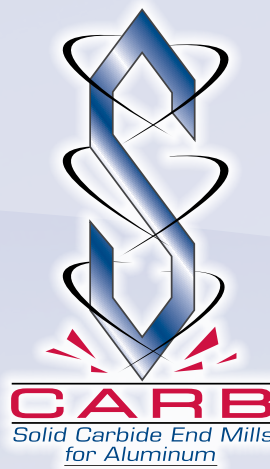


S-Carb 3-Flute End Mills for Aluminum, Non-Ferrous & Non-Metallic Materials



Features & Benefits:

Engineered Flute Design

- Effective chip removal at high feed rates
- Lower cutting forces than comparable products

Unique Symmetrical End Gashing

- Improved balance at high spindle speeds
- Improved workpiece finish through better balance
- More effective plunging vs. conventional designs

Selection of Popular Lengths and Corner Radii

- Available from stock
- CNC ground corner radii
- Resharpener service available



Ti-NANITE-S

Available with TiB₂ coating (Titanium Diboride) for exceptional performance in a variety of aluminum and magnesium alloys.

Microhardness: 4000HV

Oxidation Temperature: 850°C – 1562°F

Coefficient of Friction: .45

Thickness: 1 – 2 Microns (based on tool diameter)





Fresas S-Carb de 3 filos para aluminio, materiales no ferrosos y no metálicos

Características y ventajas:

Diseño especial de canales

- Efectivo arranque de viruta a altas velocidades de avance
- Menores fuerzas de corte que en productos comparables

Exclusivo muescado extremo simétrico

- Equilibrio mejorado a altas velocidades del husillo
- Mejor acabado de la pieza a través de un mejor balance
- Penetración más efectiva que en los diseños convencionales

Selección de las longitudes y radios de esquina más comunes

- Disponibles en inventario
- Radios de esquina rectificadas con CNC
- Se ofrece el servicio de reafilado

Ti-NANITE-S[®]

Disponible con recubrimiento TiB₂ (diboruro de titanio), que asegura un excepcional rendimiento en una amplia variedad de aleaciones de magnesio y aluminio.

Microdureza: 4000 HV

Temperatura de oxidación: 850 °C (1562 °F)

Coefficiente de rozamiento: 0.45

Espesor: 1 – 2 micrones (en base al diámetro de la herramienta)



■ Fraises à queue S-Carb 3 goujures pour l'aluminium, ainsi que les matériaux non ferreux et non métalliques

Caractéristiques et avantages :

Goujures spécialement conçues

- Enlèvement efficace des copeaux avec avance rapide
- Forces de découpage moindres que produits comparables

Creux de dent à extrémité symétrique unique

- Meilleur équilibre avec vitesses de broche élevées
- Meilleur équilibre conduisant à une meilleure finition des pièces travaillées
- Entrée verticale plus efficace que les modèles classiques

Choix de rayons de coin et de longueurs populaires

- Disponibles en stock
- Rayon de coin pour usinage sur machine à commande numérique par ordinateur
- Service de réaffutage disponible



Disponibles avec revêtement TiB₂ (diboride de titane) pour des performances exceptionnelles avec une grande variété d'alliages contenant de l'aluminium et du magnésium.

Micro-dureté: 4000HV

Température d'oxydation : 850°C – 1562°F

Coefficient de friction : 0,45

Épaisseur : 1 – 2 microns (selon le diamètre de l'outil)





Series 43CR • 43MCR 

S-Carb 3-Flute End Mills for Aluminum, Non-Ferrous & Non-Metallic Materials – 3-Flute – Corner Radius

Serie 43CR • 43MCR 

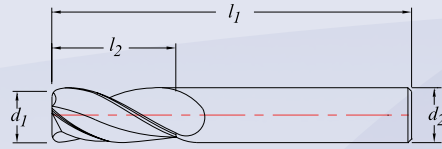
Fresas S-Carb de 3 filos para aluminio, materiales no ferrosos y no metálicos – 3 filos – Radio de esquina

Série 43CR • 43MCR 

Fraises à queue S-Carb 3 goujures pour l'aluminium, ainsi que les matériaux non ferreux et non métalliques – 3 goujures – Rayon de coin

S-Carb 3-Flute End Mills for Aluminum, Non-Ferrous & Non-Metallic Materials

Fractional Series **43CR**



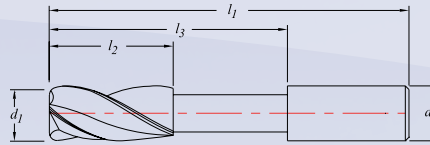
Tolerances (inch)		
Diameter	d ₁	d ₂
1/8 – 1	–.0001/–.0004	–.0001/–.0004
Corner Radius Tolerances		
+.000/–.002		

Cutting Diameter d ₁	Length of Cut l ₂	Overall Length l ₁	Shank Diameter d ₂	Corner Radius	Uncoated EDP No.	Ti-NAMITE-B (TiB ₂) EDP No.
1/8	3/8	1-1/2	1/8	.010	34771	34793
3/16	9/16	2	3/16	.010	34772	34794
1/4	3/4	2-1/2	1/4	.010	34773	34795
1/4	3/4	2-1/2	1/4	.030	34774	34796
5/16	5/8	2-1/2	5/16	.030	34775	34797
3/8	1	2-1/2	3/8	.010	34776	34798
3/8	1	2-1/2	3/8	.030	34777	34799
1/2	1-1/4	3-1/4	1/2	.010	34778	34800
1/2	1-1/4	3-1/4	1/2	.030	34779	34801
1/2	1-1/4	3-1/4	1/2	.060	34780	34802
1/2	1-1/4	3-1/4	1/2	.090	34781	34803
5/8	1-5/8	3-3/4	5/8	.030	34782	34804
5/8	1-5/8	3-3/4	5/8	.060	34783	34805
5/8	1-5/8	3-3/4	5/8	.090	34784	34806
3/4	1-5/8	4	3/4	.030	34785	34807
3/4	1-5/8	4	3/4	.060	34786	34808
3/4	1-5/8	4	3/4	.090	34787	34809
3/4	1-5/8	4	3/4	.125	34788	34810
1	2	4-1/2	1	.030	34789	34811
1	2	4-1/2	1	.060	34790	34812
1	2	4-1/2	1	.090	34791	34813
1	2	4-1/2	1	0.125	34792	34814



Diameter	Tolerances (mm)	
	d_1	d_2
3-25	-0,0025/-0,010	-0,0025/-0,010

Corner Radius Tolerances
+0,000/-0,050



Cutting Diameter d_1 mm	Length of Cut l_2 mm	Overall Length l_1 mm	Shank Diameter d_2 mm	Reach l_3 mm	Corner Radius	Uncoated	Ti-NAMITE-B
						EDP No.	(TiB ₂) EDP No.
6	10	63	6	20	.5	44769	44789
6	10	63	6	20	1	44770	44790
6	13	72	6	30	.5	44771	44791
6	13	72	6	30	1	44772	44792
8	12	75	8	25	.3	44773	44793
8	12	75	8	25	.5	44774	44794
8	12	75	8	25	1	44775	44795
8	12	75	8	25	1.5	44776	44796
10	14	100	10	35	.3	44777	44797
10	14	100	10	35	.5	44778	44798
10	14	100	10	35	1	44779	44799
10	14	100	10	35	1.5	44780	44800
12	16	100	12	40	.5	44781	44801
12	16	100	12	40	1	44782	44802
12	16	100	12	40	1.5	44783	44803
12	16	100	12	40	2	44784	44804
16	20	125	16	50	2	44785	44805
16	20	125	16	50	4	44786	44806
20	25	150	20	65	2	44787	44807
20	25	150	20	65	4	44788	44808

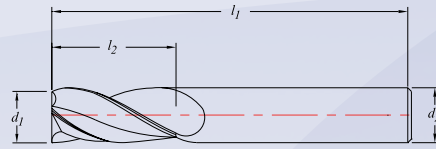




S-Carb 3-Flute End Mills for Aluminum, Non-Ferrous & Non-Metallic Materials

Fractional Series

43



Tolerances (inch)

Diameter	d ₁	d ₂
1/8 - 1	-.0001/-0.0004	-.0001/-0.0004

Corner Radius Tolerances

+0.000/-0.002



Series 43 • 43M



S-Carb 3-Flute End Mills for Aluminum, Non-Ferrous & Non-Metallic Materials – 3-Flute – Square End

Serie 43 • 43M



Fresas S-Carb de 3 filos para aluminio, materiales no ferrosos y no metálicos – 3 filos – Punta plana

Série 43 • 43M



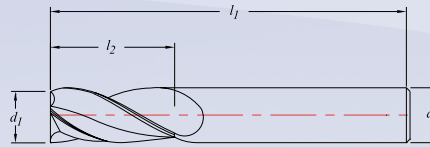
Fraises à queue S-Carb 3 goujures pour l'aluminium, ainsi que les matériaux non ferreux et non métalliques – 3 goujures – Extrémité carrée

Cutting Diameter d ₁	Length of Cut l ₂	Overall Length l ₁	Shank Diameter d ₂	Uncoated EDP No.	Ti-NAMITE-B (TiB ₂) EDP No.
1/8	3/8	1-1/2	1/8	34701	34728
3/16	9/16	2	3/16	34702	34729
1/4	3/8	2	1/4	34703	34730
1/4	3/4	2-1/2	1/4	34704	34731
1/4	1-1/4	3-1/2	1/4	34705	34732
5/16	7/16	2	5/16	34706	34733
5/16	5/8	2-1/2	5/16	34707	34734
5/16	1-1/4	4	5/16	34708	34735
3/8	1/2	2	3/8	34709	34736
3/8	1	2-1/2	3/8	34710	34737
3/8	1-1/2	3-1/2	3/8	34711	34738
1/2	5/8	2-1/2	1/2	34712	34739
1/2	1-1/4	3-1/4	1/2	34713	34740
1/2	2	4	1/2	34714	34741
1/2	3-1/8	6	1/2	34715	34742
5/8	3/4	3	5/8	34716	34743
5/8	1-5/8	3-3/4	5/8	34717	34744
5/8	2-1/2	5	5/8	34718	34745
5/8	3-3/4	6	5/8	34719	34746
3/4	1	3	3/4	34720	34747
3/4	1-5/8	4	3/4	34721	34748
3/4	2-1/4	5	3/4	34722	34749
3/4	3-1/4	6	3/4	34723	34750
1	1-1/4	4	1	34724	34751
1	2	4-1/2	1	34725	34752
1	2-5/8	6	1	34726	34753
1	3-1/4	6	1	34727	34754

Diameter	Tolerances (mm)	
	d_1	d_2
3-25	-0,0025/-0,010	-0,0025/-0,010

Corner Radius Tolerances

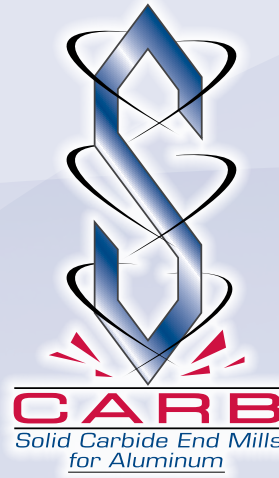
+0,000/-0,050



Cutting Diameter d_1 mm	Length of Cut l_2 mm	Overall Length l_1 mm	Shank Diameter d_2 mm	Uncoated	Ti-NAMITE-B (TiB ₂)
				EDP No.	EDP No.
6	13	57	6	44701	44715
6	13	72	6	44702	44716
8	19	63	8	44703	44717
10	22	72	10	44705	44719
12	26	83	12	44708	44722
16	32	92	16	44711	44725
20	38	104	20	44714	44728



S-Carb 2-Flute End Mills for Aluminum, Non-Ferrous & Non-Metallic Materials



Features & Benefits:

Chatter Free Operation

- Improves material removal rates
- Improves surface finishes

Low Cutting Force

- Permits higher feed rates
- Increases tool life

Selection of Styles

- Regular length, square and ball end
- Extended reach, square and ball end
- Fractional and metric sizes

Suitable for Non-Ferrous/Non-Metallic Materials

- Aluminum Alloys
- Plastics
- Copper
- Brass/Bronze

Ti-NANITE-B

Available with TiB₂ coating (Titanium Diboride) for exceptional performance in a variety of aluminum and magnesium alloys.

Microhardness: 4000HV

Oxidation Temperature: 850°C – 1562°F

Coefficient of Friction: .45

Thickness: 1 – 2 Microns (based on tool diameter)



Fresas S-Carb de 2 filos para aluminio, materiales no ferrosos y no metálicos

Características y ventajas:

Funcionamiento libre de vibración

- Mejora las velocidades de arranque de material
- Mejora los acabados de la superficie

Baja fuerza de corte

- Permite mayores velocidades de avance
- Prolonga la vida útil de la herramienta

Selección de estilos

- Longitud normal, punta plana y esférica
- Alcance extendido, punta plana y esférica
- Tamaños fraccionales y métricos

Aptas para materiales no ferrosos y no metálicos

- Aleaciones de aluminio
- Plásticos
- Cobre
- Latón y bronce



Disponible con recubrimiento TiB₂ (diboruro de titanio), que asegura un excepcional rendimiento en una amplia variedad de aleaciones de magnesio y aluminio.

Microdureza: 4000 HV

Temperatura de oxidación: 850 °C – 1562 °F

Coefficiente de rozamiento: 0.45

Espesor: 1 – 2 micrones (en base al diámetro de la herramienta)

Fraises à queue S-Carb 2 goujures pour aluminium et matériaux non ferreux/non métalliques

Caractéristiques et avantages :

Fonctionnement sans broutage

- Améliore les taux d'enlèvement de matière
- Améliore la finition des surfaces

Faible force de découpage

- Permet des vitesses d'avance plus élevées
- Meilleure longévité des outils

Choix de styles

- Longueur normale, extrémité carré/sphérique
- Portée prolongée, extrémité carré/sphérique
- Dimensions métriques et fractionnelles

Convient aux matériaux non ferreux/non métalliques

- Alliages d'aluminium
- Plastiques



Disponibles avec revêtement TiB₂ (diborure de titane) pour des performances exceptionnelles avec une grande variété d'alliages contenant de l'aluminium et du magnésium.

Micro-dureté: 4000HV

Température d'oxydation : 850°C – 1562°F

Coefficient de friction : 0,45

Épaisseur : 1 – 2 microns (selon le diamètre de l'outil)





Series 47 • 47M



S-Carb 2-Flute End Mills for Aluminum, Non-Ferrous & Non-Metallic Materials – 2-Flute – Square End

Serie 47 • 47M



Fresas S-Carb de 2 filos para aluminio, materiales no ferrosos y no metálicos – 2 filos – Punta plana

Série 47 • 47M

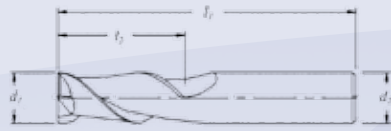


Fraises à queue S-Carb 2 goujures pour l'aluminium, ainsi que les matériaux non ferreux et non métalliques – 2 goujures – Extrémité carrée

S-Carb 2-Flute End Mills for Aluminum, Non-Ferrous & Non-Metallic Materials

Fractional Series

47



Tolerances (inch)

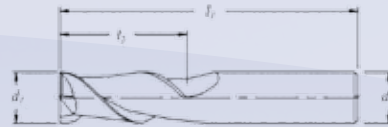
Diameter	d ₁	d ₂
1/8 – 1	-.0001/-.0004	-.0001/-.0004

Cutting Diameter d ₁	Length of Cut l ₂	Overall Length l ₁	Shank Diameter d ₂	Uncoated	Ti-NAMITE-B (TiB ₂)
				EDP No.	EDP No.
1/8	3/8	1-1/2	1/8	34620	34660
3/16	9/16	2	3/16	34621	34661
1/4	3/4	2-1/2	1/4	34622	34662
5/16	13/16	2-1/2	5/16	34623	34663
3/8	1	2-1/2	3/8	34624	34664
1/2	1-1/4	3-1/4	1/2	34625	34665
5/8	1-5/8	3-3/4	5/8	34626	34666
3/4	1-5/8	4	3/4	34627	34667
1	2	4-1/2	1	34628	34668

S-Carb 2-Flute End Mills for Aluminum, Non-Ferrous & Non-Metallic Materials



Diameter	Tolerances (mm)	
	d_1	d_2
3-25	-0,0025/-0,010	-0,0025/-0,010



Cutting Diameter d_1 mm	Length of Cut l_2 mm	Overall Length l_1 mm	Shank Diameter d_2 mm	Uncoated	Ti-NAMITE-B (TiB ₂)
				EDP No.	EDP No.
3	8	38	3	44550	44587
4	11	50	4	44551	44588
5	13	50	5	44552	44589
6	13	57	6	44553	44590
8	19	63	8	44554	44591
10	22	72	10	44555	44592
12	26	83	12	44556	44593
14	26	83	14	44557	44594
16	32	92	16	44558	44595
20	38	104	20	44559	44596
25	44	104	25	44560	44597





Series 47B • 47MB



S-Carb 2-Flute End Mills for Aluminum, Non-Ferrous & Non-Metallic Materials – 2-Flute – Ball End

Serie 47B • 47MB



Fresas S-Carb de 2 filos para aluminio, materiales no ferrosos y no metálicos – 2 filos – Punta esférica

Série 47B • 47MB

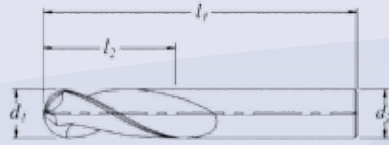


Fraises à queue S-Carb 2 goujures pour l'aluminium, ainsi que les matériaux non ferreux et non métalliques – 2 goujures – Extrémité sphérique

S-Carb 2-Flute End Mills for Aluminum, Non-Ferrous & Non-Metallic Materials

Fractional Series

47B

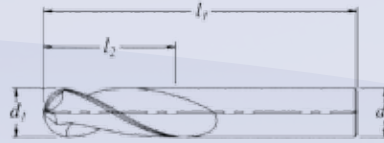


Diameter	Tolerances (inch)	
	d ₁	d ₂
1/8 – 1	–.0001/–.0004	–.0001/–.0004

Cutting Diameter d ₁	Length of Cut l ₂	Overall Length l ₁	Shank Diameter d ₂	Uncoated	Ti-NAMITE-B (TiB ₂)
				EDP No.	EDP No.
1/8	3/8	1-1/2	1/8	34630	34669
3/16	9/16	2	3/16	34631	34670
1/4	3/4	2-1/2	1/4	34632	34671
5/16	13/16	2-1/2	5/16	34633	34672
3/8	1	2-1/2	3/8	34634	34673
1/2	1-1/4	3-1/4	1/2	34635	34674
5/8	1-5/8	3-3/4	5/8	34636	34675
3/4	1-5/8	4	3/4	34637	34676
1	2	4-1/2	1	34638	34677



Diameter	Tolerances (mm)	
	d_1	d_2
3 – 25	-0,0025/-0,010	-0,0025/-0,010



Cutting Diameter d_1 mm	Length of Cut l_2 mm	Overall Length l_1 mm	Shank Diameter d_2 mm	Uncoated	Ti-NAMITE-B
				EDP No.	(TiB ₂) EDP No.
3	8	38	3	44570	44598
4	11	50	4	44571	44599
5	13	50	5	44572	44600
6	13	57	6	44573	44601
8	19	63	8	44574	44602
10	22	72	10	44575	44603
12	26	83	12	44576	44604
14	26	83	14	44577	44605
16	32	92	16	44578	44606
20	38	104	20	44579	44607
25	44	104	25	44580	44608





Series 47ES • 47MES 

S-Carb 2-Flute End Mills for Aluminum, Non-Ferrous & Non-Metallic Materials – 2-Flute – Square End – Extended Reach

Serie 47ES • 47MES 

Fresas S-Carb de 2 filos para aluminio, materiales no ferrosos y no metálicos – 2 filos – Punta plana – Alcance extendido

Série 47ES • 47MES 

Fraises à queue S-Carb 2 goujures pour l'aluminium, ainsi que les matériaux non ferreux et non métalliques – 2 goujures – Extrémité carrée – Portée très longue

S-Carb 2-Flute End Mills for Aluminum, Non-Ferrous & Non-Metallic Materials

Fractional Series **47ES**

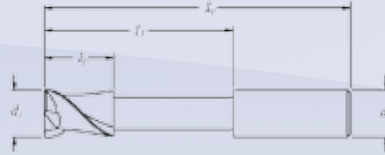


Diameter	Tolerances (inch)	
	d ₁	d ₂
1/8 – 1	–.0001/–.0004	–.0001/–.0004

Cutting Diameter d ₁	Length of Cut l ₂	Overall Length l ₁	Shank Diameter d ₂	Reach l ₃	Uncoated	Ti-NAMITE-B (TiB ₂)
					EDP No.	EDP No.
1/4	3/8	4	1/4	2-1/8	34640	34678
3/8	1/2	4	3/8	2-1/8	34641	34679
1/2	5/8	6	1/2	2-1/8	34642	34680
1/2	5/8	6	1/2	3-3/8	34643	34681
5/8	3/4	6	5/8	2-3/8	34644	34682
5/8	3/4	6	5/8	3-3/8	34645	34683
3/4	1	6	3/4	2-1/2	34646	34684
3/4	1	6	3/4	3-3/8	34647	34685



Diameter	Tolerances (mm)	
	d_1	d_2
3 – 25	-0,0025/-0,010	-0,0025/-0,010



Cutting Diameter d_1 mm	Length of Cut l_2 mm	Overall Length l_1 mm	Shank Diameter d_2 mm	Reach l_3 mm	Uncoated	Ti-NAMITE-B
					EDP No.	(TiB ₂) EDP No.
6	10	100	6	54	44561	44609
8	12	100	8	54	44562	44610
10	12	100	10	54	44563	44611
12	16	150	12	80	44564	44612
16	20	150	16	80	44565	44613
20	25	150	20	80	44566	44614





Series 47EB • 47MEB



S-Carb 2-Flute End Mills for Aluminum, Non-Ferrous & Non-Metallic Materials - 2-Flute – Ball End – Extended Reach

Serie 47EB • 47MEB



Fresas S-Carb de 2 filos para aluminio, materiales no ferrosos y no metálicos - 2 filos – Punta esférica - Alcance extendido

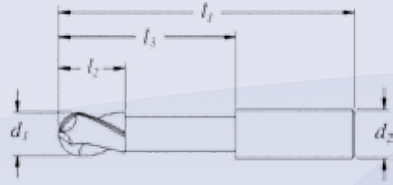
Série 47EB • 47MEB



Fraises à queue S-Carb 2 goujures pour l'aluminium, ainsi que les matériaux non ferreux et non métalliques - 2 goujures – Extrémité sphérique - Portée très longue

S-Carb 2-Flute End Mills for Aluminum, Non-Ferrous & Non-Metallic Materials

Fractional Series **47EB**

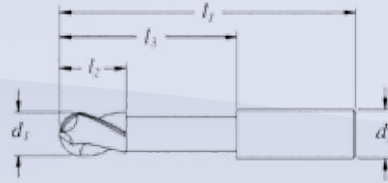


Diameter	Tolerances (inch)	
	d ₁	d ₂
1/8 - 1	-.0001/-.0004	-.0001/-.0004

Cutting Diameter d ₁	Length of Cut l ₂	Overall Length l ₁	Shank Diameter d ₂	Reach l ₃	Uncoated	Ti-NAMITE-B (TiB ₂)
					EDP No.	EDP No.
1/4	3/8	4	1/4	2-1/8	34650	34686
3/8	1/2	4	3/8	2-1/8	34651	34687
1/2	5/8	6	1/2	2-1/8	34652	34688
1/2	5/8	6	1/2	3-3/8	34653	34689
5/8	3/4	6	5/8	2-3/8	34654	34690
5/8	3/4	6	5/8	3-3/8	34655	34691
3/4	1	6	3/4	2-1/2	34656	34692
3/4	1	6	3/4	3-3/8	34657	34693



Diameter	Tolerances (mm)	
	d_1	d_2
3 – 25	-0,0025/-0,010	-0,0025/-0,010



Cutting Diameter d_1 mm	Length of Cut l_2 mm	Overall Length l_1 mm	Shank Diameter d_2 mm	Reach l_3 mm	Uncoated	Ti-NAMITE-B
					EDP No.	(TiB ₂) EDP No.
6	10	100	6	54	44581	44615
8	12	100	8	54	44582	44616
10	12	100	10	54	44583	44617
12	16	150	12	80	44584	44618
16	20	150	16	80	44585	44619
20	25	150	20	80	44586	44620

