ภาคผนวก

ภาคผนวก ก ตารางบันทึกผลจากการทดลอง

ภาคผนวก ก 1 ตารางบันทึกผลการทดลอง ตอนที่ 1

ตารางผนวก ก 1.1 แสดงการผลการทดลองการวัดค่าความขรุขระพื้นผิวไม้ยางพารา

No.	speed	feed	depth	Diameter	RPM	Ra				Rq				Rt			
	(m/min)	(mm/rev)	(mm)	(mm)		1	2	3	(ave)	1	2	3	(ave)	1	2	3	(ave)
1	150	0.4	0.5	666		4.09	4.36	5.45	4.63	5.44	5.73	6.84	6.00	37.93	42.68	50.32	43.64
2	150	0.1	0.5	666		3.51	4.67	3.34	3.84	4.62	5.79	3.97	4.79	29.48	30.94	23.23	27.88
3	300	0.1	0.5	1336		3.27	3.58	3.65	3.50	3.87	4.37	4.50	4.25	18.86	28.56	20.70	22.71
4	300	0.4	1	1346		4.18	4.78	3.46	4.14	5.35	6.27	4.28	5.30	40.27	42.39	22.86	35.17
5	300	0.1	1	1350		2.78	3.56	3.41	3.25	3.35	4.55	4.85	4.25	19.81	24.47	28.97	24.42
6	300	0.4	1	1331		3.71	4.52	4.4	4.21	4.39	5.58	5.53	5.17	25.67	36.87	33.99	32.18
7	150	0.4	1	667		4.86	3.19	3.65	3.90	5.87	4.04	4.80	4.90	36.54	27.35	32.02	31.97
8	150	0.4	0.5	663		4.4	4.37	5.43	4.73	5.68	5.58	6.69	5.98	37.30	60.01	40.98	46.10
9	150	0.1	1	673		3.8	3.96	3.69	3.82	4.70	5.12	4.54	4.79	27.72	41.03	31.71	33.49
10	150	0.4	1	667		1.95	6.84	3.23	4.01	2.41	8.58	3.9	4.96	13.37	56.32	27.53	32.41
11	300	0.4	1	1336		3.37	3.74	4.75	3.95	4.37	4.66	6.4	5.14	35.45	28.83	55.27	39.85
12	300	0.4	0.5	1354		4.18	3.85	3.13	3.72	5.11	5.28	4.04	4.81	27.41	41.29	30.62	33.11

ตารางผนวก ก 1.1 (ต่อ) แสดงการผลการทดลองการวัดค่าความขรุขระพื้นผิวไม้ยางพารา

No.	speed	feed	depth	Diameter	RPM	Ra				Rq				Rt			
	(m/min)	(mm/rev)	(mm)	(mm)		1	2	3	(ave)	1	2	3	(ave)	1	2	3	(ave)
13	300	0.1	0.5	1326		2.99	3.61	3.77	3.46	3.74	4.75	4.49	4.33	20.83	26.10	28.15	25.03
14	150	0.1	0.5	679		4.13	3.78	2.21	3.37	4.95	4.89	2.67	4.17	27.26	33.86	15.60	25.57
15	150	0.1	1	673		4.67	3.32	4.75	4.25	5.51	4.08	5.74	5.11	26.85	24.15	40.98	30.66
16	300	0.1	0.5	1333		3.9	4.23	3.82	3.98	4.87	5.52	4.60	5.00	29.36	38.87	34.10	34.11
17	150	0.1	1	662		3.93	3.96	3.76	3.88	4.82	4.70	4.45	4.66	30.50	20.12	21.65	24.09
18	300	0.4	0.5	1350		4.64	4.04	3.91	4.20	5.64	5.52	4.90	5.35	37.28	54.21	31.69	41.06
19	300	0.4	0.5	1351		3.7	4.23	4.58	4.17	4.69	5.58	6.14	5.47	29.45	37.70	40.35	35.83
20	150	0.1	0.5	673		3.68	4.31	3.11	3.70	4.26	5.18	3.81	4.42	31.49	23.43	20.65	25.19
21	150	0.4	0.5	674		5.42	5.08	5.13	5.21	6.78	6.78	6.52	6.69	34.90	43.46	38.18	38.85
22	150	0.4	1	677		3.92	4.58	5.02	4.51	4.85	5.72	6.2	5.59	29.96	35.87	50.5	38.78
23	300	0.1	1	1334		2.78	3.48	2.68	2.98	3.38	4.51	3.34	3.74	20.23	22.28	20.29	20.93
24	300	0.1	1	1326		3.1	2.82	3.39	3.10	4.25	3.71	4.55	4.17	38.11	26.17	28.58	30.95

ตารางผนวก ก 1.2 แสดงการผลการทดลองการวัดค่าความคลาดเคลื่อนขนาดไม้ยางพารา

No.	speed	feed	depth	RPM	Dia ก่อนกลึง				Dia หลังกลึง					
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	(ave)	1	2	3	(ave)	Exp.	Dim. Err.
1	150	0.4	0.5	666	71.68	71.72	71.67	71.69	70.98	70.97	70.99	70.98	70.69	0.29
2	150	0.1	0.5	666	71.58	71.57	71.56	71.57	70.78	70.75	70.79	70.77	70.57	0.20
3	300	0.1	0.5	1336	71.47	71.44	71.5	71.47	70.37	70.35	70.41	70.38	70.47	-0.09
4	300	0.4	1	1346	70.96	70.94	70.95	70.95	68.80	68.76	68.84	68.80	68.95	-0.15
5	300	0.1	1	1350	70.72	70.71	70.77	70.73	68.65	68.69	68.70	68.68	68.73	-0.05
6	300	0.4	1	1331	71.75	71.73	71.7	71.73	69.54	69.60	69.58	69.57	69.73	-0.16
7	150	0.4	1	667	71.63	71.68	71.65	71.65	69.91	69.94	69.92	69.92	69.65	0.27
8	150	0.4	0.5	663	72.07	72.04	71.99	72.03	71.28	71.24	71.25	71.26	71.03	0.23
9	150	0.1	1	673	70.87	70.89	71.07	70.94	69.12	69.15	69.16	69.14	68.94	0.20
10	150	0.4	1	667	71.52	71.6	71.52	71.55	69.89	69.86	69.8	69.85	69.55	0.30
11	300	0.4	1	1336	71.53	71.46	71.5	71.50	69.29	69.31	69.32	69.31	69.5	-0.19
12	300	0.4	0.5	1354	70.49	70.5	70.56	70.52	69.8	69.78	69.79	69.79	69.52	0.27

ตารางผนวก ก 1.2 (ต่อ) แสดงการผลการทดลองการวัดค่าความคลาดเคลื่อนขนาดไม้ยางพารา

No.	speed	feed	depth	RPM	Dia ก่อนกลึง				Dia หลังกลึง					
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	(ave)	1	2	3	(ave)	Exp.	Dim. Err.
13	300	0.1	0.5	1326	71.96	72.03	72.07	72.02	71.07	71.07	71.05	71.06	71.02	0.04
14	150	0.1	0.5	679	70.36	70.32	70.25	70.31	69.57	69.54	69.55	69.55	69.31	0.24
15	150	0.1	1	673	71	70.93	71.02	70.98	69.21	69.22	69.21	69.21	68.98	0.23
16	300	0.1	0.5	1333	71.58	71.61	71.68	71.62	70.58	70.54	70.55	70.56	70.62	-0.06
17	150	0.1	1	662	72.19	72.16	72.14	72.16	70.43	70.41	70.40	70.41	70.16	0.25
18	300	0.4	0.5	1350	70.8	70.71	70.72	70.74	69.61	69.61	69.60	69.61	69.74	-0.13
19	300	0.4	0.5	1351	70.63	70.71	70.67	70.67	69.53	69.53	69.51	69.52	69.67	-0.15
20	150	0.1	0.5	673	70.82	70.83	71.05	70.90	70.15	70.16	70.17	70.16	69.90	0.26
21	150	0.4	0.5	674	70.88	70.79	70.81	70.83	69.69	69.70	69.64	69.68	69.83	-0.15
22	150	0.4	1	677	70.54	70.62	70.54	70.57	68.79	68.81	68.85	68.82	68.57	0.25
23	300	0.1	1	1334	71.62	71.54	71.53	71.56	70.52	70.52	70.51	70.52	70.56	-0.04
24	300	0.1	1	1326	72.05	72.02	72.04	72.04	70.12	70.13	70.14	70.13	70.04	0.09

ภาคผนวก ก 2 ตารางบันทึกผลการทดลอง ตอนที่ 2

ตารางผนวก ก 2.1 แสดงการผลการทดลองการวัดค่าความขรุขระสภาวะที่ 1

No.	speed	feed	depth	RPM		Ra(μm.)				Rq(μm.)				Rt(μm.)		
(m/min)	(mm/rev)	(mm)	(rev/min)		1	2	3	Ra(ave)	1	2	3	Rq(ave)	1	2	3	Rt(ave)
1	300	0.08	1	1322	4.32	3.04	4.63	4.00	5.29	3.72	6.24	5.08	29.86	27.02	74.37	43.75
2	300	0.08	1	1322	5.61	4.69	2.73	4.34	6.97	5.51	3.50	5.33	44.18	39.40	23.96	35.85
3	300	0.08	1	1323	4.26	3.38	4.65	4.10	5.27	4.20	5.69	5.05	40.86	27.21	37.39	35.15
4	300	0.08	1	1357	5.01	2.98	3.13	3.71	6.20	3.80	3.92	4.64	38.37	20.33	24.18	27.63
5	300	0.08	1	1346	2.79	3.56	3.95	3.43	3.51	4.47	4.98	4.32	30.55	25.84	31.19	29.19
6	300	0.08	1	1344	2.95	4.55	3.64	3.71	3.69	5.57	4.58	4.61	27.31	41.11	25.70	31.37
7	300	0.08	1	1353	3.15	4.94	4.04	4.04	3.77	6.17	4.85	4.93	21.38	43.25	24.24	29.62
8	300	0.08	1	1350	2.58	3.93	2.7	3.07	3.15	4.76	3.44	3.78	18.78	29.14	27.74	25.22
9	300	0.08	1	1353	3.3	2.68	4.78	3.59	3.96	3.52	5.63	4.37	29.74	27.32	33.35	30.14
10	300	0.08	1	1350	4.33	4.51	3.8	4.21	5.49	5.55	4.91	5.32	36.76	29.67	49	38.48
11	300	0.08	1	1366	4.02	3.33	5.11	4.15	4.95	4.11	6.37	5.14	46.87	26.37	52.63	41.96
12	300	0.08	1	1366	4.46	4.5	2.99	3.98	5.63	5.70	3.99	5.11	30.96	31.98	30.74	31.23
13	300	0.08	1	1360	2.53	3.82	3.65	3.33	3.14	4.68	4.56	4.13	21.93	29.64	32.31	27.96
14	300	0.08	1	1369	3.84	3.69	2.87	3.47	4.68	4.57	3.47	4.24	37.30	30.07	18.92	28.76
15	300	0.08	1	1361	2.74	3.2	3.11	3.02	3.52	4.03	4.26	3.94	27.07	26.28	40.45	31.27
16	300	0.08	1	1365	4.38	5.03	4.07	4.49	5.52	6.22	5.13	5.62	48.18	40.37	39.33	42.63
17	300	0.08	1	1357	4.47	2.6	3.54	3.54	5.40	3.24	4.45	4.36	34.69	21.60	30.57	28.95
18	300	0.08	1	1371	3.6	2.45	3.88	3.31	4.50	3.05	4.99	4.18	27.67	17.39	31.66	25.57
19	300	0.08	1	1367	2.45	3.04	3.5	3.00	3.14	3.78	4.31	3.74	19.87	27.75	31.53	26.38
20	300	0.08	1	1365	3.6	3.65	3.79	3.68	4.39	4.6	4.76	4.58	23.34	32.97	31.68	29.33

ตารางผนวก ก 2.2 แสดงการผลการทดลองการวัดค่าความขรุขระสภาวะที่ 2

No.	speed	feed	depth	RPM	Ra(μm.)				Rq(μm.)				Rt(μm.)			
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	Ra(ave)	1	2	3	Rq(ave)	1	2	3	Rt(ave)
1	300	0.1	1	1367	4.99	5.13	2.42	4.18	5.95	6.19	2.97	5.04	31.69	31.72	16.32	26.58
2	300	0.1	1	1367	4.2	3.35	3.3	3.62	5.07	4.29	4.19	4.52	27.59	25.15	30.43	27.72
3	300	0.1	1	1366	2.93	3.66	3.53	3.37	3.77	4.55	4.33	4.22	22.50	22.97	23.45	22.97
4	300	0.1	1	1362	4.76	4.02	4.74	4.51	5.17	5.01	6.07	5.42	29.76	35.36	40.37	35.16
5	300	0.1	1	1363	4.21	3.1	4.31	3.87	5.12	3.74	5.28	4.71	30.41	23.47	34.03	29.30
6	300	0.1	1	1373	4.82	3.06	3.68	3.85	6.03	3.94	4.54	4.84	33.10	35.03	32.92	33.68
7	300	0.1	1	1363	2.8	4.4	2.95	3.38	3.53	5.64	3.89	4.35	23.48	40.77	35.81	33.35
8	300	0.1	1	1365	3.44	4.59	2.98	3.67	4.21	5.83	3.72	4.59	27.05	46.61	27.09	33.58
9	300	0.1	1	1367	4.31	3.71	2.62	3.55	5.44	4.35	3.27	4.35	37.75	19.4	20.05	25.73
10	300	0.1	1	1368	5.3	3.5	5.32	4.71	6.99	4.4	6.36	5.92	47.53	28.3	40.68	38.84
11	300	0.1	1	1344	3.74	3.58	3.72	3.68	4.62	4.44	4.79	4.62	34.79	26.88	36.63	32.77
12	300	0.1	1	1347	2.58	3.26	3.09	2.98	3.25	4.19	3.87	3.77	19.91	38.84	22.87	27.21
13	300	0.1	1	1350	3.5	2.44	2.99	2.98	4.47	3.19	3.96	3.87	30.43	19.46	29.91	26.60
14	300	0.1	1	1345	3.89	4.58	3.68	4.05	4.77	5.89	4.62	5.09	26.50	44.42	32.11	34.34
15	300	0.1	1	1351	3.47	4.82	3.88	4.06	4.42	6.18	4.77	5.12	31.65	33.25	27.58	30.83
16	300	0.1	1	1350	4.08	4.64	3.79	4.17	5.16	5.75	4.53	5.15	36.32	36.17	27.70	33.40
17	300	0.1	1	1348	2.77	3.44	3.17	3.13	3.73	4.27	4.00	4.00	40.16	29.19	26.98	32.11
18	300	0.1	1	1351	1.81	2.68	2.64	2.38	2.30	3.26	3.22	2.93	15.31	18.70	19.34	17.78
19	300	0.1	1	1349	5.19	2.22	2.99	3.47	6.31	2.74	3.81	4.29	32.4	16.91	24.85	24.72
20	300	0.1	1	1349	3.71	3.67	3.31	3.56	4.57	4.57	3.97	4.37	31.76	25.74	25.94	27.81

ตารางผนวก ก 2.3 แสดงการผลการทดลองการวัดค่าความขรุขระสภาวะที่ 3

No.	speed	feed	depth	RPM	Ra(μm.)				Rq(μm.)				Rt(μm.)			
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	Ra(ave)	1	2	3	Rq(ave)	1	2	3	Rt(ave)
1	400	0.08	1	1825	3.2	2.74	3.09	3.01	3.97	3.55	3.78	3.77	28.79	27.03	22.64	26.15
2	400	0.08	1	1826	4.16	3.22	4.23	3.87	5.04	3.97	5.32	4.78	29.71	25.50	34.08	29.76
3	400	0.08	1	1823	2	3.09	4.82	3.30	2.55	3.90	6.24	4.23	19.83	28.79	53.36	33.99
4	400	0.08	1	1820	4.22	2.24	4.87	3.78	5.09	2.86	6.88	4.94	26.74	16.99	78.14	40.62
5	400	0.08	1	1826	5.08	3.31	3.52	3.97	6.09	4.22	4.50	4.94	32.06	29.73	29.24	30.34
6	400	0.08	1	1822	2	3.59	3.54	3.04	2.49	4.73	4.48	3.90	16.09	31.87	28.41	25.46
7	400	0.08	1	1817	3.42	4.09	4.28	3.93	4.15	5.18	5.50	4.94	26.75	35.79	39.39	33.98
8	400	0.08	1	1831	3.14	2.76	4.15	3.35	4.09	3.31	5.00	4.13	26.93	22.65	27.04	25.54
9	400	0.08	1	1823	4.39	3.16	3.18	3.58	5.42	4.05	4.14	4.54	29.2	26.57	36.65	30.81
10	400	0.08	1	1829	2.79	3.72	2.78	3.10	3.52	4.98	3.44	3.98	23.78	31.99	20.89	25.55
11	400	0.08	1	1763	3.51	2.77	4.63	3.64	4.34	3.48	5.59	4.47	26.28	20.80	35.89	27.66
12	400	0.08	1	1753	3.53	3.66	4.07	3.75	4.19	4.67	5.29	4.72	26.01	31.54	37.84	31.80
13	400	0.08	1	1753	4.46	4.28	3.93	4.22	5.46	5.34	5.13	5.31	36.71	39.96	43.17	39.95
14	400	0.08	1	1749	5.16	2.54	4.12	3.94	6.20	3.23	5.28	4.90	39.04	21.56	40.78	33.79
15	400	0.08	1	1761	2.82	2.51	4.96	3.43	3.83	3.10	6.04	4.32	30.47	16.61	52.18	33.09
16	400	0.08	1	1753	4.93	3.19	4.63	4.25	6.11	3.94	5.55	5.20	34.73	28.19	30.45	31.12
17	400	0.08	1	1752	2.58	4.04	2.56	3.06	3.18	5.15	3.25	3.86	20.76	37.99	20.85	26.53
18	400	0.08	1	1748	2.59	2.73	3.53	2.95	3.32	3.60	4.28	3.73	24.04	22.06	21.59	22.56
19	400	0.08	1	1768	3.02	3.58	3.05	3.22	3.90	4.55	3.76	4.07	28.53	33.06	26.65	29.41
20	400	0.08	1	1769	4.63	3.08	2.27	3.33	6.01	3.78	2.9	4.23	51.52	28.63	25.22	35.12

ตารางผนวก ก 2.4 แสดงการผลการทดลองการวัดค่าความขรุขระสภาวะที่ 4

No.	speed	feed	depth	RPM	Ra(μm.)				Rq(μm.)				Rt(μm.)			
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	Ra(ave)	1	2	3	Rq(ave)	1	2	3	Rt(ave)
1	500	0.1	1	2190	4.46	3.9	3.55	3.97	5.47	4.82	4.26	4.85	47.26	23.53	28.58	33.12
2	500	0.1	1	2204	2.31	2.74	4.11	3.05	2.82	3.36	5.12	3.77	20.70	20.93	36.80	26.14
3	500	0.1	1	2185	3.08	3.74	3.55	3.46	3.79	4.46	4.51	4.25	28.98	32.05	28.51	29.85
4	500	0.1	1	2205	3.37	3.05	4.26	3.56	4.12	3.75	5.15	4.34	24.02	23.12	34.18	27.11
5	500	0.1	1	2188	3.85	3.19	4.89	3.98	4.88	3.95	5.98	4.94	31.07	27.12	28.14	28.78
6	500	0.1	1	2199	3.15	2.7	3.99	3.28	3.86	3.50	5.34	4.23	28.26	28.37	36.27	30.97
7	500	0.1	1	2184	3.86	4.92	4.38	4.39	4.98	6.04	5.46	5.49	35.98	36.72	36.46	36.39
8	500	0.1	1	2188	4.16	4.58	3.77	4.17	5.13	5.63	4.68	5.15	35.98	30.03	27.20	31.07
9	500	0.1	1	2195	3.3	4.18	2.76	3.41	4.3	5.24	3.49	4.34	26.32	35.25	22	27.86
10	500	0.1	1	2157	3.13	3.06	3.76	3.32	3.73	4	4.59	4.11	24.5	30.18	28.8	27.83
11	500	0.1	1	2208	3.63	3.42	4.67	3.91	4.58	4.33	5.84	4.92	29.57	30.22	38.83	32.87
12	500	0.1	1	2193	4.22	3.59	4.92	4.24	5.04	4.48	6.40	5.31	26.20	26.27	48.20	33.56
13	500	0.1	1	2163	4.55	4.15	3.81	4.17	5.55	5.07	4.73	5.12	38.12	35.00	27.52	33.55
14	500	0.1	1	2164	1.96	4.33	4.06	3.45	2.44	5.30	5.16	4.30	16.10	35.01	33.09	28.07
15	500	0.1	1	2158	3.81	3.06	2.09	2.99	4.73	3.73	2.58	3.68	27.13	27.21	15.93	23.42
16	500	0.1	1	2175	4.84	3.15	4.69	4.23	6.15	4.00	6.00	5.38	34.97	27.08	31.00	31.02
17	500	0.1	1	2162	3.16	3.26	3.74	3.39	3.91	4.06	4.59	4.19	22.47	25.26	27.84	25.19
18	500	0.1	1	2170	3.91	4.05	4.08	4.01	4.80	4.96	4.87	4.88	28.94	29.48	27.03	28.48
19	500	0.1	1	2212	4.27	3.91	4.45	4.21	5.24	4.77	5.41	5.14	28.85	37.15	25.96	30.65
20	500	0.1	1	2155	4.2	3.79	4.78	4.26	5.04	4.83	5.72	5.20	27.75	34.1	35.33	32.39

ตารางผนวก ก 2.5 แสดงการผลการทดลองการวัดค่าความขรุขระสภาวะที่ 5

No.	speed	feed	depth	RPM	Ra(μm.)				Rq(μm.)				Rt(μm.)			
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	Ra(ave)	1	2	3	Rq(ave)	1	2	3	Rt(ave)
1	400	0.12	1	1735	4.56	4.84	4.59	4.66	5.48	5.78	5.75	5.67	36.37	28.07	36.34	33.59
2	400	0.12	1	1745	4.92	3.36	3.68	3.99	5.98	4.19	4.65	4.94	34.89	26.87	36.83	32.86
3	400	0.12	1	1757	3.43	3.96	4.9	4.10	4.24	4.65	5.91	4.93	28.51	27.10	34.24	29.95
4	400	0.12	1	1772	2.64	4.78	4.24	3.89	3.41	5.94	5.18	4.84	19.05	40.07	27.14	28.75
5	400	0.12	1	1735	3.87	3.95	4.28	4.03	4.84	4.70	5.39	4.98	32.82	25.86	35.69	31.46
6	400	0.12	1	1723	5.38	4.68	4.43	4.83	6.49	5.71	5.56	5.92	39.35	35.72	47.57	40.88
7	400	0.12	1	1750	3.46	5.12	4.26	4.28	4.34	6.43	5.22	5.33	30.08	45.29	29.59	34.99
8	400	0.12	1	1753	5.56	2.42	3.89	3.96	6.69	2.99	4.88	4.85	37.50	16.82	32.21	28.84
9	400	0.12	1	17.68	4.08	2.82	3.98	3.63	5	3.74	4.95	4.56	36.56	27.62	29.74	31.31
10	400	0.12	1	1734	5.17	4.54	3.67	4.46	6.64	5.58	4.54	5.59	45.21	33.54	28.16	35.64
11	400	0.12	1	1749	3.5	4.49	3.57	3.85	4.35	5.59	4.62	4.85	30.12	41.37	28.30	33.26
12	400	0.12	1	1737	2.2	5.18	4.35	3.91	2.74	6.36	5.34	4.81	17.38	32.83	29.86	26.69
13	400	0.12	1	1734	4.1	2.69	4.58	3.79	4.92	3.35	5.56	4.61	27.11	23.40	33.98	28.16
14	400	0.12	1	1731	2.59	3.05	4.92	3.52	3.33	3.86	6.11	4.43	26.76	22.38	32.21	27.12
15	400	0.12	1	1754	3.87	5.27	3.47	4.20	4.90	6.51	4.44	5.28	39.81	38.17	30.72	36.23
16	400	0.12	1	1729	3.8	3.78	3.94	3.84	4.87	4.55	4.97	4.80	28.21	27.00	33.92	29.71
17	400	0.12	1	1741	3.42	4.37	3.86	3.88	4.25	5.51	4.75	4.84	30.41	31.90	31.41	31.24
18	400	0.12	1	1736	5.95	3.18	3.4	4.18	7.32	3.92	4.13	5.12	47.45	23.39	20.50	30.45
19	400	0.12	1	1735	4.3	4.14	1.89	3.44	5.29	5.04	2.5	4.28	33.83	34.28	18.89	29.00
20	400	0.12	1	1768	3.29	4.24	3.49	3.67	4.05	5.17	4.42	4.55	23.17	32.81	31.21	29.06

ตารางผนวก ก 2.6 แสดงการผลการทดลองการวัดค่าความขรุขระสภาวะที่ 6

No.	speed	feed	depth	RPM	Ra(µm.)				Rq(µm.)				Rt(µm.)			
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	Ra(ave)	1	2	3	Rq(ave)	1	2	3	Rt(ave)
1	300	0.12	1	1290	2.64	4.37	5.51	4.17	3.24	5.51	6.58	5.11	24.03	42.62	52.09	39.58
2	300	0.12	1	1300	3.5	1.93	3.27	2.90	4.34	2.50	4.08	3.64	23.99	17.98	22.70	21.56
3	300	0.12	1	1324	3.86	3.37	2.92	3.38	5.15	4.31	3.76	4.41	36.13	36.35	24.36	32.28
4	300	0.12	1	1298	3.91	3.74	4.25	3.97	4.97	4.68	5.16	4.94	28.94	27.67	41.30	32.64
5	300	0.12	1	1298	4.81	4.24	3.63	4.23	6.14	5.10	4.49	5.24	49.19	29.91	31.05	36.72
6	300	0.12	1	1297	5.21	3.73	5.79	4.91	6.37	4.58	7.33	6.09	44.16	24.57	45.74	38.16
7	300	0.12	1	1309	3.7	4.28	2.92	3.63	4.62	5.42	3.73	4.59	22.79	36.48	23.68	27.65
8	300	0.12	1	1291	3.26	3.59	3.25	3.37	3.98	4.48	3.98	4.15	30.71	28.08	24.99	27.93
9	300	0.12	1	1315	4.96	4.83	3.58	4.46	6.28	6.24	4.52	5.68	42.69	31.92	26.4	33.67
10	300	0.12	1	1314	4.87	3.28	3.1	3.75	5.94	4.13	4.02	4.70	39.3	27.15	31.01	32.49
11	300	0.12	1	1298	3.46	3.96	4.25	3.89	4.20	4.86	5.35	4.80	26.09	43.01	38.94	36.01
12	300	0.12	1	1314	3.38	5.7	4.76	4.61	4.22	7.07	5.77	5.69	29.83	43.29	41.84	38.32
13	300	0.12	1	1329	2.8	2.41	2.81	2.67	3.50	3.20	3.56	3.42	20.95	24.96	23.57	23.16
14	300	0.12	1	1312	4.89	5.38	3	4.42	6.21	6.61	4.09	5.64	35.17	46.29	41.40	40.95
15	300	0.12	1	1317	5.22	2.32	3.11	3.55	6.52	2.86	3.90	4.43	40.05	18.54	26.63	28.41
16	300	0.12	1	1304	4.24	5.2	3.14	4.19	5.33	6.16	3.93	5.14	36.07	38.35	32.83	35.75
17	300	0.12	1	1298	3.8	3.3	3.22	3.44	4.67	4.11	3.99	4.26	29.38	29.29	27.89	28.85
18	300	0.12	1	102	2.73	3.51	4.42	3.55	3.36	4.33	5.47	4.39	18.30	24.88	30.72	24.63
19	300	0.12	1	1313	3.9	4.52	4.82	4.41	4.89	5.62	5.86	5.46	30.11	35.13	34.42	33.22
20	300	0.12	1	1291	3.97	3.36	3.56	3.63	5.01	4.19	4.46	4.55	29.87	26.74	32.53	29.71

ตารางผนวก ก 2.7 แสดงการผลการทดลองการวัดค่าความขรุขระสภาวะที่ 7

No.	speed	feed	depth	RPM	Ra(μm.)				Rq(μm.)				Rt(μm.)			
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	Ra(ave)	1	2	3	Rq(ave)	1	2	3	Rt(ave)
1	500	0.08	1	2216	4.93	2.05	4.01	3.66	6.17	2.49	4.94	4.53	43.44	15.15	30.39	29.66
2	500	0.08	1	2268	2.92	4.35	4.04	3.77	3.66	5.15	5.60	4.80	21.03	42.22	56.15	39.80
3	500	0.08	1	2231	3.43	3.55	3.27	3.42	4.45	4.66	4.03	4.38	33.60	29.78	23.97	29.12
4	500	0.08	1	2234	3.34	2.72	4.34	3.47	3.92	3.60	5.66	4.39	24.62	32.24	36.55	31.14
5	500	0.08	1	2254	4.74	2.85	4.54	4.04	6.08	3.53	5.68	5.10	51.39	22.65	42.32	38.79
6	500	0.08	1	2227	3.82	3.36	3.22	3.47	4.80	4.10	3.85	4.25	29.87	26.97	22.37	26.40
7	500	0.08	1	2232	2.58	3.03	4.17	3.26	3.41	3.87	5.23	4.17	33.13	33.95	33.41	33.50
8	500	0.08	1	2210	3.41	4.16	2.67	3.41	4.35	5.48	3.34	4.39	28.55	39.08	21.41	29.68
9	500	0.08	1	2204	4.25	3.21	2.81	3.42	5.13	4.18	3.67	4.33	31.86	36.45	26.34	31.55
10	500	0.08	1	2239	4.21	3.48	3.66	3.78	5.21	4.2	4.46	4.62	27.18	26.5	25.19	26.29
11	500	0.08	1	2233	4.04	2.74	3.36	3.38	5.32	3.48	4.12	4.31	42.88	23.46	27.07	31.14
12	500	0.08	1	2222	3.42	4.05	3.22	3.56	4.20	5.03	3.96	4.40	21.98	27.19	22.84	24.00
13	500	0.08	1	2188	4	4.05	4.01	4.02	4.80	5.05	5.13	4.99	24.90	45.00	31.38	33.76
14	500	0.08	1	2231	4.35	2.94	3.77	3.69	5.24	3.73	4.62	4.53	36.67	22.78	25.62	28.36
15	500	0.08	1	2229	3.49	2.89	2.89	3.09	4.45	3.54	3.51	3.83	28.98	20.45	19.22	22.88
16	500	0.08	1	2214	3.53	3.9	3.77	3.73	4.36	4.87	4.87	4.70	24.45	29.84	31.28	28.52
17	500	0.08	1	2224	4.14	3.75	4.42	4.10	5.16	4.55	5.56	5.09	35.68	29.62	33.49	32.93
18	500	0.08	1	2209	4.44	2.68	3.83	3.65	5.77	3.35	4.89	4.67	36.63	23.93	33.39	31.32
19	500	0.08	1	2218	4.2	2.82	3.69	3.57	5.34	3.58	4.58	4.50	42.66	27.42	29.75	33.28
20	500	0.08	1	2222	3.25	3.51	3.53	3.43	4.12	4.39	4.73	4.41	32.16	23.15	33.78	29.70

ตารางผนวก ก 2.8 แสดงการผลการทดลองการวัดค่าความขรุขระสภาวะที่ 8

No.	speed	feed	depth	RPM	Ra(μm.)				Rq(μm.)				Rt(μm.)			
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	Ra(ave)	1	2	3	Rq(ave)	1	2	3	Rt(ave)
1	500	0.12	1	2154	2.47	3.62	4.83	3.64	3.21	4.65	5.95	4.60	21.78	25.94	29.55	25.76
2	500	0.12	1	2158	2.77	5.44	2.25	3.49	3.79	6.41	2.99	4.40	37.75	37.22	25.11	33.36
3	500	0.12	1	2189	3.82	4.03	3.6	3.82	4.74	4.93	4.62	4.76	34.27	36.76	35.79	35.61
4	500	0.12	1	2168	3.63	3.71	3.89	3.74	4.53	4.73	4.71	4.66	34.04	32.73	24.77	30.51
5	500	0.12	1	2192	2.83	4.63	3.67	3.71	3.55	5.80	4.51	4.62	23.05	31.44	29.20	27.90
6	500	0.12	1	2161	2.8	5.17	4.11	4.03	3.50	6.69	5.10	5.10	27.60	50.66	29.99	36.08
7	500	0.12	1	2174	2.93	2.58	4.28	3.26	3.64	3.21	5.41	4.09	22.80	19.51	37.08	26.46
8	500	0.12	1	2187	3.48	4.43	5.31	4.41	4.45	5.74	6.59	5.59	27.90	35.20	35.14	32.75
9	500	0.12	1	2167	3.84	2.72	3.35	3.30	4.73	3.49	4.06	4.09	27.25	22.56	24.91	24.91
10	500	0.12	1	2163	4.52	4.68	3.11	4.10	5.99	5.52	3.71	5.07	40.69	32.2	23.76	32.22
11	500	0.12	1	2185	3.32	4.44	4.95	4.24	4.20	5.45	6.33	5.33	23.87	29.27	51.42	34.85
12	500	0.12	1	2161	4.56	3.9	4.79	4.42	5.65	5.08	5.89	5.54	39.84	37.38	36.36	37.86
13	500	0.12	1	2174	3.76	5.4	3.88	4.35	4.58	6.68	4.79	5.35	31.44	46.07	29.40	35.64
14	500	0.12	1	2205	3.26	3.20	3.2	3.22	4.26	3.83	4.04	4.04	29.20	21.56	26.89	25.88
15	500	0.12	1	2213	3.36	5.28	3.41	4.02	4.18	6.79	4.24	5.07	24.49	38.09	28.87	30.48
16	500	0.12	1	2203	4.2	2.85	3.61	3.55	5.04	3.71	4.47	4.41	26.52	25.23	28.30	26.68
17	500	0.12	1	2209	3.42	2.57	3.09	3.03	4.21	3.19	4.00	3.80	26.21	20.50	25.76	24.16
18	500	0.12	1	2221	4.01	2.89	3.98	3.63	5.03	3.53	4.89	4.48	30.10	24.39	26.11	26.87
19	500	0.12	1	2197	2.56	5.16	3.67	3.80	3.19	6.18	4.45	4.61	20.85	40.58	23.36	28.26
20	500	0.12	1	2206	2.57	5.05	3.63	3.75	3.13	5.94	4.58	4.55	27.24	29.79	27.6	28.21

ตารางผนวก ก 2.9 แสดงการผลการทดลองการวัดค่าความขรุขระสภาวะที่ 9

No.	speed	feed	depth	RPM	Ra(μm.)				Rq(μm.)				Rt(μm.)			
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	Ra(ave)	1	2	3	Rq(ave)	1	2	3	Rt(ave)
1	400	0.1	1	1765	3.61	4.04	4.3	3.98	4.49	5.10	5.69	5.09	32.38	33.05	43.60	36.34
2	400	0.1	1	1826	2.91	3.06	3.37	3.11	3.61	3.80	4.30	3.90	22.23	22.32	28.14	24.23
3	400	0.1	1	1768	3.75	4.84	3.2	3.93	5.25	5.98	4.35	5.19	45.20	32.81	50.37	42.79
4	400	0.1	1	1815	5.04	3.57	3.84	4.15	6.19	4.37	4.93	5.16	34.28	26.70	33.86	31.61
5	400	0.1	1	1828	4.1	3.94	4.48	4.17	5.08	5.06	5.52	5.22	32.87	34.81	28.06	31.91
6	400	0.1	1	1799	3.87	3.58	3.59	3.68	4.98	4.67	4.61	4.75	43.86	35.33	40.98	40.06
7	400	0.1	1	1760	3.41	2.65	3.05	3.04	4.21	3.40	3.72	3.78	25.91	28.92	23.54	26.12
8	400	0.1	1	1821	3.95	5.74	4.49	4.73	4.88	6.81	5.56	5.75	27.29	35.90	35.91	33.03
9	400	0.1	1	1801	2.32	3.86	3.64	3.27	2.94	4.84	4.58	4.12	18.66	36.8	32.1	29.19
10	400	0.1	1	1798	3.07	3.88	4.08	3.68	3.84	4.73	5.22	4.60	24.17	26.71	44.23	31.70
11	400	0.1	1	1801	5.07	3.65	1.85	3.52	6.17	4.62	2.28	4.36	32.12	26.34	14.43	24.30
12	400	0.1	1	1750	4.95	4.69	3.5	4.38	6.28	5.97	4.30	5.52	40.53	33.58	24.53	32.88
13	400	0.1	1	1799	4.09	2.39	3.42	3.30	5.23	3.07	4.14	4.15	28.91	19.76	26.23	24.97
14	400	0.1	1	1768	3.18	2.74	4.01	3.31	4.07	3.40	4.86	4.11	26.03	25.62	28.99	26.88
15	400	0.1	1	1792	3.14	4.16	2.58	3.29	3.83	5.38	3.26	4.16	22.77	51.84	21.81	32.14
16	400	0.1	1	1743	3.57	3.53	3.4	3.50	4.51	4.34	4.30	4.38	29.10	39.45	32.17	33.57
17	400	0.1	1	1767	4.17	3.4	2.1	3.22	5.30	4.49	2.71	4.17	33.99	35.13	18.45	29.19
18	400	0.1	1	1766	4.14	3.37	3.09	3.53	5.20	4.23	3.93	4.45	27.41	26.09	30.00	27.83
19	400	0.1	1	1800	5.63	3.4	4.41	4.48	7.11	4.24	5.61	5.65	38.56	26.24	42.81	35.87
20	400	0.1	1	1765	4.45	3.93	2.73	3.70	5.72	5.15	3.63	4.83	38.51	42.37	26.75	35.88

ตารางผนวก ก 2.10 แสดงการผลการทดลองการวัดค่าความคลาดเคลื่อนขนาดสภาวะที่ 1

No.	speed	feed	depth	RPM	Dia ก่อนกลึง				Dia หลังกลึง					
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	(ave)	1	2	3	(ave)	Exp.dim	Dim. Err.
1	300	0.08	1	1322	72.23	72.24	72.21	72.23	70.60	70.60	70.60	70.60	70.23	-0.37
2	300	0.08	1	1322	72.25	72.24	72.18	72.22	70.39	70.40	70.40	70.40	70.22	-0.17
3	300	0.08	1	1323	72.2	72.17	72.15	72.17	70.74	70.71	70.71	70.72	70.17	-0.55
4	300	0.08	1	1357	70.38	70.40	70.38	70.39	68.77	68.78	68.78	68.78	68.39	-0.39
5	300	0.08	1	1346	70.96	70.92	70.9	70.93	69.18	69.17	69.17	69.17	68.93	-0.25
6	300	0.08	1	1344	71.04	71.06	71.08	71.06	69.19	69.19	69.19	69.19	69.06	-0.13
7	300	0.08	1	1353	70.57	70.6	70.57	70.58	68.63	68.61	68.62	68.62	68.58	-0.04
8	300	0.08	1	1350	70.75	70.75	70.73	70.74	69.25	69.23	69.23	69.24	68.74	-0.49
9	300	0.08	1	1353	70.58	70.57	70.57	70.57	68.72	68.75	68.74	68.74	68.57	-0.16
10	300	0.08	1	1350	70.71	70.7	70.73	70.71	69.1	69.12	69	69.07	68.71	-0.36
11	300	0.08	1	1366	69.93	69.93	69.92	69.93	68.21	68.20	68.21	68.21	67.93	-0.28
12	300	0.08	1	1366	69.90	69.93	69.93	69.92	68.50	68.47	68.50	68.49	67.92	-0.57
12	300	0.08	1	1360	70.25	70.23	70.21	70.23	68.55	68.56	68.57	68.56	68.23	-0.33
14	300	0.08	1	1369	69.78	69.76	69.77	69.77	67.87	67.80	67.77	67.81	67.77	-0.04
15	300	0.08	1	1361	70.17	70.15	70.17	70.16	68.20	68.17	68.20	68.19	68.16	-0.03
16	300	0.08	1	1365	69.96	69.97	69.97	69.97	68.25	68.30	68.24	68.26	67.97	-0.30
17	300	0.08	1	1357	70.40	70.38	70.39	70.39	68.98	68.97	68.98	68.98	68.39	-0.59
18	300	0.08	1	1371	69.65	69.66	69.70	69.67	68.25	68.24	68.26	68.25	67.67	-0.58
19	300	0.08	1	1367	69.83	69.85	69.87	69.85	68.04	68.05	68.04	68.04	67.85	-0.19
20	300	0.08	1	1365	69.96	69.91	69.93	69.93	68.51	68.5	68.5	68.50	67.93	-0.57

ตารางผนวก ก 2.11 แสดงการผลการทดลองการวัดค่าความคลาดเคลื่อนขนาดสภาวะที่ 2

No.	speed	feed	depth	RPM	Dia ก่อนกลึง				Dia หลังกลึง					
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	(ave)	1	2	3	(ave)	Exp.dim	Dim. Err.
1	300	0.1	1	1367	69.85	69.81	69.84	69.83	68.09	68.10	68.10	68.10	67.83	-0.26
2	300	0.1	1	1367	69.86	69.87	69.87	69.87	68.32	68.35	68.34	68.34	67.87	-0.47
3	300	0.1	1	1366	69.94	69.93	69.90	69.92	68.15	68.16	68.07	68.13	67.92	-0.20
4	300	0.1	1	1362	70.10	70.11	70.12	70.11	68.53	68.54	68.54	68.54	68.11	-0.43
5	300	0.1	1	1363	70.04	70.07	70.10	70.07	68.38	68.40	68.43	68.40	68.07	-0.33
6	300	0.1	1	1373	69.52	69.53	69.53	69.53	67.80	67.80	67.81	67.80	67.53	-0.28
7	300	0.1	1	1363	70.08	70.04	70.04	70.05	68.08	68.08	68.08	68.08	68.05	-0.03
8	300	0.1	1	1365	69.93	69.93	69.95	69.94	68.20	68.25	68.21	68.22	67.94	-0.28
9	300	0.1	1	1367	69.87	69.88	69.88	69.88	68.05	68.08	68.05	68.06	67.88	-0.18
10	300	0.1	1	1368	69.81	69.81	69.76	69.79	67.8	67.78	67.78	67.79	67.79	0.01
11	300	0.1	1	1344	71.04	71.04	71.04	71.04	69.18	69.19	69.19	69.19	69.04	-0.15
12	300	0.1	1	1347	70.87	70.86	70.87	70.87	69.28	69.27	69.30	69.28	68.87	-0.42
13	300	0.1	1	1350	70.75	70.77	70.75	70.76	68.72	68.72	68.72	68.72	68.76	0.04
14	300	0.1	1	1345	70.95	70.96	70.95	70.95	68.93	68.92	68.93	68.93	68.95	0.03
15	300	0.1	1	1351	70.69	70.70	70.68	70.69	69.20	69.23	69.25	69.23	68.69	-0.54
16	300	0.1	1	1350	70.72	70.73	70.72	70.72	69.07	69.08	69.07	69.07	68.72	-0.35
17	300	0.1	1	1348	70.83	70.82	70.82	70.82	68.59	68.62	68.61	68.61	68.82	0.22
18	300	0.1	1	1351	70.68	70.70	70.68	70.69	68.99	69.00	68.98	68.99	68.69	-0.30
19	300	0.1	1	1349	70.76	70.77	70.77	70.77	69.19	69.18	69.2	69.19	68.77	-0.42
20	300	0.1	1	1349	70.78	70.78	70.77	70.78	68.81	68.8	68.78	68.80	68.78	-0.02

ตารางผนวก ก 2.12 แสดงการผลการทดลองการวัดค่าความคลาดเคลื่อนขนาดสภาวะที่ 3

No.	speed	feed	depth	RPM	Dia ก่อนกลึง				Dia หลังกลึง					
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	(ave)	1	2	3	(ave)	Exp.dim	Dim. Err.
1	400	0.08	1	1825	69.77	69.77	69.77	69.77	68.10	68.08	68.08	68.09	67.77	-0.32
2	400	0.08	1	1826	69.69	69.73	69.73	69.72	67.83	67.87	67.86	67.85	67.72	-0.14
3	400	0.08	1	1823	69.86	69.87	69.85	69.86	68.20	68.12	68.12	68.15	67.86	-0.29
4	400	0.08	1	1820	69.95	69.94	69.95	69.95	68.11	68.14	68.09	68.11	67.95	-0.17
5	400	0.08	1	1826	69.74	69.74	69.74	69.74	67.96	67.93	67.94	67.94	67.74	-0.20
6	400	0.08	1	1822	69.90	69.89	69.88	69.89	68.04	68.06	68.03	68.04	67.89	-0.15
7	400	0.08	1	1817	70.04	70.04	70.09	70.06	68.45	68.42	68.42	68.43	68.06	-0.37
8	400	0.08	1	1831	69.50	69.49	69.51	69.50	67.80	67.79	67.78	67.79	67.50	-0.29
9	400	0.08	1	1823	69.85	69.86	69.87	69.86	68.22	68.26	68.29	68.26	67.86	-0.40
10	400	0.08	1	1829	69.48	69.48	69.86	69.61	68	68.02	68.01	68.01	67.61	-0.40
11	400	0.08	1	1763	72.15	72.16	72.19	72.17	70.30	70.35	70.30	70.32	70.17	-0.15
12	400	0.08	1	1753	72.62	72.58	72.65	72.62	70.77	70.75	70.75	70.76	70.62	-0.14
13	400	0.08	1	1753	72.62	72.6	72.61	72.61	70.87	70.87	70.87	70.87	70.61	-0.26
14	400	0.08	1	1749	72.78	72.80	72.78	72.79	70.91	70.87	70.86	70.88	70.79	-0.09
15	400	0.08	1	1761	72.3	72.27	72.3	72.29	70.60	70.57	70.58	70.58	70.29	-0.29
16	400	0.08	1	1753	72.54	72.5	72.48	72.51	70.84	70.83	70.81	70.83	70.51	-0.32
17	400	0.08	1	1752	72.63	72.69	72.69	72.67	70.85	70.82	70.82	70.83	70.67	-0.16
18	400	0.08	1	1748	72.82	72.83	72.82	72.82	71.02	70.97	70.98	70.99	70.82	-0.17
19	400	0.08	1	1768	72	72.02	71.97	72.00	70.17	70.19	70.15	70.17	70.00	-0.17
20	400	0.08	1	1769	71.97	71.97	71.96	71.97	70.28	70.3	70.27	70.28	69.97	-0.32

ตารางผนวก ก 2.13 แสดงการผลการทดลองการวัดค่าความคลาดเคลื่อนขนาดสภาวะที่ 4

No.	speed	feed	depth	RPM	Dia ก่อนกลึง				Dia หลังกลึง					
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	(ave)	1	2	3	(ave)	Exp.dim	Dim. Err.
1	500	0.1	1	2190	72.51	72.57	72.5	72.53	70.65	70.67	70.65	70.66	70.53	-0.13
2	500	0.1	1	2204	72.24	72.19	72.21	72.21	70.46	70.44	70.46	70.45	70.21	-0.24
3	500	0.1	1	2185	72.82	72.82	72.84	72.83	70.80	70.82	70.80	70.81	70.83	0.02
4	500	0.1	1	2205	72.16	72.15	72.16	72.16	70.45	70.43	70.45	70.44	70.16	-0.29
5	500	0.1	1	2188	72.55	72.6	72.58	72.58	70.85	70.86	70.86	70.86	70.58	-0.28
6	500	0.1	1	2199	73.33	73.34	73.44	73.37	71.38	71.39	71.42	71.40	71.37	-0.03
7	500	0.1	1	2184	71.84	71.87	71.86	71.86	70.01	69.97	69.99	69.99	69.86	-0.13
8	500	0.1	1	2188	72.71	72.71	72.75	72.72	70.74	70.71	70.72	70.72	70.72	0.00
9	500	0.1	1	2195	72.53	72.54	72.5	72.52	70.51	70.93	70.52	70.65	70.52	-0.13
10	500	0.1	1	2157	73.78	73.78	73.75	73.77	71.83	71.85	71.84	71.84	71.77	-0.07
11	500	0.1	1	2208	72.04	72.02	72.08	72.05	70.12	70.12	70.11	70.12	70.05	-0.07
12	500	0.1	1	2193	72.57	72.56	72.57	72.57	70.70	70.69	70.70	70.70	70.57	-0.13
13	500	0.1	1	2163	73.54	73.62	72.58	73.25	71.52	71.58	71.58	71.56	71.25	-0.31
14	500	0.1	1	2164	73.5	73.50	73.55	73.52	71.78	71.65	71.64	71.69	71.52	-0.17
15	500	0.1	1	2158	73.71	73.79	73 72	73.74	71.99	72.00	72.00	72.00	71.74	-0.26
16	500	0.1	1	2175	73.14	73.18	73.19	73.17	71.25	71.27	71.26	71.26	71.17	-0.09
17	500	0.1	1	2162	73.63	73.6	73.62	73.62	71.47	71.40	71.47	71.45	71.62	0.17
18	500	0.1	1	2170	73.36	73.36	73.36	73.36	71.70	71.69	71.72	71.70	71.36	-0.34
19	500	0.1	1	2212	71.92	71.93	71.99	71.95	70.03	70.04	70.08	70.05	69.95	-0.10
20	500	0.1	1	2155	73.91	73.85	73.9	73.89	71.73	71.71	71.72	71.72	71.89	0.17

ตารางผนวก ก 2.14 แสดงการผลการทดลองการวัดค่าความคลาดเคลื่อนขนาดสภาวะที่ 5

No.	speed	feed	depth	RPM	Dia ก่อนกลึง				Dia หลังกลึง					
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	(ave)	1	2	3	(ave)	Exp.dim	Dim. Err.
1	400	0.12	1	1735	73.43	73.39	73.38	73.40	71.47	71.44	71.44	71.45	71.40	-0.05
2	400	0.12	1	1745	72.57	72.58	72.55	72.57	70.95	70.97	70.93	70.95	70.57	-0.38
3	400	0.12	1	1757	72.45	72.48	72.49	72.47	70.72	70.72	70.71	70.72	70.47	-0.24
4	400	0.12	1	1772	71.88	71.88	71.86	71.87	70.19	70.18	70.19	70.19	69.87	-0.31
5	400	0.12	1	1735	73.37	73.35	73.38	73.37	71.65	71.65	71.66	71.65	71.37	-0.29
6	400	0.12	1	1723	73.9	73.86	73.9	73.89	71.98	72.02	72.01	72.00	71.89	-0.12
7	400	0.12	1	1750	72.78	72.71	72.73	72.74	70.84	70.82	70.85	70.84	70.74	-0.10
8	400	0.12	1	1753	72.53	72.49	72.52	72.51	70.94	70.92	71.02	70.96	70.51	-0.45
9	400	0.12	1	17.68	72.02	72.01	71.97	72.00	70.49	70.48	70.5	70.49	70.00	-0.49
10	400	0.12	1	1734	73.4	73.41	73.43	73.41	71.6	71.59	71.6	71.60	71.41	-0.18
11	400	0.12	1	1749	72.81	72.78	72.83	72.81	70.78	70.77	70.80	70.78	70.81	0.02
12	400	0.12	1	1737	73.31	73.28	73.31	73.30	71.29	71.34	71.26	71.30	71.30	0.00
13	400	0.12	1	1734	73.4	73.39	73.42	73.40	71.46	71.42	71.53	71.47	71.40	-0.07
14	400	0.12	1	1731	73.54	73.57	73.56	73.56	71.71	71.72	71.75	71.73	71.56	-0.17
15	400	0.12	1	1754	72.58	72.56	72.58	72.57	70.92	70.94	70.95	70.94	70.57	-0.36
16	400	0.12	1	1729	73.64	73.61	73.65	73.63	71.57	71.51	71.52	71.53	71.63	0.10
17	400	0.12	1	1741	73.15	73.12	73.11	73.13	71.37	71.33	71.33	71.34	71.13	-0.22
18	400	0.12	1	1736	73.34	73.37	73.33	73.35	71.31	71.36	71.35	71.34	71.35	0.01
19	400	0.12	1	1735	73.37	73.35	73.36	73.36	71.51	71.53	71.55	71.53	71.36	-0.17
20	400	0.12	1	1768	71.98	71.99	72.03	72.00	70.02	70.02	70	70.01	70.00	-0.01

ตารางผนวก ก 2.15 แสดงการผลการทดลองการวัดค่าความคลาดเคลื่อนขนาดสภาวะที่ 6

No.	speed	feed	depth	RPM	Dia ก่อนกลึง				Dia หลังกลึง					
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	(ave)	1	2	3	(ave)	Exp.dim	Dim. Er.
1	300	0.12	1	1290	74	74	74.05	74.02	72.26	72.24	72.30	72.27	72.02	-0.25
2	300	0.12	1	1300	73.42	73.44	73.38	73.41	71.38	71.42	71.40	71.40	71.41	0.01
3	300	0.12	1	1324	72.12	72.08	72.16	72.12	70.45	70.42	70.45	70.44	70.12	-0.32
4	300	0.12	1	1298	73.54	73.57	73.55	73.55	71.87	71.69	71.68	71.75	71.55	-0.19
5	300	0.12	1	1298	73.58	73.56	73.58	73.57	71.58	71.62	71.67	71.62	71.57	-0.05
6	300	0.12	1	1297	73.64	73.6	73.64	73.63	71.59	71.59	71.62	71.60	71.63	0.03
7	300	0.12	1	1309	72.96	72.94	72.94	72.95	71.20	71.19	71.21	71.20	70.95	-0.25
8	300	0.12	1	1291	73.96	73.95	73.96	73.96	72.04	72.01	71.98	72.01	71.96	-0.05
9	300	0.12	1	1315	72.53	72.67	72.6	72.60	70.95	71.03	70.97	70.98	70.60	-0.38
10	300	0.12	1	1314	72.67	72.65	72.7	72.67	70.9	70.91	71.05	70.95	70.67	-0.28
11	300	0.12	1	1298	73.54	73.57	73.58	73.56	71.65	71.65	71.70	71.67	71.56	-0.10
12	300	0.12	1	1314	72.6	72.62	72.64	72.62	70.30	70.28	70.27	70.28	70.62	0.34
13	300	0.12	1	1329	71.82	71.84	71.86	71.84	70.01	70.00	70.02	70.01	69.84	-0.17
14	300	0.12	1	1312	72.76	72.77	72.78	72.77	70.76	70.76	70.75	70.76	70.77	0.01
15	300	0.12	1	1317	72.51	72.55	72.53	72.53	70.93	70.90	70.90	70.91	70.53	-0.38
16	300	0.12	1	1304	73.19	73.17	73.19	73.18	71.60	71.60	71.60	71.60	71.18	-0.42
17	300	0.12	1	1298	73.56	73.52	73.57	73.55	71.57	71.58	71.57	71.57	71.55	-0.02
18	300	0.12	1	102	73.3	73.26	73.31	73.29	71.61	71.59	71.59	71.60	71.29	-0.31
19	300	0.12	1	1313	72.68	72.68	72.67	72.68	71.04	71.06	71.04	71.05	70.68	-0.37
20	300	0.12	1	1291	73.92	73.96	73.96	73.95	71.97	71.97	71.97	71.97	71.95	-0.02

ตารางผนวก ก 2.16 แสดงการผลการทดลองการวัดค่าความคลาดเคลื่อนขนาดสภาวะที่ 7

No.	speed	feed	depth	RPM	Dia ก่อนกลึง				Dia หลังกลึง					
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	(ave)	1	2	3	(ave)	Exp.dim	Dim. Err.
1	500	0.08	1	2216	71.81	71.78	71.8	71.80	69.74	69.74	69.82	69.77	69.80	0.03
2	500	0.08	1	2268	70.2	70.17	70.16	70.18	68.32	68.29	68.31	68.31	68.18	-0.13
3	500	0.08	1	2231	71.34	71.34	71.32	71.33	69.30	69.30	69.28	69.29	69.33	0.04
4	500	0.08	1	2234	71.24	71.24	71.26	71.25	69.41	69.39	69.37	69.39	69.25	-0.14
5	500	0.08	1	2254	70.63	70.58	70.61	70.61	68.80	68.86	68.87	68.84	68.61	-0.24
6	500	0.08	1	2227	71.45	71.47	71.43	71.45	69.74	69.74	69.72	69.73	69.45	-0.28
7	500	0.08	1	2232	71.31	71.29	71.29	71.30	69.37	69.34	69.37	69.36	69.30	-0.06
8	500	0.08	1	2210	72.02	71.99	72.02	72.01	70.05	70.05	70.07	70.06	70.01	-0.05
9	500	0.08	1	2204	72.17	72.15	72.2	72.17	70.3	70.31	70.3	70.30	70.17	-0.13
10	500	0.08	1	2239	71.07	71.08	71.08	71.08	69.08	69.1	69.08	69.09	69.08	-0.01
11	500	0.08	1	2233	71.25	71.23	71.3	71.26	69.21	69.22	69.26	69.23	69.26	0.03
12	500	0.08	1	2222	71.6	71.62	71.66	71.63	69.60	69.59	69.60	69.60	69.63	0.03
13	500	0.08	1	2188	72.7	72.75	72.69	72.71	70.81	70.80	70.78	70.80	70.71	-0.08
14	500	0.08	1	2231	71.42	71.60	71.29	71.44	69.55	69.60	69.60	69.58	69.44	-0.15
15	500	0.08	1	2229	71.37	71.42	71.35	71.38	69.42	69.35	69.34	69.37	69.38	0.01
16	500	0.08	1	2214	71.87	71.87	71.84	71.86	69.87	69.89	69.87	69.88	69.86	-0.02
17	500	0.08	1	2224	71.53	71.55	71.58	71.55	69.50	69.48	69.49	69.49	69.55	0.06
18	500	0.08	1	2209	72.06	72.01	72.05	72.04	70.05	70.02	70.05	70.04	70.04	0.00
19	500	0.08	1	2218	71.74	71.75	71.71	71.73	69.7	69.66	69.69	69.68	69.73	0.05
20	500	0.08	1	2222	71.53	71.63	71.65	71.60	69.8	69.79	69.82	69.80	69.60	-0.20

ตารางผนวก ก 2.17 แสดงการผลการทดลองการวัดค่าความคลาดเคลื่อนขนาดสภาวะที่ 8

No.	speed	feed	depth	RPM	Dia ก่อนกลึง				Dia หลังกลึง					
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	(ave)	1	2	3	(ave)	Exp.dim	Dim. Err.
1	500	0.12	1	2154	73.89	73.88	73.84	73.87	72.03	72.00	72.07	72.03	71.87	-0.16
2	500	0.12	1	2158	73.76	73.73	73.76	73.75	70.93	72.92	70.94	71.60	71.75	0.15
3	500	0.12	1	2189	72.69	72.7	72.69	72.69	70.78	70.72	70.71	70.74	70.69	-0.04
4	500	0.12	1	2168	73.38	73.39	73.4	73.39	71.59	71.58	71.62	71.60	71.39	-0.21
5	500	0.12	1	2192	72.55	72.6	72.6	72.58	70.63	70.63	70.62	70.63	70.58	-0.04
6	500	0.12	1	2161	73.65	73.61	73.65	73.64	71.72	71.68	71.75	71.72	71.64	-0.08
7	500	0.12	1	2174	73.19	73.21	73.18	73.19	71.41	71.44	71.41	71.42	71.19	-0.23
8	500	0.12	1	2187	72.77	72.75	72.79	72.77	70.90	70.90	70.91	70.90	70.77	-0.13
9	500	0.12	1	2167	73.4	73.41	73.45	73.42	71.53	71.6	71.54	71.56	71.42	-0.14
10	500	0.12	1	2163	73.54	73.57	73.54	73.55	71.85	71.82	71.84	71.84	71.55	-0.29
11	500	0.12	1	2185	72.8	72.84	72.8	72.81	71.01	70.91	70.92	70.95	70.81	-0.13
12	500	0.12	1	2161	73.66	73.61	73.65	73.64	72.09	71.98	72.03	72.03	71.64	-0.39
13	500	0.12	1	2174	73.23	73.2	73.19	73.21	71.50	71.60	71.55	71.55	71.21	-0.34
14	500	0.12	1	2205	72.17	72.16	72.19	72.17	70.41	70.42	70.41	70.41	70.17	-0.24
15	500	0.12	1	2213	71.88	71.91	71.9	71.90	70.27	70.22	70.23	70.24	69.90	-0.34
16	500	0.12	1	2203	72.22	72.3	72.2	72.24	70.61	70.61	70.57	70.60	70.24	-0.36
17	500	0.12	1	2209	72.03	72.03	72.04	72.03	70.16	70.19	70.19	70.18	70.03	-0.15
18	500	0.12	1	2221	71.51	71.57	71.46	71.51	69.53	69.60	69.56	69.56	69.51	-0.05
19	500	0.12	1	2197	72.42	72.41	72.42	72.42	70.65	70.6	70.61	70.62	70.42	-0.20
20	500	0.12	1	2206	72.18	72.09	72.16	72.14	70.11	70.09	70.1	70.10	70.14	0.04

ตารางผนวก ก 2.18 แสดงการผลการทดลองการวัดค่าความคลาดเคลื่อนขนาดสภาวะที่ 9

No.	speed	feed	depth	RPM	Dia ก่อนกลึง				Dia หลังกลึง					
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	(ave)	1	2	3	(ave)	Exp.dim	Dim. Err.
1	400	0.1	1	1765	72.11	72.12	72.14	72.12	70.10	70.13	70.14	70.12	70.12	0.00
2	400	0.1	1	1826	69.7	69.73	69.75	69.73	68.10	68.15	68.14	68.13	67.73	-0.40
3	400	0.1	1	1768	72.01	72	72.01	72.01	70.21	70.26	70.23	70.23	70.01	-0.23
4	400	0.1	1	1815	70.17	70.15	70.15	70.16	68.52	68.52	68.52	68.52	68.16	-0.36
5	400	0.1	1	1828	69.58	69.67	69.61	69.62	67.94	67.95	67.93	67.94	67.62	-0.32
6	400	0.1	1	1799	70.74	70.75	70 76	70.75	68.84	68.84	68.83	68.84	68.75	-0.09
7	400	0.1	1	1760	72.37	72.35	72.32	72.35	70.54	70.56	70.53	70.54	70.35	-0.20
8	400	0.1	1	1821	69.81	69.87	70	69.89	68.16	68.17	68.15	68.16	67.89	-0.27
9	400	0.1	1	1801	70.67	70.72	70.68	70.69	68.9	68.9	68.93	68.91	68.69	-0.22
10	400	0.1	1	1798	70.88	70.87	70.65	70.80	68.95	68.95	68.96	68.95	68.80	-0.15
11	400	0.1	1	1801	70.72	70.69	70.66	70.69	69.01	69.02	69.00	69.01	68.69	-0.32
12	400	0.1	1	1750	72.75	72.76	72.74	72.75	70.80	70.77	70.77	70.78	70.75	-0.03
13	400	0.1	1	1799	70.75	70.74	70.76	70.75	68.74	68.77	68.74	68.75	68.75	0.00
14	400	0.1	1	1768	72	72.00	72.02	72.01	70.18	70.13	70.18	70.16	70.01	-0.16
15	400	0.1	1	1792	71.05	71.01	71.05	71.04	69.13	69.20	69.14	69.16	69.04	-0.12
16	400	0.1	1	1743	73.03	72.99	73.07	73.03	71.26	71.27	71.29	71.27	71.03	-0.24
17	400	0.1	1	1767	72.05	72.05	72.06	72.05	69.72	69.71	69.72	69.72	70.05	0.34
18	400	0.1	1	1766	72.08	72.05	72.05	72.06	70.13	70.14	70.13	70.13	70.06	-0.07
19	400	0.1	1	1800	70.69	70.75	70.76	70.73	68.76	68.79	68.75	68.77	68.73	-0.03
20	400	0.1	1	1765	72.08	72.08	72.15	72.10	70.11	70.1	70.13	70.11	70.10	-0.01

ตารางผนวก ก 3.1 แสดงผลการทดลองวัดค่าความขรุขระครั้งที่ 1 Complete randomized block 1

No.	speed	feed	depth	RPM	Ra				Rq				Rt			
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	(ave)	1	2	3	(ave)	1	2	3	(ave)
1	256	0.6	1	1200	3.95	4.1	3.89	3.98	4.85	5.06	4.94	4.95	29.40	24.00	28.80	27.40
2	534	0.6	1	2500	4.07	3.46	3.23	3.59	5.12	5.01	4.72	4.95	28.20	34.20	31.70	31.37
3	363	1	1	1700	5.14	4.95	3.98	4.69	6.02	5.57	4.72	5.44	31.40	26.50	31.10	29.67
4	256	0.8	1	1200	3.54	4.91	3.15	3.87	4.70	6.19	4.58	5.16	50.30	56.70	36.90	47.97
5	363	0.8	1	1700	5.18	6.24	2.41	4.61	6.77	7.92	3.08	5.92	36.40	42.70	19.40	32.83
6	534	0.8	1	2500	2.99	5.25	4.33	4.19	4.09	6.40	5.65	5.38	27.30	33.10	39.90	33.43
7	534	1	1	2500	3.36	5.83	5.75	4.98	4.28	7.23	7.42	6.31	27.10	43.20	42.80	37.70
8	256	1	1	1200	6.49	4.3	4.47	5.09	8.27	5.07	5.51	6.28	44.00	27.60	35.90	35.83
9	363	0.6	1	1700	5.92	3.51	3.01	4.15	7.50	4.74	4.04	5.43	39.20	30.80	29.40	33.13

ตารางผนวก ก 3.2 แสดงผลการทดลองวัดค่าความขรุขระครั้งที่ 2 Complete randomized block 2

No.	speed	feed	depth	RPM	Ra				Rq				Rt			
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	(ave)	1	2	3	(ave)	1	2	3	(ave)
1	256	0.6	1	1200	5.52	3.82	2.61	3.98	7.29	5.48	3.83	5.53	44.50	41.00	33.40	39.63
2	363	1	1	1700	4.7	5.12	4.94	4.92	5.99	6.62	6.57	6.39	33.40	39.20	46.50	39.70
3	534	0.8	1	2500	4.17	3.48	4.99	4.21	6.16	5.02	6.63	5.94	48.30	41.50	39.40	43.07
4	256	1	1	1200	5.5	4.12	3.5	4.37	6.59	5.52	4.75	5.62	69.00	42.10	60.00	57.03
5	534	1	1	2500	5.24	4.21	3.5	4.32	6.54	5.08	4.80	5.47	39.60	29.20	48.40	39.07
6	363	0.6	1	1700	3.2	4.15	3.15	3.50	4.51	5.38	4.53	4.81	42.20	32.00	30.20	34.80
7	363	0.8	1	1700	4.37	5.85	3.69	4.64	5.20	8.38	4.87	6.15	27.70	65.30	30.00	41.00
8	256	0.8	1	1200	4.68	3.88	3.81	4.12	5.90	5.02	4.91	5.28	34.10	43.00	32.90	36.67
9	534	0.6	1	2500	3.32	4.02	3.18	3.51	4.20	5.29	4.50	4.66	28.10	37.00	34.90	33.33

ตารางผนวก ก 3.3 แสดงผลการทดลองวัดค่าความขรุขระครั้งที่ 3 Complete randomized block 3

No.	speed	feed	depth	RPM	Ra				Rq				Rt			
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	(ave)	1	2	3	(ave)	1	2	3	(ave)
1	534	1	1	2500	4.88	3.31	5.31	4.50	6.41	4.27	7.02	5.90	44.80	27.00	42.60	38.13
2	256	0.6	1	1200	4.05	4.76	3.24	4.02	5.24	5.96	4.47	5.22	30.40	19.80	34.30	28.17
3	534	0.8	1	2500	3.79	4.18	4.73	4.23	4.74	5.52	6.25	5.50	25.80	38.60	41.40	35.27
4	363	0.8	1	1700	5.45	3.82	5.7	4.99	7.12	5.38	7.67	6.72	41.90	34.50	46.80	41.07
5	256	0.8	1	1200	6.46	5.26	3.37	5.03	8.11	6.46	4.47	6.35	42.50	39.60	27.30	36.47
6	256	1	1	1200	5.5	5.86	4.36	5.24	7.50	7.56	5.58	6.88	69.00	42.10	60.00	57.03
7	534	0.6	1	2500	3.26	3.95	4.42	3.88	4.26	5.18	5.85	5.10	25.50	29.50	34.70	29.90
8	363	1	1	1700	5.47	3.7	3.85	4.34	7.53	4.52	5.05	5.70	54.20	26.40	29.80	36.80
9	363	0.6	1	1700	4.17	3.3	2.81	3.43	5.30	4.48	3.73	4.50	17.50	34.80	26.30	26.20

ตารางผนวก ก 3.4 แสดงผลการทดลองวัดค่าความขรุขระครั้งที่ 4 Complete randomized block 4

No.	speed	feed	depth	RPM	Ra				Rq				Rt			
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	(ave)	1	2	3	(ave)	1	2	3	(ave)
1	256	0.6	1	1200	3.22	2.76	4.34	3.44	4.27	3.42	6.60	4.76	31.80	19.90	57.70	36.47
2	534	0.6	1	2500	4.6	3.47	3.05	3.71	6.05	4.62	4.16	4.94	37.80	30.50	28.50	32.27
3	256	1	1	1200	5.5	4.91	4.52	4.98	7.50	6.10	5.85	6.48	69.00	42.10	60.00	57.03
4	534	1	1	2500	5.02	5.11	5.05	5.06	6.70	5.82	8.11	6.88	40.00	45.40	50.30	45.23
5	256	0.8	1	1200	4.68	4.66	4.84	4.73	5.98	6.90	5.97	6.28	36.70	62.70	34.00	44.47
6	363	1	1	1700	5.32	4.36	5.6	5.09	6.58	5.63	6.82	6.34	27.00	31.00	34.40	30.80
7	363	0.8	1	1700	5.72	2.78	4.38	4.29	8.06	3.65	5.82	5.84	52.20	22.80	33.70	36.23
8	534	0.8	1	2500	3.38	4.00	4.78	4.05	4.30	5.10	5.90	5.10	25.80	40.80	35.50	34.03
9	363	0.6	1	1700	3.47	2.97	3.69	3.38	5.03	3.90	4.73	4.55	35.20	28.70	27.00	30.30

ตารางผนวก ก 3.5 แสดงผลการทดลองวัดค่าความขรุขระครั้งที่ 5 Complete randomized block 5

No.	speed	feed	depth	RPM		Ra				Rq				Rt			
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	(ave)	1	2	3	(ave)	1	2	3	(ave)
1	534	0.8	1	2500	5.2	4.06	3.75	4.34	7.34	5.39	4.81	5.85	50.50	37.00	27.30	38.27
2	256	0.6	1	1200	4.4	3.97	3.92	4.10	5.52	5.09	5.69	5.43	28.50	28.20	35.50	30.73
3	256	0.8	1	1200	6.39	3.66	2.91	4.32	8.04	4.62	3.76	5.47	41.50	27.50	22.90	30.63
4	534	1	1	2500	5.25	5.12	4.49	4.95	6.89	6.67	5.73	6.43	40.30	46.50	35.70	40.83
5	363	0.8	1	1700	3.21	4.69	3.91	3.94	4.21	5.68	5.31	5.07	22.40	30.60	31.10	28.03
6	534	0.6	1	2500	2.51	2.78	3.48	2.92	3.66	4.45	5.19	4.43	16.20	32.20	48.00	32.13
7	363	1	1	1700	5.57	4.47	3.67	4.57	6.71	5.81	4.75	5.76	33.70	37.30	26.30	32.43
8	363	0.6	1	1700	4.2	2.81	3.89	3.63	5.24	3.55	5.33	4.71	30.20	20.90	31.70	27.60
9	256	1	1	1200	5.58	4.45	5.61	5.21	6.65	5.45	6.67	6.26	29.50	25.80	51.60	35.63

ตารางผนวก ก 3.6 แสดงผลการทดลองวัดค่าความขรุขระครั้งที่ 6 Complete randomized block 6

No.	speed	feed	depth	RPM		Ra				Rq				Rt			
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	(ave)	1	2	3	(ave)	1	2	3	(ave)
1	534	0.8	1	2500	3.2	4.04	4.81	4.02	4.50	5.30	6.30	5.37	47.60	40.60	34.20	40.80
2	363	0.8	1	1700	3.82	4.92	5.6	4.78	4.90	7.01	8.01	6.64	43.70	55.80	55.30	51.60
3	363	1	1	1700	3.74	6.42	5.04	5.07	4.68	9.03	6.25	6.65	28.00	62.80	31.00	40.60
4	256	1	1	1200	5.51	4.71	5.42	5.21	6.64	5.69	7.86	6.73	30.10	26.80	61.00	39.30
5	534	1	1	2500	4.89	3.9	3.81	4.20	6.38	4.66	4.85	5.30	39.10	25.60	30.20	31.63
6	256	0.8	1	1200	3.9	5.16	3.3	4.12	4.85	7.00	4.17	5.34	22.30	43.80	22.40	29.50
7	363	0.6	1	1700	4.8	4.17	3.62	4.20	6.27	5.58	4.56	5.47	36.90	37.90	28.30	34.37
8	256	0.6	1	1200	3.83	5.67	2.4	3.97	4.97	7.16	3.10	5.08	26.30	42.10	19.70	29.37
9	534	0.6	1	2500	4.23	2.9	3.66	3.60	6.45	3.68	4.81	4.98	43.90	23.10	32.40	33.13

ตารางผนวก ก 3.7 แสดงผลการทดลองวัดค่าความคลาดเคลื่อนขนาดครั้งที่ 1 Complete randomized block 1

No.	speed	feed	depth	RPM	Dia ก่อนกลึง				Dia หลังกลึง					
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	(ave)	1	2	3	(ave)	Exp.	Dim. Err.
1	256	0.6	1	1200	68.00	68.01	67.99	68.00	66.38	66.36	66.35	66.36	66.00	-0.36
2	534	0.6	1	2500	67.98	68.00	68.01	68.00	66.20	66.19	66.21	66.20	66.00	-0.20
3	363	1	1	1700	68.04	68.02	68.00	68.02	66.48	66.50	66.45	66.48	66.02	-0.46
4	256	0.8	1	1200	68.02	68.01	68.00	68.01	66.58	66.08	66.08	66.25	66.01	-0.24
5	363	0.8	1	1700	68.00	68.01	68.00	68.00	66.02	66.01	66.02	66.02	66.00	-0.01
6	534	0.8	1	2500	67.98	68.00	67.99	67.99	66.17	66.18	66.16	66.17	65.99	-0.18
7	534	1	1	2500	68.01	68.01	68.00	68.01	66.07	66.06	66.05	66.06	66.01	-0.05
8	256	1	1	1200	68.00	68.02	68.01	68.01	66.27	66.35	66.25	66.29	66.01	-0.28
9	363	0.6	1	1700	68.02	68.04	68.04	68.03	66.05	66.06	66.08	66.06	66.03	-0.03

ตารางผนวก ก 3.8 แสดงผลการทดลองวัดค่าความคลาดเคลื่อนขนาดครั้งที่ 2 Complete randomized block 2

No.	speed	feed	depth	RPM	Dia ก่อนกลึง				Dia หลังกลึง					
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	(ave)	1	2	3	(ave)	Exp.	Dim. Err.
1	256	0.6	1	1200	68.02	67.98	68.00	68.00	66.47	66.44	66.47	66.46	66.00	-0.46
2	363	1	1	1700	68.01	68.03	68.01	68.02	66.40	66.41	66.40	66.40	66.02	-0.39
3	534	0.8	1	2500	68.01	68.00	68.02	68.01	65.97	65.97	65.94	65.96	66.01	0.05
4	256	1	1	1200	68.04	68.02	68.01	68.02	66.06	66.11	66.05	66.07	66.02	-0.05
5	534	1	1	2500	68.02	68.01	68.01	68.01	65.97	65.98	65.95	65.97	66.01	0.05
6	363	0.6	1	1700	68.05	68.02	68.01	68.03	66.29	66.23	66.26	66.26	66.03	-0.23
7	363	0.8	1	1700	68.03	68.05	68.01	68.03	66.38	66.39	66.39	66.39	66.03	-0.36
8	256	0.8	1	1200	68.00	68.01	68.03	68.01	66.35	66.30	66.37	66.34	66.01	-0.33
9	534	0.6	1	2500	68.02	68.03	68.02	68.02	66.10	66.12	66.08	66.10	66.02	-0.08

ตารางผนวก ก 3.9 แสดงผลการทดลองวัดค่าความคลาดเคลื่อนขนาดครั้งที่ 3 Complete randomized block 3

No.	speed	feed	depth	RPM	Dia ก่อนกลึง				Dia หลังกลึง					
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	(ave)	1	2	3	(ave)	Exp.	Dim. Err.
1	534	1	1	2500	68.00	67.98	68.01	68.00	65.99	65.92	65.93	65.95	66.00	0.05
2	256	0.6	1	1200	68.02	68.01	68.02	68.02	66.35	66.34	66.36	66.35	66.02	-0.33
3	534	0.8	1	1200	68.04	68.02	68.01	68.02	66.06	66.11	66.05	66.07	66.02	-0.05
4	363	0.8	1	1700	68.01	68.03	68.01	68.02	66.43	66.43	66.40	66.42	66.02	-0.40
5	256	0.8	1	1200	68.03	68.02	68.00	68.02	66.24	66.28	66.30	66.27	66.02	-0.26
6	256	1	1	1200	68.04	68.02	68.01	68.02	66.06	66.11	66.05	66.07	66.02	-0.05
7	534	0.6	1	2500	67.99	67.98	67.99	67.99	66.02	66.03	66.02	66.02	65.99	-0.04
8	363	1	1	1700	68.04	68.01	68.02	68.02	66.27	66.27	66.26	66.27	66.02	-0.24
9	363	0.6	1	1700	68.02	68.01	68.03	68.02	65.87	65.83	65.89	65.86	66.02	0.16

ตารางผนวก ก 3.10 แสดงผลการทดลองวัดค่าความคลาดเคลื่อนขนาดครั้งที่ 4 Complete randomized block 4

No.	speed	feed	depth	RPM	Dia ก่อนกลึง				Dia หลังกลึง					
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	(ave)	1	2	3	(ave)	Exp.	Dim. Err.
1	256	0.6	1	1200	68.02	68.00	68.01	68.01	66.41	66.39	66.39	66.40	66.01	-0.39
2	534	0.6	1	2500	68.02	68.02	68.02	68.02	66.03	66.03	66.04	66.03	66.02	-0.01
3	256	1	1	1200	68.05	68.02	68.02	68.03	66.15	66.12	66.10	66.12	66.03	-0.09
4	534	1	1	2500	68.02	68.01	68.00	68.01	65.90	65.94	65.92	65.92	66.01	0.09
5	256	0.8	1	1200	68.02	68.03	68.00	68.02	66.16	66.23	66.26	66.22	66.02	-0.20
6	363	1	1	1700	67.99	68.00	68.00	68.00	66.12	66.13	66.14	66.13	66.00	-0.13
7	363	0.8	1	1700	68.02	68.04	68.01	68.02	66.40	66.42	66.40	66.41	66.02	-0.38
8	534	0.8	1	2500	68.02	68.05	68.02	68.03	66.00	66.00	66.03	66.01	66.03	0.02
9	395	0.6	1	1700	68.03	68.05	68.01	68.03	66.48	66.46	66.45	66.46	66.03	-0.43

ตารางผนวก ก 3.11 แสดงผลการทดลองวัดค่าความคลาดเคลื่อนขนาดครั้งที่ 5 Complete randomized block 5

No.	speed	feed	depth	RPM		Dia ก่อนกลึง				Dia หลังกลึง				
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	(ave)	1	2	3	(ave)	Exp.	Dim. Err.
1	534	0.8	1	2500	68.04	68.02	68.01	68.02	66.20	66.21	66.19	66.20	66.02	-0.18
2	256	0.6	1	1200	68.01	68.00	67.98	68.00	66.38	66.39	66.40	66.39	66.00	-0.39
3	256	0.8	1	1200	68.01	68.03	68.00	68.01	66.29	66.25	66.24	66.26	66.01	-0.25
4	534	1	1	2500	67.99	68.00	68.01	68.00	66.21	66.20	66.20	66.20	66.00	-0.20
5	363	0.8	1	1700	68.00	68.01	68.00	68.00	66.38	66.40	66.41	66.40	66.00	-0.39
6	534	0.6	1	2500	68.01	68.03	68.04	68.03	66.11	66.12	66.12	66.12	66.03	-0.09
7	363	1	1	1700	68.01	67.98	68.00	68.00	66.26	66.28	66.26	66.27	66.00	-0.27
8	363	0.6	1	1700	68.04	68.01	68.02	68.02	66.30	66.29	66.30	66.30	66.02	-0.27
9	256	1	1	1200	68.02	68.01	68.01	68.01	66.35	66.45	66.42	66.41	66.01	-0.39

ตารางผนวก ก 3.12 แสดงผลการทดลองวัดค่าความคลาดเคลื่อนขนาดครั้งที่ 6 Complete randomized block 6

No.	speed	feed	depth	RPM	Dia ก่อนกลึง				Dia หลังกลึง					
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	(ave)	1	2	3	(ave)	Exp.	Dim. Err.
1	534	0.8	1	2500	68.03	68.01	68.03	68.02	66.10	66.12	66.12	66.11	66.02	-0.09
2	363	0.8	1	1700	68.02	68.00	68.00	68.01	66.24	66.25	66.26	66.25	66.01	-0.24
3	363	1	1	1700	68.00	68.00	68.00	68.00	66.07	66.06	66.07	66.07	66.00	-0.07
4	256	1	1	1200	68.03	68.01	68.01	68.02	65.52	65.54	65.52	65.53	66.02	0.49
5	534	1	1	2500	68.01	68.02	68.00	68.01	65.83	65.82	65.80	65.82	66.01	0.19
6	256	0.8	1	1200	68.01	68.02	68.01	68.01	66.45	66.45	66.45	66.45	66.01	-0.44
7	363	0.6	1	1700	68.03	68.04	68.01	68.03	66.31	66.32	66.30	66.31	66.03	-0.28
8	256	0.6	1	1200	68.03	68.01	68.01	68.02	66.30	66.33	66.30	66.31	66.02	-0.29
9	534	0.6	1	2500	68.00	68.00	68.00	68.00	66.02	66.01	66.01	66.01	66.00	-0.01

ตารางผนวก ก 3.13 แสดงผลการทดลองเพื่อยืนยันผลค่าความขรุขระพื้นผิว

No.	speed	feed	depth	RPM	Ra(μm.)				Rq(μm.)				Rt(μm.)			
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	Ra(ave)	1	2	3	Rq(ave)	1	2	3	Rt(ave)
1	320	0.11	1	1465	2.95	2.58	2.41	2.65	3.88	3.67	3.52	3.69	20.07	21.98	22.45	21.50
2	430	0.1	1	1945	2.73	2.5	2.42	2.55	3.39	3.49	3.02	3.30	25.35	28.31	15.36	23.01
3	475	0.09	1	2137	2.92	2.97	2.52	2.80	3.30	3.76	3.52	3.53	41.47	35.96	38.14	38.52
4	270	1	1	1249	2.9	2.86	3.1	2.95	3.63	3.69	4.84	4.05	53.21	24.01	34.63	37.28
5	365	0.6	1	1682	3.9	3.44	4.25	3.86	4.92	4.87	4.26	4.68	29.01	48.25	50.43	42.56
6	420	0.9	1	1929	5.04	4.41	4.51	4.65	6.25	5.27	5.89	5.80	50.27	33.90	28.49	37.55
1	320	0.11	1	1471	2.71	2.95	3.21	2.96	3.49	3.85	4.50	3.95	25.37	43.48	32.84	33.90
2	430	0.1	1	1945	2.59	2.98	2.79	2.79	2.90	3.60	3.99	3.50	24.42	19.57	31.32	25.10
3	475	0.09	1	2141	2.91	2.95	2.58	2.81	3.82	4.05	3.85	3.91	27.42	43.19	36.73	35.78
4	270	1	1	1259	3.58	3.43	3.12	3.38	4.65	4.46	5.01	4.71	32.59	39.12	54.3	42.00
5	365	0.6	1	2663	4.1	4.27	4.08	4.15	5.21	5.42	5	5.21	29.38	39.33	45.23	37.98
6	420	0.9	1	1894	4.03	4.28	4.77	4.36	5.3	5.34	5.86	5.50	38	32.08	45.32	38.47
1	320	0.11	1	1450	2.62	2.57	3.04	2.74	3.36	3.41	3.77	3.51	20.99	27.81	25.79	24.86
2	430	0.1	1	1942	2.84	2.89	3.05	2.93	3.91	3.25	4.01	3.72	25.65	27.85	29.76	27.75
3	475	0.09	1	2124	3.09	2.9	2.85	2.95	4.31	4.21	4.25	4.26	35.68	39.3	40.4	38.46
4	270	1	1	1237	3.79	3.05	3.16	3.33	4.66	4.45	4.12	4.41	24.94	54	72.02	50.32
5	365	0.6	1	1684	4.15	4.29	3.42	3.95	5.42	5.27	4.1	4.93	45.1	39.34	34.33	39.59
6	420	0.9	1	1900	4.23	5.25	3.55	4.34	5.55	6.7	4.36	5.54	42.13	54.34	25.48	40.65

ตารางผนวก ก 3.14 แสดงผลการทดลองเพื่อยืนยันผลค่าความคลาดเคลื่อนขนาด

No.	speed	feed	depth	RPM	Dia ก่อนกลึง				Dia หลังกลึง					
	(m/min)	(mm/rev)	(mm)	(rev/min)	1	2	3	(ave)	1	2	3	(ave)	Exp.	Dim. Err.
1	320	0.11	1	1465	69.56	69.55	69.42	69.51	67.31	67.25	67.27	67.28	67.51	0.23
2	430	0.1	1	1945	70.33	70.37	70.37	70.36	68.15	68.11	68.12	68.13	68.36	0.23
3	475	0.09	1	2137	70.73	70.74	70.79	70.75	68.55	68.55	68.61	68.57	68.75	0.18
4	270	1	1	1249	68.8	68.76	68.84	68.80	66.43	66.45	66.45	66.44	66.80	0.36
5	365	0.6	1	1682	69.04	69.02	69.06	69.04	66.76	66.75	66.76	66.76	67.04	0.28
6	420	0.9	1	1929	69.23	69.3	69.27	69.27	66.99	67.02	67.03	67.01	67.27	0.25
1	320	0.11	1	1471	69.26	69.24	69.21	69.24	66.95	66.98	66.98	66.97	67.24	0.27
2	430	0.1	1	1945	70.45	70.32	70.3	70.36	68.11	68.09	68.15	68.12	68.36	0.24
3	475	0.09	1	2141	70.59	70.61	70.59	70.60	68.42	68.45	68.41	68.43	68.60	0.17
4	270	1	1	1259	68.28	68.29	68.28	68.28	65.98	65.95	65.98	65.97	66.28	0.31
5	365	0.6	1	2663	69.89	69.86	69.8	69.85	67.56	67.59	67.57	67.57	67.85	0.28
6	420	0.9	1	1894	70.59	70.57	70.57	70.58	68.29	68.28	68.29	68.29	68.58	0.29
1	320	0.11	1	1450	70.24	70.24	70.24	70.24	67.99	67.98	67.99	67.99	68.24	0.25
2	430	0.1	1	1942	70.45	70.49	70.47	70.47	68.25	68.28	68.29	68.27	68.47	0.20
3	475	0.09	1	2124	71.1	71.22	71.16	71.16	68.98	69.02	69.01	69.00	69.16	0.16
4	270	1	1	1237	69.72	69.36	69.32	69.47	67.11	67.1	67.12	67.11	67.47	0.36
5	365	0.6	1	1684	69.01	69.02	68.99	69.01	66.79	66.8	66.8	66.80	67.01	0.21
6	420	0.9	1	1900	70.33	70.45	70.31	70.36	68.12	68.12	68.14	68.13	68.36	0.24