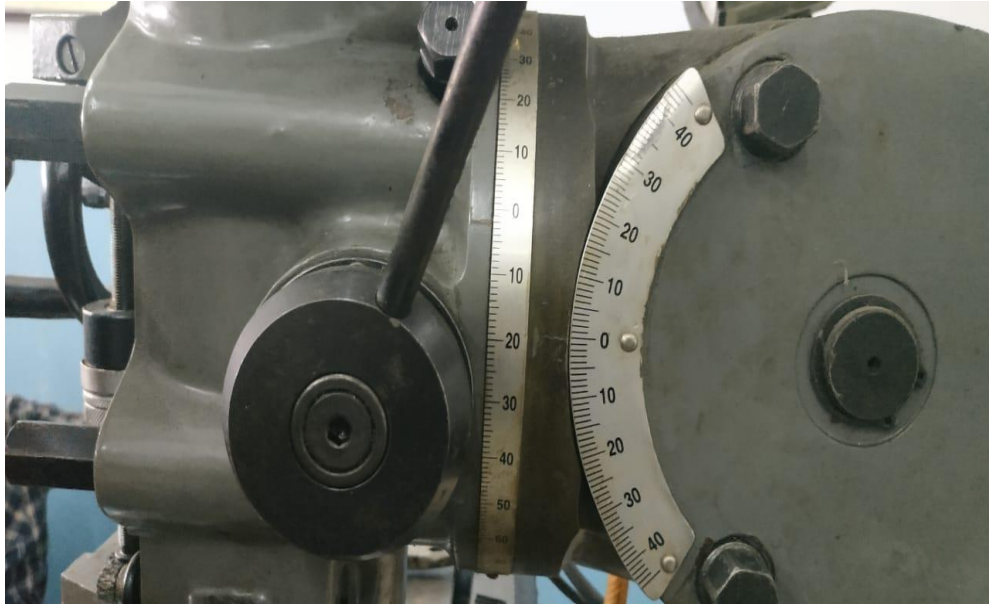


## LAMPIRAN

Lampiran 1. Sudut Kemiringan Pengelasan



## Lampiran 2. Hasil Uji Kekerasan



**LABORATORIUM BAHAN TEKNIK**  
**DEPARTEMEN TEKNIK MESIN SEKOLAH VOKASI**  
**UNIVERSITAS GADJAH MADA**

**HASIL PENGUJIAN KEKERASAN**  
 No. 159 / P.Kkr / BT.DTM / 2019

**Spesimen Friction Welding (Aluminium-Aluminium), Feed Rate 6.1 cm / menit**

No	Kode	Jarak dr sambungan		d <sub>1</sub> ( $\mu$ m)	d <sub>2</sub> ( $\mu$ m)	d <sub>rata-rata</sub> ( $\mu$ m)	Kekerasan (VHN)	
1	n.910	Al Seri 1	9.5	mm	68.0	68.0	68.00	40.1
			7.5	mm	71.0	73.0	72.00	35.8
			5.5	mm	76.0	77.0	76.50	31.7
			3.5	mm	78.0	78.0	78.00	30.5
			1.5	mm	78.0	78.0	78.00	30.5
			0.5	mm	78.0	77.0	77.50	30.9
			0.0	mm	60.0	58.0	59.00	53.3
		Al Seri 5	0.5	mm	58.0	58.0	58.00	55.1
			1.5	mm	57.0	59.0	58.00	55.1
			3.5	mm	58.0	59.0	58.50	54.2
			5.5	mm	58.0	60.0	59.00	53.3
			7.5	mm	58.0	60.0	59.00	53.3
			9.5	mm	53.0	56.0	54.50	62.4
			2	n.1500	Al Seri 1	9.5	mm	67.0
7.5	mm	73.0				74.0	73.50	34.3
5.5	mm	78.0				77.0	77.50	30.9
3.5	mm	76.0				74.0	75.00	33.0
1.5	mm	78.0				78.0	78.00	30.5
0.5	mm	77.0				77.0	77.00	31.3
0.0	mm	59.0				60.0	59.50	52.4
Al Seri 5	0.5	mm			60.0	62.0	61.00	49.8
	1.5	mm			63.0	63.0	63.00	46.7
	3.5	mm			60.0	59.0	59.50	52.4
	5.5	mm			60.0	61.0	60.50	50.7
	7.5	mm			60.0	60.0	60.00	51.5
	9.5	mm			59.0	56.0	57.50	56.1

Lembar asli, tidak untuk digandakan

**Keterangan :**

- Menggunakan metode uji Vickers dengan pembebanan 100 gf, 5 detik
- Satuan pengukuran diagonal jejak indenter dalam  $\mu$ m
- Pengujian dilakukan pada tanggal 25 September 2019.

Lembar 1 dari 2

Kampus : Jl. Grafika 2A Yogyakarta 55281 Telpn : (0274) 747632, 548637, 6492269, Fax. (0274) 546400  
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**Spesimen Friction Welding (Aluminium-Aluminium), Feed Rate 6.1 cm / menit**

No	Kode	Jarak dr sambungan		d <sub>1</sub> ( $\mu\text{m}$ )	d <sub>2</sub> ( $\mu\text{m}$ )	d <sub>rata-rata</sub> ( $\mu\text{m}$ )	Kekerasan (VHN)	
3	n.2280	Al Seri 1	9.5	mm	65.0	66.0	65.50	43.2
			7.5	mm	65.0	67.0	66.00	42.6
			5.5	mm	72.0	71.0	71.50	36.3
			3.5	mm	72.0	71.0	71.50	36.3
			1.5	mm	72.0	71.0	71.50	36.3
			0.5	mm	72.0	72.0	72.00	35.8
			0.0	mm	71.0	71.0	71.00	36.8
		Al Seri 5	0.5	mm	72.0	73.0	72.50	35.3
			1.5	mm	58.0	58.0	58.00	55.1
			3.5	mm	56.0	57.0	56.50	58.1
			5.5	mm	59.0	57.0	58.00	55.1
			7.5	mm	56.0	58.0	57.00	57.1
			9.5	mm	53.0	54.0	53.50	64.8
			4	Al Seri 1	Acak		70.0	69.0
69.0	70.0	69.50					38.4	
68.0	69.0	68.50					39.5	
5	Al Seri 5	Acak		53.0	52.0	52.50	67.3	
				53.0	53.0	53.00	66.0	
				52.0	53.0	52.50	67.3	

Lembar asli, tidak untuk digandakan

**Keterangan :**

1. Menggunakan metode uji Vickers dengan pembebanan 100 gf, 5 detik
2. Satuan pengukuran diagonal jejak indenter dalam  $\mu\text{m}$
3. Pengujian dilakukan pada tanggal 25 September 2019.

Yogyakarta, 25 September 2019.  
 Ka Sub Laboratorium Bahan Teknik

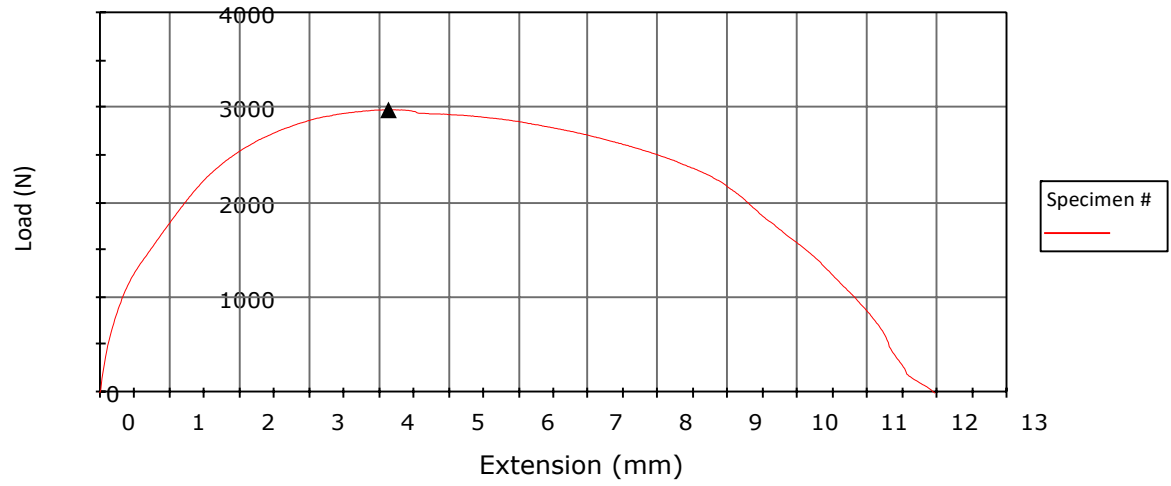


Lilik Dwi Setyana, ST., M.T.  
 NIP. 197703312002121002

Lembar 2 dari 2

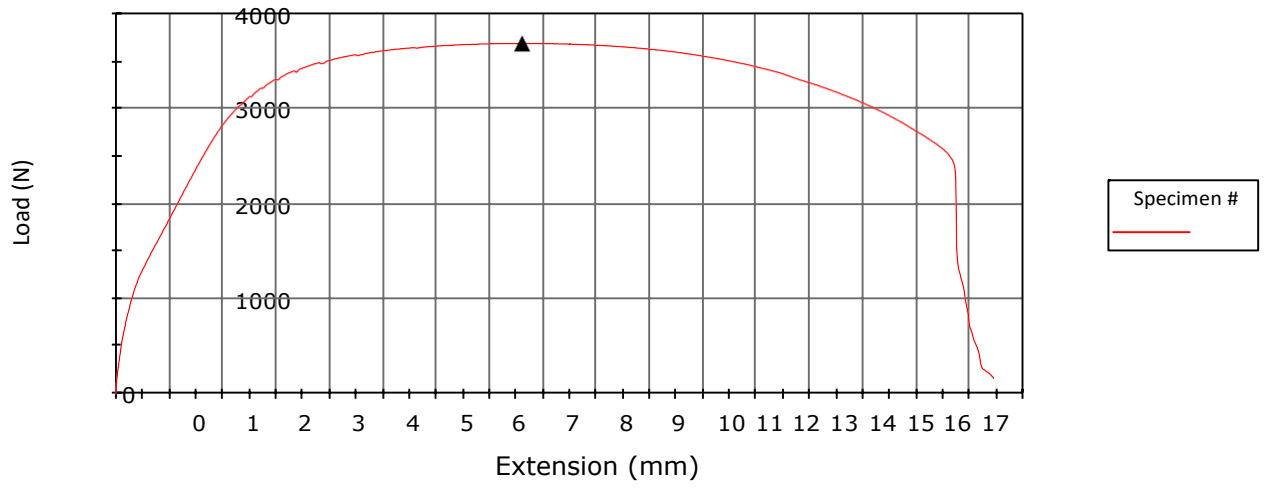
## Lampiran 3. Hasil Uji Tarik

## Specimen 910 rpm to 1



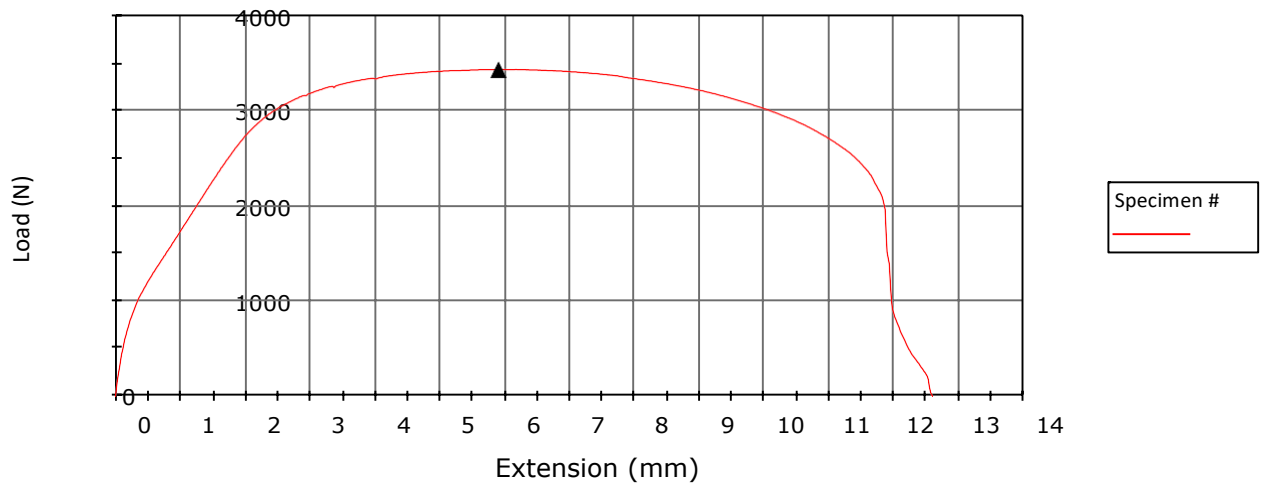
	Maximum Load (N)
1	2978.14

## Specimen 910 rpm to 2



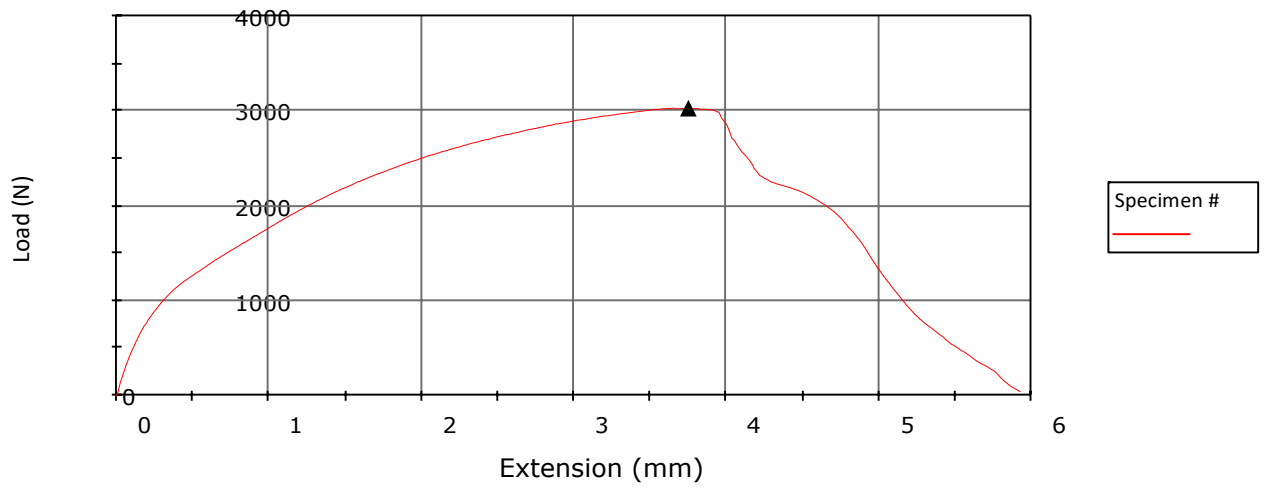
	Maximum Load (N)
1	3675.57

## Specimen 910 rpm to 3



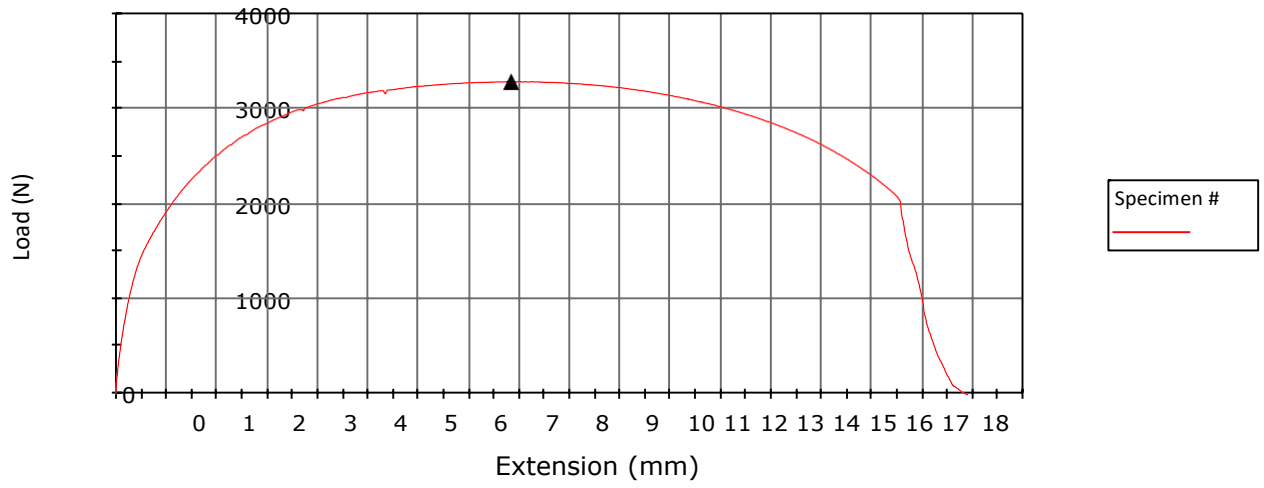
	Maximum Load (N)
1	3421.76

## Specimen 1500 rpm to 1



	Maximum Load (N)
1	3028.14

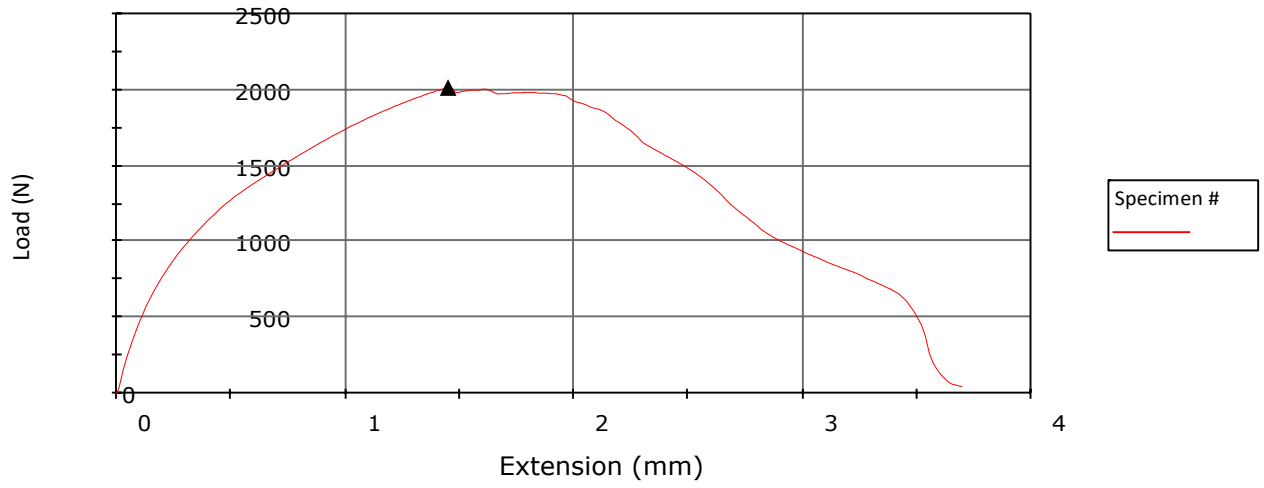
Specimen 1500 rpm to 2



	Maximum Load (N)
1	3277.58

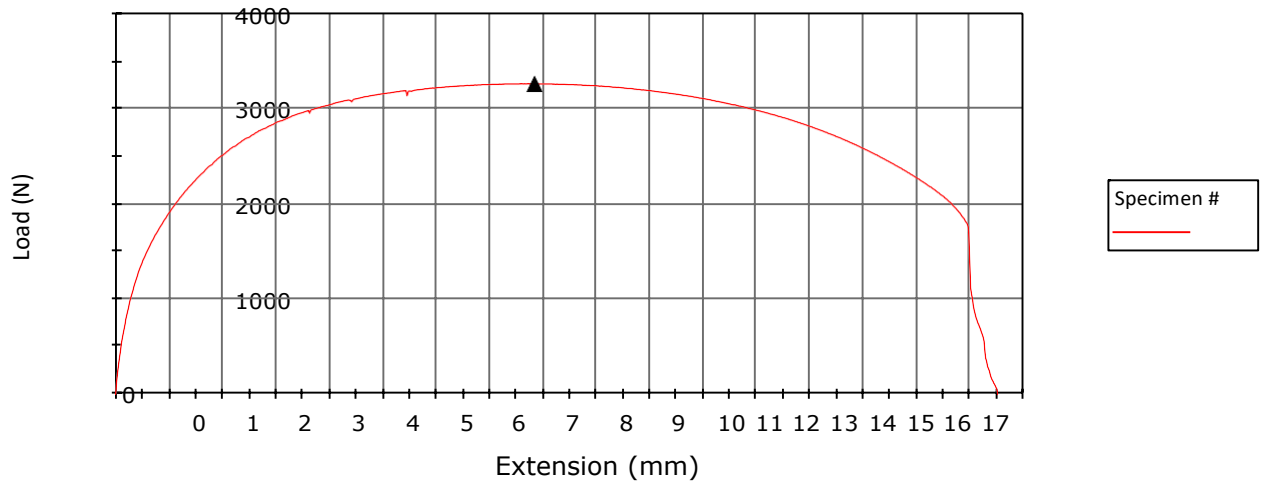


## Specimen 1500 to 3



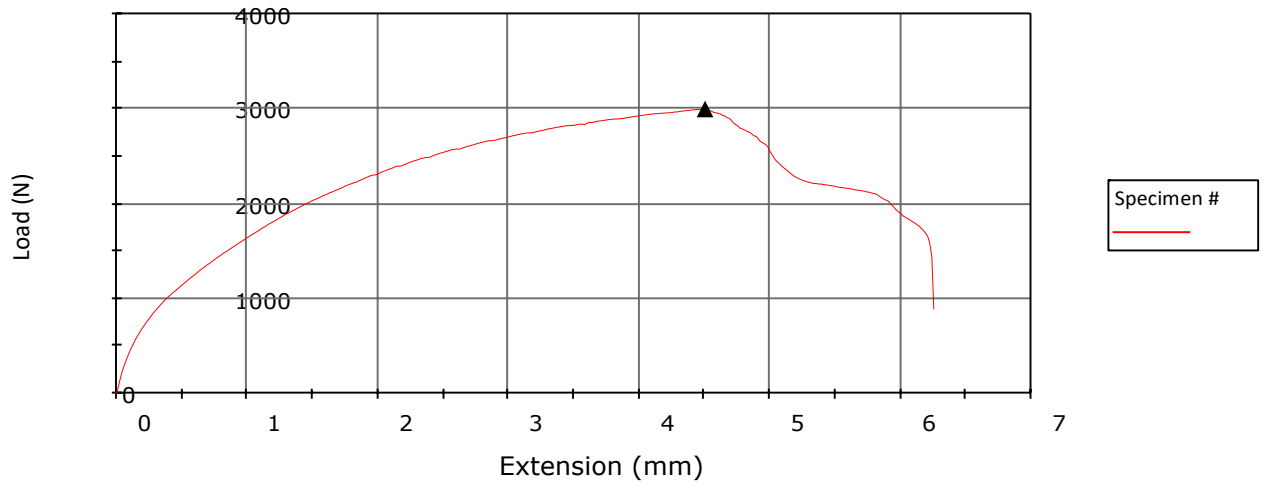
	Maximum Load (N)
1	2015.02

## Specimen 2280 rpm to 1



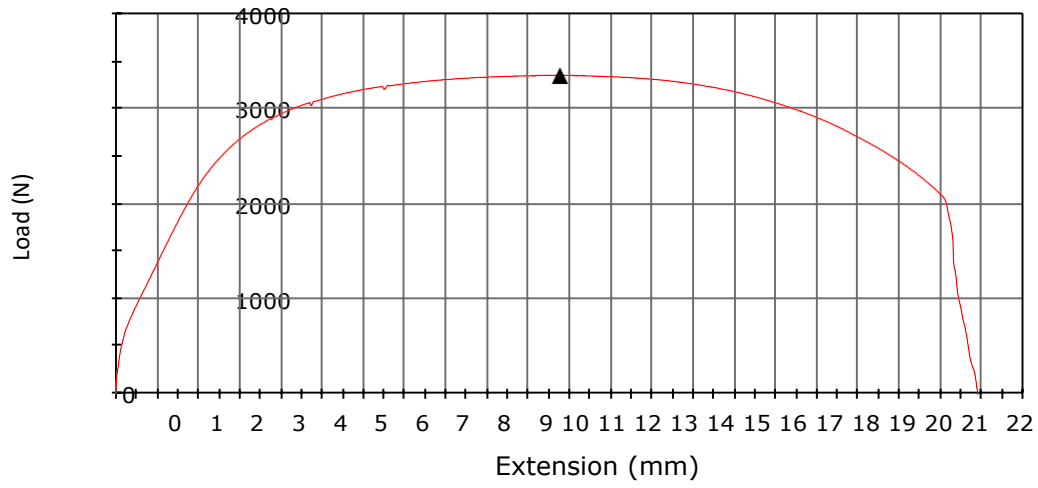
	Maximum Load (N)
1	3260.67

## Specimen 2280 rpm to 2



	Maximum Load (N)
1	2998.82

## Specimen 2280 rpm to 3



Specimen #

	Maximum Load (N)
1	3350.61