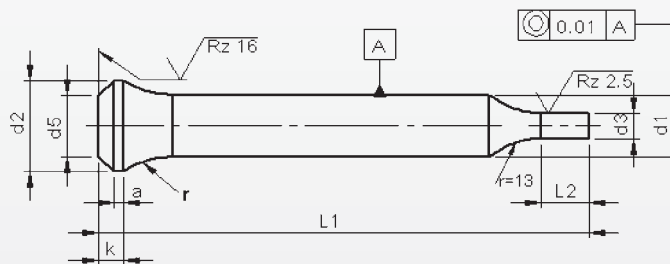
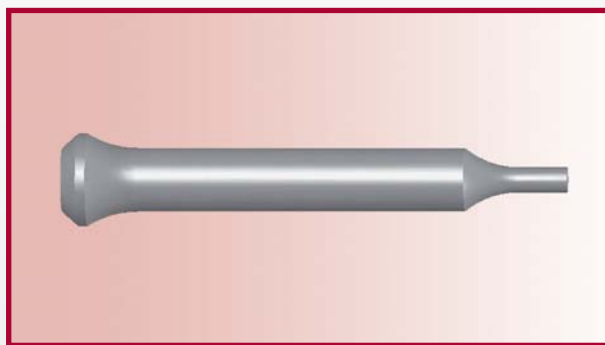


# Punches with bottle neck type PP

With reduced shaft 'Round'



**Material:** HSS (1.3343)  
**Hardness:** Shaft: 64 ±2 HRC  
 Head: 50 ±5 HRC

d <sub>1</sub>	d <sub>2</sub>	k	a	d <sub>5</sub>	r	<sup>+0.5</sup> <sub>0</sub> l <sub>1</sub>				
						71	80	90	100	120
h6		h6		+0.5 +0.0		<b>Price by piece in EUROS</b>				
3,0	4.5	4.0	1.5		6.5	6,10	6,50	6,95	7,45	7,95
3.5	5.0				8.0	7,00	7,50	8,05	8,70	9,30
4.0	5.5				8.0	6,35	6,80	7,25	7,75	8,25
4.5	6.0					7,55	8,15	8,70	9,30	9,95
5.0	7.0				10.0	7,10	7,55	8,10	8,70	9,30
5.5	8.0					8,65	9,20	9,90	10,65	11,40
6.0	9.0				10.0	7,95	8,45	9,00	9,65	10,30
6.5	10.0					9,70	10,30	11,00	11,80	12,65
7.0	10.0				12.0	7,90	9,35	9,95	10,60	11,25
7.5	11.0					8,95	10,75	11,50	12,30	13,15
8.0	11.0				12.0	9,70	10,35	11,05	11,85	12,65
8.5	13.0					11,20	12,00	12,90	13,90	14,90
9.0	13.0				15.0	10,10	10,80	11,60	12,45	13,35
9.5	14.0					11,70	12,55	13,55	14,65	15,75
10.0	14.0				15.0	11,05	11,75	12,55	13,45	14,35
10.5	15.0					12,70	13,60	14,60	15,70	16,85
11.0	15.0				15.0	11,25	12,00	12,85	13,75	14,70
11.5	16.0					12,95	13,90	14,95	16,10	17,25
12.0	16.0				15.0	12,85	13,75	14,80	15,95	17,10
12.5	17.0					14,95	16,10	17,40	18,85	20,25
13.0	17.0	15.0	15,00	16,05	17,25	18,60	19,95			
13.5	18.0		16,65	17,80	19,05	20,45	23,50			
14.0	18.0	15.0	17,25	18,45	19,65	21,05	24,10			
14.5	19.0		17,85	19,05	20,25	21,65	24,70			

Intermediate diameters, other lengths and special materials e.g. ASP, CPM and Vanadis, are available on request.

See page 2 for extra charges and discount.