
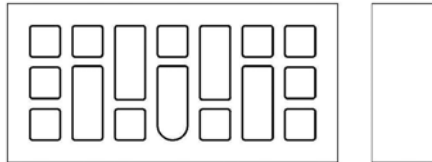


## HD CLAY MASONRY UNITS CAT I (UNITS FOR UNPROTECTED MASONRY) TECHNICAL FORM N° 0830116

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| MANUFACTURER: <b>CERÁMICA MALPESA, S.A.</b>  | <br><b>AENOR</b><br>Producto<br>Certificado |
| MADE IN: <b>VILLANUEVA DE LA REINA (JAÉN)</b>  |  |
| PRODUCT DESCRIPTION: <b>HD CLAY MASONRY UNIT R-40 OF 236 x 113 x HEIGHT</b>                          |  |
| HEIGHTS (mm): <b>36-50-73</b>  |  |
| BRAND NAME: <b>LUMINATE TORQUAY-WAIHI / KLINKER BLANCO ROTO &amp; EBONY EDINBURGH / KLINKER GRIS</b> |  |
| MASS COLORATION: <b>WHITE - GREY</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)   | Mean value                          | UNE 67039 EX                               | ≤ 1 piece with m.i.d. between 7-15 mm                                    |                         |        |                                       |    |                        |
|   |                                     |  | 0 pieces with mean individual value > 15 mm                              |                         |        |                                       |    |                        |
| Wall thickness (mm)   | Range                               | UNE-EN 772-16                              | T2   | ± 4                     | T2     | ± 4                                   |    |                        |
|   |                                     |  |  | ± 3                     |        | ± 3                                   |    |                        |
|   |                                     |  |  | 0,25 x h <sup>1/2</sup> |        | máx of (0,25 x h <sup>1/2</sup> ) ó 2 |    |                        |
|   | Plane parallelism of bed faces (mm) |  | Range  | UNE-EN 772-16           | R2     | ± 5                                   | R2 | ± 5                    |
|   |                                     |  |  |                         |        | ± 3                                   |    | ± 3                    |
|   |                                     |  |  |                         |        | 0,3 x h <sup>1/2</sup>                |    | 0,3 x h <sup>1/2</sup> |
| Flatness of bed faces (mm)  | Diagonal                            | UNE-EN 772-20                              | ≥ 15,0   |                         | ≥ 15,0 |                                       |    |                        |
|   |                                     |  | ≥ 10,0   |                         | ≥ 10,0 |                                       |    |                        |
|   |                                     |  | ≥ 5,0  |                         | ≥ 5,0  |                                       |    |                        |
| Percentage of voids (%)   | Declared value (%)                  |  | N/A  |                         |        |                                       |    |                        |
|   | Tolerance (%)                       |  | N/A  |                         |        |                                       |    |                        |
| 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 771-1                       | ≤ 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> )      |  | 2.150  |                         |        |                                       |    |                        |
|   | Net dry (Kg/m <sup>3</sup> )        |  | 1.300  |                         |        |                                       |    |                        |
|   | Tolerance (%)                       |  | ± 10   |                         |        |                                       |    |                        |
| Wight (g)   | Reduction for density               | NON  | Annex D RP 34.01   |                         |        |                                       |    |                        |
| Efflorescences  |                                     | UNE 67029 EX                               | Non efflorescence  | Slightly efflorescence  |        |                                       |    |                        |
| Durability (Freeze/thaw)  |                                     | UNE 67028 EX                               | F2 (25 cycles)<br>Test carried out in cold store with forced ventilation |                         |        |                                       |    |                        |
| Thermal properties (Method)   |                                     | CTE Catalogue                              | 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                                  | ≤ 0,40   |                         |        |                                       |    |                        |
| Fire reaction   |                                     | (%organic material < 1%)<br>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. The models Klinker Blanco Roto & Klinker Gris can 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)