

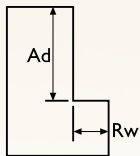
## S-Carb® Series 43 and 47 Speed and Feed Recommendations – Fractional and Metric



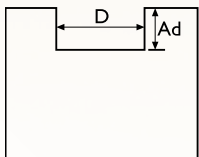
Diameter (D)		Feed Rate Per Tooth							
in	mm	Aluminum Alloys 1600–2000 sfm 490–610 m/min		Plastics 1200–1600 sfm 365–490 m/min		Copper Alloys 800–1200 sfm 245–365 m/min		Brass / Bronze 800–1500 sfm 245–455 m/min	
in	mm	in	mm	in	mm	in	mm	in	mm
1/8	3	0.0015	0.04	0.0030	0.08	0.0015	0.04	0.0015	0.04
–	4	–	0.05	–	0.10	–	0.05	–	0.05
3/16	5	0.0025	0.06	0.0050	0.12	0.0025	0.06	0.0025	0.06
1/4	6	0.0030	0.07	0.0060	0.14	0.0030	0.07	0.0030	0.07
5/16	8	0.0040	0.10	0.0080	0.20	0.0040	0.10	0.0040	0.10
3/8	10	0.0050	0.12	0.0100	0.24	0.0050	0.12	0.0050	0.12
1/2	12	0.0060	0.15	0.0120	0.30	0.0060	0.15	0.0060	0.15
–	14	–	0.17	–	0.34	–	0.17	–	0.17
5/8	16	0.0070	0.18	0.0140	0.36	0.0070	0.18	0.0070	0.18
3/4	20	0.0080	0.22	0.0160	0.44	0.0080	0.22	0.0080	0.22
1	25	0.0100	0.25	0.0180	0.46	0.0100	0.25	0.0100	0.25



Feed rates shown are for slotting.  
Rates shown can be increased 40% when profile milling.  
When finishing milling, reduce feed to obtain desired finish.  
 $rpm = sfm \times 3.82 / \text{tool diameter}$   
 $rpm = (m/min \times 1000) / (3.14 \times \text{tool diameter})$   
feed per minute = feed per tooth x number of teeth x rpm



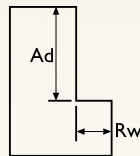
Axial Depth (Ad)  $\leq 1.5 \times$  Diameter  
Radial Width (Rw)  $\leq .5 \times$  Diameter



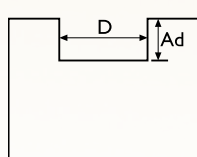
Axial Depth (Ad)  $\leq 1 \times$  Diameter



Las velocidades de avance indicadas son para ranurado.  
Estas velocidades pueden incrementarse en un 40% para fresado de perfiles.  
En el fresado de acabado, reduzca el avance para obtener el acabado deseado.  
 $rpm = sfm \times 3.82 / \text{diámetro de la herramienta}$   
 $rpm = (m/min \times 1000) / (3.14 \times \text{diámetro de la herramienta})$   
avance por minuto = avance por diente x N° de dientes x rpm



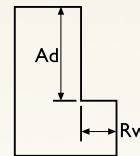
Prof. axial  $\leq 1.5 \times$  diámetro  
Ancho radial  $\leq 0.5 \times$  diámetro



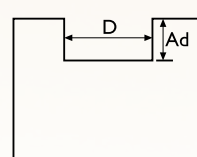
Prof. axial  $\leq 1 \times$  diámetro



Les vitesses d'avance indiquées s'appliquent au rainurage.  
Les vitesses indiquées peuvent être augmentées de 40% lors des opérations de détournage.  
Après le fraisage, réduire la vitesse d'avance pour obtenir la finition désirée.  
 $r/min = \pi / \text{min} \times 3.82 / \text{diamètre d'outil}$   
 $r/min = (m/min \times 1000) / (3.14 \times \text{diamètre d'outil})$   
avance par minute = avance par dent x nombre de dents x r/min



Profondeur axiale  $\leq 1,5 \times$  diamètre  
Largeur radiale  $\leq 0,5 \times$  diamètre



Profondeur axiale  $\leq 1 \times$  diamètre

# S-Carb Series 43 and 47 Speed and Feed Recommendations – Extended Reach – Fractional



		Slotting		Peripheral		Contouring			
		Roughing	Finishing	Roughing	Finishing	Roughing	Finishing		
<b>Aluminum</b>	<b>Radial Width (Rw)</b>	1xD	1xD	.25xD	.05xD	.3xD	.04xD		
	<b>Axial Depth (Ad)</b>	.5xD	.05xD	1xD	.8xD	.3xD	.05xD		
	<b>Speed (sfm)</b>	2000	2000	2000	2000	2000	2000		
Feed / Tooth by Diameter (inch)									
		1/4		3/8		1/2–5/8		3/4	
Operation		Roughing	Finishing	Roughing	Finishing	Roughing	Finishing	Roughing	Finishing
Slotting		.0016	.0020	.0035	.0040	.0045	.0055	.0070	.0085
Peripheral		.0020	.0028	.0040	.0045	.0055	.0070	.0085	.0100
Contouring		.0024	.0040	.0045	.0060	.0070	.0080	.0100	.0120

		Slotting		Peripheral		Contouring			
		Roughing	Finishing	Roughing	Finishing	Roughing	Finishing		
<b>Copper Alloys</b>	<b>Radial Width (Rw)</b>	1xD	1xD	.25xD	.05xD	.1xD	.04xD		
	<b>Axial Depth (Ad)</b>	.1xD	.05xD	1xD	.8xD	.2xD	.05xD		
	<b>Speed (sfm)</b>	400	400	400	400	600	600		
Feed / Tooth by Diameter (inch)									
		1/4		3/8		1/2–5/8		3/4	
Operation		Roughing	Finishing	Roughing	Finishing	Roughing	Finishing	Roughing	Finishing
Slotting		.0010	.0015	.0016	.0020	.0035	.0040	.0045	.0055
Peripheral		.0015	.0020	.0020	.0028	.0040	.0045	.0055	.0070
Contouring		.0020	.0025	.0024	.0040	.0045	.0060	.0070	.0080

		Slotting		Peripheral		Contouring			
		Roughing	Finishing	Roughing	Finishing	Roughing	Finishing		
<b>Plastics</b>	<b>Radial Width (Rw)</b>	1xD	1xD	.25xD	.05xD	.3xD	.04xD		
	<b>Axial Depth (Ad)</b>	.5xD	.05xD	1xD	.8xD	.3xD	.05xD		
	<b>Speed (sfm)</b>	280	325	350	400	400	450		
Feed / Tooth by Diameter (inch)									
		1/4		3/8		1/2–5/8		3/4	
Operation		Roughing	Finishing	Roughing	Finishing	Roughing	Finishing	Roughing	Finishing
Slotting		.0010	.0015	.0016	.0020	.0035	.0040	.0045	.0055
Peripheral		.0015	.0020	.0020	.0028	.0040	.0045	.0055	.0070
Contouring		.0020	.0025	.0024	.0040	.0045	.0060	.0070	.0080



rpm = sfm x 3.82 / tool diameter  
 rpm = (m/min x 1000) / (3.14 x tool diameter)  
 feed per minute = feed per tooth x number of teeth x rpm



rpm = sfm x 3.82 / diámetro de la herramienta  
 rpm = (m/min x 1000) / (3.14 x diámetro de la herramienta)  
 avance por minuto = avance por diente x N° de dientes x rpm



r/min = pi/min x 3.82 / diamètre d'outil  
 r/min = (m/min x 1000) / (3.14 x diamètre d'outil)  
 avance par minute = avance par dent x nombre de dents x r/min

## S-Carb Series 43 and 47 Speed and Feed Recommendations – Extended Reach – Metric



		Slotting		Peripheral		Contouring		
<b>Aluminum</b>	<b>Radial Width (Rw)</b>		Roughing 1xD	Finishing 1xD	Roughing .25xD	Finishing .05xD	Roughing .3xD	Finishing .04xD
	<b>Axial Depth (Ad)</b>		.5xD	.05xD	1xD	.8xD	.3xD	.05xD
	<b>Speed (m/min)</b>		610	610	610	610	610	610
<b>Feed / Tooth by Diameter (mm)</b>								
		<b>6</b>		<b>8-10</b>		<b>12-16</b>		<b>20</b>
<b>Operation</b>	<b>Roughing</b>	<b>Finishing</b>	<b>Roughing</b>	<b>Finishing</b>	<b>Roughing</b>	<b>Finishing</b>	<b>Roughing</b>	<b>Finishing</b>
<b>Slotting</b>	0.040	0.050	0.090	0.100	0.110	0.140	0.180	0.215
<b>Peripheral</b>	0.050	0.070	0.100	0.110	0.140	0.180	0.215	0.250
<b>Contouring</b>	0.060	0.100	0.110	0.150	0.180	0.200	0.250	0.300

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		Slotting		Peripheral		Contouring		
<b>Copper Alloys</b>	<b>Radial Width (Rw)</b>		Roughing 1xD	Finishing 1xD	Roughing .25xD	Finishing .05xD	Roughing .1xD	Finishing .04xD
	<b>Axial Depth (Ad)</b>		.1xD	.05xD	1xD	.8xD	.2xD	.05xD
	<b>Speed (m/min)</b>		125	125	125	125	185	185
<b>Feed / Tooth by Diameter (mm)</b>								
		<b>6</b>		<b>8-10</b>		<b>12-16</b>		<b>20</b>
<b>Operation</b>	<b>Roughing</b>	<b>Finishing</b>	<b>Roughing</b>	<b>Finishing</b>	<b>Roughing</b>	<b>Finishing</b>	<b>Roughing</b>	<b>Finishing</b>
<b>Slotting</b>	0.025	0.035	0.040	0.050	0.090	0.100	0.110	0.140
<b>Peripheral</b>	0.035	0.050	0.050	0.070	0.100	0.110	0.140	0.170
<b>Contouring</b>	0.050	0.065	0.060	0.100	0.110	0.150	0.170	0.200

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		Slotting		Peripheral		Contouring		
<b>Plastics</b>	<b>Radial Width (Rw)</b>		Roughing 1xD	Finishing 1xD	Roughing .25xD	Finishing .05xD	Roughing .3xD	Finishing .04xD
	<b>Axial Depth (Ad)</b>		.5xD	.05xD	1xD	.8xD	.3xD	.05xD
	<b>Speed (m/min)</b>		85	100	110	125	125	135
<b>Feed / Tooth by Diameter (mm)</b>								
		<b>6</b>		<b>8-10</b>		<b>12-16</b>		<b>20</b>
<b>Operation</b>	<b>Roughing</b>	<b>Finishing</b>	<b>Roughing</b>	<b>Finishing</b>	<b>Roughing</b>	<b>Finishing</b>	<b>Roughing</b>	<b>Finishing</b>
<b>Slotting</b>	0.025	0.035	0.040	0.050	0.090	0.100	0.110	0.140
<b>Peripheral</b>	0.035	0.050	0.050	0.070	0.100	0.110	0.140	0.170
<b>Contouring</b>	0.050	0.065	0.060	0.100	0.110	0.150	0.170	0.200



rpm = sfm x 3.82 / tool diameter  
rpm = (m/min x 1000) / (3.14 x tool diameter)  
feed per minute = feed per tooth x number of teeth x rpm



rpm = sfm x 3.82 / diámetro de la herramienta  
rpm = (m/min x 1000) / (3.14 x diámetro de la herramienta)  
avance por minuto = avance por diente x N° de dientes x rpm



r/min = pi/min x 3,82 / diamètre d'outil  
r/min = (m/min x 1000) / (3,14 x diamètre d'outil)  
avance par minute = avance par dent x nombre de dents x r/min