Hasil Pengujian Bangun Datar

Tabel 1. Pengujian pemotongan persegi

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| No. | Dimensi Desain (mm) | Dimensi Hasil (mm) | Kecepatan *Feed rate* | Kecepatan *Spindle* (RPM) | Waktu potong | *Presentase error* |
| 1 | s = 20 | s = 19,8 | 200 | 22568 | 2 menit 26 detik | 1% |
| 2 | s =25 | s = 24,8 | 200 | 22570 | 2 menit 51 detik | 0,8% |
| 3 | s =30 | s = 29,7 | 300 | 23290 | 3 menit 16 detik | 1% |
| 4 | s =40 | s = 39,9 | 300 | 23345 | 4 menit 06 detik | 0,25% |
| 5 | s =50 | s = 50 | 300 | 24145 | 4 menit 56 detik | 0% |

Tabel 2. Pengujian pemotongan lingkaran

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| No. | Dimensi Desain (mm) | Dimensi Hasil (mm) | Kecepatan *Feed rate* | Kecepatan *Spindle* (RPM) | Waktu ukir | Presentase eror |
| 1 | d = 20 | d = 20,1 | 200 | 22450 | 1 menit 53 detik | 0,5% |
| 2 | d = 25 | d = 25,1 | 200 | 22576 | 2 menit 12 detik | 0,4% |
| 3 | d = 30 | d = 29,7 | 300 | 23432 | 2 menit 30 detik | 1% |
| 4 | d = 40 | d = 40,1 | 300 | 24230 | 3 menit  14 detik | 0,25% |
| 5 | d = 50 | d = 50,2 | 300 | 24460 | 3 menit 38 detik | 0,4% |

Tabel 3 Pengujian pemotongan segitiga

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| No. | Dimensi Desain (mm) | Dimensi Hasil (mm) | Kecepatan *Feed rate* | Kecepatan *Spindle* (RPM) | Waktu ukir | Presentase eror |
| 1 | a = 20,  t = 20 | t = 19,9 t = 19,8 | 200 | 22240 | 2 menit 06 detik | a = 0,5%  t = 1% |
| 2 | a = 25,  t = 25 | a = 24,8 t = 24,6 | 200 | 22335 | 2 menit 25 detik | a = 0,8%  t = 1,6% |
| 3 | a = 30,  t = 30 | a = 29,8 t = 30 | 300 | 23150 | 2 menit 44 detik | a = 0,6%  t = 0% |
| 4 | a = 40,  t = 40 | a = 40  t = 39,9 | 300 | 24095 | 3 menit 23 detik | a = 0%  t = 0,25% |
| 5 | a = 50,  t = 50 | a = 49,8 t = 49,8 | 300 | 24250 | 3 menit 58 detik | a = 0,4%  t = 0,4% |

Tabel 4 Pengujian pemotongan segidelapan

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| No. | Dimensi Desain (mm) | Dimensi Hasil (mm) | Kecepatan *Feed rate* | Kecepatan *Spindle* (RPM) | Waktu ukir | Presentase eror |
| 1 | t = 18 | t = 18,4 | 200 | 22250 | 1 menit 53 detik | 2,2% |
| 2 | t = 25 | t = 25 | 200 | 22365 | 2 menit 15 detik | 0% |
| 3 | t = 30 | t = 30,1 | 300 | 22590 | 2 menit 36 detik | 0,3% |
| 4 | t = 40 | t = 40,1 | 300 | 23245 | 3 menit 10 detik | 0,25% |
| 5 | t = 50 | t = 50,1 | 300 | 24565 | 3 menit 46 detik | 0,2% |

Tabel 5. Pengujian ukiran persegi

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| No | Dimensi Desain (mm) | Dimensi Hasil (mm) | Kecepatan *Feed rate* | Kecepatan *Spindle (RPM)* | Waktu ukir | *Persentase error* |
| 1 | s = 20 | s =20,6 | 300 | 22304 | 28 detik | 3% |
| 2 | s = 25 | s =25,1 | 300 | 22452 | 34 detik | 0,4% |
| 3 | s = 30 | s =30,1 | 400 | 23748 | 43 detik | 0,3% |
| 4 | s = 40 | s = 40 | 400 | 23474 | 48 detik | 0% |
| 5 | s = 50 | s =50,5 | 500 | 22848 | 57 detik | 1% |

Tabel 6. Pengujian ukir garis lingkaran

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| No | Dimensi Desain (mm) | Dimensi Hasil (mm) | Kecepatan *Feed rate* | Kecepatan *Spindle (RPM)* | Waktu ukir | *Persentase error* |
| 1 | d =20 | d = 20 | 200 | 22365 | 23 detik | 0% |
| 2 | d =25 | d = 25,1 | 200 | 22854 | 26 detik | 0,4% |
| 3 | d =30 | d = 30 | 300 | 24905 | 28 detik | 0% |
| 4 | d =40 | d = 40,15 | 300 | 23654 | 54 detik | 0,3% |
| 5 | d =50 | d = 50 | 400 | 22992 | 56 detik | 0% |

Tabel 7. Pengujian ukir garis segitiga

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| No | Desain (mm) | Dimensi Hasil (mm) | Kecepatan Feed rate | Kecepatan *Spindle (RPM)* | Waktu ukir | *Persentase error* |
| 1 | a = 20  t = 20 | a = 20,1  t = 20 | 200 | 22093 | 26 detik | a = 0,5%  t = 0% |
| 2 | a = 25  t = 25 | a = 24,9  t = 25,2 | 300 | 22527 | 30 detik | a = 0,4%  t = 0,8% |
| 3 | a = 30  t = 30 | a = 30  t = 30,5 | 300 | 23746 | 33 detik | a = 0%  t = 1,6% |
| 4 | a = 40 t = 40 | a = 40,1  t = 40,2 | 400 | 23401 | 39 detik | a = 0,2%  t = 0,5% |
| 5 | a = 50  t = 50 | a = 50  t = 50,8 | 500 | 23841 | 52 detik | a = 0%  t = 1,6% |