

# APPLICATION TOOL LIST

End Mill > Miniature > Carbide > Ball



<b>EPDBE</b>		<b>PAGE</b> 175	<b>Size Range</b>	0	5	10	0.1mm - 6.0mm		
			<b>Under Neck</b>	0	50	100	0.2mm - 50.0mm		
		<b>PN</b>	<b>ATH</b>	<b>M</b>	<b>U</b>		$R \leq 0.25 \pm 0.003$		$R > 0.25 \pm 0.005$
		Carbon Steel Alloy Steel	Pre-Hardened Steel < HRC 45	High-Hardened Steel < HRC 55	High-Hardened Steel < HRC 65	High-Hardened Steel > HRC 65	Stainless Steel		
		<b>PN</b>	⊙	⊙	⊙	○	⊙		
<b>ATH</b>	⊙	⊙	⊙	⊙	○	○			

<b>EPDBP</b>		<b>PAGE</b> 188	<b>Size Range</b>	0	5	10	0.2mm - 6.0mm			
			<b>Under Neck</b>	0	50	100	0.5mm - 70mm			
		<b>TH</b>	<b>M</b>					$R \leq 0.25 \pm 0.003$		$R > 0.25 \pm 0.005$
		Carbon Steel Alloy Steel	Pre-Hardened Steel < HRC 45	High-Hardened Steel < HRC 55	High-Hardened Steel < HRC 65	High-Hardened Steel > HRC 65	Stainless Steel			
		⊙	⊙	⊙	⊙	○	○			

<b>EPSBE</b>		<b>PAGE</b> 193	<b>Size Range</b>	0	2.5	5	0.1mm - 2.0mm			
			<b>Under Neck</b>	0	25	50	0.15mm - 20.0mm			
		<b>ATH</b>	<b>M</b>						$R +0.003 -0.007$	
		Carbon Steel Alloy Steel	Pre-Hardened Steel < HRC 45	High-Hardened Steel < HRC 55	High-Hardened Steel < HRC 65	High-Hardened Steel > HRC 65	Stainless Steel			
		⊙	⊙	⊙	⊙	⊙	○			






- PN** PN Coating
- TH** TH Coating
- M** Metric Only
- Combination Neck
- Long Under Neck (more than 5D)
- CS** CS Coating
- ATH** ATH Coating
- Double Face Effect
- Back Draft Effect
- Pencil Neck Available






⊙ Recommended

# APPLICATION TOOL LIST






End Mill > Miniature > Carbide > Radius






<b>EPDRE</b>		<b>PAGE 197</b>	Size Range	0	5	10				
			Corner Radius	0	2.5	5				
			Under Neck	0	50	100				
		<b>ATH</b>	<b>M</b>				R Tolerance ±0.005 (Central Axis)			
		Carbon Steel Alloy Steel	Pre-Hardened Steel < HRC 45	High-Hardened Steel < HRC 55	High-Hardened Steel < HRC 65	High-Hardened Steel > HRC 65	Stainless Steel			
		◎	◎	◎	◎	○	○			

<b>EPDRF</b>		<b>PAGE 219</b>	Size Range	0	5	10				
			Corner Radius	0	0.5	1				
			Under Neck	0	50	100				
		<b>ATH</b>	<b>M</b>				R Tolerance ±0.005 (Central Axis)			
		Carbon Steel Alloy Steel	Pre-Hardened Steel < HRC 45	High-Hardened Steel < HRC 55	High-Hardened Steel < HRC 65	High-Hardened Steel > HRC 65	Stainless Steel			
		◎	◎	◎	◎	○	○			

End Mill > Miniature > Carbide > Square

<b>EPDSE</b>		<b>PAGE 230</b>	Size Range	0	5	10				
			Under Neck	0	50	100				
		<b>PN</b>	<b>ATH</b>	<b>M</b>				Ø0.1-0.5 0, -0.007 Ø0.6-0.9 0, -0.01 Ø1-6 0, -0.015		
		Carbon Steel Alloy Steel	Pre-Hardened Steel < HRC 45	High-Hardened Steel < HRC 55	High-Hardened Steel < HRC 65	High-Hardened Steel > HRC 65	Stainless Steel			
		<b>ATH</b>	◎	◎	◎	◎	○	○		
		<b>PN</b>	◎	◎	◎	○		◎		










<b>PN</b> PN Coating	<b>M</b> Metric Only	 Back Draft Effect	◎ Recommended
<b>ATH</b> ATH Coating	 Combination Neck	 Long Under Neck (more than 5D)	



# APPLICATION TOOL LIST

## End Mill > General > Ball



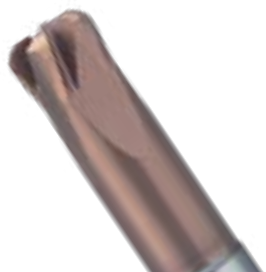


<b>EPBTS/EPBT</b>		<b>PAGE</b> 252	<b>Size Range</b>	0	10	20							
			<b>Radius</b>	0	5	10							
		<b>ATH</b>	<b>TH</b>	<b>M</b>						±0.005			
		Carbon Steel Alloy Steel	Pre-Hardened Steel < HRC 45	High-Hardened Steel < HRC 55	High-Hardened Steel < HRC 65	High-Hardened Steel > HRC 65	Stainless Steel						
		⊙	⊙	⊙	⊙	⊙	○						
<b>EHHB</b>		<b>PAGE</b> 258	<b>Size Range</b>	0	10	20							
			<b>Radius</b>	0	5	10							
		<b>ATH</b>	<b>M</b>							R 0.5~1.5 ±0.005 R 2~3 ±0.007 R 4~6 ±0.010			
		Carbon Steel Alloy Steel	Pre-Hardened Steel < HRC 45	High-Hardened Steel < HRC 55	High-Hardened Steel < HRC 65	High-Hardened Steel > HRC 65	Stainless Steel						
		○	⊙	⊙	⊙	⊙							
<b>HGOB-PN</b>		<b>PAGE</b> 265	<b>Size Range</b>	0	25	50							
			<b>Radius</b>	0	10	20							
		<b>PN</b>	<b>M</b>							R ≤0.6 ±0.005		R>0.6 ±0.010	
		Carbon Steel Alloy Steel	Pre-Hardened Steel < HRC 45	High-Hardened Steel < HRC 55	High-Hardened Steel < HRC 65	Aluminium Alloy	Stainless Steel						
		⊙	⊙	⊙		⊙	○						




<b>PN</b>	PN Coating	<b>ATH</b>	ATH Coating	⊙	Recommended
<b>TH</b>	TH Coating	<b>M</b>	Metric Only		

# APPLICATION TOOL LIST







## End Mill > General > Radius (High Feed)



<b>HGOF4</b>		<b>PAGE 270</b>	<b>Size Range</b>	0	10	20	2.0mm - 12.0mm
			<b>Corner Radius</b>	0	2.5	5	0.5mm - 2.0mm
		<b>ATH</b>	<b>M</b>		0	-0.03	
		Carbon Steel Alloy Steel	Pre-Hardened Steel < HRC 45	High-Hardened Steel < HRC 55	High-Hardened Steel < HRC 65	High-Hardened Steel > HRC 65	Stainless Steel
		⊙	⊙	⊙	⊙	○	○

<b>ETM</b>		<b>PAGE 274</b>	<b>Size Range</b>	0	10	20	2.0mm - 12.0mm
			<b>Corner Radius</b>	0	5	5	0.5mm - 2.0mm
		<b>TH</b>	<b>M</b>		0	-0.015	
		Carbon Steel Alloy Steel	Pre-Hardened Steel < HRC 45	High-Hardened Steel < HRC 55	High-Hardened Steel < HRC 65	High-Hardened Steel > HRC 65	Stainless Steel
		⊙	⊙	⊙	⊙	○	○

## End Mill > General > Square/Radius




<b>Mirus</b>		<b>PAGE 280</b>	<b>Size Range</b>	0	10	20	6.0mm - 12.0mm	
			<b>Flute Length</b>	0	50	100	9mm - 18mm	
		<b>TH</b>					Type R 0, -0.05 Type N 0, -0.03	
			Cast Iron, Carbon Steel, Alloy Steel	Stainless Steel	Titanium Alloy	Pre-Hardened Steels (32 - 45 HRC)	Hardened Steels (45 - 55 HRC)	
		<b>Type R</b>	⊙			⊙	⊙	
		<b>Type N</b>	⊙	○	○	○	○	




- TH** TH Coating
- M** Metric Only
-  Chip Breaker Style & Unequal Phase
-  Recommended
- ATH** ATH Coating
-  Waving Peripheral & Unequal Phase
-  Double Gash





# APPLICATION TOOL LIST





## End Mill > General > Square/Radius




<b>EPP4-TH</b>		<b>PAGE 288</b>	Size Range	0	10	20					
			Flute Length	0	50	100					
		<b>TH</b>	<b>M</b>		Ø3 -0.014 -0.028	Ø4-6 -0.020 -0.038		Ø8-12 0 -0.025 -0.047			
		Carbon Steel Alloy Steel	Pre-Hardened Steel < HRC 45	High-Hardened Steel < HRC 55	High-Hardened Steel < HRC 65	High-Hardened Steel > HRC 65	Stainless Steel				
		⊙	⊙	⊙	⊙	○	○				

<b>EPP3-CS</b>		<b>PAGE 288</b>	Size Range	0	10	20					
			Flute Length	0	50	100					
		<b>CS</b>	<b>M</b>		0 -0.010						
		Carbon Steel Alloy Steel	Pre-Hardened Steel < HRC 45	High-Hardened Steel < HRC 55	High-Hardened Steel < HRC 65	Aluminum Alloy	Stainless Steel				
		⊙	⊙	⊙	○	⊙	⊙				

<b>CEPR</b>		<b>PAGE 295</b>	Size Range	0	10	20					
			Flute Length	0	50	100					
		<b>TH</b>	<b>M</b>	 	Ø1-6 0 -0.015		Ø8-12 0 -0.02				
		Carbon Steel Alloy Steel	Pre-Hardened Steel < HRC 45	High-Hardened Steel < HRC 55	High-Hardened Steel < HRC 65	High-Hardened Steel > HRC 65	Stainless Steel				
		⊙	⊙	⊙	⊙	○	○				

<b>EPSM/EPWS</b>		<b>PAGE 299</b>	Size Range	0	25	50					
			Flute Length	0	50	100					
		<b>PN</b>	<b>M</b>	 	EPSM Ø1-6 Ø7-20	0, -0.015 0, -0.02		EPWS 0 -0.05			
		Carbon Steel Alloy Steel	Pre-Hardened Steel < HRC 45	Stainless Steel	Titanium Alloy	Heat-Resistant Alloy	Aluminium Alloy				
		⊙	⊙	⊙	⊙	⊙	⊙				

**PN** PN Coating   
 **CS** CS Coating   
 **TH** TH Coating   
 **M** Metric Only   
 Double Gash   
 ⊙ Recommended