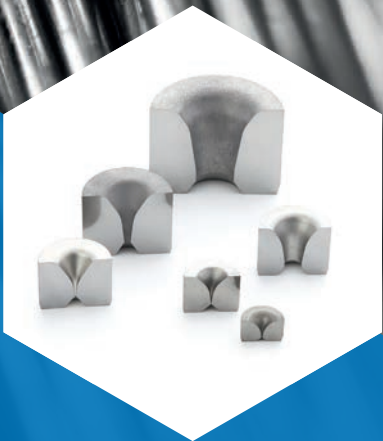


TOOLMAKER SOLUTIONS
**Carbide Nibs for
Wire Drawing
Dies**

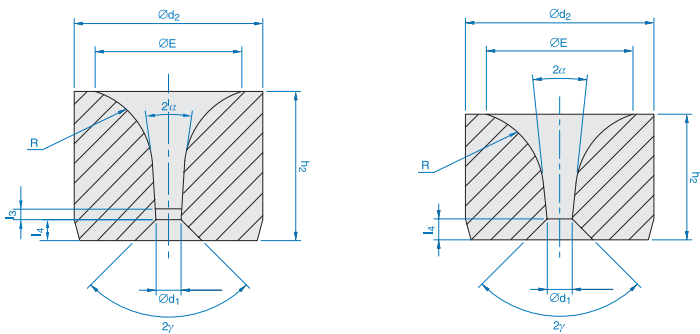


Cemented carbide drawing nibs providing tight dimensional tolerance and perfect coaxiality and meeting point

HYPERION NIBS FOR WIRE DRAWING DIES

Hyperion cemented carbide drawing nibs are known for their impeccable geometry and unique and consistent grade composition. We offer not only a huge range of standard dimensions but also a superior quality in special designs.

CARBIDE NIBS FOR WIRE DRAWING DIES - HYPERION STANDARD ISO



ISO
10x8 to 20x17 Nib



NIB	ORDERING CODE																	
$d_2 \times h_2$	Code / Grade	2α	d_1						l_2	l_3	l_4	2β	R	$\varnothing E$	2γ			
10x8	WDINR10...126F / H6F	12°	0.20	0.25	0.30	0.35	0.40	0.50			1.80		5.7	6.8	90°			
			0.60	0.70	0.80	0.90	1.00	1.10								1.80	5.7	6.8
			1.20	-	-	-	-	-								1.75	5.7	7.1
			1.30	-	-	-	-	-								1.66	5	7.1
			1.40	-	-	-	-	-								1.73	5	7.1
			1.50	-	-	-	-	-								1.75	5	7.1
			1.60	-	-	-	-	-								1.60	5.2	7.3
			1.70	-	-	-	-	-								1.66	4.7	6.9
			1.80	-	-	-	-	-								1.55	4.8	7.1
			12x10	WDINR12...126F / H6F	12°	1	0.9	0.8								0.75	0.7	-
0.65	0.6	0.5				0.4	0.3	-	2	8.9								
0.25	0.2	-				-	-	-	2	8.9								
0.60	0.70	0.80				-	-	-	2.40	10.5	10							
14x12	WDINR14...126F / H6F	12°	0.90	-	-	-	-	-			2.58		10.3	10	75°			
			1.00	-	-	-	-	-			2.40		10.5					
			1.10	-	-	-	-	-			2.59		10.3			10.2		
			1.20	-	-	-	-	-			2.40		10.5			10		
			1.30	1.40	1.50	-	-	-			2.55		10			10		
			1.70	-	-	-	-	-			2.53		10			10		
			1.80	1.90	2.00	2.20	2.40	-			2.40		10.5			10		
			2.45	-	-	-	-	-			3.21		10			10.4		
			2.60	2.90	-	-	-	-			2.40		10.5			10		
			16x13	WDINR16...12F / H6F	12°	0.25	0.30	-			-		-			-		
0.35	-	-				-	-	-	3	10.6	12.2							
0.40	0.45	0.50				0.55	0.60	-	3	10.6	12.3							
0.70	-	-				-	-	-	3	10.6	12.5							
0.80	-	-				-	-	-	3	10.6	12							
0.90	1.00	-				-	-	-	3	10.3	12.2							
1.10	1.20	-				-	-	-	3	10.3	12.4							
1.30	1.40	-				-	-	-	2.90	10	12							
1.50	-	-				-	-	-	2.90	10	12.2							
1.60	1.70	-				-	-	-	2.90	10	12.3							
1.90	-	-				-	-	-	2.90	9.7	12							
2.25	-	-				-	-	-	2.85	9.7	12.4							
2.40	2.50	-		-	-	-	3	9.2	12									
2.80	-	-		-	-	-	3	9	11.7									
3.40	-	-		-	-	-	3	8.6	11.8									
16x13	WDINR16...14F / H6F	14°		2.50	-	-	-	-	-	0.64	3.13		8	11.7	75°			
	WDINR16...16F / H6F	16°	2.60	-	-	-	-	-	0.66	3		8.1	12	75°				
	WDINR16...16F / H6F	16°	3.00	-	-	-	-	-	0.78	3.12		7.7	11.7	75°				
	WDINR16...16F / H6F	16°	3.97	-	-	-	-	-	0.99	3		8.1	13.4	75°				
20x17	WDINR20...12F / H6F	12°	0.70	-	-	-	-	-			4.25		13.5	15.1	60°			
			0.80	-	-	-	-	-			4.25		13.5			15.2		
			0.90	-	-	-	-	-			4.25		13.5			15.3		
			1.00	-	-	-	-	-			4.2		13.2			14.9		
			1.10	1.20	-	-	-	-			4.2		13.2			15		
			1.30	-	-	-	-	-			4.2		13.2			15.2		
			1.40	-	-	-	-	-			4.2		13.2			15.3		
			1.60	-	-	-	-	-			4.2		13.2			15.5		
			1.80	-	-	-	-	-			4.15		12.9			15.1		
			2.00	-	-	-	-	-			4.1		12.6			14.8		
			2.40	-	-	-	-	-			4.1		12.6			15.2		
			2.65	-	-	-	-	-			4.05		12.3			14.9		
			2.70	-	-	-	-	-			4.05		12.3			15		
			3.05	-	-	-	-	-			4		12			14.8		
			3.20	-	-	-	-	-			4		12			15		
			3.60	-	-	-	-	-			4		11.7			14.9		

With outer diameter as sintered or ground. All dimensions in mm.

HYPERION NIBS FOR WIRE DRAWING DIES

TOLERANCES FOR d_2 AND h_2

Nib $d_2 \times h_2$	As Sintered				Ground*	
	d_2		h_2		d_2	
	Nominal	Tolerance	Nominal	Tolerance	Nominal	Tolerance
10x8	9.65	± 0.15	8.00	± 0.20	9.55	+0.015/0
12x10	12.00	+0.040/+0.010	10.00		± 0.30	12.00
14x12	13.91	± 0.10	12.00	13.70		
16x13	15.80	± 0.15	13.00	15.54		
20x17	19.75	± 0.15	17.00		19.50	+0.021/0

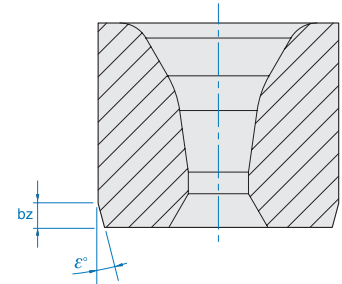
* Faces will not be ground.

TOLERANCES FOR d_1

d_1 From	To	Tolerance
0.10	0.29	0/-0.03
0.30	0.49	0/-0.04
0.50	0.69	0/-0.05
0.70	0.99	0/-0.06
1.00	1.50	0/-0.07
1.51	3.00	0/-0.08
3.01	5.09	0/-0.09

TOLERANCES FOR l_3 (nibs with round bearing)

l_3 From	To	Tolerance
	< 0.51	+0.25/0
	0.51	+0.30/0
	1.03	+0.40/0
	1.51	+0.50/0
	> 2.50	+0.60/0

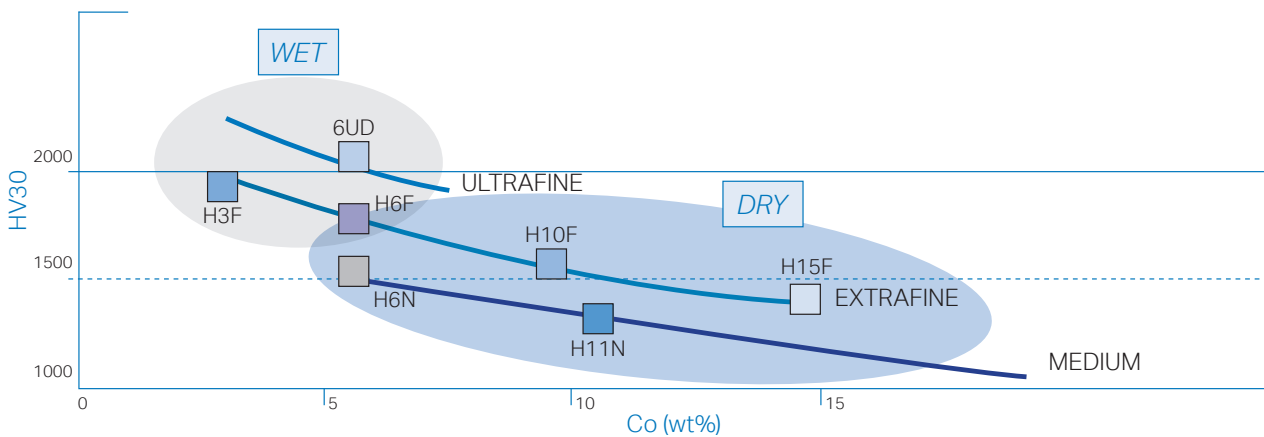


TOLERANCES FOR 2α AND 2γ CASING CHAMFER

Angle	Tolerance
2α	$\pm 1^\circ$
2γ	$\pm 5^\circ$

h_2	ϵ°	bz	Tolerance
≤ 8	15°	12% h_2	$\pm 3\% h_2$
10, 12, 13	15°	11% h_2	$\pm 3\% h_2$
17	15°	8% h_2	$\pm 3\% h_2$

WIRE DRAWING STANDARD GRADES



ORDERING INFORMATION

When ordering, replace dots (...) in the ordering code with your required inner diameter found in the table.

ORDERING EXAMPLES:

Nib 16x13, 12° , $d_1 = 2.10$ mm with outer diameter as sintered

Ordering code: WDSNR 160210 12MH6F

M in the code (WDSNR... 16MH6F) = "meeting point" = $l_3 = 0$

When ordering nibs with ground outer diameter, replace the R in the code with a G = WDSNG...

Nib 25x20, 16° , $d_1 = 4.80$ mm with outer diameter as sintered

Ordering code: WDSNR 250480 16BH6N

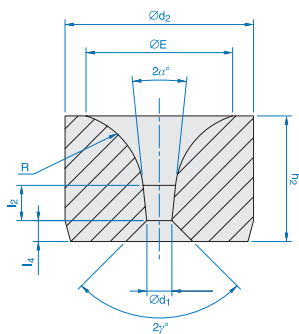
B in the code (WDSNR...16BH6N) = "bearing length" = $l_3 = 0$

ORDERING CODE KEY

WD	S	N	R	16	0210	12	M	H6F
Wire drawing	Standard	Nibs	R = As sintered G = Ground	Outside diameter	Nominal hole diameter	Drawing angle	M = Meeting point B = Bearing length	Carbide grade

HYPERION NIBS FOR WIRE DRAWING DIES

CARBIDE NIBS FOR WIRE DRAWING DIES - HYPERION STANDARD JIS



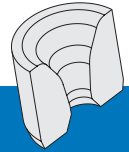
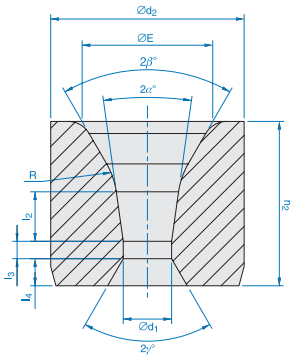
JIS
9x6 to 20x14 Nib



NIB	ORDERING CODE	2α	d_1						l_2	l_3	l_4	2β	R	$\varnothing E$	2γ
$d_2 \times h_2$	Code / Grade														
9x6	WDJNR09...12M / H3F	12°	0.10	-	-	-	-	-	1.0	0	1.0	-	5.0	6.2	90°
			0.12	-	-	-	-	-						6.0	
			0.15	-	-	-	-	-						6.2	
			0.16	-	-	-	-	-						6.0	
			0.17	0.18	0.19	-	-	-						6.1	
			0.20	-	-	-	-	-						6.2	
			0.21	0.22	0.23	0.24	-	-						6.1	
			0.25	-	-	-	-	-						6.2	
			0.26	-	-	-	-	-						6.1	
			0.27	0.28	0.29	0.30	0.32	0.33						6.2	
			0.34	0.35	0.40	0.45	0.50	-						6.1	
			0.55	0.60	0.65	0.70	0.75	0.80						6.2	
			0.85	0.90	-	-	-	-						6.1	
			1.00	1.10	-	-	-	-						6.2	
1.20	1.30	1.40	1.50	-	-	6.1									
						6.2									
12x8	WDJNR12...12M / H3F	12°	0.50	0.55	0.60	0.65	0.70	0.75	6.8	0	-	-	5.2	8.1+d ₁	-
	0.80		0.85	0.90	0.95	-	-	-	(l ₁ +l ₂)						
	1.00		1.05	1.10	1.20	1.30	1.40	5.9	0.9						
	1.50		1.60	-	-	-	-	(l ₁ +l ₂)							
	1.70		1.80	1.90	-	-	-	5.7	1.1						
	2.00		-	-	-	-	-	(l ₁ +l ₂)							
	WDJNR12...12B / H3F	12°	2.10	-	-	-	-	-	5.5 (l ₁ +l ₂)	1.3	3.3	8.5	-		
			2.10	-	-	-	-	-	5.5 (l ₁ +l ₂)	1.3					
			2.10	-	-	-	-	-	5.5 (l ₁ +l ₂)	1.3					
			2.10	-	-	-	-	-	5.5 (l ₁ +l ₂)	1.3					
			2.10	-	-	-	-	-	5.5 (l ₁ +l ₂)	1.3					
			2.10	-	-	-	-	-	5.5 (l ₁ +l ₂)	1.3					
WDJNR12...16M / H3F	16°	0.50	0.55	0.60	0.70	0.75	0.80	6.8	0	-	-	5.4	8.1+d ₁	-	
		0.90	0.95	-	-	-	-	(l ₁ +l ₂)							
		1.70	1.80	1.90	-	-	-	5.7							
	WDJNR12...16B / H3F	16°	2.00	-	-	-	-	-	(l ₁ +l ₂)	1.1	4	7.1+d ₁	-		
			2.00	-	-	-	-	-	(l ₁ +l ₂)	1.1					
			2.10	-	-	-	-	-	5.5 (l ₁ +l ₂)	1.3					
15x10	WDJNR15...12M / H6F	12°	0.50	0.70	0.75	0.80	-	-	8.5	0	-	-	6.5	10.6+d ₁	-
	0.90		-	-	-	-	-	(l ₁ +l ₂)							
	1.00		1.10	1.20	1.30	1.40	1.50	7.6 (l ₁ +l ₂)	0.9						
	1.60		1.70	1.80	1.90	-	-	7.4	1.1						
	2.00		-	-	-	-	-	(l ₁ +l ₂)							
	2.10		2.20	2.30	2.40	2.50	-	7.2 (l ₁ +l ₂)	1.3						
	2.60		2.70	2.80	-	-	-	7.1	1.4						
	3.00	-	-	-	-	-	(l ₁ +l ₂)								
	WDJNR15...12B / H6F	12°	3.10	-	-	-	-	-	6.9 (l ₁ +l ₂)	1.6	4.1	10.6	-		
			3.10	-	-	-	-	-	6.9 (l ₁ +l ₂)	1.6					
			3.10	-	-	-	-	-	6.9 (l ₁ +l ₂)	1.6					
			3.10	-	-	-	-	-	6.9 (l ₁ +l ₂)	1.6					
			3.10	-	-	-	-	-	6.9 (l ₁ +l ₂)	1.6					
			3.10	-	-	-	-	-	6.9 (l ₁ +l ₂)	1.6					
3.10			-	-	-	-	-	6.9 (l ₁ +l ₂)	1.6						
WDJNR15...16B / H6F	16°	1.60	1.70	1.80	1.90	-	-	7.4	1.1	-	-	4.1	7.6+d ₁	-	
		2.00	-	-	-	-	-	(l ₁ +l ₂)							
		2.10	2.20	2.30	2.40	2.50	-	7.2 (l ₁ +l ₂)				1.3			
		2.60	2.70	2.80	2.90	-	-	7.1				1.4			
		3.00	-	-	-	-	-	(l ₁ +l ₂)							
		3.10	3.20	3.30	3.40	3.50	-	6.9 (l ₁ +l ₂)				1.6			
		3.60	3.70	3.80	3.90	-	-	6.7				1.8			
4.00	-	-	-	-	-	(l ₁ +l ₂)									
20x14	WDJNR20...16B / H6N	16°	4.10	4.30	4.40	4.50	-	-	6.5 (l ₁ +l ₂)	2.0	4.6	6.6+d ₁	75°		
			4.60	4.70	4.80	-	-	-	6.6 (l ₁ +l ₂)	2.2					
			1.70	1.80	-	-	-	-	11.0 (l ₁ +l ₂)	1.1					
			2.00	-	-	-	-	-	10.6	1.3					
			2.10	2.20	2.30	2.40	2.50	-	(l ₁ +l ₂)						
			2.60	2.70	2.80	2.90	-	-	-	1.4					
			3.00	-	-	-	-	-	-	1.6					
			3.10	3.20	3.30	3.40	3.50	-	-	1.6					
			3.60	3.70	3.80	3.90	-	-	-	1.8					
			4.00	-	-	-	-	-	-	2.0					
4.10	4.20	4.30	4.40	4.50	-	-	10.2	2.2							
4.60	4.70	4.80	4.90	-	-	(l ₁ +l ₂)									
5.00	-	-	-	-	-	-	2.2								
5.20	5.40	5.50	-	-	-	-	2.3								
6.00	-	-	-	-	-	-	2.5								

HYPERION NIBS FOR WIRE DRAWING DIES

CARBIDE NIBS FOR WIRE DRAWING DIES - HYPERION STANDARD DIN



DIN
12x10 to 30x24 Nib

NIB	ORDERING CODE	2α	d_1						l_2	l_3	l_4	2β	R	$\varnothing E$	2γ	
$d_2 \times h_2$	Code / Grade															
12x10	WDSNR12...12M / H6F	12°	-	0.20	0.30	-	-	-	2.9	0	2.1	90°	6.5	7.0	90°	
			0.35	-	-	-	-	-								2.2
			0.40	0.50	0.60	0.70	0.80	0.90			2.1			7.0		
12x10	WDSNR12...14M / H6F	14°	1.00	1.10	1.20	1.30	1.40	1.50	3.6	0	1.9	90°	6.5	7.6	90°	
			1.60	1.70	-	-	-	-								7.6
			1.80	1.90	2.00	2.10	2.20	2.30						8.2		
			2.40	2.50	-	-	-	-						8.2		
16x13	WDSNR16...08M / H6F	8°	0.70	-	-	-	-	-	2.8	0	2.6	60°	8.0	8.5	75°	
			0.80	-	-	-	-	-								8.0
			0.90	-	-	-	-	-								8.5
			1.00	-	-	-	-	-								7.9
			1.10	1.15	-	-	-	-								8.5
			1.20	-	-	-	-	-								7.8
			1.30	1.50	-	-	-	-								8.5
			0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50			8.2		
			0.60	0.70	0.80	0.90	-	-	-	-			8.2			
			1.00	1.10	1.20	1.30	1.40	1.50					8.7			
			1.60	-	-	-	-	-					8.7			
			1.70	1.80	1.90	2.10	2.25	-					8.7			
			2.90	-	-	-	-	-	3.9	2.3			10.0			
			3.60	-	-	-	-	-	4.5	2.3			10.0			
			3.80	-	-	-	-	-	4.0	2.3			10.0			
16x13	WDSNR16...14M / H6F	14°	1.00	1.10	1.20	1.30	1.40	1.50	3.4	0	2.6	60°	8.0	8.7	75°	
			1.60	1.70	-	-	-	-								8.7
16x13	WDSNR16...14B / H6F	14°	1.80	1.90	2.00	2.10	2.20	-	3.0	50% d_1	2.3	60°	8.0	9.3	75°	
			2.30	2.40	2.50	2.60	2.70	2.80								9.3
			2.90	-	-	-	-	-	2.8							
16x13	WDSNR16...16B / H6N	16°	3.00	3.20	3.40	-	-	-	3.5	1.5	2.3	60°	8.0	10.5	75°	
			3.60	3.80	4.00	-	-	-								1.6
			4.20	4.40	4.60	-	-	-								1.7
			4.80	5.00	5.20	-	-	-								1.8
20x17	WDSNR20...12M / H6N	12°	1.20	1.30	-	-	-	-	4.9	0	3.9	60°	8.0	10.4	60°	
			1.40	1.50	1.60	1.80	-	-								5.7
			2.00	-	-	2.60	2.70	2.90								7.0
			3.05	3.20	3.35	3.50	3.65	-								6.4
			3.95	-	-	-	-	-								6.4
			4.25	4.40	4.55	4.70	-	-								7.2
			4.90	-	-	-	-	-								6.2
			1.20	1.30	-	-	-	5.6	50% d_1	3.5			10.3			
			1.40	1.50	1.60	1.80	-	6.2	50% d_1	2.8			10.3			
			2.50	2.60	2.70	2.80	-	5.8	50% d_1	2.8			10.3			
			3.00	-	-	-	-	5.0	1.5	2.8			12.2			
			3.65	3.85	-	-	-	5.0	1.6	2.8			12.2			
20x17	WDSNR20...16B / H6N	16°	3.20	3.40	-	-	-	-	5.3	1.5	2.8	60°	8.0	12.2	60°	
			3.60	3.80	4.00	-	-	-								5.7
			4.20	4.40	4.60	4.80	-	-								6.2
			5.00	5.20	5.40	5.60	5.80	-								6.2
			6.00	6.20	6.40	6.60	6.80	7.00								6.2
			7.20	-	-	-	-	-								6.2
			7.40	7.60	7.80	-	-	-								6.2

HYPERION NIBS FOR WIRE DRAWING DIES

CARBIDE NIBS FOR WIRE DRAWING DIES - HYPERION STANDARD DIN



NIB	ORDERING CODE														
$d_2 \times h_2$	Code / Grade	2α	d_1					l_2	l_3	l_4	2β	R	$\varnothing E$	2γ	
25x20	WDSNR25...12M / H6N	12°	2.20	-	-	-	-	6.7	0	4.2	60°	8.0		12.8	60°
			2.40	-	-	-	-	7						12.8	
			2.60	-	-	-	-	7						12.8	
			2.80	-	-	-	-	7.5						12.8	
			3.00	-	-	-	-	5.8						12.8	
			3.25	-	-	-	-	7.5						12.8	
			3.65	-	-	-	-	7						14	
			3.80	-	-	-	-	6.5						14.5	
			WDSNR25...16B / H6N	16°	3.80	-	-	-						-	
	4.00	4.20			-	-	-	5.6	1.6	4.0	15.0				
	4.40	-			-	-	-	6.5	1.6	4.0	15.0				
	4.80	-			-	-	-	4.9	1.7	4.0	15.0				
	-	-			5.40	-	-	5.9	1.7	4.0	15.0				
	5.80	6.00			-	-	-	5.9	1.8	4.0	15.0				
	6.20	6.40			6.60	6.80	-	6.3	2.0	3.7	16.3				
	7.00	-			7.40	-	-	6.8	2.0	3.4	16.3				
	7.60	7.80	8.00	8.20	8.40	6.8	2.0	3.4	17.3						
8.60	8.80	9.00	-	-	7.8	2.0	3.4	17.3							
30x24	WDSNR30...16B / H6N	16°	2.50	-	-	-	-	5.80	1.6	6.1	14.9				
			2.80	-	-	-	-	6.40	1.6	5.8	15.0				
			3.20	-	-	-	-	5.80	1.6	5.8	16.0				
			3.50	-	-	-	-	6.30	1.6	5.6	16.0				
			3.80	-	-	-	-	5.80	1.6	5.4	17.0				
			4.00	-	-	-	-	5.70	1.6	5.2	17.5				
			4.20	-	-	-	-	6.00	1.6	5.2	17.5				
			4.40	-	-	-	-	5.20	1.6	5.0	17.5				
			4.60	-	-	-	-	7.00	1.6	4.8	17.5				
			5.00	5.20	-	-	-	8.4	1.7	4.6	17.2				
			-	5.80	-	-	-	7.4	1.8	4.6	18.7				
			6.00	-	6.40	6.60	-	6.9	2.0	4.6	18.7				
			6.80	-	-	-	-	8.4	2.0	4.6	18.7				
			7.40	7.60	-	-	-	9.0	2.0	4.6	18.7				
			7.80	-	-	-	-	8.1	2.0	4.6	18.7				
			-	-	8.60	-	-	9.3	2.0	4.6	18.7				
			8.80	9.00	-	-	-	10.4	2.0	4.6	18.7				
			-	-	-	-	-	11.2	2.0	4.6	18.7				
			9.60	-	-	-	-	9.5	2.2	4.6	19.8				
			10.00	10.20	-	-	-	10.0	2.2	4.6	19.8				
-	-	-	11.00	-	9.6	2.3	4.6	21.2							
-	11.40	-	-	-	10.6	2.4	4.6	21.2							
11.80	12.00	-	-	-	9.9	2.4	4.6	21.2							

HYPERION NIBS FOR WIRE DRAWING DIES

LARGE STANDARD NIBS

Nib $d_2 \times h_2$	d_1 (recommended nominal)		Grade Available
	min.	max.	
35x24	12	16	H6N / H11N
40x24	15	19	H6N / H11N
45x25	18	22	H6N / H11N
50x25	21	25	H6N / H11N
55x27	24	28	H6N / H11N
60x27	27	31	H6N / H11N
65x27	29	34	H6N / H11N

Nib $d_2 \times h_2$	d_1 (recommended nominal)		Grade Available
	min.	max.	
70x30	32	37	H11N
75x30	35	41	H11N
80x30	39	45	H11N
85x33	43	49	H11N
90x33	47	53	H11N
100x35	51	61	H11N

TOLERANCES FOR d_2 AND h_2

Nib $d_2 \times h_2$	As Sintered				Ground*		
	d_2		h_2		d_2		
	Nominal	Tolerance	Nominal	Tolerance	Nominal	Tolerance	
9x6	9.00	+0.25/+0.05	6.00	±0.20	9	+0.015/0	
12x10	12.00	+0.32/+0.12	10.00		±0.30	12.00	+0.018/0
16x13	16.00	0/-0.30	13.00	±0.40		15.65	+0.021/0
20x17	20.00	+0.10/-0.30	17.00			19.65	
25x20	25.00	+0.50/+0.10	20.00	±0.40	25.00	+0.021/0	
30x24	30.00	+0.60/+0.20	24.00		30.00		

* Faces will not be ground.

TOLERANCES FOR d_2

d_1 From	To	Tolerance
0.10	0.29	0/-0.03
0.30	0.49	0/-0.04
0.50	0.69	0/-0.05
0.70	0.99	0/-0.06
1.00	1.50	0/-0.07
1.51	3.00	0/-0.08
3.01	5.09	0/-0.09
5.10	7.09	0/-0.10
7.10	10.14	0/-0.12
10.15	12.00	0/-0.15

TOLERANCES FOR I_3 (nibs with round bearing)

I_3 From	To	Tolerance
< 1.02		+0.15/-0.15
1.03	1.50	+0.20/-0.20
1.51	2.50	+0.25/-0.25

TOLERANCES FOR 2α AND 2γ

Angle	Tolerance
2α	± 1°
2γ	± 5°

CARBIDE GRADE PROPERTIES

Carbide Grade	Co (%wt)	Hardness (HV30)	Density (g/cm ³)	WC Grain Size
6UD	6	2050	14.75	Ultra fine
H3F	3	1925	15.30	Extra fine
H6F	6	1775	14.90	Extra fine
H6N	6	1600	15.00	Fine
H10F	10	1600	14.50	Extra fine
H11N	11	1250	14.40	Fine
H15F	15	1380	13.95	Extra fine

CASING CHAMFER

Nib $d_2 \times h_2$	ϵ°	Height of Chamfer, bz	
		Nominal	Tolerance
9x6	15°	1.3	+0.15/-0.15
12x10		1.1	+0.30/-0.30
16x13		1.5	+0.30/-0.30
20x17		1.5	+0.30/-0.30
25x20		2.1	+0.30/-0.30
30x24	20°	2.4	+0.40/-0.40

