

APPENDIX B

Experimental Data – DF2

No	FACTORS				FACTORS (VALUE)			
	OV	ON	WF	WA	OV	ON	WF	WA
1	1	1	1	1	4.00	4.00	2.00	4.00
2	1	1	1	2	4.00	4.00	2.00	8.00
3	1	1	2	1	4.00	4.00	15.00	4.00
4	1	1	2	2	4.00	4.00	15.00	8.00
5	1	2	1	1	4.00	18.00	2.00	4.00
6	1	2	1	2	4.00	18.00	2.00	8.00
7	1	2	2	1	4.00	18.00	15.00	4.00
8	1	2	2	2	4.00	18.00	15.00	8.00
9	2	1	1	1	24.00	4.00	2.00	4.00
10	2	1	1	2	24.00	4.00	2.00	8.00
11	2	1	2	1	24.00	4.00	15.00	4.00
12	2	1	2	2	24.00	4.00	15.00	8.00
13	2	2	1	1	24.00	18.00	2.00	4.00
14	2	2	1	2	24.00	18.00	2.00	8.00
15	2	2	2	1	24.00	18.00	15.00	4.00
16	2	2	2	2	24.00	18.00	15.00	8.00

No	Cut Length (mm)	Cut Time (min)							Cutting Speed (mm/min)
		1 (min)	(s)	(min)	2 (min)	(s)	(min)	Average	
1	10.00	8.00	58.00	8.97	8.00	59.00	8.98	8.98	1.11
2	10.00	8.00	20.00	8.33	8.00	21.00	8.35	8.34	1.20
3	10.00	7.00	15.00	7.25	7.00	12.00	7.35	7.30	1.37
4	10.00	6.00	21.00	6.35	6.00	20.00	6.58	6.47	1.55
5	10.00	1.00	45.00	1.75	1.00	37.00	1.62	1.68	5.94
6	10.00	1.00	22.00	1.37	1.00	25.00	1.42	1.39	7.19
7	10.00	1.00	41.00	1.68	1.00	18.00	1.30	1.49	6.70
8	10.00	1.00	38.00	1.63	1.00	43.00	1.72	1.68	5.97
9	10.00	2.00	49.00	2.82	2.00	56.00	2.93	2.88	3.48
10	10.00	2.00	51.00	2.85	2.00	59.00	2.98	2.92	3.43
11	10.00	2.00	45.00	2.75	2.00	48.00	2.65	2.70	3.70
12	10.00	2.00	51.00	2.85	2.00	1.00	2.85	2.85	3.51
13	10.00	1.00	55.00	1.92	1.00	15.00	1.25	1.58	6.32
14	10.00	1.00	55.00	1.92	1.00	22.00	1.37	1.64	6.09
15	10.00	1.00	42.00	1.70	1.00	30.00	1.50	1.60	6.25
16	10.00	1.00	35.00	1.58	1.00	20.00	1.33	1.46	6.86

Kerf Width (mm)				Spark Gap (mm)	Volume (mm ³)	Mass (g)	Material Removal Rate MRR (g/min)
1 (mm)	2 (mm)	3 (mm)	Average (mm)				
0.277	0.278	0.279	0.278	0.0140	1.4000	0.0109	0.0012
0.255	0.256	0.254	0.255	0.0025	0.2500	0.0020	0.0002
0.271	0.276	0.273	0.273	0.0117	1.1667	0.0091	0.0012
0.276	0.274	0.274	0.275	0.0123	1.2333	0.0096	0.0015
0.282	0.280	0.281	0.281	0.0155	1.5500	0.0121	0.0072
0.277	0.285	0.282	0.281	0.0157	1.5667	0.0122	0.0088
0.295	0.299	0.298	0.297	0.0237	2.3667	0.0185	0.0124
0.297	0.294	0.295	0.295	0.0227	2.2667	0.0177	0.0106
0.249	0.254	0.251	0.251	0.0007	0.0667	0.0005	0.0002
0.261	0.251	0.250	0.254	0.0020	0.2000	0.0016	0.0005
0.267	0.266	0.268	0.267	0.0085	0.8500	0.0066	0.0025
0.263	0.263	0.265	0.264	0.0068	0.6833	0.0053	0.0019
0.258	0.255	0.255	0.256	0.0030	0.3000	0.0023	0.0015
0.252	0.253	0.253	0.253	0.0013	0.1333	0.0010	0.0006
0.264	0.274	0.271	0.270	0.0098	0.9833	0.0077	0.0048
0.273	0.271	0.276	0.273	0.0117	1.1667	0.0091	0.0062

Surface Roughness (μm)			
1	2	3	Average (μm)
2.19	2.21	2.20	2.20
2.35	2.33	2.34	2.34
1.79	1.80	1.76	1.78
1.83	1.84	1.85	1.84
2.90	2.92	2.87	2.90
2.63	2.65	2.62	2.63
2.84	2.86	2.85	2.85
2.38	2.39	2.37	2.38
2.56	2.55	2.55	2.55
2.63	2.64	2.61	2.63
2.06	2.08	2.06	2.07
2.09	2.12	2.10	2.10
2.33	2.34	2.34	2.34
2.22	2.24	2.30	2.25
2.14	2.15	2.16	2.15
2.32	2.33	2.31	2.32