

**DATA PENGUJIAN DENSITAS MATERIAL AL-CU-FA TEMPERATUR 700°C**

Material	Replikasi	Atas		
Al-Cu-Fa 5%		W(udara) gram	W(fluida) gram	Densitas Aktual (g/cm <sup>3</sup> )
	1	8,719	5,469	2,682
	2	8,725	5,475	2,685
	3	8,710	5,541	2,675
Rata-Rata =			2,680	

Material	Replikasi	Tengah		
Al-Cu-Fa 5%		W(udara) gram	W(fluida) gram	Densitas Aktual (g/cm <sup>3</sup> )
	1	7,438	4,750	2,767
	2	7,451	4,762	2,770
	3	7,424	4,741	2,767
Rata-Rata =			2,768	

Material	Replikasi	Bawah		
Al-Cu-Fa 5%		W(udara) gram	W(fluida) gram	Densitas Aktual (g/cm <sup>3</sup> )
	1	7,849	5,068	2,822
	2	7,853	5,075	2,826
	3	7,837	5,050	2,811
Rata-Rata =			2,819	

Material	Replikasi	Atas		
Al-Cu-Fa 10%		W(udara) gram	W(fluida) gram	Densitas Aktual (g/cm <sup>3</sup> )
	1	8,466	4,890	2,315
	2	8,481	4,815	2,313
	3	8,475	4,840	2,319
Rata-Rata =			2,316	

Material	Replikasi	Tengah		
Al-Cu-Fa 10%		W(udara) gram	W(fluida) gram	Densitas Aktual (g/cm <sup>3</sup> )
	1	7,421	4,385	2,444
	2	7,407	4,378	2,445
	3	7,430	4,388	2,442
Rata-Rata =			2,444	

Material	Replikasi	Bawah		
		W(udara) gram	W(fluida) gram	Densitas Aktual (g/cm <sup>3</sup> )
Al-Cu-Fa 10%	1	6,259	3,995	2,764
	2	6,264	3,982	2,745
	3	6,241	3,991	2,773
Rata-Rata =				2,760

Material	Replikasi	Atas		
		W(udara) gram	W(fluida) gram	Densitas Aktual (g/cm <sup>3</sup> )
Al-Cu-Fa 15%	1	7,477	4,800	2,793
	2	7,461	4,806	2,810
	3	7,472	4,810	2,807
Rata-Rata =				2,803

Material	Replikasi	Tengah		
		W(udara) gram	W(fluida) gram	Densitas Aktual (g/cm <sup>3</sup> )
Al-Cu-Fa 15%	1	7,395	4,741	2,786
	2	7,381	4,744	2,799
	3	7,390	4,740	2,789
Rata-Rata =				2,791

Material	Replikasi	Bawah		
		W(udara) gram	W(fluida) gram	Densitas Aktual (g/cm <sup>3</sup> )
Al-Cu-Fa 15%	1	9,987	6,431	2,808
	2	9,990	6,435	2,810
	3	9,983	6,429	2,809
Rata-Rata =				2,809

Material	Densitas rata-rata Al-Cu-Fa 700 <sup>0</sup> C (g/cm <sup>3</sup> )
Al-Cu-Fa 5%	2,775
Al-Cu-Fa 10%	2,345
Al-Cu-Fa 15%	2,801

Untuk menentukan densitas (*Archimedes method*) menggunakan persamaan sebagai berikut:

$$\rho_m = \frac{m_s}{(m_s - m_g)} \times \rho_{H_2O}$$

Dimana:

$\rho_m$  : densitas aktual (gram/cm<sup>3</sup>)

$m_s$  : massa sampel kering (gram)

$m_g$  : massa sampel yang digantung di dalam air (gram)

$\rho_{H_2O}$  : massa jenis air = 1 gram/cm<sup>3</sup>

#### DATA PENGUJIAN DENSITAS MATERIAL AL-CU-FA TEMPERATUR 725°C

Material	Replikasi	Atas		
		W(udara) gram	W(fluida) gram	Densitas Aktual (g/cm <sup>3</sup> )
Al-Cu-Fa 5%	1	6,622	4,232	2,770
	2	6,638	4,248	2,777
	3	6,615	4,235	2,779
Rata-Rata =				2,775

Material	Replikasi	Tengah		
		W(udara) gram	W(fluida) gram	Densitas Aktual (g/cm <sup>3</sup> )
Al-Cu-Fa 5%	1	8,071	5,180	2,791
	2	8,084	5,185	2,788
	3	8,065	5,178	2,793
Rata-Rata =				2,790

Material	Replikasi	Bawah		
		W(udara) gram	W(fluida) gram	Densitas Aktual (g/cm <sup>3</sup> )
Al-Cu-Fa 5%	1	6,352	4,095	2,814
	2	6,361	4,097	2,809
	3	6,350	4,082	2,799
Rata-Rata =				2,807

Material	Replikasi	Atas		
		W(udara) gram	W(fluida) gram	Densitas Aktual (g/cm <sup>3</sup> )
Al-Cu-Fa 10%	1	7,415	4,736	2,767
	2	7,420	4,739	2,767
	3	7,417	4,730	2,760
Rata-Rata =				2,765

Material	Replikasi	Tengah		
		W(udara) gram	W(fluida) gram	Densitas Aktual (g/cm <sup>3</sup> )
Al-Cu-Fa 10%	1	7,349	4,686	2,729
	2	7,353	4,680	2,751
	3	7,347	4,677	2,752
Rata-Rata =				2,754

Material	Replikasi	Bawah		
		W(udara) gram	W(fluida) gram	Densitas Aktual (g/cm <sup>3</sup> )
Al-Cu-Fa 10%	1	9,458	6,071	2,792
	2	9,460	6,081	2,799
	3	9,455	6,078	2,800
Rata-Rata =				2,797

Material	Replikasi	Atas		
		W(udara) gram	W(fluida) gram	Densitas Aktual (g/cm <sup>3</sup> )
Al-Cu-Fa 15%	1	8,205	5,266	2,792
	2	8,209	5,259	2,783
	3	8,201	5,261	2,789
Rata-Rata =				2,788

Material	Replikasi	Tengah		
		W(udara) gram	W(fluida) gram	Densitas Aktual (g/cm <sup>3</sup> )
Al-Cu-Fa 15%	1	6,846	4,403	2,803
	2	6,850	4,410	2,807
	3	6,848	4,408	2,807
Rata-Rata =				2,806

Material	Replikasi	Bawah		
		W(udara) gram	W(fluida) gram	Densitas Aktual (g/cm <sup>3</sup> )
Al-Cu-Fa 15%	1	11,245	7,259	2,821
	2	11,251	7,251	2,813
	3	11,248	7,255	2,817
Rata-Rata =				2,817

Material	Densitas rata-rata Al-Cu-Fa 725 <sup>0</sup> C (g/cm <sup>3</sup> )
Al-Cu-Fa 5%	2,790
Al-Cu-Fa 10%	2,772
Al-Cu-Fa 15%	2,803

Untuk menentukan densitas (*Archimedes method*) menggunakan persamaan sebagai berikut:

$$\rho_m = \frac{m_s}{(m_s - m_g)} \times \rho_{H_2O}$$

Dimana:

$\rho_m$  : densitas aktual (gram/cm<sup>3</sup>)

$m_s$  : massa sampel kering (gram)

$m_g$  : massa sampel yang digantung di dalam air (gram)

$\rho_{H_2O}$  : massa jenis air = 1 gram/cm<sup>3</sup>

**DENSITAS MATERIAL AL-CU-FA TEMPERATUR 750°C**

Material	Replikasi	Atas		
		W(udara) gram	W(fluida) gram	Densitas Aktual (g/cm <sup>3</sup> )
Al-Cu-Fa 5%	1	8,154	5,151	2,715
	2	8,135	5,137	2,711
	3	8,163	5,164	2,721
	Rata-Rata =			2,716

Material	Replikasi	Tengah		
		W(udara) gram	W(fluida) gram	Densitas Aktual (g/cm <sup>3</sup> )
Al-Cu-Fa 5%	1	5,859	3,731	2,753
	2	5,848	3,748	2,774
	3	5,862	3,742	2,765
	Rata-Rata =			2,764

Material	Replikasi	Bawah		
		W(udara) gram	W(fluida) gram	Densitas Aktual (g/cm <sup>3</sup> )
Al-Cu-Fa 5%	1	8,305	5,330	2,791
	2	8,316	5,342	2,796
	3	8,294	5,318	2,786
	Rata-Rata =			2,791

Material	Replikasi	Atas		
		W(udara) gram	W(fluida) gram	Densitas Aktual (g/cm <sup>3</sup> )
Al-Cu-Fa 10%	1	11,006	7,028	2,766
	2	11,010	7,025	2,762
	3	11,005	7,022	2,763
	Rata-Rata =			2,764

Material	Replikasi	Tengah		
		W(udara) gram	W(fluida) gram	Densitas Aktual (g/cm <sup>3</sup> )
Al-Cu-Fa 10%	1	7,382	4,704	2,756
	2	7,379	4,707	2,761
	3	7,384	4,701	2,752
	Rata-Rata =			2,756

Material	Replikasi	Bawah		
		W(udara) gram	W(fluida) gram	Densitas Aktual (g/cm <sup>3</sup> )
Al-Cu-Fa 10%	1	8,433	5,437	2,815
	2	8,429	5,431	2,811
	3	8,435	5,435	2,812
Rata-Rata =				2,813

Material	Replikasi	Atas		
		W(udara) gram	W(fluida) gram	Densitas Aktual (g/cm <sup>3</sup> )
Al-Cu-Fa 15%	1	8,282	5,269	2,748
	2	8,267	5,251	2,741
	3	8,295	5,275	2,746
Rata-Rata =				2,745

Material	Replikasi	Tengah		
		W(udara) gram	W(fluida) gram	Densitas Aktual (g/cm <sup>3</sup> )
Al-Cu-Fa 15%	1	7,682	4,925	2,786
	2	7,691	4,934	2,789
	3	7,680	4,919	2,781
Rata-Rata =				2,785

Material	Replikasi	Bawah		
		W(udara) gram	W(fluida) gram	Densitas Aktual (g/cm <sup>3</sup> )
Al-Cu-Fa 15%	1	8,574	5,517	2,804
	2	8,565	5,508	2,801
	3	8,591	5,521	2,798
Rata-Rata =				2,801

Material	Densitas rata-rata Al-Cu-Fa 750 <sup>0</sup> C (g/cm <sup>3</sup> )
Al-Cu-Fa 5%	2,757
Al-Cu-Fa 10%	2,777
Al-Cu-Fa 15%	2,777

Untuk menentukan densitas (*Archimedes method*) menggunakan persamaan sebagai berikut:

$$\rho_m = \frac{m_s}{(m_s - m_g)} \times \rho_{H_2O}$$

Dimana:

$\rho_m$  : densitas aktual (gram/cm<sup>3</sup>)

$m_s$  : massa sampel kering (gram)

$m_g$  : massa sampel yang digantung di dalam air (gram)

$\rho_{H_2O}$  : massa jenis air = 1 gram/cm<sup>3</sup>