

## 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	pjesak
M20	20	treba odrediti ispitivanjem		
M15	15	1	0 - $\frac{1}{4}$	3
M10	10	1	$\frac{1}{4} - \frac{1}{2}$	$4 - 4\frac{1}{4}$
M5	5	1	$\frac{1}{2} - 1\frac{1}{4}$	5 - 6
M2,5	2,5	1	$1\frac{1}{4} - 2\frac{1}{2}$	8 - 9
M1	1	1	nije definirano	> 9

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

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

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

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

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

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

$$\gamma_v = 1000 kg/m^3$$

$$\gamma_p = 1681 kg/m^3$$

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

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

Koeficijent kompaktnosti:

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

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

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

$$m_v = 0.132 \cdot m_p$$

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

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

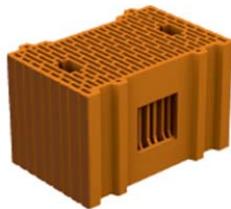
$$m_p = 1629 \text{ kg}$$

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

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

1. Potrošnja bloka (Weineberger potrošnja 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 <sup>2</sup> ):	10,0
Potrošnja bloka (kom/m <sup>2</sup> ):	16,0
Potrošnja bloka (kom/m <sup>3</sup> ):	42,1
Utrošak maltera (l/m <sup>2</sup> ):	47,0
Koef. topotne provodljivosti λ(W/mK)*:	0,139
Koeficijent prolaza topote U (W/m <sup>2</sup> K)*:	0,35

Potrošnja bloka (kom/m<sup>2</sup>)=16 kom/m<sup>2</sup>

$$A_{zida} = L \cdot h = 15 \text{ m}^2$$

Potrošnja za zid= 16 x 15 =240 kom blok opeke

2. Potrošnja maltera (Weineberger potrošnja maltera)

Potrošnja maltera (l/m<sup>2</sup>)=47 l/m<sup>2</sup>

$$A_{zida} = L \cdot h = 15 \text{ m}^2$$

Potrošnja za zid= 47 x 15 =705 l =0.705m<sup>3</sup>

Utrošak pojedinih komponenti maltera:

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