
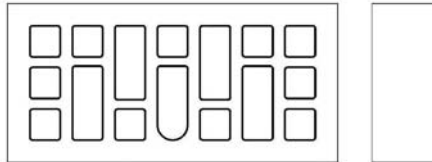


## HD CLAY MASONRY UNITS CAT I (UNITS FOR UNPROTECTED MASONRY) TECHNICAL FORM N° 0830112

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 LINCOLN - KLINKER FLASEADO TORNEO</b>	
MASS COLORATION: <b>BLACK, NUTBROWN &amp; MARRON</b>	

### PIECE SKETCH



### TECHNICAL CHARACTERISTICS

Characteristic		Test Method	Manufacturer ensured values	AENOR required values	
Appearance & structure	exfoliations and stratifications		None		
	cracked units		≤ 1 cracked unit		
Dimensional tolerances (mm)	chip units		Visual over 6 pieces		
			UNE 67039 EX		
Dimensional tolerances (mm)	Mean value	length (l)	≤ 1 piece with m.i.d. between 7-15 mm		
		width (w)	≤ 1 piece with m.i.d. between 7-15 mm		
		height (h)	0 pieces with mean individual value > 15 mm		
	Range	length (l)	T2	± 4	± 4
		width (w)	± 3	T2	± 3
		height (h)	0,25 x h <sup>1/2</sup>	R2	máx of (0,25 x h <sup>1/2</sup> ) ó 2
Wall thickness (mm)	unprotected face shells		± 5	± 5	
			± 3	± 3	
			0,3 x h <sup>1/2</sup>	0,3 x h <sup>1/2</sup>	
protected face shells		≥ 15,0		≥ 15,0	
		≥ 10,0		≥ 10,0	
webs		≥ 5,0		≥ 5,0	
		Plane parallelism of bed faces (mm)		N/A	
Flatness of bed faces (mm)	Diagonal	l > 300 mm	N/A	N/A	
		300 ≥ l ≥ 250 mm	UNE-EN 772-20	≤ 3	
		l ≤ 250 mm	≤ 2	≤ 2	
Percentage of voids (%)	Declared value (%)		40	≤ 45	
	Tolerance (%)		Min: 36 - Máx: 44		
Volume of the largest void (% of gross)		UNE-EN 772-9	≤ 12,5	≤ 12,5	
Combined thickness of webs and shells (%)		UNE-EN 772-16	≥ 20	≥ 20	
Water absorption (%)		Annex C UNE-EN 771-2	≤ 6	≤ 6	
Damp proof courses (%)		UNE-EN 772-7	N/A		
Initial rate of water absorption (Kg/(m <sup>2</sup> x min))		UNE-EN 772-11	≤ 0,6		
Characteristic normalized compressive strength (N/mm <sup>2</sup> )		UNE-EN 772-1	≥ 40	≥ 40	
Density	Gross dry (Kg/m <sup>3</sup> )		2.290		
	Net dry (Kg/m <sup>3</sup> )		1.430		
	Tolerance (%)		± 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)		Tabulated value			
λ <sub>piece</sub> (W/m x k)		0,35			
R <sub>wall</sub> (m <sup>2</sup> x k/w)		0,180 - 0,180 - 0,210			
Water vapour permeability - μ		Annex A UNE-EN 1745	50/100		
Content of active soluble salts		UNE-EN 772-5	S2		
Moisture movement (mm/m)		UNE 67036	≤ 0,30		
Fire reaction (%organic material < 1%)		UNE-EN 13501-1	GRADE A1		
Bond strength (N/mm <sup>2</sup> )		Annex C UNE-EN 998-2	≥ 0,15	≥ 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: