

# **RENNIE** *Tool Company*

## **Solid Carbide Router Bits Speeds And Feeds Chart & Information**

The recommended chip load & feed rate data provided below is a recommended starting point and may not accommodate all circumstances.

The following chip loads in the chart are applicable for single flute, 2 flute and 3 flute solid carbide router bits that are either up cut OR down cut. These recommended chip loads are NOT applicable to compression bits

As a rough rule of thumb we usually advise the depth of cut as 1 x cutting diameter. However, in some circumstances a smaller or larger depth of cut may be optimal.

Always start out at the lower feed rate and work your way up from there until optimal cutting conditions and speed is acquired

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We would recommend running at 18,000 RPM for most single, 2 flute and 3 flutes up OR down cut router bits

To work out your feed rate –

Chip load (mm) x RPM x number of flutes = mm per minute feed rate

Example –

6mm x 22mm 2 flute up cut router bit – cutting MDF

0.32mm (Chip load) x 18,000 (RPM) x 2 (number of flutes) = 11,520 mm per minute feed rate

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### Solid Carbide Router Bit Chip Load Chart And Information

Material	Chip Load (mm)									
Size	2mm	3.175mm (1/8")	4mm	6mm	6.35mm (1/4")	8mm	9.35mm (3/8")	10mm	12mm	12.7mm (1/2")
Aluminium	.051 - .084	.076 - 0.127	.081-.133	.102-0.155	.127 - .175	.139-.187	.152 - .203	.160-.210	.193-.245	.203 - .254
Acrylic	.042 - .071	.076 - 0.127	.090-150	.194-.245	.203 - .254	.229-.279	.254 - .305	.266-314	.295-370	.305 - .381
Hardwood	.038 - .064	.076 - 0.127	.102-.153	.220-.270	.229 - .279	.310-370	.381 - .457	.400-.477	.460-513	.483 - .534
Soft Plywood	.056 - .077	.102 - .153	.120-180	.270-.320	.279 - .330	.360-.420	.432 - .508	.445-520	.500-560	.533 - .584
MDF / Particle Board	.047 - .082	.102 - .178	.140-210	.320-396	.330 - .406	.430-500	.508 - .584	.520-590	.613-660	.635 - .686
High Pressure Laminate	.039 - .065	.076 - 0.127	.102-.163	.219-.294	.229 - .305	.311-381	.381 - .457	.410-490	.546-.595	.584 - .635
Phenolic	.056 - .070	.102 - 0.127	.136-.154	.269-.294	.279 - .305	.362-.386	.432 - .457	.444-480	.574-.620	.610 - .660
Hard Plastic	.028 - .055	.051 - .102	.067-.121	.148-.221	.152 - .229	.181-.240	.203 - .254	.224-.285	.240-296	.254 - .305
Soft Plastic	.049 - .097	.076 - .152	.086-.162	.168-.242	.178 - .254	.221-.278	.254 - .305	.264-.315	.280-375	.305 - .406
Solid Surface	.028 - .054	.051 - .102	.065-.116	.146-.222	.152 - .229	.180-.246	.203 - .254	.214-266	.243-.297	.254 - .305