

LAMPIRAN

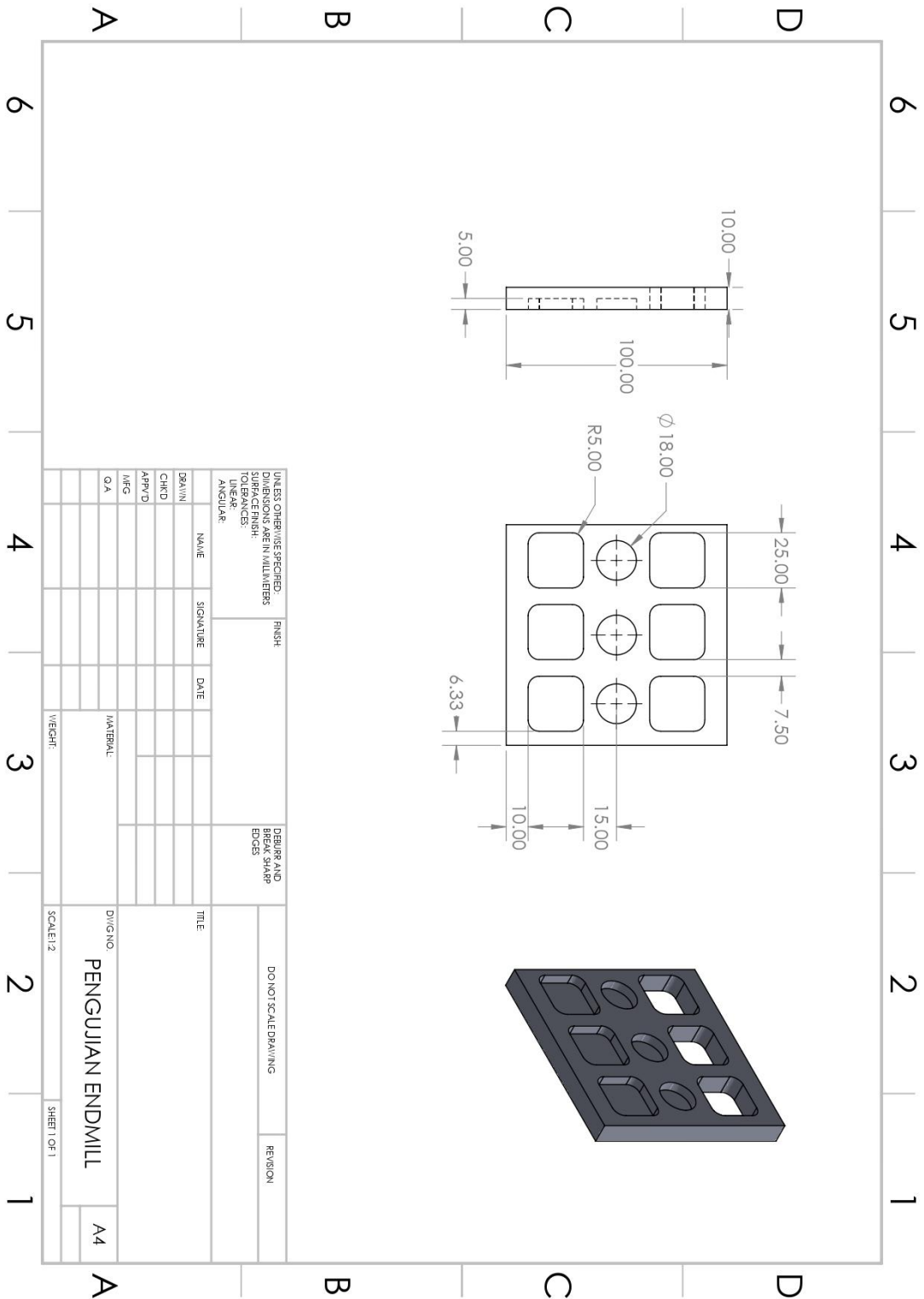
1. Dokumentasi Proses Pengasahan Endmill



2. Dokumentasi Pengujian Endmill



3. Desain Pengujian Endmill Pada Aluminium



4. G-Code Pengujian Endmill

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 N2245 G03 X15.418 Y-81.49 I1.745 J-0.159
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 N2255 G03 X22.125 Y-80.219 I0.136 J1.769
 N2260 G01 X22.579 Y-73.985
 N2265 G03 X21.013 Y-72.2 I-1.662 J0.121
 N2270 G01 X12.92 Y-71.73
 N2275 G03 X11.591 Y-72.921 I-0.073 J-1.256
 N2280 G01 X11.059 Y-83.127
 N2285 G03 X11.872 Y-84.033 I0.861 J-0.045
 N2290 G01 X23.456 Y-84.668
 N2295 G03 X24.798 Y-83.465 I0.07 J1.272
 N2300 G01 X25.5 Y-70.5
 N2305 G03 X24.5 Y-69.5 I-1.
 N2310 G01 X10.5
 N2315 G03 X9.5 Y-70.5 J-1.
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 N2325 G03 X10.5 Y-85.5 I1.
 N2330 G01 X24.5
 N2335 G03 X25.5 Y-84.5 J1.
 N2340 G01 Y-70.5
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 N2355 X17.5 Y-77.5
 N2360 Z-1.6
 N2365 X17.11 Y-77.11
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 N2375 G01 X16.507 Y-77.909
 N2380 G03 X17.121 Y-78.966 I0.773 J-0.258
 N2385 G01 X17.854 Y-79.112
 N2390 G03 X19.654 Y-77.839 I0.297 J1.487
 N2395 G01 X19.785 Y-76.916
 N2400 G03 X18.076 Y-74.71 I-1.924 J0.275
 N2405 G01 X16.049 Y-74.484
 N2410 G03 X14.128 Y-76.053 I-0.192 J-1.726
 N2415 G01 X13.807 Y-79.584
 N2420 G03 X15.418 Y-81.49 I1.745 J-0.159
 N2425 G01 X20.22 Y-81.859
 N2430 G03 X22.125 Y-80.219 I0.136 J1.769
 N2435 G01 X22.579 Y-73.985

N2440 G03 X21.013 Y-72.2 I-1.662 J0.121
N2445 G01 X12.92 Y-71.73
N2450 G03 X11.591 Y-72.921 I-0.073 J-1.256
N2455 G01 X11.059 Y-83.127
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N2465 G01 X23.456 Y-84.668
N2470 G03 X24.798 Y-83.465 I0.07 J1.272
N2475 G01 X25.5 Y-70.5
N2480 G03 X24.5 Y-69.5 I-1.
N2485 G01 X10.5
N2490 G03 X9.5 Y-70.5 J-1.
N2495 G01 Y-84.5
N2500 G03 X10.5 Y-85.5 I1.
N2505 G01 X24.5
N2510 G03 X25.5 Y-84.5 J1.
N2515 G01 Y-70.5
N2520 G03 X24.954 Y-70.243 I-0.333
N2525 G01 X23.793 Y-71.207
N2530 X17.5 Y-77.5
N2535 Z-2.4
N2540 X17.11 Y-77.11
N2545 G03 X16.745 Y-77.196 I-0.156 J-0.156
N2550 G01 X16.507 Y-77.909
N2555 G03 X17.121 Y-78.966 I0.773 J-0.258
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N2575 G03 X18.076 Y-74.71 I-1.924 J0.275
N2580 G01 X16.049 Y-74.484
N2585 G03 X14.128 Y-76.053 I-0.192 J-1.726
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N2720 G03 X16.745 Y-77.196 I-0.156 J-0.156
N2725 G01 X16.507 Y-77.909
N2730 G03 X17.121 Y-78.966 I0.773 J-0.258
N2735 G01 X17.854 Y-79.112
N2740 G03 X19.654 Y-77.839 I0.297 J1.487
N2745 G01 X19.785 Y-76.916
N2750 G03 X18.076 Y-74.71 I-1.924 J0.275
N2755 G01 X16.049 Y-74.484
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N2765 G01 X13.807 Y-79.584
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N2780 G03 X22.125 Y-80.219 I0.136 J1.769
N2785 G01 X22.579 Y-73.985
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N2795 G01 X12.92 Y-71.73
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N2815 G01 X23.456 Y-84.668
N2820 G03 X24.798 Y-83.465 I0.07 J1.272
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N2845 G01 Y-84.5
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N2870 G03 X24.954 Y-70.243 I-0.333
N2875 G01 X23.793 Y-71.207
N2880 X17.5 Y-77.5
N2885 Z-4.
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N2910 G01 X17.854 Y-79.112
N2915 G03 X19.654 Y-77.839 I0.297 J1.487
N2920 G01 X19.785 Y-76.916
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N2930 G01 X16.049 Y-74.484
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N2940 G01 X13.807 Y-79.584
N2945 G03 X15.418 Y-81.49 I1.745 J-0.159
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N3220 G00 Z10.

N3225 M09
N3230 M05
N3235 G28 G91 Z0.
N3240 G90
N3245 G49
N3250 G28 G91 X0. Y0.
N3255 G90
N3260 M30

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LEMBAR BIMBINGAN TUGAS AKHIR



Nama Mahasiswa	: Taufik Argiya Putra Sidik
Nomor Induk Mahasiswa	: 23020023
Nama Pembimbing TA	: Firman Lukman Sanjaya, M.T
Judul Laporan TA	: Uji Hasil Pengasahan Endmill 2 Flute 8mm Menggunakan Mesin Asah Universal Pada Material Aluminium

**PROGRAM STUDI DIII TEKNIK MESIN
FAKULTAS SEKOLAH VOKASI
UNIVERSITAS HARKAT NEGERI
2026**

PENGAJUAN PRODUK TUGAS AKHIR

Kepada Yth : Koordinator Tugas Akhir
Program Studi DIII Teknik Mesin Politeknik Harapan Bersama

Dengan hormat,

Yang bertanda tangan di bawah ini, saya mahasiswa Program Studi DIII Teknik Mesin Politeknik Harapan Bersama,

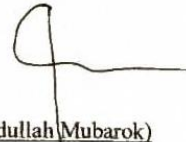
No	NIM	Nama
1	23020021	Muhammad Aril Vebrianto
2	23020023	Taufik Argiya Putra Sidik
3	23020025	Abdullah Mubarak
4	23020026	Afiq Teguh Setiawan
5	23020031	Awal Damar Farazi
6	23020033	Diaz Panggu Sukrasena

Mengusulkan Produk Tugas Akhir :

Produk Tugas Akhir	Dasar Pengambilan Produk Tugas Akhir
Mesin Asah Multifungsi 220V 1 Phase untuk End Mill, Mata Bor, dan Pahat Bubut	Pengambilan tema produk tugas akhir "Mesin Asah Multifungsi 220V 1 Phase untuk End Mill, Mata Bor, dan Pahat Bubut" didasarkan pada kebutuhan bengkel permesinan terhadap peralatan yang mampu meningkatkan kualitas ketajaman dan umur pakai alat. Sehingga diperlukan perawatan dan pengasahan yang tepat agar kualitas hasil pemotongan tetap optimal.

Demikian surat permohonan ini saya buat, agar dapat dijadikan periksa adanya.

Tegal, 14 Januari 2026
Perwakilan kelompok
Mahasiswa calon peserta Tugas Akhir



(Abdullah Mubarak)



Universitas
Harkat Negeri

PENGAJUAN KESEDIAAN PEMBIMBING DAN JUDUL TUGAS AKHIR

Kami yang bertanda tangan dibawah ini :

No	NIDN/NUPN	Nama (lengkap dengan gelar)	Keterangan
1	0630069202	Firman Lukman Sanjaya, M.T	Pembimbing I
2	0623127906	Nur Aidi Ariyanto, M.T	Pembimbing II

Menyatakan **BERSEDIA / TIDAK BERSEDIA** membimbing Tugas Akhir mahasiswa berikut :

No	NIM	Nama Mahasiswa	Kelas
1	23020021	Muhammad Aril Vebrianto	5B
2	23020023	Taufik Argiya Putra Sidik	5B
3	23020025	Abdullah Mubarak	5B
4	23020026	Afiq Teguh Setiawan	5B
5	23020031	Awal Damar Farazi	5B
6	23020033	Diaz Pangu Sukrasena	5B
Produk Tugas Akhir		Mesin Asah Multifungsi 220V 1 Phase untuk End Mill, Mata Bor, dan Pahat Bubut	

Sesuai dengan waktu yang telah disepakati, Tugas Akhir dilaksanakan mulai bulan Januari tahun 2026 sampai dengan pelaksanaan Sidang Tugas Akhir bulan Juni tahun 2026

Tegal, 14 Januari 2026

Pembimbing 1,

(Firman Lukman Sanjaya, M.T)

Pembimbing 2,

(Nur Aidi Ariyanto, M.T)

Ketua Program Studi
Diploma III Teknik Mesin



M. Khumaidi Usman, M.Eng
NIPY. 01.015.263

Rekap Pembimbing Laporan Tugas Akhir				
PEMBIMBING I			Nama Pembimbing	: Firman Lukman Sanjaya, M.T
			NIDN	: 0630069202
No	Hari	Tanggal	Uraian	Tanda Tangan
1	Senin	26 Januari 2026	Diskusi Tema dan Judul	
2	Jumat	13 Februari 2026	Diskusi hasil produk Tugas akhir	
3	Kamis	13 april 2026	Bimbingan latar belakang, Rumusan masalah, Batasan masalah, tujuan ,manfaat dan Landasan teori Bab II	
4	Selasa	12 mei 2026	Revisi Bab II alur penelitian dan metode pengambilan Data	
5	Selasa	30 Juni 2026	Bimbingan Bab III prosedur pengambilan data dan Bab IV, Hasil dan pembahasan. Bab V kesimpulan	
6	Senin	6 juli 2026	Revisi Hasil dan pembahasan	
7	Senin	13 juli 2026	ACC Laporan Tugas Akhir	
8				
9				
10				

Rekap Pembimbing Laporan Tugas Akhir				
PEMBIMBING 2			Nama Pembimbing	: Nur Aidi Ariyanto, M. T
			NIDN	: 0623127906
No	Hari	Tanggal	Uraian	Tanda Tangan
1	Selasa	13 januari 2026	Diskusi Tema dan judul	
2	Rabu	11 Februari 2026	Bimbingan hasil produk tugas akhir	
3	Selasa	13 Mei 2026	Bimbingan laporan Tugas akhir Bab I dan II	
4	Senin	22 juni 2026	Bimbingan Bab III	
5	Selasa	30 juni 2026	Bimbingan Bab IV dan V	
6	Rabu	1 juli 2026	Revisi penulisan laporan tugas akhir	
7	Senin	13 juli 2026	ACC Laporan Tugas Akhir	
8				
9				
10				