

DAFTAR ISI

| | |
|------------------------------------|-----|
| LEMBAR PERNYATAAN | i |
| LEMBAR PERNGESAHAN | ii |
| PENGHARGAAN | iii |
| ABSTRAK | v |
| DAFTAR ISI | vi |
| DAFTAR GAMBAR | x |
| DAFTAR TABEL | xii |
| | |
| BAB I PENDAHULUAN | |
| 1.1 LATAR BELAKANG | 1 |
| 1.2 RUMUSAN MASALAH | 2 |
| 1.3 BATASAN MASALAH | 2 |
| 1.4 TUJUAN PENULISAN | 3 |
| 1.5 MANFAAT PENULISAN | 3 |
| 1.6 SISTEMATIKA PENULISAN | 3 |
| | |
| BAB II TINJAUAN PUSTAKA | |
| 2.1 PENDAHULUAN | 5 |
| 2.2 STATE OF THE ART | 5 |

| | | |
|---------|---|----|
| 2.3 | DISC SPRING WASHER | 8 |
| 2.4 | DASAR TEORI DIES | 9 |
| | 2.4.1 MATERIAL | 10 |
| | 2.4.2 DIES | 15 |
| | 2.4.3 MESIN PRESS | 32 |
| | 2.4.4 TINJAUAN TEKNIK MERANCANG DIES | 39 |
| 2.5 | DASAR PERHITUNGAN | 42 |
| | 2.5.1 RUMUS DIES COMPOUND | 42 |
| | 2.5.2 RUMUS DIES FORMING | 46 |
| | 2.5.3 RUMUS DEFLEKSI SUPPORT PLATE DIES | 47 |
| | 2.5.4 RUMUS LAYOUT STRIP MATERIAL | 48 |
| | 2.5.5 RUMUS STRIPER BOLT | 51 |
| | 2.5.6 RUMUS BERAT DIES COMPOUND | 52 |
| | 2.5.7 RUMUS BERAT DIES FORMING | 56 |
| BAB III | PERANCANGAN KONSTRUKSI | |
| 3.1 | FLOW CHART KOMPONEN PERANCANGAN | 59 |
| 3.2 | PEMILIHAN METODE | 60 |
| | 3.2.1 DIES BLANK PIERC | 60 |
| | 3.2.2 DIES FORMING | 62 |
| 3.3 | PENGUMPULAN VARIASI | 62 |
| 3.4 | ANALISA VARIASI | 63 |

| | | |
|-------------------------------|--|----|
| 3.5 | PENILAIAN VARIASI | 64 |
| BAB IV PERHITUNGAN KONSTRUKSI | | |
| 4.1 | PERHITUNGAN DIES | 67 |
| 4.1.1 | PERHITUNGAN DIES COMPOUND | 67 |
| 4.1.2 | PERHITUNGAN DIES FORMING | 70 |
| 4.1.3 | ANALISA DEFLEKSI TEBAL DIES COMPOUND | 70 |
| 4.1.4 | ANALISA DEFLEKSI TEBAL DIES FORMING | 72 |
| 4.1.5 | PERHITUNGAN BERAT DIES FORMING | 72 |
| 4.1.6 | PERHITUNGAN BERAT DIES FORMING | 75 |
| 4.2 | PERHITUNGAN MATERIAL PART | 76 |
| 4.2.1 | PERHITUNGAN BENTANGAN PRODUK | 76 |
| 4.2.2 | PERHITUNGAN LAYOUT SCRAP STRIP | 77 |
| 4.2.3 | PERHITUNGAN POSISI PEMOTONGAN MATERIAL | 78 |
| 4.2.4 | PERHITUNGAN EFISIENSI MATERIAL | 79 |
| 4.3 | PERHITUNGAN STRIPER BOLT | 80 |
| 4.4 | PENETAPAN DESIGN DIES | 81 |
| BAB V KESIMPULAN | | |
| DAFTAR PUSTAKA | | 84 |
| LAMPIRAN | | |

| | | |
|----|----------------------------------|----|
| A. | DETAIL GAMBAR DIES BLANK – PIERC | 85 |
| B. | DETAIL GAMBAR DIES COMPOUND | 86 |
| C. | DETAIL GAMBAR FORMING | 87 |

