

## Safe **\*\*Roughing\*\*** stepdowns and stepovers for stub length to 4:1ldr

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### FOR SOFT MATERIAL-10% TOOL DIA. STEP DOWN, 65% TOOL DIA STEP OVER

Ballnose E.M.	Step over	Step down	Feed rate IPM	Spindle speed RPM
10MM	0.153	0.039	130	8500
6MM	0.092	0.023	130	11000
4MM	0.061	0.015	105	13000
3MM	0.046	0.012	90	15000
2MM	0.03	0.008	75	15000-20000

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### FOR MEDIUM HARDNESS RC40/50 -7% TOOL DIA. STEP DOWN, 65% TOOL DIA STEP OVER

10MM	0.13	0.027	90	7500
6MM	0.078	0.0165	80	9500
4MM	0.052	0.011	75	11500
3MM	0.039	0.008	70	15000
2MM	0.026	0.0055	65	15000-20000

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### FOR REAL HARD RC50/62 -5% TOOL DIA. STEP DOWN, 65% TOOL DIA STEP OVER

10MM	0.111	0.02	70	5800
6MM	0.067	0.012	65	7500
4MM	0.045	0.008	60	10000
3MM	0.033	0.006	55	12500
2MM	0.022	0.004	50	15000

These are for roughing out pockets- semi finishing must be done to remove the big scallops from these Large step overs