

Lampiran 1

Tabel Hasil Uji Kuat Tarik Baja *Vanadium* di Laboratorium

No test	Spesimen	Jenis Baja	Luas Penampang Nominal (mm ²)	Panjang Awal (mm)	Beban Maks (Kg)	Kekuatan Tarik Nominal (MPa)
1	Bj. Ulir D19	Vanadium	283.53	200	17750	614.144
2	Bj. Ulir D19	Vanadium	283.53	200	18500	640.094
3	Bj. Ulir D19	Vanadium	283.53	200	17500	605.494
4	Bj. Ulir D19	Vanadium	283.53	200	17750	614.144
5	Bj. Ulir D19	Vanadium	283.53	200	17750	614.144
6	Bj. Ulir D19	Vanadium	283.53	200	18000	622.794
7	Bj. Ulir D19	Vanadium	283.53	200	17750	614.144
8	Bj. Ulir D19	Vanadium	283.53	200	17750	614.144
9	Bj. Ulir D19	Vanadium	283.53	200	17500	605.494
10	Bj. Ulir D19	Vanadium	283.53	200	17750	614.144
11	Bj. Ulir D19	Vanadium	283.53	200	17750	614.144
12	Bj. Ulir D19	Vanadium	283.53	200	18250	631.444
13	Bj. Ulir D19	Vanadium	283.53	200	17750	614.144
14	Bj. Ulir D19	Vanadium	283.53	200	17500	605.494
15	Bj. Ulir D19	Vanadium	283.53	200	17500	605.494
Rata-Rata			283.53	200.00	17783.33	615.30
1	Bj. Ulir D22	Vanadium	380.13	200	24000	619.363
2	Bj. Ulir D22	Vanadium	380.13	200	25000	645.169
3	Bj. Ulir D22	Vanadium	380.13	200	25000	645.169
4	Bj. Ulir D22	Vanadium	380.13	200	24000	619.363
5	Bj. Ulir D22	Vanadium	380.13	200	24000	619.363
6	Bj. Ulir D22	Vanadium	380.13	200	23500	606.459
7	Bj. Ulir D22	Vanadium	380.13	200	25000	645.169
8	Bj. Ulir D22	Vanadium	380.13	200	24500	632.266
9	Bj. Ulir D22	Vanadium	380.13	200	26000	670.976
10	Bj. Ulir D22	Vanadium	380.13	200	24500	632.266
11	Bj. Ulir D22	Vanadium	380.13	200	24000	619.363
12	Bj. Ulir D22	Vanadium	380.13	200	23500	606.459
13	Bj. Ulir D22	Vanadium	380.13	200	23500	606.459
14	Bj. Ulir D22	Vanadium	380.13	200	24000	619.363
15	Bj. Ulir D22	Vanadium	380.13	200	24500	632.266
Rata-Rata			380.13	200.00	24333.33	627.96

Lampiran 1

Tabel Hasil Uji Kuat Tarik Baja *Tempcore* di Laboratorium

No test	Spesimen	Jenis Baja	Luas Penampang Nominal (mm ²)	Panjang Awal (mm)	Beban Maks (Kg)	Kekuatan Tarik Nominal (MPa)
1	Bj. Ulir D19	Heat Treatment	283.53	200	19000	657.39
2	Bj. Ulir D19	Heat Treatment	283.53	200	19250	666.04
3	Bj. Ulir D19	Heat Treatment	283.53	200	18750	648.74
4	Bj. Ulir D19	Heat Treatment	283.53	200	18000	622.79
5	Bj. Ulir D19	Heat Treatment	283.53	200	18000	622.79
6	Bj. Ulir D19	Heat Treatment	283.53	200	18125	627.12
7	Bj. Ulir D19	Heat Treatment	283.53	200	17500	605.49
8	Bj. Ulir D19	Heat Treatment	283.53	200	18250	631.44
9	Bj. Ulir D19	Heat Treatment	283.53	200	18250	631.44
10	Bj. Ulir D19	Heat Treatment	283.53	200	18250	631.44
11	Bj. Ulir D19	Heat Treatment	283.53	200	19000	657.39
12	Bj. Ulir D19	Heat Treatment	283.53	200	19000	657.39
13	Bj. Ulir D19	Heat Treatment	283.53	200	18000	622.79
14	Bj. Ulir D19	Heat Treatment	283.53	200	18500	640.09
15	Bj. Ulir D19	Heat Treatment	283.53	200	18375	635.77
16	Bj. Ulir D19	Heat Treatment	283.53	200	18500	640.09
17	Bj. Ulir D19	Heat Treatment	283.53	200	18750	648.74
18	Bj. Ulir D19	Heat Treatment	283.53	200	19000	657.39
19	Bj. Ulir D19	Heat Treatment	283.53	200	18750	648.74
20	Bj. Ulir D19	Heat Treatment	283.53	200	17750	614.14
21	Bj. Ulir D19	Heat Treatment	283.53	200	18000	622.79
22	Bj. Ulir D19	Heat Treatment	283.53	200	18500	640.09
23	Bj. Ulir D19	Heat Treatment	283.53	200	18250	631.44
24	Bj. Ulir D19	Heat Treatment	283.53	200	18500	640.09
25	Bj. Ulir D19	Heat Treatment	283.53	200	18500	640.09
26	Bj. Ulir D19	Heat Treatment	283.53	200	18500	640.09
27	Bj. Ulir D19	Heat Treatment	283.53	200	17500	605.49
28	Bj. Ulir D19	Heat Treatment	283.53	200	18000	622.79
29	Bj. Ulir D19	Heat Treatment	283.53	200	17750	614.14
30	Bj. Ulir D19	Heat Treatment	283.53	200	18000	622.79
31	Bj. Ulir D19	Heat Treatment	283.53	200	18500	640.09
32	Bj. Ulir D19	Heat Treatment	283.53	200	18250	631.44
33	Bj. Ulir D19	Heat Treatment	283.53	200	18750	648.74
34	Bj. Ulir D19	Heat Treatment	283.53	200	19000	657.39
35	Bj. Ulir D19	Heat Treatment	283.53	200	19000	657.39
36	Bj. Ulir D19	Heat Treatment	283.53	200	19000	657.39
37	Bj. Ulir D19	Heat Treatment	283.53	200	19000	657.39
38	Bj. Ulir D19	Heat Treatment	283.53	200	18500	640.09
39	Bj. Ulir D19	Heat Treatment	283.53	200	19250	666.04
40	Bj. Ulir D19	Heat Treatment	283.53	200	18750	648.74
41	Bj. Ulir D19	Heat Treatment	283.53	200	18500	640.09

Lampiran 1

Tabel Hasil Uji Kuat Tarik Baja *Tempcore* di Laboratorium (Lanjutan)

No test	Spesimen	Jenis Baja	Luas Penampang Nominal (mm ²)	Panjang Awal (mm)	Beban Maks (Kg)	Kekuatan Tarik Nominal (MPa)
42	Bj. Ulir D19	Heat Treatment	283.53	200	19000	657.39
43	Bj. Ulir D19	Heat Treatment	283.53	200	18750	648.74
44	Bj. Ulir D19	Heat Treatment	283.53	200	18500	640.09
Rata-Rata			283.53	200.00	18482.95	639.50
1	Bj. Ulir D22	Heat Treatment	380.13	200	25500	658.07
2	Bj. Ulir D22	Heat Treatment	380.13	200	26000	670.98
3	Bj. Ulir D22	Heat Treatment	380.13	200	26500	683.88
4	Bj. Ulir D22	Heat Treatment	380.13	200	25000	645.17
5	Bj. Ulir D22	Heat Treatment	380.13	200	27000	696.78
6	Bj. Ulir D22	Heat Treatment	380.13	200	25500	658.07
7	Bj. Ulir D22	Heat Treatment	380.13	200	26000	670.98
8	Bj. Ulir D22	Heat Treatment	380.13	200	27000	696.78
9	Bj. Ulir D22	Heat Treatment	380.13	200	26000	670.98
10	Bj. Ulir D22	Heat Treatment	380.13	200	26500	683.88
11	Bj. Ulir D22	Heat Treatment	380.13	200	25500	658.07
12	Bj. Ulir D22	Heat Treatment	380.13	200	26000	670.98
13	Bj. Ulir D22	Heat Treatment	380.13	200	26000	670.98
14	Bj. Ulir D22	Heat Treatment	380.13	200	25500	658.07
15	Bj. Ulir D22	Heat Treatment	380.13	200	24500	632.27
16	Bj. Ulir D22	Heat Treatment	380.13	200	26000	670.98
17	Bj. Ulir D22	Heat Treatment	380.13	200	24500	632.27
18	Bj. Ulir D22	Heat Treatment	380.13	200	25500	658.07
19	Bj. Ulir D22	Heat Treatment	380.13	200	25500	658.07
20	Bj. Ulir D22	Heat Treatment	380.13	200	26500	683.88
21	Bj. Ulir D22	Heat Treatment	380.13	200	26000	670.98
22	Bj. Ulir D22	Heat Treatment	380.13	200	24500	632.27
23	Bj. Ulir D22	Heat Treatment	380.13	200	26500	683.88
24	Bj. Ulir D22	Heat Treatment	380.13	200	24000	619.36
25	Bj. Ulir D22	Heat Treatment	380.13	200	26500	683.88
26	Bj. Ulir D22	Heat Treatment	380.13	200	26500	683.88
27	Bj. Ulir D22	Heat Treatment	380.13	200	25500	658.07
28	Bj. Ulir D22	Heat Treatment	380.13	200	25000	645.17
29	Bj. Ulir D22	Heat Treatment	380.13	200	25500	658.07
30	Bj. Ulir D22	Heat Treatment	380.13	200	25500	658.07
31	Bj. Ulir D22	Heat Treatment	380.13	200	25000	645.17
Rata-Rata			380.13	200.00	25447.37	656.71

Lampiran 2

Tabel Hasil Tegangan Putus (σ) di Titik Nodal 1 untuk Model Pembebanan Pertama Baja Vanadium Diameter 19 mm menggunakan Program Software SAP2000

TABLE: Element Stresses - Solids					
Solid	SolidElem	Joint	OutputCase	CaseType	S33
Text	Text	Text	Text	Text	N/mm2
1	1	1	TERPUSAT	LinStatic	688.669
1	1	1	TERPUSAT	LinStatic	688.669
2	2	1	TERPUSAT	LinStatic	688.669
2	2	1	TERPUSAT	LinStatic	688.669
3	3	1	TERPUSAT	LinStatic	688.669
3	3	1	TERPUSAT	LinStatic	688.669
4	4	1	TERPUSAT	LinStatic	688.669
4	4	1	TERPUSAT	LinStatic	688.669
5	5	1	TERPUSAT	LinStatic	688.669
5	5	1	TERPUSAT	LinStatic	688.669
6	6	1	TERPUSAT	LinStatic	688.669
6	6	1	TERPUSAT	LinStatic	688.669
7	7	1	TERPUSAT	LinStatic	688.669
7	7	1	TERPUSAT	LinStatic	688.669
8	8	1	TERPUSAT	LinStatic	688.669
8	8	1	TERPUSAT	LinStatic	688.669
Rata - rata					688.669

Lampiran 2

Tabel Hasil Tegangan Putus (σ) di Titik Nodal 2 untuk Model Pembebanan Pertama Baja Vanadium Diameter 19 mm menggunakan Program Software SAP2000

TABLE: Element Stresses - Solids					
Solid	SolidElem	Joint	OutputCase	CaseType	S33
Text	Text	Text	Text	Text	N/mm2
1	1	2	TERPUSAT	LinStatic	680.451
8	8	2	TERPUSAT	LinStatic	680.451
Rata - rata					680.451

Lampiran 2

Tabel Hasil Tegangan Putus (σ) di Titik Nodal 3 untuk Model Pembebanan Pertama Baja Vanadium Diameter 19 mm menggunakan Program Software SAP2000

TABLE: Element Stresses - Solids					
Solid	SolidElem	Joint	OutputCase	CaseType	S33
Text	Text	Text	Text	Text	N/mm2
7	7	3	TERPUSAT	LinStatic	680.451
8	8	3	TERPUSAT	LinStatic	680.451
Rata - rata					680.451

Lampiran 2

Tabel Hasil Tegangan Putus (σ) di Titik Nodal 4 untuk Model Pembebanan Pertama Baja Vanadium Diameter 19 mm menggunakan Program Software SAP2000

TABLE: Element Stresses - Solids					
Solid	SolidElem	Joint	OutputCase	CaseType	S33
Text	Text	Text	Text	Text	N/mm2
6	6	4	TERPUSAT	LinStatic	680.451
7	7	4	TERPUSAT	LinStatic	680.451
Rata - rata					680.451

Lampiran 2

Tabel Hasil Tegangan Putus (σ) di Titik Nodal 5 untuk Model Pembebanan Pertama Baja Vanadium Diameter 19 mm menggunakan Program Software SAP2000

TABLE: Element Stresses - Solids					
Solid	SolidElem	Joint	OutputCase	CaseType	S33
Text	Text	Text	Text	Text	N/mm2
5	5	5	TERPUSAT	LinStatic	680.451
6	6	5	TERPUSAT	LinStatic	680.451
Rata-rata					680.451

Lampiran 2

Tabel Hasil Tegangan Putus (σ) di Titik Nodal 6 untuk Model Pembebanan Pertama Baja Vanadium Diameter 19 mm menggunakan Program Software SAP2000

TABLE: Element Stresses - Solids					
Solid	SolidElem	Joint	OutputCase	CaseType	S33
Text	Text	Text	Text	Text	N/mm2
4	4	6	TERPUSAT	LinStatic	680.451
5	5	6	TERPUSAT	LinStatic	680.451
Rata - rata					680.451

Lampiran 2

Tabel Hasil Tegangan Putus (σ) di Titik Nodal 7 untuk Model Pembebanan Pertama Baja Vanadium Diameter 19 mm menggunakan Program Software SAP2000

TABLE: Element Stresses - Solids					
Solid	SolidElem	Joint	OutputCase	CaseType	S33
Text	Text	Text	Text	Text	N/mm2
3	3	7	TERPUSAT	LinStatic	680.451
4	4	7	TERPUSAT	LinStatic	680.451
Rata - rata					680.451

Lampiran 2

Tabel Hasil Tegangan Putus (σ) di Titik Nodal 8 untuk Model Pembebanan Pertama Baja Vanadium Diameter 19 mm Program Software SAP2000

TABLE: Element Stresses - Solids					
Solid	SolidElem	Joint	OutputCase	CaseType	S33
Text	Text	Text	Text	Text	N/mm2
2	2	8	TERPUSAT	LinStatic	680.451
3	3	8	TERPUSAT	LinStatic	680.451
Rata - rata					680.451

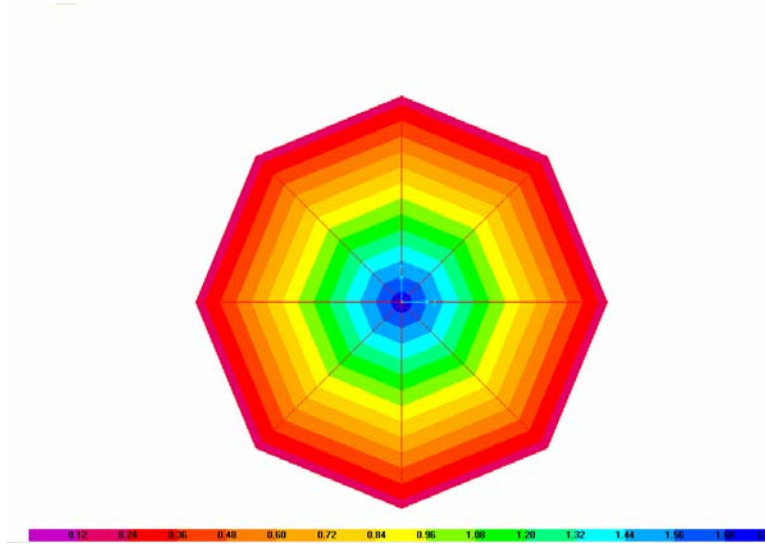
Lampiran 2

Tabel Hasil Tegangan Putus (σ) di Titik Nodal 9 untuk Model Pembebanan Pertama Baja Vanadium Diameter 19 mm menggunakan Program Software SAP2000

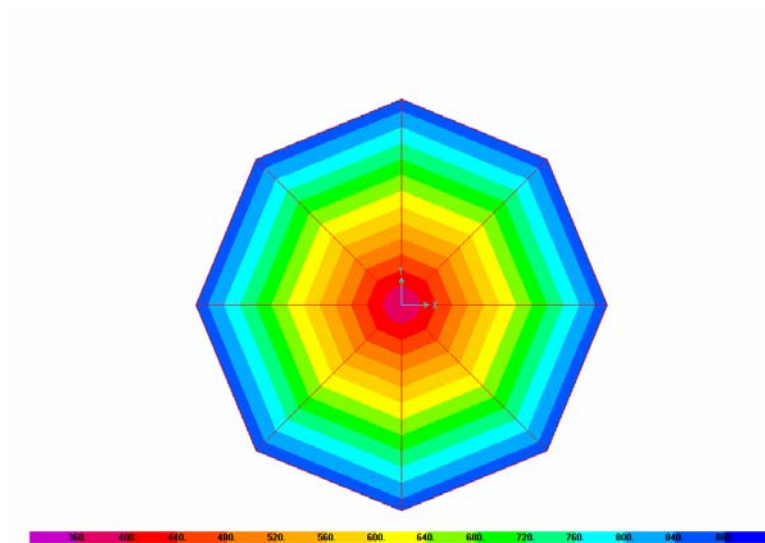
TABLE: Element Stresses - Solids					
Solid	SolidElem	Joint	OutputCase	CaseType	S33
Text	Text	Text	Text	Text	N/mm2
1	1	9	TERPUSAT	LinStatic	680.451
2	2	9	TERPUSAT	LinStatic	680.451
Rata - rata					680.451

Lampiran 3

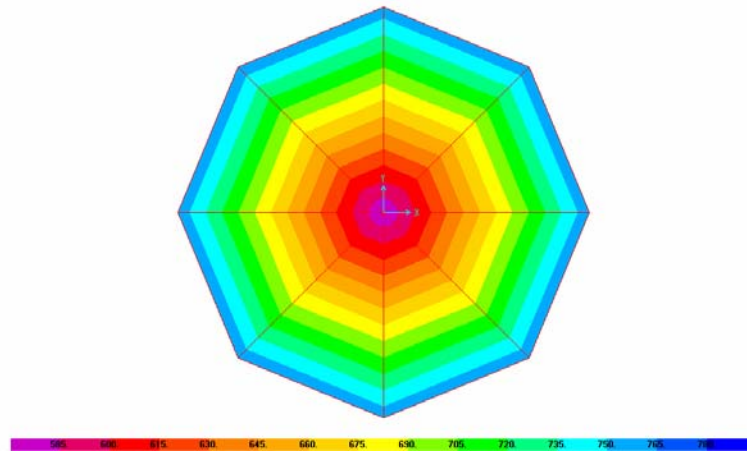
Gambar Hasil Analisis dari Pengujian dengan Menggunakan Program *Software* SAP2000
Baja *Vanadium* dan *Tempcore* Diameter 22 mm



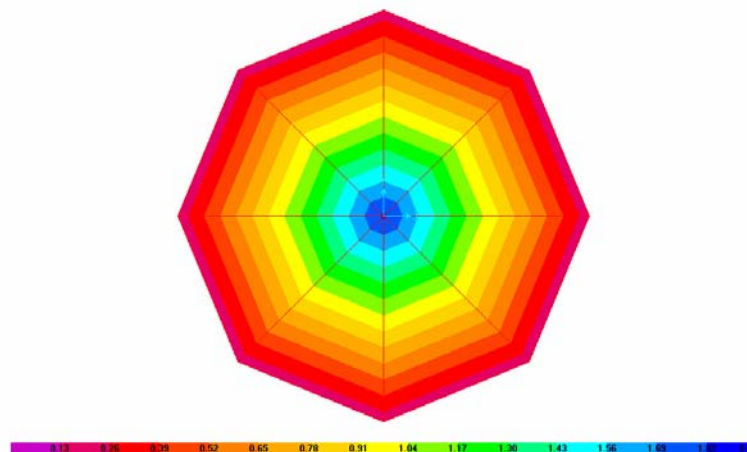
Contoh Model Pembebanan Pertama Baja *Vanadium*



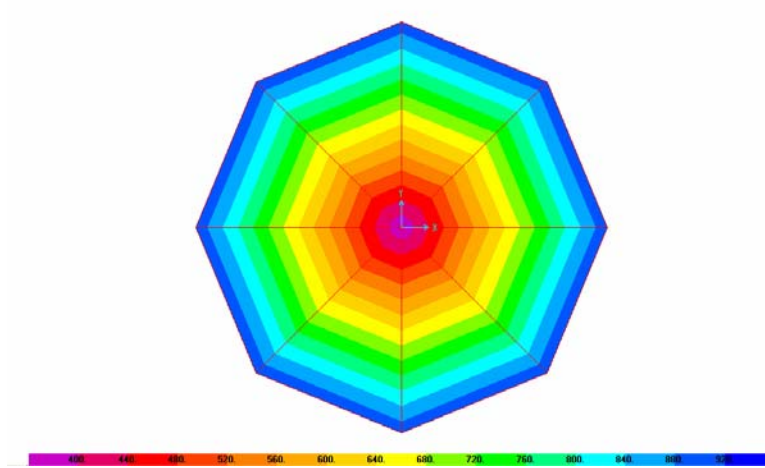
Contoh Model Pembebanan Kedua Baja *Vanadium*



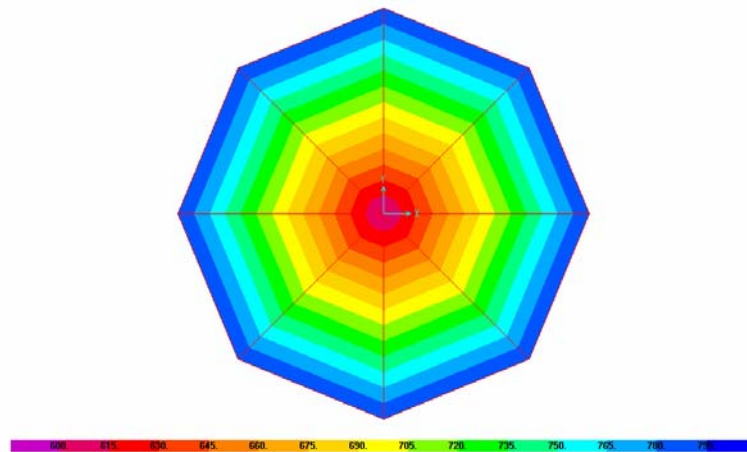
Contoh Model Pembebanan Ketiga Baja *Vanadium*



Contoh Model Pembebanan Pertama Baja *Temcore*



Contoh Model Pembebanan Kedua Baja *Tempcore*



Contoh Model Pembebanan Ketiga Baja *Tempcore*

Lampiran 4



Gambar Benda Uji Silinder



Gambar Benda Uji Silinder