

M. PEMADATAN TANAH ASLI

Berat cetakan : 2980 gr

Diameter *sample* : 15.5 cm

Tinggi *sample* : 11.3 cm

Kadar Air (*Water Content*)

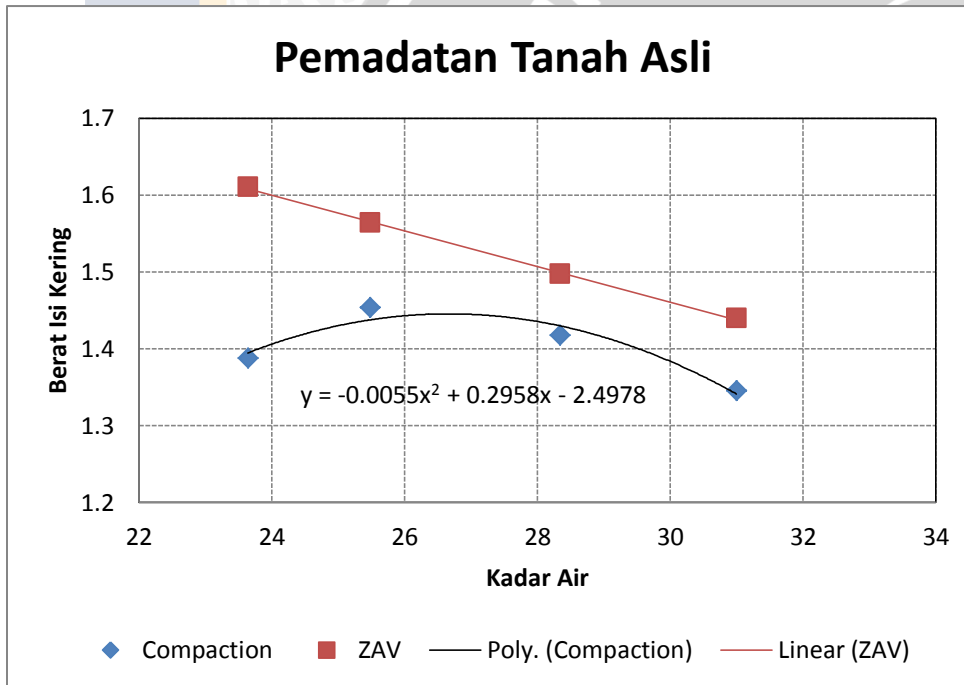
Penambahan Air	ml	23%			26%			29%			32%		
		1	2	3	1	2	3	1	2	3	1	2	3
Berat Cawan	gr	8.20	8.10	7.80	7.8	8.2	8.2	7.8	8.1	8.1	8.3	8.5	7.9
Berat Tanah Basah + Cawan	gr	23.60	27.90	30.10	20.8	23.8	18.9	22	26.5	25.4	22.3	18.8	20.8
Berat Tanah Kering + Cawan	gr	20.70	24.00	25.90	18.1	20.6	16.8	18.8	22.5	21.6	19.1	16.4	17.6
Berat Air	gr	2.9	3.9	4.2	2.7	3.2	2.1	3.2	4	3.8	3.2	2.4	3.2
Berat Tanah Kering	gr	12.5	15.9	18.1	10.3	12.4	8.6	11	14.4	13.5	10.8	7.9	9.7
Kadar Air	%	23.20	24.53	23.20	26.21	25.81	24.42	29.09	27.78	28.15	29.63	30.38	32.99
Kadar Air Rata-rata	%	23.64			25.48				28.34		31.00		

Kepadatan (*Density*)

Penambahan Air	ml	23%	26%	29%	32%
Berat Cetakan	gr	2980	2980	2980	2980
Berat Tanah Basah + Cetakan	gr	6640	6870	6860	6740
Berat Tanah Basah	gr	3660	3890	3880	3760
Isi Cetakan	cm ³	2133.08	2133.08	2133.08	2133.08
Berat Isi Basah	gr/cm ³	1.716	1.824	1.819	1.763
Berat Isi Kering	gr/cm ³	1.388	1.453	1.417	1.346

Zero Air Void

Penambahan Air	ml	23%	26%	29%	32%
Kadar Air	%	23.64	25.48	28.34	31.00
Gs	-	2.6	2.6	2.6	2.6
Berat Jenis Air	-	1	1	1	1
Zero Air Void (ZAV)	-	1.610	1.564	1.497	1.440



- $y = -0,0055x^2 + 0,2958x - 2,4978$

$$\frac{dy}{dx} = -0,011x + 0,2958$$

$$\frac{dy}{dx} = 0 \rightarrow -0,011x + 0,2958 = 0$$

$$x = 26,891$$

- $y = -0,0055x^2 + 0,2958x - 2,4978$

$$y = -0,0023(26,891)^2 + 0,1609(26,891) -$$

$$y = 1,479$$

Kadar Air Optimum = 26,891 %

Berat Isi kering Maksimum = 1,479 gr/cm³

N. PEMADATAN TANAH ASLI + 8% AAT + 4% PPC

Diameter *sample* = 15.5 cm

Tinggi *sample* = 11.3 cm

Kadar Air (*Water Content*)

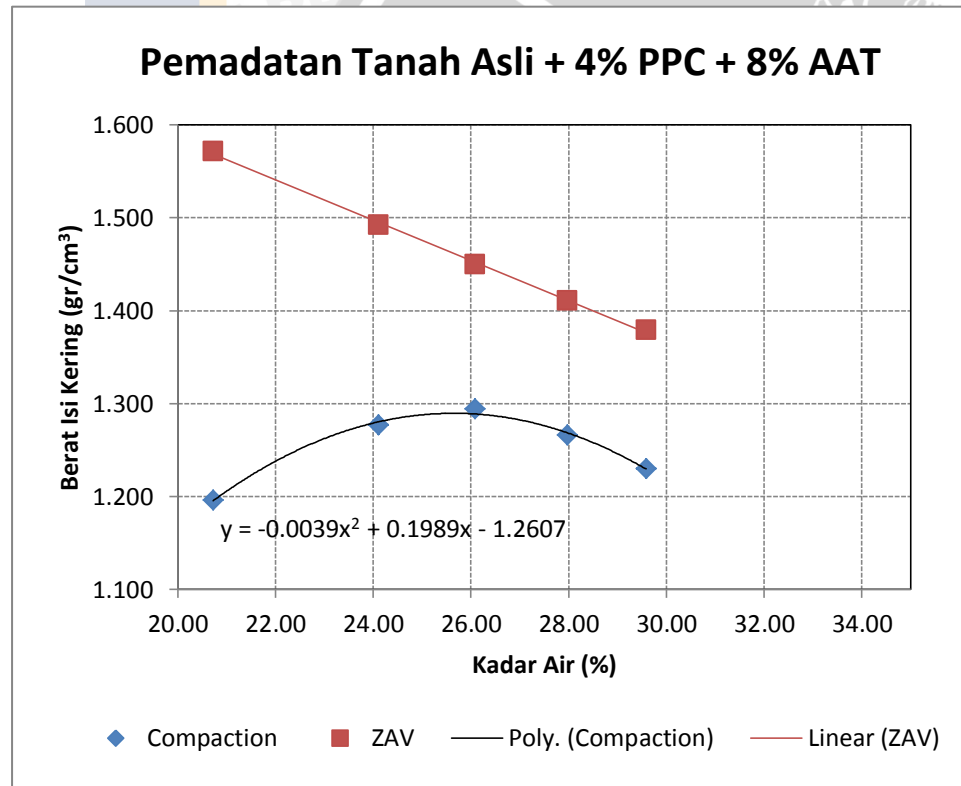
Penambahan Air	ml	20%			22%			24%			26%			28%		
		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Berat Cawan	gr	5.9	6.2	5.6	5.5	5.59	5.4	6.1	6.1	5.5	5.7	5.7	5.6	4.2	6.2	5.6
Berat Tanah Basah + Cawan	gr	10.4	11.1	10.8	11.3	11.1	11.1	10.3	10.3	10.2	11.9	11.8	11.7	12.1	13.5	12.8
Berat Tanah Kering + Cawan	gr	9.7	10.2	9.9	10.1	10	10.1	9.4	9.4	9.3	10.5	10.4	10.3	10.3	11.9	11.3
Berat Air	gr	0.7	0.9	0.9	1.2	1.1	1	0.9	0.9	0.9	1.4	1.4	1.4	1.8	1.6	1.5
Berat Tanah Kering	gr	3.79	4	4.3	4.6	4.41	4.7	3.3	3.3	3.8	4.8	4.7	4.7	6.1	5.7	5.7
Kadar Air	%	18.73	22.50	20.93	26.09	24.94	21.28	27.27	27.27	23.68	29.17	29.79	29.79	29.51	28.07	26.32
Kadar Air Rata-rata	%	20.72			24.10			26.08			29.58			27.96		

Kepadatan (*Density*)

Penambahan Air	ml	20%	22%	24%	26%	28%
Berat Cetakan	gr	2600	2720	2600	2720	2600
Berat Tanah Basah + Cetakan	gr	5680	6100	6080	6120	5860
Berat Tanah Basah	gr	3080	3380	3480	3400	3260
Isi Cetakan	cm ³	2133.08	2133.08	2133.08	2133.08	2133.08
Berat Isi Basah	gr/cm ³	1.444	1.585	1.631	1.594	1.528
Berat Isi Kering	gr/cm ³	1.196	1.277	1.294	1.230	1.266

Zero Air Void

Penambahan Air	ml	20%	22%	24%	26%	28%
Kadar Air	%	20.72	24.10	26.08	29.58	27.96
Gs	-	2.330	2.330	2.330	2.330	2.330
Berat Jenis Air	-	1	1	1	1	1
Zero Air Void (ZAV)	-	1.571	1.492	1.449	1.379	1.411



$$y = -0.0039x^2 + 0.1989x - 1.2607$$

$$\frac{dy}{dx} = 0$$

$$0 = -0.0078x + 0.1989$$

$$x = 25.50$$

$$y = -0.0039x^2 + 0.1989x - 1.2607$$

$$y = -0.0039(25.30)^2 + 0.1989(25.30) - 1.2607$$

$$y = 1.275$$

Kadar Air Optimum Tanah Asli + Campuran = 25,50 %

Berat isi kering maksimum = 1,275 gr/cm³

O. PEMADATAN TANAH ASLI 8% AAT + 6% PPC

Diameter *sample* = 15.5 cm
 Tinggi *sample* = 11.3 cm

Kadar Air (*Water Content*)

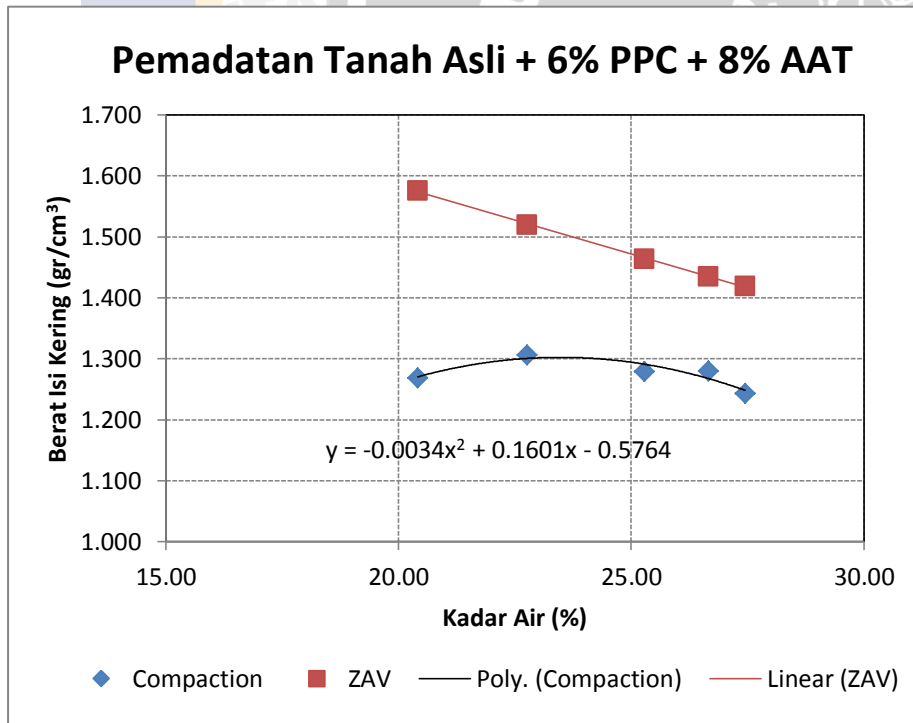
Penambahan Air	ml	20%			22%			24%			26%			28%		
		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Berat Cawan	gr	5.8	5.7	5.5	5.5	5.4	6.2	5.4	6	5.5	5.4	5.5	5.5	5.8	4.2	4.2
Berat Tanah Basah + Cawan	gr	12	12.5	12	10.7	10.7	10.2	10.2	10.4	10.7	10.6	10.6	10.4	10.6	10.5	10.7
Berat Tanah Kering + Cawan	gr	10.9	11.4	10.9	9.7	9.7	9.5	9.2	9.5	9.7	9.5	9.5	9.4	9.6	9.1	9.3
Berat Air	gr	1.1	1.1	1.1	1	1	0.7	1	0.9	1	1.1	1.1	1	1	1.4	1.4
Berat Tanah Kering	gr	5.1	5.7	5.4	4.2	4.3	3.3	3.8	3.5	4.2	4.1	4	3.9	3.8	4.9	5.1
Kadar Air	%	21.57	19.30	20.37	23.81	23.26	21.21	26.32	25.71	23.81	26.83	27.50	25.64	26.32	28.57	27.45
Kadar Air Rata-rata	%	20.41			22.76			25.28			26.66			27.45		

Kepadatan (*Density*)

Penambahan Air	ml	20%	22%	24%	26%	28%
Berat Cetakan	gr	2600	2720	2600	2720	2600
Berat Tanah Basah + Cetakan	gr	5860	6140	6020	6180	5980
Berat Tanah Basah	gr	3260	3420	3420	3460	3380
Isi Cetakan	cm ³	2133.08	2133.08	2133.08	2133.08	2133.08
Berat Isi Basah	gr/cm ³	1.528	1.603	1.603	1.622	1.585
Berat Isi Kering	gr/cm ³	1.269	1.306	1.280	1.281	1.243

Zero Air Void

Penambahan Air	ml	20%	22%	24%	26%	28%
Kadar Air	%	20.41	22.76	25.28	26.66	27.45
Gs	-	2.321	2.321	2.321	2.321	2.321
Berat Jenis Air	-	1	1	1	1	1
Zero Air Void (ZAV)	-	1.575	1.519	1.463	1.434	1.418



$$Y = -0.0034x^2 + 0.1601x - 0.5764$$

$$\frac{dy}{dx} = 0$$

$$0 = -0.0068x + 0.1601$$

$$X = 23.544$$

$$y = -0.0034x^2 + 0.1601x - 0.5764$$

$$y = -0.0034(23.97)^2 + 0.1601(23.97) - 0.5764$$

$$y = 1.301$$

Kadar Air Optimum Tanah Asli + Campuran = 23,54 %
 Berat isi kering maksimum = 1,301 gr/cm³

P. PEMADATAN TANAH ASLI + 8% AAT + 8% PPC

Diameter *sample* = 15.5 cm

Tinggi *sample* = 11.3 cm

Kadar Air (*Water Content*)

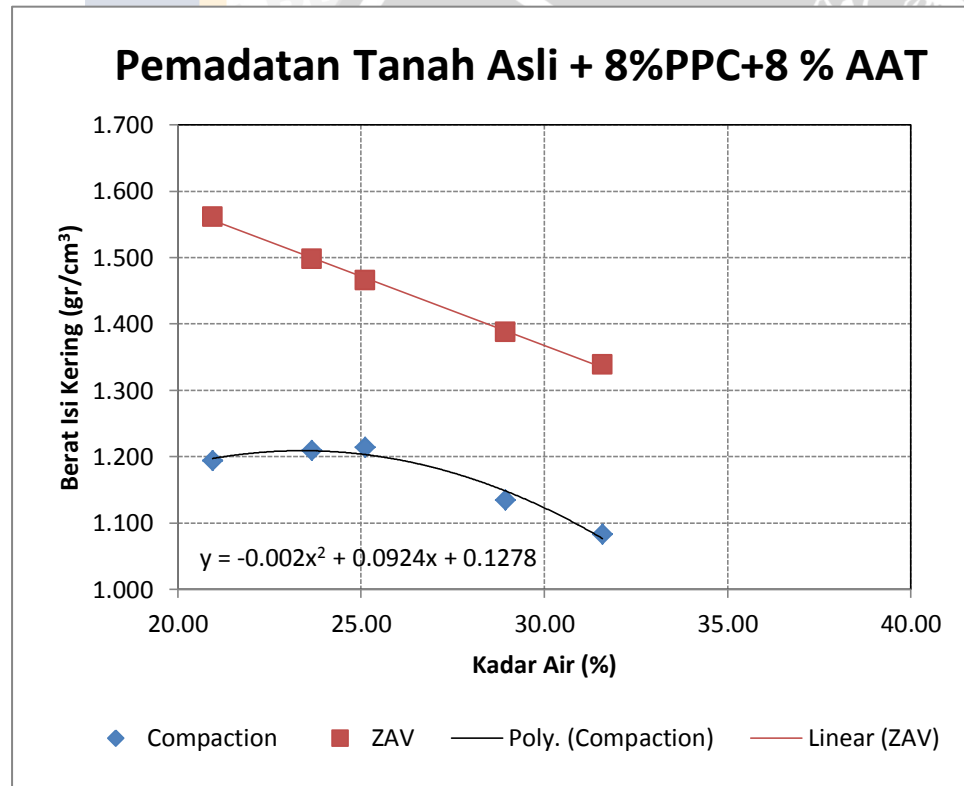
Penambahan Air	ml	20%			22%			24%			26%			28%		
		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Berat Cawan	gr	5.5	5.9	5.5	5.5	5.5	5.8	6	5.5	5.5	5.5	4.3	6	6.2	5.7	5.8
Berat Tanah Basah + Cawan	gr	14.1	14.4	14.5	14.5	14.1	14.9	15.2	15.6	15.1	14.8	14.7	14.9	14.5	14.2	14.5
Berat Tanah Kering + Cawan	gr	12.9	12.7	12.9	12.7	12.8	12.9	13.4	13.3	13.4	12.6	12.5	12.9	12.3	12.4	12.4
Berat Air	gr	1.2	1.7	1.6	1.8	1.3	2	1.8	2.3	1.7	2.2	2.2	2	2.2	1.8	2.1
Berat Tanah Kering	gr	7.4	6.8	7.4	7.2	7.3	7.1	7.4	7.8	7.9	7.1	8.2	6.9	6.1	6.7	6.6
Kadar Air	%	16.22	25.00	21.62	25.00	17.81	28.17	24.32	29.49	21.52	30.99	26.83	28.99	36.07	26.87	31.82
Kadar Air Rata-rata	%	20.95			23.66			25.11			28.93			31.58		

Kepadatan (*Density*)

Penambahan Air	ml	20%	22%	24%	26%	28%
Berat Cetakan	gr	2720	2600	2720	2600	2720
Berat Tanah Basah + Cetakan	gr	5800	5790	5960	5720	5760
Berat Tanah Basah	gr	3080	3190	3240	3120	3040
Isi Cetakan	cm ³	2133.08	2133.08	2133.08	2133.08	2133.08
Berat Isi Basah	gr/cm ³	1.444	1.495	1.519	1.463	1.425
Berat Isi Kering	gr/cm ³	1.194	1.209	1.214	1.134	1.083

Zero Air Void

Penambahan Air	ml	20%	22%	24%	26%	28%
Kadar Air	%	20.95	23.66	25.11	28.93	31.58
Gs	-	2.319	2.319	2.319	2.319	2.319
Berat Jenis Air	-	1	1	1	1	1
Zero Air Void (ZAV)	-	1.561	1.497	1.466	1.388	1.339



$$y = -0.002x^2 + 0.0924x + 0.1278$$

$$\frac{dy}{dx} = 0$$

$$0 = -0.004x + 0.0924$$

$$x = 23.100$$

$$y = -0.002x^2 + 0.0924x + 0.1278$$

$$y = -0.002(23.1)^2 + 0.0924(23.1) + 0.1278$$

$$y = 1.306$$

Kadar Air Optimum Tanah Asli + Campuran = 23.10 %

Berat isi kering maksimum = 1,306 gr/cm³