

Receptura maltera marke MM5

Podaci o recepturi maltera za određenu marku

Zapreminski sastav maltera prema EC6

Vrsta morta	Minimalna tlačna čvrstoća nakon 28 dana (N/mm ²)	Približni sastav		
		cement	hidratizirano vapno	pijesak
M20	20	treba odrediti ispitivanjem		
M15	15	1	0 - 1/4	3
M10	10	1	1/4 - 1/2	4 - 4 1/4
M5	5	1	1/2 - 1 1/4	5 - 6
M2,5	2,5	1	1 1/4 - 2 1/2	8 - 9
M1	1	1	nije definirano	> 9

Marka MM5 → cement:kreč:pijesak=1:0.75:5

$$V_c:V_k:V_p=1:0.75:5$$

$$\frac{m_c}{\gamma_{Sc}} : \frac{m_k}{\gamma_{Sk}} : \frac{m_p}{\gamma_{Sp}} = 1:0.75:5$$

$$\gamma_{Sc} = 2682 \text{ kg/m}^3$$

$$\gamma_{Sk} = 2430 \text{ kg/m}^3$$

$$\gamma_{Sp} = 2914 \text{ kg/m}^3$$

$$\gamma_v = 1000 \text{ kg/m}^3$$

$$\gamma_p = 1681 \text{ kg/m}^3$$

$$\frac{m_c}{\gamma_{Sc}} : \frac{m_p}{\gamma_{Sp}} = 1:5 \quad \rightarrow \quad m_c = \frac{m_p}{\gamma_{Sp}} \cdot \frac{\gamma_{Sc}}{5} = \frac{2682}{2914} \cdot \frac{1}{5} \cdot m_p = 0.184 \cdot m_p$$

$$\frac{m_k}{\gamma_{Sk}} : \frac{m_p}{\gamma_{Sp}} = 0.75:5 \quad \rightarrow \quad m_k = \frac{m_p}{\gamma_{Sp}} \cdot 0.75 \cdot \frac{\gamma_{Sk}}{5} = \frac{2430}{2914} \cdot \frac{0.75}{5} \cdot m_p = 0.125 \cdot m_p$$

Koeficijent kompaktnosti:

$$k = \frac{\frac{m_c}{\gamma_{Sc}} + \frac{m_k}{\gamma_{Sk}} + \frac{m_v}{\gamma_{Sv}}}{\left(1 - \frac{\gamma_p}{\gamma_{Sp}}\right) \cdot \frac{m_p}{\gamma_p}} = 1$$

$$\frac{m_c}{2682} + \frac{m_k}{2430} + \frac{m_v}{1000} = (1 - 0.577) \cdot \frac{m_p}{1681}$$

$$\frac{0.184 \cdot m_p}{2682} + \frac{0.125 \cdot m_p}{2430} + \frac{m_v}{1000} = 0.423 \cdot \frac{m_p}{1681}$$

$$m_v = 0.132 \cdot m_p$$

$$\frac{m_c}{\gamma_{Sc}} + \frac{m_k}{\gamma_{Sk}} + \frac{m_p}{\gamma_{Sp}} + \frac{m_v}{\gamma_{Sv}} + 0.03 = 1$$

$$\frac{0.184 \cdot m_p}{2682} + \frac{0.125 \cdot m_p}{2430} + \frac{m_p}{2914} + \frac{0.132 \cdot m_p}{1000} + 0.03 = 1$$

$$m_p = 1629 \text{ kg}$$

$$1 \text{ m}^3 \rightarrow \begin{cases} m_p = 1629 \text{ kg} \\ m_c = 0.184 \cdot m_p = 300 \text{ kg} \\ m_k = 0.125 \cdot m_p = 204 \text{ kg} \\ m_v = 0.132 \cdot m_p = 215 \text{ kg} \end{cases}$$

Količine potrebnog materijala za zid debljine 38cm (dužina zida L=5m, visina zida h=3m)

1. Potrošnja bloka (Weineberger potrosnja blok opeke)

POROTHERM S - n



POROTHERM 38 S P+E PLUS	
Dimenzije (cm):	38 x 25 x 23,8
Debljina zida (cm):	38
NF (kom):	11,59
Masa cca. (kg):	17,0
Pritisna čvrstoća (N/mm ²):	10,0
Potrošnja bloka (kom/m ²):	16,0
Potrošnja bloka (kom/m ³):	42,1
Utrošak maltera (l/m ²):	47,0
Koef. toplotne provodljivosti λ(W/mK):	0,139
Koeficijent prolaza toplote U (W/m ² K):	0,35

$$\text{Potrošnja bloka (kom/m}^2\text{)}=16 \text{ kom/m}^2$$
$$A_{\text{zida}}=Lh=15\text{m}^2$$

$$\text{Potrošnja za zid}= 16 \times 15 =240 \text{ kom blok opeke}$$

2. Potrošnja maltera (Weineberger potrosnja maltera)

$$\text{Potrošnja maltera (l/m}^2\text{)}=47 \text{ l/m}^2$$
$$A_{\text{zida}}=Lh=15\text{m}^2$$

$$\text{Potrošnja za zid}= 47 \times 15 =705 \text{ l}=0.705\text{m}^3$$

Utrošak pojedinih komponenti maltera:

$$0.705\text{m}^3 \rightarrow \begin{cases} m_p = 1148\text{kg} \\ m_c = 211\text{kg} \\ m_k = 144\text{kg} \\ m_v = 152\text{kg} \end{cases}$$