LAMPIRAN 1 *SPECIFIC GRAVITY* GGFBS

Keterangan:

M_t = Massa labu + minyak tanah + GGBFS (g)

M_a = Massa labu + minyak tanah (g)

V = Perpindahan volume minyak tanah (cm^3)

Pengujian sampel 1:

M_t = 379,44 g

M_a = 319,93 g

V = 21,50 cm^3

$SG_1 = \frac{M_t - M_a}{V} = 2{,}77$

Pengujian sampel 2:

M_t = 370,96 g

M_a = 311,44 g

V = 21,60 cm^3

$SG_2 = \frac{M_t - M_a}{V} = 2{,}76$

***Specific gravity* GGBFS:**

$SG = \frac{SG_1 + SG_2}{2} = 2{,}76$

LAMPIRAN 2 *SPECIFIC GRAVITY* CaO

Keterangan:

M_t = Massa labu + minyak tanah + CaO (g)

M_a = Massa labu + minyak tanah (g)

V = Perpindahan volume minyak tanah (cm^3)

Pengujian sampel 1:

M_t = 377,39 g

M_a = 317,74 g

V = 23,30 cm^3

$SG_1 = \frac{M_t - M_a}{V} = 2{,}56$

Pengujian sampel 2:

M_t = 377,09 g

M_a = 318,53 g

V = 22,70 cm^3

$SG_2 = \frac{M_t - M_a}{V} = 2{,}58$

***Specific gravity* CaO:**

$SG = \frac{SG_1 + SG_2}{2} = 2{,}57$

LAMPIRAN 3 *SPECIFIC GRAVITY* AGREGAT HALUS + PASIR HALUS SILIKA

Keterangan:

W_{SSD} = Massa agregat halus kondisi SSD (g)

W_{pyc} = Massa piknometer + air (g)

W^*_{pyc} = Massa piknometer + agregat halus + air (g)

Pengujian sampel 1:

W_{SSD} = 500 g

W_{pyc} = 682,80 g

W^*_{pyc} = 988,40 g

$SG_1 = \frac{W_{SSD}}{(W_{SSD}+W_{pyc})-W^*_{pyc}} = 2{,}57$

Pengujian sampel 2:

W_{SSD} = 500 g

W_{pyc} = 669,90 g

W^*_{pyc} = 975,90 g

$SG_2 = \frac{W_{SSD}}{(W_{SSD}+W_{pyc})-W^*_{pyc}} = 2{,}58$

***Specific gravity* agregat halus:**

$SG = \frac{SG_1+SG_2}{2} = 2{,}57$

LAMPIRAN 4 *FINENESS MODULUS* AGREGAT HALUS

Pengujian sampel 1:

No. Agregat	Ukuran Ayakan (mm)	Massa Tertahan (g)	Massa Tertahan (%)	Massa Tertahan Kumulatif (%)	Massa Lolos Kumulatif (%)
4	4,75	0	0,00	0,00	100
8	2,36	52,18	10,44	10,44	89,56
16	1,18	89,46	17,89	28,33	71,67
30	0,6	93,63	18,73	47,05	52,95
50	0,3	112,84	22,57	69,62	30,38
100	0,15	100,03	20,01	89,63	10,37
Pan		51,86	10,37		
Total		500	100	245,07	
FM_1				2,45	

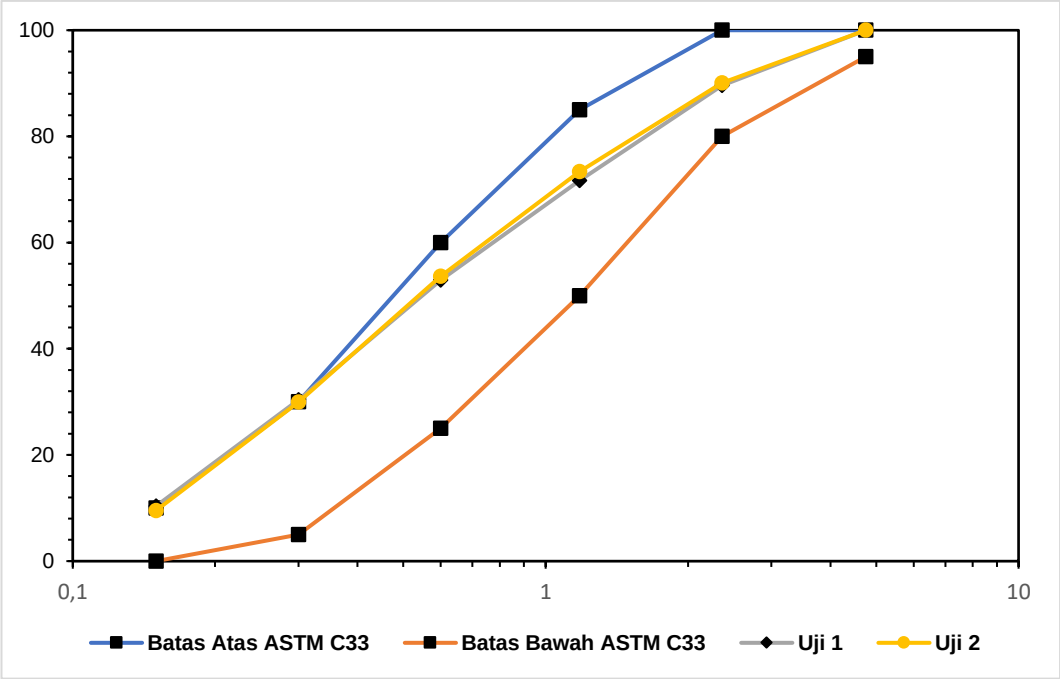
Pengujian sampel 2:

No. Agregat	Ukuran Ayakan (mm)	Massa Tertahan (g)	Massa Tertahan (%)	Massa Tertahan Kumulatif (%)	Massa Lolos Kumulatif (%)
4	4,75	0	0,00	0,00	100
8	2,36	49,5	9,90	9,90	90,10
16	1,18	83,59	16,72	26,62	73,38
30	0,6	98,67	19,73	46,35	53,65
50	0,3	118,41	23,68	70,03	29,97
100	0,15	102,13	20,43	90,46	9,54
Pan		47,7	9,54		
Total		500	100	243,36	
FM_2				2,43	

$$FM = \frac{\sum Massa\ Tertahan\ Kumulatif}{100}$$

Fineness modulus agregat halus:

$$FM = \frac{FM_1 + FM_2}{2} = 2{,}44$$


100
80
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20
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0,1
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10
Batas Atas ASTM C33
Batas Bawah ASTM C33
Uji 1
Uji 2

LAMPIRAN 5 ABSORPSI AGREGAT HALUS + PASIR HALUS SILIKA

Keterangan:

W_{SSD} = Massa agregat halus kondisi SSD (g)

W_{OD} = Massa agregat halus kondisi OD (g)

Pengujian Sampel 1:

W_{SSD} = 100,10 g

W_{OD} = 96,90 g

$Abs_1 = \frac{W_{SSD}-W_{OD}}{W_{OD}} \times 100\% = 3{,}30\ \%$

Pengujian Sampel 2:

W_{SSD} = 100,10 g

W_{OD} = 97,10 g

$Abs_2 = \frac{W_{SSD}-W_{OD}}{W_{OD}} \times 100\% = 3{,}09\ \%$

Absorpsi agregat halus:

$Abs = \frac{Abs_1+Abs_2}{2} = 3{,}20\ \%$

LAMPIRAN 6 KADAR AIR *SILICA SLURRY*

W_{SSD} = Massa *silica slurry* kondisi SSD (g)

W_{OD} = Massa *silica slurry* kondisi OD (g)

Pengujian Sampel 1:

$W_{SSD} = 100$ g

$W_{OD} = 43{,}96$ g

$Abs_1 = \frac{W_{SSD} - W_{OD}}{W_{OD}} \times 100\% = 56{,}04\%$

Pengujian Sampel 2:

$W_{SSD} = 100$ g

$W_{OD} = 44{,}25$ g

$Abs_2 = \frac{W_{SSD} - W_{OD}}{W_{OD}} \times 100\% = 55{,}75\%$

Pengujian Sampel 3:

$W_{SSD} = 100$ g

$W_{OD} = 44{,}66$ g

$Abs_3 = \frac{W_{SSD} - W_{OD}}{W_{OD}} \times 100\% = 55{,}34\%$

Absorpsi agregat halus:

$Abs = \frac{Abs_1 + Abs_2 + Abs_3}{3} = 55{,}71\%$

LAMPIRAN 7 *MIX DESIGN* MORTAR *SILICA SLURRY* 0%

Data:

γ_{air}	= 1000 kg/m^3	γ_{pasir}	= 2575 kg/m^3	SS	= 0%
γ_{GGBFS}	= 2762 kg/m^3	Abs_{pasir}	= 3,20%	WC_{SS}	= 55,71%
γ_{CaO}	= 2570 kg/m^3	SP	= 1,50%		

Rasio air terhadap bahan pengikat: $\lambda = 0{,}35$

Rasio aktivator terhadap bahan pengikat: $\beta = 15\%$

Rasio GGBFS terhadap bahan pengikat: $\alpha = 0{,}85\%$

Rasio pasir terhadap bahan pengikat: 2,5

Metode volume absolut:

$\sum V = 1$ m^3

$V_{pasir} + V_{GGBFS} + V_{CaO} + V_{air} + V_{udara} = 1$ m^3

$V_{pasir} + V_{GGBFS} + V_{CaO} + V_{air} = 1$ m^3

$\frac{W_{pasir}}{\gamma_{pasir}} + \frac{W_{GGBFS}}{\gamma_{GGBFS}} + \frac{W_{CaO}}{\gamma_{CaO}} + \frac{W_{air}}{\gamma_{air}} = 1$ m^3

$\frac{2{,}5 \cdot W_{binder}}{\gamma_{pasir}} + \frac{\alpha \cdot W_{binder}}{\gamma_{GGBFS}} + \frac{\beta \cdot W_{binder}}{\gamma_{CaO}} + \frac{W_{air}}{\gamma_{air}} = 1$ m^3

$\frac{2{,}5 \cdot \frac{W_{air}}{\lambda}}{\gamma_{pasir}} + \frac{\alpha \cdot \frac{W_{air}}{\lambda}}{\gamma_{GGBFS}} + \frac{\beta \cdot \frac{W_{air}}{\lambda}}{\gamma_{CaO}} + \frac{W_{air}}{\gamma_{air}} = 1$ m^3

$W_{air} = \frac{1}{\frac{2{,}5}{\lambda \cdot \gamma_{pasir}} + \frac{\alpha}{\lambda \cdot \gamma_{GGBFS}} + \frac{\beta}{\lambda \cdot \gamma_{CaO}} + \frac{1}{\gamma_{air}}} = 207{,}451$ kg/m^3

$W_{binder} = \frac{W_{air}}{\lambda} = 592{,}717$ kg/m^3

$W_{GGBFS} = \alpha \cdot W_{binder} = 503{,}810$ kg/m^3

$W_{CaO} = \beta \cdot W_{binder} = 88{,}908$ kg/m^3

$W_{pasir} = 2{,}5 \cdot W_{binder} = 1481{,}793$ kg/m^3

$W_{SP} = 1{,}7\% \cdot W_{binder} = 8{,}891$ kg/m^3

Total satu kali cor:

Faktor koreksi: k = 5%

Volume benda uji: V = 0,05 × 0,05 × 0,05 × 16 buah = 0,002 m^3 **(kubus)**

V = 0,04 × 0,04 × 0,16 × 9 buah = 0,002304 m^3 **(balok)**

V_{total} = 0,004304 m^3

$W_{pasir} = (1 + k) \cdot n \cdot V \cdot W_{pasir}$ = 6696,52 g

$W_{air} = (1 + k) \cdot n \cdot V \cdot W_{air}$ = 937,51 g

$W_{absorpsi} = Abs_{pasir} \cdot W_{pasir}$ = 47,36 g

$W_{pasir_1} = W_{pasir} - W_{absorpsi}$ = 6649,16 g

$W_{GGBFS_1} = (1 + k) \cdot \mathrm{V}_{total} \cdot W_{GGBFS}$ = 2276,82 g

$W_{CaO_1} = (1 + k) \cdot \mathrm{V}_{total} \cdot W_{CaO}$ = 401,79 g

$W_{SP_1} = (1 + k) \cdot \mathrm{V}_{total} \cdot W_{SP}$ = 40,18 g

$W_{SS_1} = 0\% \cdot \left(W_{GGBFS_1} + W_{CaO_1}\right)$ = 0 g

$W_{water_{SS}} = WC_{SS} \cdot W_{SS_1}$ = 0 g

$W_{air_1} = W_{air} + W_{absorpsi} - W_{SS_1}$ = 984,87 g

LAMPIRAN 8 *MIX DESIGN* MORTAR *SILICA SLURRY* 5%

Data:

γ_{air}	= 1000 kg/m^3	γ_{pasir}	= 2575 kg/m^3	SS	= 5%
γ_{GGBFS}	= 2762 kg/m^3	Abs_{pasir}	= 3,20%	WC_{SS}	= 55,71%
γ_{CaO}	= 2570 kg/m^3	SP	= 1,50%		

Rasio air terhadap bahan pengikat: $\lambda = 0{,}35$

Rasio aktivator terhadap bahan pengikat: $\beta = 15\%$

Rasio GGBFS terhadap bahan pengikat: $\alpha = 0{,}85\%$

Rasio pasir terhadap bahan pengikat: 2,5

Metode volume absolut:

$\sum V = 1$ m^3

$V_{pasir} + V_{GGBFS} + V_{CaO} + V_{air} + V_{udara} = 1$ m^3

$V_{pasir} + V_{GGBFS} + V_{CaO} + V_{air} = 1$ m^3

$\frac{W_{pasir}}{\gamma_{pasir}} + \frac{W_{GGBFS}}{\gamma_{GGBFS}} + \frac{W_{CaO}}{\gamma_{CaO}} + \frac{W_{air}}{\gamma_{air}} = 1$ m^3

$\frac{2{,}5 \cdot W_{binder}}{\gamma_{pasir}} + \frac{\alpha \cdot W_{binder}}{\gamma_{GGBFS}} + \frac{\beta \cdot W_{binder}}{\gamma_{CaO}} + \frac{W_{air}}{\gamma_{air}} = 1$ m^3

$\frac{2{,}5 \cdot \frac{W_{air}}{\lambda}}{\gamma_{pasir}} + \frac{\alpha \cdot \frac{W_{air}}{\lambda}}{\gamma_{GGBFS}} + \frac{\beta \cdot \frac{W_{air}}{\lambda}}{\gamma_{CaO}} + \frac{W_{air}}{\gamma_{air}} = 1$ m^3

$W_{air} = \frac{1}{\frac{2{,}5}{\lambda \cdot \gamma_{pasir}} + \frac{\alpha}{\lambda \cdot \gamma_{GGBFS}} + \frac{\beta}{\lambda \cdot \gamma_{CaO}} + \frac{1}{\gamma_{air}}} = 207{,}451$ kg/m^3

$W_{binder} = \frac{W_{air}}{\lambda} = 592{,}717$ kg/m^3

$W_{GGBFS} = \alpha \cdot W_{binder} = 503{,}810$ kg/m^3

$W_{CaO} = \beta \cdot W_{binder} = 88{,}908$ kg/m^3

$W_{pasir} = 2{,}5 \cdot W_{binder} = 1481{,}793$ kg/m^3

$W_{SP} = 1{,}7\% \cdot W_{binder} = 8{,}891$ kg/m^3

Total satu kali cor:

Faktor koreksi: k = 5%

Volume benda uji: V = 0,05 × 0,05 × 0,05 × 16 buah = 0,002 m^3 **(kubus)**

V = 0,04 × 0,04 × 0,16 × 9 buah = 0,002304 m^3 **(balok)**

V_{total} = 0,004304 m^3

$W_{pasir} = (1 + k) \cdot n \cdot V \cdot W_{pasir}$ = 6696,52 g

$W_{air} = (1 + k) \cdot n \cdot V \cdot W_{air}$ = 937,51 g

$W_{absorpsi} = Abs_{pasir} \cdot W_{pasir}$ = 47,36 g

$W_{pasir_2} = W_{pasir} - W_{absorpsi}$ = 6649,16 g

$W_{GGBFS_2} = (1 + k) \cdot \mathrm{V}_{total} \cdot W_{GGBFS}$ = 2276,82 g

$W_{CaO_2} = (1 + k) \cdot \mathrm{V}_{total} \cdot W_{CaO}$ = 401,79 g

$W_{SP_2} = (1 + k) \cdot \mathrm{V}_{total} \cdot W_{SP}$ = 40,18 g

$W_{SS_2} = 5\% \cdot (W_{GGBFS_1} + W_{CaO_1})$ = 133,93 g

$W_{water_{SS}} = WC_{SS} \cdot W_{SS_1}$ = 74,61 g

$W_{air_2} = W_{air} + W_{absorpsi} - W_{SS_1}$ = 910,26 g

LAMPIRAN 9 *MIX DESIGN* MORTAR *SILICA SLURRY* 10%

Data:

γ_{air}	= 1000 kg/m^3	γ_{pasir}	= 2575 kg/m^3	SS	= 10%
γ_{GGBFS}	= 2762 kg/m^3	Abs_{pasir}	= 3,20%	WC_{SS}	= 55,71%
γ_{CaO}	= 2570 kg/m^3	SP	= 1,50%		

Rasio air terhadap bahan pengikat: $\lambda = 0{,}35$

Rasio aktivator terhadap bahan pengikat: $\beta = 15\%$

Rasio GGBFS terhadap bahan pengikat: $\alpha = 0{,}85\%$

Rasio pasir terhadap bahan pengikat: 2,5

Metode volume absolut:

$\sum V = 1$ m^3

$V_{pasir} + V_{GGBFS} + V_{CaO} + V_{air} + V_{udara} = 1$ m^3

$V_{pasir} + V_{GGBFS} + V_{CaO} + V_{air} = 1$ m^3

$\frac{W_{pasir}}{\gamma_{pasir}} + \frac{W_{GGBFS}}{\gamma_{GGBFS}} + \frac{W_{CaO}}{\gamma_{CaO}} + \frac{W_{air}}{\gamma_{air}} = 1$ m^3

$\frac{2{,}5 \cdot W_{binder}}{\gamma_{pasir}} + \frac{\alpha \cdot W_{binder}}{\gamma_{GGBFS}} + \frac{\beta \cdot W_{binder}}{\gamma_{CaO}} + \frac{W_{air}}{\gamma_{air}} = 1$ m^3

$\frac{2{,}5 \cdot \frac{W_{air}}{\lambda}}{\gamma_{pasir}} + \frac{\alpha \cdot \frac{W_{air}}{\lambda}}{\gamma_{GGBFS}} + \frac{\beta \cdot \frac{W_{air}}{\lambda}}{\gamma_{CaO}} + \frac{W_{air}}{\gamma_{air}} = 1$ m^3

$W_{air} = \frac{1}{\frac{2{,}5}{\lambda \cdot \gamma_{pasir}} + \frac{\alpha}{\lambda \cdot \gamma_{GGBFS}} + \frac{\beta}{\lambda \cdot \gamma_{CaO}} + \frac{1}{\gamma_{air}}} = 207{,}451$ kg/m^3

$W_{binder} = \frac{W_{air}}{\lambda} = 592{,}717$ kg/m^3

$W_{GGBFS} = \alpha \cdot W_{binder} = 503{,}810$ kg/m^3

$W_{CaO} = \beta \cdot W_{binder} = 88{,}908$ kg/m^3

$W_{pasir} = 2{,}5 \cdot W_{binder} = 1481{,}793$ kg/m^3

$W_{SP} = 1{,}7\% \cdot W_{binder} = 8{,}891$ kg/m^3

Total satu kali cor:

Faktor koreksi: k = 5%

Volume benda uji: V = 0,05 × 0,05 × 0,05 × 16 buah = 0,002 m^3 **(kubus)**

V = 0,04 × 0,04 × 0,16 × 9 buah = 0,002304 m^3 **(balok)**

V_{total} = 0,004304 m^3

$W_{pasir} = (1 + k) \cdot n \cdot V \cdot W_{pasir}$ = 6696,52 g

$W_{air} = (1 + k) \cdot n \cdot V \cdot W_{air}$ = 937,51 g

$W_{absorpsi} = Abs_{pasir} \cdot W_{pasir}$ = 47,36 g

$W_{pasir_3} = W_{pasir} - W_{absorpsi}$ = 6649,16 g

$W_{GGBFS_3} = (1 + k) \cdot \mathrm{V}_{total} \cdot W_{GGBFS}$ = 2276,82 g

$W_{CaO_3} = (1 + k) \cdot \mathrm{V}_{total} \cdot W_{CaO}$ = 401,79 g

$W_{SP_3} = (1 + k) \cdot \mathrm{V}_{total} \cdot W_{SP}$ = 40,18 g

$W_{SS_3} = 10\% \cdot \left(W_{GGBFS_1} + W_{CaO_1}\right)$ = 267,86 g

$W_{water_{SS}} = WC_{SS} \cdot W_{SS_1}$ = 149,23 g

$W_{air_3} = W_{air} + W_{absorpsi} - W_{SS_1}$ = 835,65 g

LAMPIRAN 10 *MIX DESIGN* MORTAR *SILICA SLURRY* 15%

Data:

γ_{air}	= 1000 kg/m^3	γ_{pasir}	= 2575 kg/m^3	SS	= 10%
γ_{GGBFS}	= 2762 kg/m^3	Abs_{pasir}	= 3,20%	WC_{SS}	= 55,71%
γ_{CaO}	= 2570 kg/m^3	SP	= 1,50%		

Rasio air terhadap bahan pengikat: $\lambda = 0{,}35$

Rasio aktivator terhadap bahan pengikat: $\beta = 15\%$

Rasio GGBFS terhadap bahan pengikat: $\alpha = 0{,}85\%$

Rasio pasir terhadap bahan pengikat: 2,5

Metode volume absolut:

$\sum V = 1$ m^3

$V_{pasir} + V_{GGBFS} + V_{CaO} + V_{air} + V_{udara} = 1$ m^3

$V_{pasir} + V_{GGBFS} + V_{CaO} + V_{air} = 1$ m^3

$\frac{W_{pasir}}{\gamma_{pasir}} + \frac{W_{GGBFS}}{\gamma_{GGBFS}} + \frac{W_{CaO}}{\gamma_{CaO}} + \frac{W_{air}}{\gamma_{air}} = 1$ m^3

$\frac{2{,}5 \cdot W_{binder}}{\gamma_{pasir}} + \frac{\alpha \cdot W_{binder}}{\gamma_{GGBFS}} + \frac{\beta \cdot W_{binder}}{\gamma_{CaO}} + \frac{W_{air}}{\gamma_{air}} = 1$ m^3

$\frac{2{,}5 \cdot \frac{W_{air}}{\lambda}}{\gamma_{pasir}} + \frac{\alpha \cdot \frac{W_{air}}{\lambda}}{\gamma_{GGBFS}} + \frac{\beta \cdot \frac{W_{air}}{\lambda}}{\gamma_{CaO}} + \frac{W_{air}}{\gamma_{air}} = 1$ m^3

$W_{air} = \frac{1}{\frac{2{,}5}{\lambda \cdot \gamma_{pasir}} + \frac{\alpha}{\lambda \cdot \gamma_{GGBFS}} + \frac{\beta}{\lambda \cdot \gamma_{CaO}} + \frac{1}{\gamma_{air}}} = 207{,}451$ kg/m^3

$W_{binder} = \frac{W_{air}}{\lambda} = 592{,}717$ kg/m^3

$W_{GGBFS} = \alpha \cdot W_{binder} = 503{,}810$ kg/m^3

$W_{CaO} = \beta \cdot W_{binder} = 88{,}908$ kg/m^3

$W_{pasir} = 2{,}5 \cdot W_{binder} = 1481{,}793$ kg/m^3

$W_{SP} = 1{,}7\% \cdot W_{binder} = 8{,}891$ kg/m^3

Total satu kali cor:

Faktor koreksi: k = 5%

Volume benda uji: V = 0,05 × 0,05 × 0,05 × 16 buah = 0,002 m^3 **(kubus)**

V = 0,04 × 0,04 × 0,16 × 9 buah = 0,002304 m^3 **(balok)**

V_{total} = 0,004304 m^3

$W_{pasir} = (1 + k) \cdot n \cdot V \cdot W_{pasir}$ = 6696,52 g

$W_{air} = (1 + k) \cdot n \cdot V \cdot W_{air}$ = 937,51 g

$W_{absorpsi} = Abs_{pasir} \cdot W_{pasir}$ = 47,36 g

$W_{pasir_4} = W_{pasir} - W_{absorpsi}$ = 6649,16 g

$W_{GGBFS_4} = (1 + k) \cdot \mathrm{V}_{total} \cdot W_{GGBFS}$ = 2276,82 g

$W_{CaO_4} = (1 + k) \cdot \mathrm{V}_{total} \cdot W_{CaO}$ = 401,79 g

$W_{SP_4} = (1 + k) \cdot \mathrm{V}_{total} \cdot W_{SP}$ = 40,18 g

$W_{SS_4} = 10\% \cdot (W_{GGBFS_1} + W_{CaO_1})$ = 401,79 g

$W_{water_{SS}} = WC_{SS} \cdot W_{SS_1}$ = 223,84 g

$W_{air_4} = W_{air} + W_{absorpsi} - W_{SS_1}$ = 761,03 g

LAMPIRAN 11 *MIX DESIGN* MORTAR *SILICA SLURRY* 20%

Data:

γ_{air}	= 1000 kg/m^3	γ_{pasir}	= 2575 kg/m^3	SS	= 10%
γ_{GGBFS}	= 2762 kg/m^3	Abs_{pasir}	= 3,20%	WC_{SS}	= 55,71%
γ_{CaO}	= 2570 kg/m^3	SP	= 1,50%		

Rasio air terhadap bahan pengikat: $\lambda = 0{,}35$

Rasio aktivator terhadap bahan pengikat: $\beta = 15\%$

Rasio GGBFS terhadap bahan pengikat: $\alpha = 0{,}85\%$

Rasio pasir terhadap bahan pengikat: 2,5

Metode volume absolut:

$\sum V = 1$ m^3

$V_{pasir} + V_{GGBFS} + V_{CaO} + V_{air} + V_{udara} = 1$ m^3

$V_{pasir} + V_{GGBFS} + V_{CaO} + V_{air} = 1$ m^3

$\frac{W_{pasir}}{\gamma_{pasir}} + \frac{W_{GGBFS}}{\gamma_{GGBFS}} + \frac{W_{CaO}}{\gamma_{CaO}} + \frac{W_{air}}{\gamma_{air}} = 1$ m^3

$\frac{2{,}5 \cdot W_{binder}}{\gamma_{pasir}} + \frac{\alpha \cdot W_{binder}}{\gamma_{GGBFS}} + \frac{\beta \cdot W_{binder}}{\gamma_{CaO}} + \frac{W_{air}}{\gamma_{air}} = 1$ m^3

$\frac{2{,}5 \cdot \frac{W_{air}}{\lambda}}{\gamma_{pasir}} + \frac{\alpha \cdot \frac{W_{air}}{\lambda}}{\gamma_{GGBFS}} + \frac{\beta \cdot \frac{W_{air}}{\lambda}}{\gamma_{CaO}} + \frac{W_{air}}{\gamma_{air}} = 1$ m^3

$W_{air} = \frac{1}{\frac{2{,}5}{\lambda \cdot \gamma_{pasir}} + \frac{\alpha}{\lambda \cdot \gamma_{GGBFS}} + \frac{\beta}{\lambda \cdot \gamma_{CaO}} + \frac{1}{\gamma_{air}}} = 207{,}451$ kg/m^3

$W_{binder} = \frac{W_{air}}{\lambda} = 592{,}717$ kg/m^3

$W_{GGBFS} = \alpha \cdot W_{binder} = 503{,}810$ kg/m^3

$W_{CaO} = \beta \cdot W_{binder} = 88{,}908$ kg/m^3

$W_{pasir} = 2{,}5 \cdot W_{binder} = 1481{,}793$ kg/m^3

$W_{SP} = 1{,}7\% \cdot W_{binder} = 8{,}891$ kg/m^3

Total satu kali cor:

Faktor koreksi: k = 5%

Volume benda uji: V = 0,05 × 0,05 × 0,05 × 16 buah = 0,002 m^3 **(kubus)**

V = 0,04 × 0,04 × 0,16 × 9 buah = 0,002304 m^3 **(balok)**

V_{total} = 0,004304 m^3

$W_{pasir} = (1 + k) \cdot n \cdot V \cdot W_{pasir}$ = 6696,52 g

$W_{air} = (1 + k) \cdot n \cdot V \cdot W_{air}$ = 937,51 g

$W_{absorpsi} = Abs_{pasir} \cdot W_{pasir}$ = 47,36 g

$W_{pasir_4} = W_{pasir} - W_{absorpsi}$ = 6649,16 g

$W_{GGBFS_4} = (1 + k) \cdot \mathrm{V}_{total} \cdot W_{GGBFS}$ = 2276,82 g

$W_{CaO_4} = (1 + k) \cdot \mathrm{V}_{total} \cdot W_{CaO}$ = 401,79 g

$W_{SP_4} = (1 + k) \cdot \mathrm{V}_{total} \cdot W_{SP}$ = 40,18 g

$W_{SS_4} = 10\% \cdot (W_{GGBFS_1} + W_{CaO_1})$ = 535,72 g

$W_{water_{SS}} = WC_{SS} \cdot W_{SS_1}$ = 298,45 g

$W_{air_4} = W_{air} + W_{absorpsi} - W_{SS_1}$ = 686,42 g