
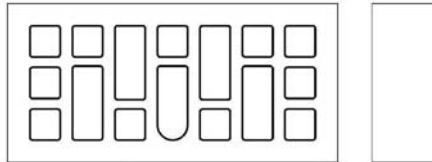


## HD CLAY MASONRY UNITS CAT I (UNITS FOR UNPROTECTED MASONRY) TECHNICAL FORM N° 0830112

MANUFACTURER: <b>CERÁMICA MALPESA, S.A.</b>	 <b>AENOR</b> Producto Certificado
MADE IN: <b>VILLANUEVA DE LA REINA (JAÉN)</b>	
PRODUCT DESCRIPTION: <b>HD CLAY MASONRY UNIT R-40 OF 235 x 113 x HEIGHT</b>	
HEIGHTS (mm): <b>36-49-73</b>	
BRAND NAME: <b>CAMBRIDGE ROBINSON - KLINKER FLASEADO TIMANFAYA</b>	
MASS COLORATION: <b>BLACK, NUTBROWN, OCHRE &amp; PEACH</b>	

### PIECE SKETCH



### TECHNICAL CHARACTERISTICS

Characteristic		Test Method	Manufacturer ensured values	AENOR required values		
Appearance & structure	exfoliations and stratifications	Visual over 6 pieces	None			
	cracked units		≤ 1 cracked unit			
	chip units		$\leq 1$ piece with m.i.d. between 7-15 mm $0$ pieces with mean individual value $> 15$ mm	$\leq 1$ cracked piece $\leq 1$ piece with m.i.d. between 7-15 mm		
Dimensional tolerances (mm)	Mean value	UNE-EN 772-16	T2	$\pm 4$ $\pm 3$ $0,25 \times h^{1/2}$	$\pm 4$ $\pm 3$ máx of $(0,25 \times h^{1/2})$ ó $2$	
				Range	R2	$\pm 5$ $\pm 3$ $0,3 \times h^{1/2}$
	length (l)					
	width (w)					
	height (h)					
height (h)						
Wall thickness (mm)	unprotected face shells		$\geq 15,0$			
	protected face shells		$\geq 10,0$			
	webs		$\geq 5,0$			
Plane parallelism of bed faces (mm)			N/A			
Flatness of bed faces (mm)	Diagonal	UNE-EN 772-20	$l > 300$ mm	N/A	N/A	
			$300 \geq l \geq 250$ mm	$\leq 3$	$\leq 3$	
			$l \leq 250$ mm	$\leq 2$	$\leq 2$	
Percentage of voids (%)	Declared value (%)	UNE-EN 772-3	40	$\leq 45$		
	Tolerance (%)		Min: 36 - Máx: 44			
Volume of the largest void (% of gross)		UNE-EN 772-9	$\leq 12,5$	$\leq 12,5$		
Combined thickness of webs and shells (%)		UNE-EN 772-16	$\geq 20$	$\geq 20$		
Water absorption (%)		Annex C UNE-EN 771-2	$\leq 6$	$\leq 6$		
Damp proof courses (%)		UNE-EN 772-7	N/A			
Initial rate of water absorption ( $\text{Kg}/(\text{m}^2 \times \text{min})$ )		UNE-EN 772-11	$\leq 0,6$			
Characteristic normalized compressive strength ( $\text{N}/\text{mm}^2$ )		UNE-EN 772-1	$\geq 40$ Bearing face: Bed	$\geq 40$		
Density	Gross dry ( $\text{Kg}/\text{m}^3$ )		2.290			
	Net dry ( $\text{Kg}/\text{m}^3$ )		1.430			
	Tolerance (%)		$\pm 10$			
Wight (g)	Reduction for density	NON Annex D RP 34.01	Minimum value ensured per height: 1.065- 1.450-2.095	Minimum value per height: 1.035-1.405-2.095		
Efflorescences		UNE 67029 EX	Non efflorescence	Slightly efflorescence		
Durability (Freeze/thaw)		UNE 67028 EX	F2 (25 cycles) Test carried out in cold store with forced ventilation			
Thermal properties (Method)		CTE Catalogue	Tabulated value			
$\lambda_{\text{piece}}$ ( $\text{W}/\text{m} \times \text{k}$ )			0,35			
$R_{\text{wall}}$ ( $\text{m}^2 \times \text{k}/\text{w}$ )			0,180 - 0,180 - 0,210			
Water vapour permeability - $\mu$		Annex A UNE-EN 1745	50/100			
Content of active soluble salts		UNE-EN 772-5	S2			
Moisture movement (mm/m)		UNE 67036	$\leq 0,30$			
Fire reaction (%organic material $< 1\%$ )		UNE-EN 13501-1	GRADE A1			
Bond strength ( $\text{N}/\text{mm}^2$ )		Annex C UNE-EN 998-2	$\geq 0,15$	$\geq 0,15$		
Surface colours		Anexo D RP 34.01	NON			
Water repellent treatment			NON			
Accessory units			YES			

**Remarks**  
The combined thickness stated corresponds to the direction of heat flow in the wall. This model have superficial treatment (flushed). Different surface finishes available (flat, cork, rough, etc). Bricks can be manufactured in one or two widths, or other kind of perforations.

Details from the construction where it's placed the material named in this technical form:

Stamp and signature: (For the final qualification, this technical form should be stamped and signed by the manufacturer)