4.1 – 5.0	8	11	8	12	16	2.5	1
5.1 – 6.0	10	13	10	16	20	3	1.5
6.1 – 8.0	12	15	10	16	20	3	1.5
8.1 – 10.0	15	18	12	20	25	3	2
10.1 – 12.0	18	22	12	20	25	4	2
12.1 – 15.0	22	26	16	28	36	4	2
15.1 – 18.0	26	30	16	28	36	4	2
18.1 – 22.0	30	34	20	36	45	5	3
22.1 – 26.0	35	39	20	36	45	5	3
26.1 – 30.0	42	46	25	45	56	5	3
30.1 – 35.0	48	52	25	45	56	5	3
35.1 – 42.0	55	59	30	56	67	5	3.5
42.1 – 48.0	62	66	30	56	67	6	3.5
48.1 – 55.0	70	74	30	56	67	6	3.5
55.1 – 63.0	78	82	35	67	78	6	4

# The Shape of Punches and Dies

					
<b>01</b>	<b>02</b>	<b>03</b>	<b>04</b>	<b>05</b>	<b>06</b>
					
<b>07</b>	<b>08</b>	<b>09</b>	<b>10</b>	<b>11</b>	<b>12</b>
					
<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>
					
<b>19</b>	<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>
					
<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>
					
<b>31</b>	<b>32</b>	<b>33</b>	<b>34</b>	<b>35</b>	<b>36</b>