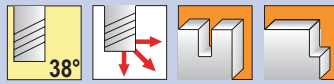


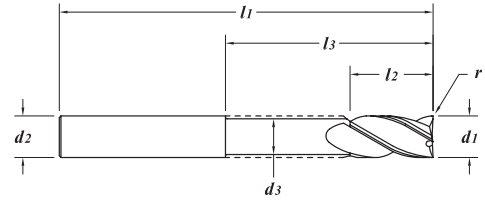
TOLERANCES

$d_1$	+0,000 -0,025mm (+.000" -.001")	
$d_2$	3mm - 6mm	+0,0000 -0,0075mm (+.0000" -.0003")
	1/4" - 1"	-0,0025 -0,0100mm (-.0001" -.0004")
$r$	+0,0127 -0,0127mm (+.0005" -.0005")	

.1575" - .4724"  
(4,00mm - 12,00mm)



**HSAL - Corner Radius - ALUMASTAR Coated**  
**HSAL - Eckenradius - ALUMASTAR-Beschichtet**  
**HSAL - Ángulo Redondeado - Recubrimiento de ALUMASTAR**  
**HSAL - Rayon de Coin - Revêtement ALUMASTAR**  
**HSAL - Torica - Rivestimento in ALUMASTAR**  
**HSAL - 圆角半径 - ALUMASTAR 涂层**



Solid submicron grain carbide end mill - center cutting  
 Specific coating engineered to repel aluminum  
 Engineered to run at 750-2500 SFM (225-750 M/Min.)  
**For high speed machining of aluminum**  
 High velocity - high metal removal rate (for spindles 5,000-25,000 RPM)  
 Need to use properly balanced holders  
 Holds perpendicularity  
 Flats can be added within 48 hours



Hochleistungs- Vollhartmetallfräser aus Feinkornhartmetall - Zentrumschnitt  
 Spezielle Beschichtung entwickelt zu abstoßen Aluminium  
 Entwickelt für Vorschübe von 225 - 750 M/Min. (750 - 2500 SFM)  
**Für die Hochgeschwindigkeitsbearbeitung von Aluminium**  
 Hohe Geschwindigkeit - Hohe Abtragungsrate (Für Spindel Drehzahlen 5.000-25.000 min<sup>-1</sup>)  
 Benutzen Sie korrekt gewichtete Spannmittel  
 Hilft die Perpendicularität zu halten  
 Kann mit einer Fläche innerhalb von 48 Stunden werden



Fresa de submicrograno sólido carburo de alto rendimiento - corte centrado  
 Recubrimiento concebido específicamente para repeler el aluminio  
 Diseñado para trabajar a 225-750 M/Min. (750-2500 SFM)  
**Para el mecanizado a alta velocidad de aluminio**  
 Alta velocidad - alto índice de desalajo de viruta (Para husillos de 5.000-25.000 r.p.m.)  
 Use portaherramientas adecuada de equilibrio  
 Ayuda a mantener la perpendicularidad  
 Puede ser modificado con un plano en 48 horas



Fraises carbure submicrograin - coupe au centre  
 Revêtement special conçu pour l'aluminium  
 Développement pour usiner a 225-750 M/Min. (750-2500 SFM)  
**Pour haute vitesse usinage pour l'aluminium**  
 Haute vitesse et haut volume copeaux (Pour les mandrins 5,000-25,000 RPM)  
 Utilisation avec porte outils équilibrés  
 Aide a tenir la perpendicularité  
 Peut être modifier avec un surface plat sous un délai de 48 heures



Super sub-micrograno metallo duro - taglio al centro  
 Rivestimento specifico costruito per respingere alluminio  
 Costruito per alta velocità 225-750 M/Min. (750-2500 SFM)  
**Per lavorazioni ad alta velocità su alluminio**  
 Alta velocità - Alto volume di materiale asportato (Per 5.000-25.000 Giri al minuto)  
 Usare mandrini bilanciati  
 Rispettare la perpendicolarità  
 Può essere modificata in 48 ore



高速加工铝合金整体硬质合金立铣刀 - 中心切削  
 特殊涂层专为加工铝合金  
 适用于按750-2500英尺/分(225-750 米/分) 线速度运转的专用涂层  
**适合高速加工铝合金**  
 高速—高切屑率 用于主轴转速在5,000-25,000 RPM  
 使用动平衡的刀夹  
 保持垂直  
 可在48小时内磨成削平柄

EDP#	$d_1$ † Diameter		$d_2$ Shank Diameter	$l_1$ Overall Length	$l_2$ Flute Length	$r$ Corner Radius	$l_3$ Reach Length	$d_3$ Neck Diameter
	Decimal	Metric						
39223	.1575	4,00	6,0	50	12	0,3	-	-
39243	.1575	4,00	6,0	65	6	0,3	16	3,7
39283	.1875	3/16"	4,76	3/16"	2"	9/16"	.010"	-
<b>NEW</b> 39293	.1875	3/16"	4,76	3/16"	2"	9/16"	.030"	-
39303	.1875	3/16"	4,76	3/16"	3"	7/32"	.010"	3/4"
<b>NEW</b> 39313	.1875	3/16"	4,76	3/16"	3"	7/32"	.030"	3/4"
39343	.1969	5,00	6,0	65	16	0,3	-	-
39363	.1969	5,00	6,0	75	8	0,3	20	4,7
39403	.2362	6,00	6,0	65	19	0,3	-	-
39423	.2362	6,00	6,0	75	10	0,3	25	5,7
<b>NEW</b> 39453	.2500	1/4"	6,35	1/4"	2-1/2"	3/4"	.010"	-
39463	.2500	1/4"	6,35	1/4"	2-1/2"	3/4"	.015"	-
<b>NEW</b> 39473	.2500	1/4"	6,35	1/4"	2-1/2"	3/4"	.030"	-
39493	.2500	1/4"	6,35	1/4"	4"	3/8"	.015"	1-1/8"
<b>NEW</b> 40403	.2500	1/4"	6,35	1/4"	4"	3/8"	.030"	1-1/8"
39503	.2500	1/4"	6,35	1/4"	4"	3/8"	.015"	2-1/8"
39543	.2756	7,00	8,0	65	19	0,3	-	-
39563	.2756	7,00	8,0	75	12	0,3	25	6,4
<b>NEW</b> 39593	.3125	5/16"	7,94	5/16"	2-1/2"	3/4"	.010"	-
39603	.3125	5/16"	7,94	5/16"	2-1/2"	3/4"	.015"	-
<b>NEW</b> 39613	.3125	5/16"	7,94	5/16"	2-1/2"	3/4"	.030"	-
39623	.3125	5/16"	7,94	5/16"	4"	7/16"	.015"	1-1/8"
<b>NEW</b> 39633	.3125	5/16"	7,94	5/16"	4"	7/16"	.030"	1-1/8"
39663	.3150	8,00	8,0	65	19	0,5	-	-
39683	.3150	8,00	8,0	75	12	0,5	25	7,4
<b>NEW</b> 39703	.3750	3/8"	9,52	3/8"	2-1/2"	7/8"	.010"	-
<b>NEW</b> 39713	.3750	3/8"	9,52	3/8"	2-1/2"	7/8"	.015"	-
39723	.3750	3/8"	9,52	3/8"	2-1/2"	7/8"	.030"	-
<b>NEW</b> 39733	.3750	3/8"	9,52	3/8"	2-1/2"	7/8"	.060"	-
39763	.3750	3/8"	9,52	3/8"	4"	1/2"	.030"	2-1/8"
<b>NEW</b> 39773	.3750	3/8"	9,52	3/8"	4"	1/2"	.060"	2-1/8"
39783	.3750	3/8"	9,52	3/8"	6"	1/2"	.030"	4"
39803	.3937	10,00	10,0	70	24	0,5	-	-
39843	.3937	10,00	10,0	100	12	0,5	35	9,4
39883	.4724	12,00	12,0	75	32	0,5	-	-
39903	.4724	12,00	12,0	100	16	0,5	35	11,4

# 143R / z = 3 (continued)

.5000" - 1.000"  
(12,70mm - 25,40mm)

HIGH PERFORMANCE  
END MILLS

EDP#	$d_1$ † Diameter		$d_2$ Shank Diameter	$l_1$ Overall Length	$l_2$ Flute Length	$r$ Corner Radius	$l_3$ Reach Length	$d_3$ Neck Diameter	
	Decimal	Metric							
NEW 39923	.5000	1/2"	12,70	1/2"	3"	1-1/4"	.010"	-	-
NEW 39933	.5000	1/2"	12,70	1/2"	3"	1-1/4"	.015"	-	-
39943	.5000	1/2"	12,70	1/2"	3"	1-1/4"	.030"	-	-
NEW 39953	.5000	1/2"	12,70	1/2"	3"	1-1/4"	.060"	-	-
NEW 39963	.5000	1/2"	12,70	1/2"	3"	1-1/4"	.120"	-	-
NEW 39973	.5000	1/2"	12,70	1/2"	4"	2"	.010"	-	-
NEW 40413	.5000	1/2"	12,70	1/2"	4"	2"	.030"	-	-
NEW 40423	.5000	1/2"	12,70	1/2"	4"	2"	.060"	-	-
NEW 40433	.5000	1/2"	12,70	1/2"	4"	5/8"	.010"	2-1/8"	.475"
39983	.5000	1/2"	12,70	1/2"	4"	5/8"	.030"	2-1/8"	.475"
NEW 40443	.5000	1/2"	12,70	1/2"	4"	5/8"	.060"	2-1/8"	.475"
NEW 40453	.5000	1/2"	12,70	1/2"	4"	5/8"	.120"	2-1/8"	.475"
39993	.5000	1/2"	12,70	1/2"	6"	5/8"	.030"	4-1/8"	.475"
NEW 40463	.6250	5/8"	15,87	5/8"	4"	1-5/8"	.015"	-	-
40023	.6250	5/8"	15,87	5/8"	4"	1-5/8"	.030"	-	-
NEW 40473	.6250	5/8"	15,87	5/8"	4"	1-5/8"	.060"	-	-
NEW 40483	.6250	5/8"	15,87	5/8"	4"	1-5/8"	.120"	-	-
40033	.6250	5/8"	15,87	5/8"	6"	3/4"	.030"	2-3/8"	.590"
40043	.6250	5/8"	15,87	5/8"	6"	3/4"	.030"	4-3/8"	.590"
40083	.6299		<b>16,00</b>	<b>16,0</b>	<b>100</b>	<b>40</b>	<b>1,0</b>	-	-
40103	.6299		<b>16,00</b>	<b>16,0</b>	<b>100</b>	<b>20</b>	<b>1,0</b>	<b>40</b>	<b>15,4</b>
NEW 40133	.7500	3/4"	19,05	3/4"	4"	1-5/8"	.015"	-	-
40143	.7500	3/4"	19,05	3/4"	4"	1-5/8"	.030"	-	-
NEW 40153	.7500	3/4"	19,05	3/4"	4"	1-5/8"	.060"	-	-
NEW 40493	.7500	3/4"	19,05	3/4"	4"	1-5/8"	.120"	-	-
NEW 40503	.7500	3/4"	19,05	3/4"	6"	1"	.015"	2-1/2"	.715"
40163	.7500	3/4"	19,05	3/4"	6"	1"	.030"	2-1/2"	.715"
NEW 40513	.7500	3/4"	19,05	3/4"	6"	1"	.060"	2-1/2"	.715"
NEW 40523	.7500	3/4"	19,05	3/4"	6"	1"	.120"	2-1/2"	.715"
40173	.7500	3/4"	19,05	3/4"	6"	1"	.030"	4-3/8"	.715"
40183	.7874		<b>20,00</b>	<b>20,0</b>	<b>100</b>	<b>32</b>	<b>1,0</b>	-	-
40223	.7874		<b>20,00</b>	<b>20,0</b>	<b>100</b>	<b>20</b>	<b>1,0</b>	<b>40</b>	<b>19,0</b>
40243	.9843		<b>25,00</b>	<b>25,0</b>	<b>100</b>	<b>38</b>	<b>1,0</b>	-	-
40283	.9843		<b>25,00</b>	<b>25,0</b>	<b>100</b>	<b>25</b>	<b>1,0</b>	<b>50</b>	<b>24,0</b>
40293	1.000	1"	25,40	1"	4"	1-5/8"	.030"	-	-
40303	1.000	1"	25,40	1"	4"	1-5/8"	.060"	-	-
NEW 40313	1.000	1"	25,40	1"	4"	1-5/8"	.120"	-	-
40343	1.000	1"	25,40	1"	6"	1-1/4"	.030"	3-3/8"	.960"
NEW 40353	1.000	1"	25,40	1"	6"	1-1/4"	.060"	3-3/8"	.960"
NEW 40363	1.000	1"	25,40	1"	6"	1-1/4"	.120"	3-3/8"	.960"