



PREFEITURA MUNICIPAL DE GUIRICEMA

CEP 36.525 - 000 - ESTADO DE MINAS GERAIS

Memória de cálculo

1 – Galeria

1.1 – Trabalhos em terra

1.1.1 – Escavação mecânica – $10,00\text{m} \times 2,00\text{m} \times 3,00\text{m} + 0,60\text{m} \times 0,60\text{m} \times 10,00\text{m} \times 2 \text{ lados} = 67,20\text{m}^3$

1.1.2 – Apiloamento - $10,00\text{m} \times 2,50\text{m} + 0,60\text{m} \times 10,00\text{m} \times 2 \text{ lados} = 37,00\text{m}^2$

1.1.3 – Escoramento – $10,00\text{m} \times 1,50\text{m} \times 2 \text{ lados} = 30,00\text{m}^2$

1.1.4 – Reaterro – $67,20\text{m}^3 - 10,00\text{m} \times 1,50\text{m} \times 1,50\text{m} - 0,60\text{m} \times 0,60\text{m} \times 10,00\text{m} \times 2 \text{ lados} = 37,50\text{m}^3$

1.1.5 – Transporte material – $67,20\text{m}^3 - 37,50\text{m}^3 = 29,70\text{m}^3$

1.2 - Pisos

1.2.1 – Enrocamento – $10,00\text{m} \times 2,00\text{m} \times 0,20\text{m} = 4,00\text{m}^3$

1.2.2 – Lastro de brita – $10,00\text{m} \times 2,00\text{m} \times 0,10\text{m} = 2,00\text{m}^3$

1.3 - Estrutura de concreto

1.3.1 - Concreto: $21,02\text{m}^3$

Laje de piso – $1,50\text{m} \times 10,00\text{m} \times 0,10\text{m} = 1,50\text{m}^3$

Bloco fundação – $0,60\text{m} \times 0,60\text{m} \times 10,00\text{m} \times 2 \text{ lados} = 7,20\text{m}^3$

Parede – $0,30\text{m} \times 10,00\text{m} \times 1,50\text{m} \times 2 \text{ lados} = 9,00\text{m}^3$

Laje superior – $2,10\text{m} \times 10,00\text{m} \times 0,15\text{m} = 3,15\text{m}^3$

Vigas – 5 unid. $\times 1,50\text{m} \times 0,15\text{m} \times 0,15\text{m} = 0,17\text{m}^3$

1.3.2 - Forma: $101,25\text{m}^2$

Bloco fundação – $(0,60\text{m} + 0,60\text{m}) \times 10,00\text{m} \times 2 \text{ paredes} = 24,00\text{m}^2$

Parede – $10,00\text{m} \times 1,50\text{m} \times 2 \text{ lados} \times 2 \text{ paredes} = 60,00\text{m}^2$

Laje superior – $1,50\text{m} \times 10,00\text{m} = 15,00\text{m}^2$

Vigas – 5 unid. $\times 1,50\text{m} \times (0,15\text{m} + 0,15\text{m}) = 2,25\text{m}^2$



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1.3.4 - Armação: 819,36kg

Bloco fundação – 300,38kg

Ferro 10.0mm - 67un. x 1,40m x 2 lados = 187,60m ► 118,19kg

Ferro 8.0mm – 4 um. x 10,00m x 2 lados = 80,00m ► 32,00 kg

Como é armação dupla: 150,19kg x 2 = 300,38kg

Paredes – 412,12kg

Ferro 10.0mm - 67um. x 1,50m = 100,50m x 2 lados = 200,10m ► 126,06kg

Ferro 8.0mm – 10um. x 10,00m = 100,00m x 2 lados = 200,00m ► 80,00 kg

Como é armação dupla: 206,06kg x 2 = 412,12kg

Laje de piso – 32,16kg

Ferro 5.0mm – 67 unid. x 1,50m + 10 unid. x 10,00m = 201,00m

201,00m x 0,16kg / m = 32,16kg

Laje superior – 74,70kg

Ferro 6.3mm – 67 unid. x 1,80m + 12 unid. x 10,00m = 241,20m ► 60,30kg

Ferro 8.0mm – 8un. x 1,50m x 3 = 36,00m ► 14,40 kg

2 – Trecho 02 – 02 redes tubulares com d=1,00m

2.1 – Escavação mecânica – 25,00m x 3,00m x 1,50m = 112,50m³

2.2 – Apiloamento - 25,00m x 3,00m = 75,00m²

2.3 – Reaterro – 112,50m³ - 25,00m x 2 unid x 3,14 x 0,50m x 0,50m = 73,25m³

2.4 - Transporte material – 112,50m³ - 73,25m³ = 39,25m³

2.5 – Tubo de concreto d=1,00m - 25,00m x 2 unid = 50,00m

2.6 – Caixa de captação – 02 unidades



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3 – Trecho 03 – 03 redes tubulares com d=1,00m

3.1 – Enrocamento: $15,00\text{m} \times 4,00\text{m} \times 0,20\text{m} = 12,00\text{m}^3$

3.2 – Escavação mecânica – $15,00\text{m} \times 4,00\text{m} \times 0,50\text{m} = 30,00\text{m}^3$

3.3 – Apiloamento - $15,00\text{m} \times 4,00\text{m} = 60,00\text{m}^2$

3.4 – Reaterro – $60,00\text{m}^3$ - $15,00\text{m} \times 3 \text{ unid} \times 3,14 \times 0,50\text{m} \times 0,50\text{m} = 24,68\text{m}^3$

3.5 – Tubo de concreto d=1,00m - $15,00\text{m} \times 3 \text{ unid} = 45,00\text{m}$

3.6 – Caixa de captação – 02 unidades

3.7 – Ala rede tubular – 01 unidade